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1 May 2026

**Subject: Diavik Diamond Mines (2012) Inc. (DDMI) 2025 Wildlife Management and Monitoring Report (WMMR)**

Attached is an electronic copy of the DDMI 2025 WMMR. The WMMR aligns with the components and objectives of the Wildlife Management and Monitoring Plan (WMMP) and provides the analysis and reporting of data collected using the methods described in the WMMP.

If you have any questions regarding the above, please contact the undersigned or Kyla Gray ([kyla.gray@riotinto.com](mailto:kyla.gray@riotinto.com); 867-445-4922) at your convenience.

Yours sincerely,



Nicole Goodman  
Superintendent, Environment & Closure  
Cross shift: Mark Nelson



REPORT

Diavik Diamond Mines (2012) Inc.  
**2025 Wildlife Management and  
Monitoring Report**

29 April 2026

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## Distribution List

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## Executive Summary

The Diavik Diamond Mine (Mine) is located on East Island in Lac de Gras, Northwest Territories. As a requirement of the Environmental Agreement, Diavik Diamond Mines (2012) Inc. (DDMI or Diavik) has completed a Wildlife Monitoring Program (WMP) report each year since 2002. In 2019, the Government of Northwest Territories (GNWT) issued guidelines for the development of a Wildlife Management and Monitoring Plan (WMMP) (GNWT-ENR 2019). Diavik prepared and submitted a Tier 3 WMMP to the GNWT in July 2020 (DDMI 2020a) in accordance with these guidelines, compliant with the Environmental Agreement and the fundamental aspects of site monitoring and mitigation previously established and accepted in the WMMP. The Tier 3 WMMP was conditionally approved by the Government of Northwest Territories, Department of Environment and Natural Resources (GNWT-ENR) on 15 July 2022 (GNWT-ENR 2022). An updated Tier 3 2022 WMMP was prepared based on reviews by the GNWT-ENR (now Government of Northwest Territories, Department of Environment and Climate Change [GNWT-ECC]), Environmental Monitoring Advisory Board (EMAB) and Environment and Climate Change Canada (ECCC) and submitted to the GNWT-ENR in October 2022 (DDMI 2022a). A further updated Tier 3 WMMP was submitted to the GNWT-ECC on 6 September 2024, in response to GNWT-ECC's 5 March 2024 approval of the Tier 3 WMMP Condition 6; this updated WMMP was approved by the GNWT on 25 February 2026 (GNWT 2026). This Wildlife Management and Monitoring Report (WMMR) aligns with the components and objectives of the WMMP (DDMI 2024), which consider wildlife issues of concern identified by communities and regulatory agencies. The WMMR provides the analysis and reporting of data collected using the methods described for wildlife valued ecosystem components and other wildlife in the WMMP (DDMI 2024).

The objective of the WMMR is to collect and analyze information that will assist in determining if there are effects on wildlife in the study area and if these effects were accurately predicted in the Environmental Effects Report (EER). The WMMR also aims to determine the effectiveness of site-specific mitigation practices and the need for any modifications through adaptive management. The following report documents the data collected and associated results for 2025. Where helpful, comparisons to the information gathered during the previous monitoring (2000 to 2024) and the pre-construction baseline (June 1995 to August 1997) have been included. This report also includes more comprehensive analyses for caribou and wolverine as outlined in the approved Tier

3 WMMP (DDMI 2024). This is the last comprehensive analysis report for the Mine's operations phase, as the closure phase is scheduled to begin in April 2026 following the cessation of commercial operations on March 31, 2026.

General observations for each 2025 program include the following:

### Landscape Changes

In 2025, there was no increase in the size of the Mine footprint. The total loss of terrestrial and aquatic habitats to date from mining activities (11.59 km<sup>2</sup>) is below that predicted in the EER. The current footprint is expected to be at its maximum now for operations. The footprint may expand slightly during active closure reclamation activities.

### Barren-Ground Caribou

- No caribou habitat was lost to development in 2025. The total caribou summer habitat loss to date is 2.88 habitat units, which remains below the prediction made in the EER.

- Twenty-seven ground-based caribou behavioural scanning observations were completed in 2025. Observations occurred from February to August, with most occurring from 0 to 1 km from Mine infrastructure. The most commonly observed behavior was feeding (55%). Alert responses to potential stressors were comparatively rare (3%).
- There were no Mine-related caribou injuries or mortalities reported in 2025.
- There were two instances where greater than 200 caribou were observed at one time; however, these sightings were not on or immediately adjacent to the Mine site. Traffic control measures were implemented on 23 separate occasions due to the presence of 1 or 2 caribou near a Haul Road.
- There were five instances where action was taken to deter caribou away from vehicle traffic and Mine infrastructure in 2025.

### Grizzly Bear

- The total direct grizzly bear (*Ursus arctos*) habitat loss to date is 8.41 km<sup>2</sup>, which is below the amount predicted in the EER.
- In 2025, 32 instances of grizzly bears were recorded on East Island from 12 May to 16 October. Of these, 10 required deterrent actions and 22 did not require deterrent actions. There were no relocation events or Mine-related mortalities in 2025.

### Wolverine

- Since 2015, snow track monitoring for wolverine (*Gulo gulo*) included surveys of 40 transects twice so that detection probability could be estimated and incorporated into analyses of relative presence and distribution in the study area. However, due to staff shortages resulting from COVID-19, only one round of snow track surveys were completed per year from 2020 to 2022. Two rounds of snow track surveys recommenced from 2023 onwards.
- A total of 75 wolverine tracks were detected at 32 of 39 transects (82% occurrence) across two sampling periods in 2025. The number of wolverine tracks identified among transects ranged from 0 to 5 tracks. The comprehensive analysis using data from 2008 to 2025 found that wolverine occupancy has increased since 2008.
- There were no wolverine relocations or Mine-related mortalities in 2025.

### Raptors

- In 2025, the GNWT-ECC's regional raptor nest monitoring surveys were not completed. These surveys are planned to occur every five years, with the next survey scheduled for 2026. The results of the last nest monitoring survey, completed in 2020, are included in a regional database that is managed by the GNWT-ECC.
- A total of 11 Pit Wall/infrastructure inspections were completed from 17 May until 16 August 2025 to determine use by raptors. During the inspections, one peregrine falcon (*Falco peregrinus anatum/tundrius*) nest was confirmed at the Site Services Line Up rock wall. Common raven (*Corvus corax*) nested at the South Tank Farm, and an American robin (*Turdus migratorus*) nest was recorded at the Comms Shack.

- One raptor mortality of unknown cause occurred at the Mine in 2025. No other incidents involving raptors were reported at the Mine in 2025.

### **Waste Management**

- In 2025, waste inspections at the Waste Transfer Area (WTA), Landfill, Underground waste bins, and at A21 were completed twice per week throughout the year. During inspections staff identified and removed any improperly disposed waste and recorded all sign of wildlife and activity. Based on the results of inspections, workers are educated on waste management practices as part of adaptive management.
- In 2025, approximately 119,000 L of waste oil were collected to be burned in waste oil heat-generating boilers.

## Study Limitations

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## 1.0 INTRODUCTION

### 1.1 Background

Diavik Diamond Mines (2012) Inc. (DDMI or Diavik) completed wildlife baseline studies from 1995 to 1997. The information was used to describe ecological conditions in the Lac de Gras area in support of the Project Description and Environmental Assessment (DDMI 1998a,b). A Wildlife Monitoring Program (WMP) was developed as part of the Environmental Agreement for the Diavik Diamond Mine (Mine; DDMI 2002). Documents that were used in developing the WMP include the following:

- Comprehensive Study Report, Diavik Diamonds Project (The *Canadian Environmental Assessment Act* 1999)
- Environmental Assessment Overview, Diavik Diamonds Project (DDMI 1998c)
- Environmental Effects Report (EER), Wildlife, Diavik Diamonds Project (DDMI 1998b)
- Wildlife Baseline Report, Diavik Diamonds Project (Penner 1998)

Monitoring by DDMI during construction and operation of the Mine has been used to test impact predictions in the EER (DDMI 1998a,b), evaluate the effectiveness of mitigation, and provide feedback for adaptive management. In 2019, the Government of Northwest Territories (GNWT) issued guidelines for the development of a Wildlife Management and Monitoring Plan (WMMP) (GNWT-ENR 2019). Diavik initially prepared and submitted a Tier 3 WMMP to the Government of Northwest Territories, Department of Environment and Natural Resources (GNWT-ENR, now Government of Northwest Territories, Environment and Climate Change [GNWT-ECC]) in July 2020 (DDMI 2020). Revisions were subsequently submitted in November 2021 (DDMI 2021), October 2022 (DDMI 2022a), and December 2022 in accordance with these guidelines. Diavik's WMMP was conditionally approved on 15 July 2022 (GNWT-ENR 2022). The WMMP also complies with the Environmental Agreement, and the fundamental aspects of monitoring and mitigation previously established and accepted in the WMP. This Wildlife Management and Monitoring Report (WMMR) aligns with the components and objectives of the WMMP, which consider wildlife issues of concern identified by communities and regulatory agencies. The WMMR provides the analysis and reporting of data collected using the objectives and methods described for wildlife valued ecosystem components (VECs) and other wildlife in the WMMP (DDMI 2024). A further updated Tier 3 WMMP was submitted to the GNWT-ECC on 6 September 2024 (DDMI 2024), in response to GNWT-ECC's 5 March 2024 approval of the Tier 3 WMMP Condition 6; this updated WMMP was approved by the GNWT on 25 February 2026 (GNWT 2026).

Based on reviews and discussions among DDMI, communities, and regulators, the WMMR has evolved under the principles of adaptive management since the original design of the WMP in response to trends observed in the data and changes to objectives, study designs, and methods. Rationale for changes were based on the effectiveness of data to test effects predictions, community concerns, adaptive management principles, and the establishment of regional monitoring programs. Further, community site visits occur annually and provide community members an opportunity to observe Mine operations.

Due to the large degree of natural variation inherent in ecosystems, it is often difficult to detect indirect effects with only one or two years of data. Therefore, a more comprehensive analysis and discussion of all data from the WMMR has been completed every three years and submitted as a separate report. Separate reporting began in 2004 following requests for more formal statistical analysis of monitoring data by the Environmental Monitoring Advisory Board (EMAB; 2004) and GNWT-ENR (ENR 2004).

Since 2010, some WMP and WMMP studies for caribou, grizzly bear, and falcons have been suspended or removed through adaptive management and with consensus among communities, regulators, Mine operators, and monitoring agencies after review of these programs at wildlife monitoring workshops (Marshall 2009; Handley 2010; GNWT 2021). Discontinuation of monitoring through adaptive management precludes the need to complete statistical analyses. In 2014, waterfowl monitoring was discontinued following review and agreement by Environment and Climate Change Canada (EC 2013). The 2021 Diamond Mine Wildlife Monitoring Meetings hosted by the GNWT-ENR on 2 and 3 of February 2021 determined that the grizzly bear and wolverine hair snagging, and caribou behaviour monitoring programs can be discontinued. As such, the grizzly bear and wolverine hair snagging programs were discontinued in 2022 and are not included in this technical report. Although 24 years of monitoring indicated no strong adverse response, in December 2023, DDMI agreed to continue to conduct group scan caribou behaviour monitoring visible from the Mine site (i.e., near field) (GNWT-ECC 2024) and to discontinue far-field scans in 2024 and subsequent years. Of the studies completed in the most recent three comprehensive analysis reports in 2022, 2019, and 2017, the wolverine snow track monitoring is the only program at site that remains active and evaluates regional EER predictions.

In the context of reporting efficiencies, DDMI no longer completes an independent comprehensive analysis report for wildlife. Instead, all comprehensive statistical analyses related to active monitoring programs are included every three years in the annual WMMR.

This 2025 technical report summarizes results of wildlife surveys, inspections, and monitoring changes, and includes comprehensive analyses of caribou movement and wolverine snow track data to assess indirect Mine-related effects. The caribou movement analysis incorporates collar data from 2010 to 2025 and introduces continuous landcover covariates in response to GNWT-ECC comments (WSP 2023b). The wolverine occupancy analysis builds on the 2022 assessment with updated data through 2025. Far-field caribou behavioural scans were discontinued in 2024 with GNWT-ECC approval, and DDMI now conducts only near-field behavioural scans visible from the Mine site. These data are being collected to support a single comparative behavioural analysis across Operations, Closure, and Post-closure; therefore, a comprehensive behavioural analysis is not included for 2025. Near-field behavioural observations visible from the Mine for 2025 are summarized in Section 4.3.

## 1.2 Objectives

The overall objectives of the WMMR are to:

- Collect information that will assist DDMI to determine if there are effects on wildlife and if these effects were accurately predicted in the EER.
- Determine the effectiveness of mitigation practices intended to avoid and limit Mine-related effects on wildlife and whether or not these practices and policies require modification.
- Detect effects that were not predicted in the EER.

Objectives specific to wildlife VECs are presented in the following sections.

## 1.3 Study Area

The Mine is located on East Island in Lac de Gras (Figure 1). The wildlife study area is 1,200 km<sup>2</sup> and includes the East and West islands, aquatic habitats, many smaller islands in the northeast portion of Lac de Gras, and the mainland along the southern, eastern, and northern shores of Lac de Gras. An extension to the northeast was

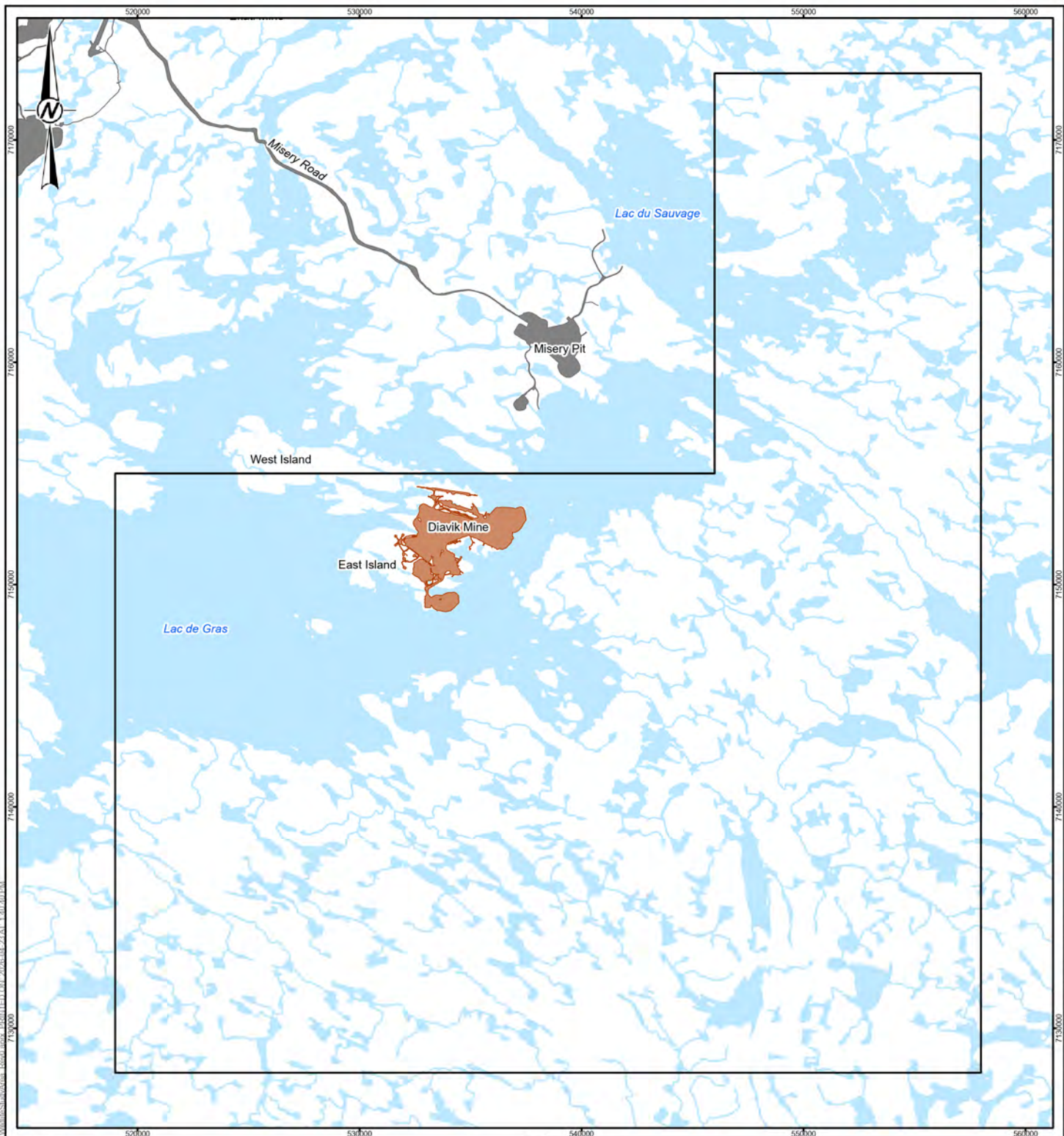
made to include the Lac du Sauvage narrows, an important caribou migration corridor (Penner 1998). The local study area during baseline studies (Penner 1998) covered approximately 805 km<sup>2</sup>.

The Mine includes accommodation facilities, operations buildings, haul roads, an airstrip, country rock piles, the A154, A418, and A21 pits and dikes, and all other infrastructure (Figure 1). In 2012, the Mine was expanded to include a four-turbine wind farm and access roads to the wind farm. The majority of haul roads required for mining activities are complete. The current footprint is expected to be at its maximum now at the end of operations but may expand slightly during progressive reclamation activities. This report represents the conclusion of monitoring during the operation phase as the Mine will enter the closure phase in early 2026.






## 1.4 Report Organization

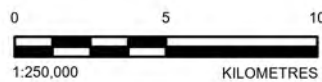
Within each section of this report, data are presented that will be tracked over the life of the Mine. Recommendations for changes to the WMMR based on adaptive management are presented at the end of each section for consideration and may be incorporated into the WMMR for subsequent years. The Mine enters the closure phase in 2026, and monitoring and mitigation during the closure phase will follow the Mine's Tier 2 WMMP. The WMMP is an evolving management plan that reflects recommendations during previous years.

DDMI responded to comments on the 2024 WMMR (WSP 2025a) by EMAB, the GNWT-ECC, the Wek'èezhì Renewable Resource Board, and Environment Climate Change Canada (ECCC) (Appendix A). Additionally, DDMI responded to comments on the 2024 WMMP (DDMI 2024) by EMAB, the GNWT-ECC, and ECCC in March 2025 (WSP 2025b; Appendix B) and had previously responded to comments on the 2022 WMMR (WSP 2023a,b). Comments resulting in changes to the 2025 WMMR are summarized in Table 1.



**LEGEND**

-  DIAVIK WILDLIFE STUDY AREA BOUNDARY
-  DIAVIK FOOTPRINT
-  EKATI FOOTPRINT
-  WATERCOURSE
-  WATERBODY



**REFERENCE(S)**

BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.  
 PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 12N

CLIENT

**RioTinto | Diavik**

PROJECT  
 DIAVIK DIAMOND MINES INC.

TITLE  
**DIAVIK WILDLIFE STUDY AREA, 2025**

CONSULTANT  
 YYYY-MM-DD 2026-04-23



DESIGNED	MB
PREPARED	AA
REVIEWED	MB
APPROVED	MB

PROJECT NO. CA0047332.8932	CONTROL 4000.4300	REV. 0	FIGURE 1
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIA 25mm



**LEGEND**

- INFRASTRUCTURE

**KEY MAP**

0 500 1,000  
1:30,000 METRES

**REFERENCE(S)**  
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CLIENT

**RioTinto | Diavik**

PROJECT  
 DIAVIK DIAMOND MINES INC.

TITLE  
 DIAVIK MINE SITE INFRASTRUCTURE, 2025

CONSULTANT	YYYY-MM-DD	2026-04-23
	DESIGNED	MB
	PREPARED	AA
	REVIEWED	MB
	APPROVED	MB

PROJECT NO. CA0047332.8932    CONTROL 4000.4300    REV. 0    FIGURE 2

03/11/2025 10:30:00 AM C:\Users\jgibson\OneDrive - RioTinto\Documents\Diavik\Diavik\_Mine\_Site\_Infrastructure\_2025\Map\_Series\Diavik\_Mine\_Site\_Infrastructure\_2025\_Map\_Series.aprx PRINTED ON: 04/23/2026 10:30:00 AM

**Table 1: Comments on the 2022 WMMR, 2024 WMMR, and 2024 WMMP Relevant to the 2025 WMMR**

Comment Identifier	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response	WMMR Section
<b>2022 Comprehensive WMMR</b>					
GNWT-ECC-WMMR-4	Caribou movement analysis - Modelling	Landcover type was included in the generalized linear mixed-effect models as a categorical covariate where the predominant landcover class was assigned to each movement path (Section 4.2.1.3.). Although this is a good option for investigating the potential effects of landcover type on caribou movements/behaviour, this approach does filter out a lot of spatial information. It would be interesting to investigate how the proportions of landcover types where suitable caribou forage is expected affect caribou movements/behaviour. This may help explain if caribou with long path durations (i.e., caribou that spent a long time in each buffer zone) that moved at slower speeds and had higher proportion of hard turns are feeding in good habitat or there's an influence of a barrier to movements.	Consider evaluating the influence of the proportion of landcover type on the movement metrics used to evaluate changes in movement behaviour at different distances from the mine complex.	DDMI will investigate whether continuous landcover covariates (vs. categorical landcover covariates) are appropriate for evaluating changes in movement behaviour, and present the results of the investigation in the next comprehensive WMMR.	Section 4.2
<b>2024 WMMP V1.4</b>					
DDMI-WMMP1.4-EMAB-01		In Section 5.4.3.1, the revised WMMP states only that statistical analyses will be completed on the near-field group scans when enough data are available to analyze caribou behaviour across Mine phases of operations, closure and post-closure. Can the data be used to verify behaviour metrics measured using satellite collared caribou. For example, an analysis looking at the correlation in group scan behaviour metrics and behaviours as inferred from satellite collars. This would validate the satellite collar data and aid the interpretation of behaviour metrics based on satellite collar data at all distances from the Mine (i.e. 3–30 km) where direct observations are not occurring.	We recommend using the group scan behaviour data to validate the movement metrics estimated from the satellite collared caribou that DDMI will use for caribou movement behaviour analyses in the future.	DDMI uses the behaviour metrics of movement speed and proportion of hard turns from collared caribou data to meet the monitoring objective of Handley (2010): To determine if caribou behaviour changes with distance from the Mines. Validation is about the accuracy of results. Movement speed and the proportion of hard turns cannot be validated from caribou group scan observations because caribou group scans do not record the behaviours of movement speed or the proportion of hard turns. DDMI completed an exploratory analysis of collared caribou using geofenced collar data (WSP Golder 2022b), DDMI compared collar movement metrics of speed and hard turns with group scan behaviour results of feeding, resting, alert, walking, trotting and running activities to examine whether collar movement metrics were correlated with behaviours measured by group scans, which was supported by a small amount of data available. At the time, DDMI proposed to discontinue the group scan methods and replace it with collared caribou behaviour monitoring to meet the monitoring objective. EMAB expressed concern that discontinuing the group scans would also mean that these behaviour activities would not be monitored even though the monitoring objective does not explicitly include the monitoring of these behaviour activities. As the WMMP indicates, near-field caribou group scans which record feeding, resting, alert, walking, trotting and running activities will be continued, so there is no need for this comparison. Caribou collar movement speed and the proportion of hard turns will also be continued to meet the monitoring objective.	Sections 4.2 and 4.3

**Table 1: Comments on the 2022 WMMR, 2024 WMMR, and 2024 WMMP Relevant to the 2025 WMMR**

Comment Identifier	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response	WMMR Section
<b>2024 WMMR</b>					
EMAB-DDMI-WMP-86	Wildlife Mortality Incident Figure	DDMI committed to present a graph of raptor mortalities across years in the 2024 WMMR. However, mortalities of other, non-VEC species, are still listed on a case-by-case basis in an Appendix to the WMMR. This makes it difficult to clearly identify if any non-VEC species are experiencing high mortality. For example, a high-level review of Appendix D showed there were 15 ptarmigan mortalities in 2024. Summarizing mortalities in text or visually on a species-by-species basis would allow for easier identification of potential issues. Is this level of mortality higher than normal? Is additional mitigation required? None of this is addressed in the WMMR. Understanding these dynamics would be helped by starting Appendix D with a summary figure showing the number of mortalities for each species observed in a given year.	We recommend developing a summary graphic showing the number of mortalities on a species-by-species basis in each WMMR or writing a summary paragraph to introduce Appendix D in future years to identify species experiencing relatively high mortality in a given year and potentially comparing that to mortality levels in previous years to guide mitigation efforts.	Per the WMMP, Diavik has focused on the monitoring of VEC species identified within the WMMP. Non-VEC species mortality monitoring is not a requirement of the WMMP. DDMI voluntarily provides mortality reports for non-VEC species in Attachment D. DDMI disagrees that this recommendation is applicable to the WMMR.	Appendix F
YKDFN-1	Incomplete Caribou Behavioural Surveys	Seventeen of thirty-five caribou behavioural scan surveys were excluded from analysis due to incomplete records. This is nearly 50% of the intended dataset. The reduced sample size undermines the robustness of the behavioural analysis and weakens the report's ability to assess potential Mine-related impacts on caribou behaviour.	Clarify the reasons behind incomplete records and implement stricter protocols to ensure all behavioural scans are fully documented and usable in future reports.	Reasons for incomplete records vary, but were often because a caribou was incorrectly recorded as having multiple behaviours at the same time or the number of caribou in the herd exhibiting each behaviour was not recorded properly. This has already been corrected with the field teams. DDMI accepts this recommendation and deems it complete.	Section 4.3.2; however, there were no incomplete records for 2025

WMP = Wildlife Monitoring Program; WMMR = Wildlife Management and Monitoring Report; WMMP = Wildlife Management and Monitoring Plan; EMAB = Environmental Monitoring Advisory Board; VEC = valued ecosystem components; YKDFN = Yellowknives Dene First Nation.

## 2.0 COMMUNITY ENGAGEMENT AND TRADITIONAL KNOWLEDGE

Diavik engages with local Indigenous communities and values community feedback and insights about how Diavik operates the Mine and monitors the environment or may be affecting the environment. As part of their commitment to the environment, Diavik incorporates available Traditional Knowledge in environmental plans and monitoring programs. For Diavik's WMMR, Traditional Knowledge has been incorporated through:

- study design
- wildlife ecology and the interpretation of monitoring results
- community participation with data collection

Incorporation of Traditional Knowledge into study design of monitoring programs has occurred for caribou habitat, grizzly bear, and wolverine. For caribou, Diavik and the Tłı̨chǫ Government carried out a Traditional Knowledge study in the summer of 2013 through a series of workshops and site visits where four participating elders from Tłı̨chǫ and Lutseł K'e shared stories and knowledge about caribou migration, preferred habitats (vegetation communities and landscape features), and traditional land use (Tłı̨chǫ Government 2013). The guidance provided by the elders resulted in selection of specific sampling sites for the vegetation and lichen monitoring program that were appropriate for caribou use. In addition to influencing the study design, Traditional Knowledge shared in this study has also been considered in the interpretation of monitoring results (Golder 2017). Elders in the 2013 Traditional Knowledge study noted that caribou will avoid using the areas close to the Mine during migration because dust on forage will alter its taste or smell. Traditional Knowledge has also been incorporated into the caribou scan surveys through means of a questionnaire. When elders are present, observed caribou are commented on from an animal health and traditional use perspective.

In 2012, the Diavik and Ekati Mines collaborated on a new regional scale grizzly bear monitoring program because past Mine-specific monitoring programs yielded inconclusive results from highly variable data (Handley 2010). The regional grizzly bear program involved hair snagging methods and included Traditional Knowledge holders to determine the best locations for hair snagging devices (Section 5.0; ERM 2014). From 2003 to 2006, the study design and data collection for wolverine snow track monitoring was based on the experience of Inuit Qaujimajatuqangit to locate transects and record wolverine snow tracks (Section 6.0).

Diavik's Traditional Knowledge Panel provided recommendations to Diavik. In 2021, the Traditional Knowledge Panel made recommendations to aspects of the caribou monitoring program, which included Rio Tinto Exploration recording caribou numbers, behaviour, and other metrics related to individual health (e.g., size, approximate weight) as well as implementing a wildlife scat collection program in and proximal to the Mine for purposes of dietary analysis (Det'on Cho Environmental 2022). DDMI provided responses to these recommendations in 2022 (Det'on Cho Environmental 2022). Caribou will be monitored to the fullest extent practicable by DDMI Operations; however, it was noted that Rio Tinto Exploration does not have the expertise to assess the requested metrics. DDMI also noted that caribou scat is collected by the GNWT-ECC, and additional scat collection is outside of the scope of the monitoring program outlined in the WMMP (Det'on Cho Environmental 2022).

The last Traditional Knowledge Panel was held in 2022. DDMI is now working towards the establishment of a comprehensive Traditional Knowledge Monitoring Framework (TKMF) for the closure and post-closure of the Mine, which will include monitoring of fish, caribou, and other wildlife. It is anticipated that monitoring under the TKMF will begin in 2026.

Where possible, Diavik tries to include community members in environmental monitoring annually. For example, Earnest Lockhart from Lutsel K'e Dene First Nation participated in wolverine snow track surveys in 2025 (Section 6.3). Communities have participated in a variety of programs over the history of monitoring by Diavik (Golder 2018) and this has been documented in past reports. The WMMR is anticipated to evolve as Diavik receives input through community engagement, regulatory workshops, site visits, and Traditional Knowledge monitoring results.

### 3.0 LANDSCAPE CHANGES

The scope of the landscape component of the WMMR is to determine if vegetation and surface water loss are within the magnitude or amounts predicted in the EER (DDMI 1998c). East Island vegetation cover is predominantly characterized by heath tundra and tussock / hummock landscape classes, but Mine construction and operation have also resulted in the loss of shallow and deep water. The main change from the Mine on the landscape is direct disturbance, which will be a long-term effect as the recovery of vegetation is slow in Arctic environments (Burt 1997).

Diavik conducts ongoing monitoring to determine if dust from the Mine is affecting vegetation communities, and lichen and soil chemistry. Permanent vegetation plots are assessed for plant species cover (relative abundance) and richness at Mine and reference sites. Metals concentrations are analyzed in lichen and soil samples near and far from the Mine. The most recent comprehensive vegetation and lichen analysis report was completed in early 2025 and included up to 2024 monitoring (WSP 2025c). As part of the Final Closure and Reclamation Plan Version 1.1, prepared May 2025, dust, vegetation, and lichen monitoring will be continued during closure and post-closure.

The objective of this component of the WMMR is to determine if direct vegetation/habitat loss due to the Mine footprint exceeds the prediction of 12.67 km<sup>2</sup>. The Mine footprint did not expand in 2025, and values reported in the 2024 WMMR (WSP 2025a) also applied in 2025. As of December 2025, a total area of 11.62 km<sup>2</sup> has been altered since Mine construction began in 2000. This represents a relative loss of 91.7% of predicted landscape disturbance (DDMI 1998c). Landcover classes at or slightly exceeding the predicted loss include riparian shrub, birch seep and shrub, boulder complex, disturbed, and esker (Table 2). The Mine footprint may increase slightly through the end of operations as a result of progressive reclamation activities but is not anticipated to exceed the EER prediction. The annual geographic extent of landscape disturbed from the Mine footprint is illustrated in Figure 3.

**Table 2: Total and Predicted Ecological Landscape Classification Unit Loss Associated with Mine Development Phases, 2000 to 2025**

ELC Type	Construction and Open Pit Mining (2000 to 2005)	Open Pit Mining (2006 to 2009)	Underground Mining (2010 to 2016)	Underground and Open Pit Mining and A21 Underground Development (2017 to 2024)	Underground Mining and Pre-Closure Activities (2025) <sup>(a)</sup>	Predicted <sup>(b)</sup>
Heath Tundra	2.60	2.94	3.28	3.67	3.67	3.68
Heath Bedrock (30% to 80%)	0.45	0.56	0.61	0.66	0.66	0.78
Heath Boulder (30% to 80%)	1.06	1.47	1.64	1.77	1.77	1.89
Tussock/Hummock	1.19	1.41	1.50	1.62	1.62	1.64
Sedge Wetland	0.16	0.21	0.22	0.25	0.25	0.26
Riparian Shrub	0.03	0.03	0.03	0.04	0.04	0.03
Birch Seep and Shrub	0.08	0.09	0.10	0.11	0.11	0.11
Boulder Complex	0.03	0.04	0.05	0.05	0.05	0.05
Bedrock Complex	0.05	0.06	0.06	0.07	0.07	0.07
Esker Complex	0.17	0.17	0.17	0.17	0.17	0.16
Disturbed <sup>(c)</sup>	0.05	0.06	0.06	0.06	0.06	0.06
Shallow Water	0.29	0.34	0.40	0.44	0.44	0.48
Deep Water	1.93	2.12	2.63	2.71	2.71	3.46
<b>Total<sup>(d)</sup></b>	<b>8.10</b>	<b>9.50</b>	<b>10.75</b>	<b>11.62</b>	<b>11.62</b>	<b>12.67</b>

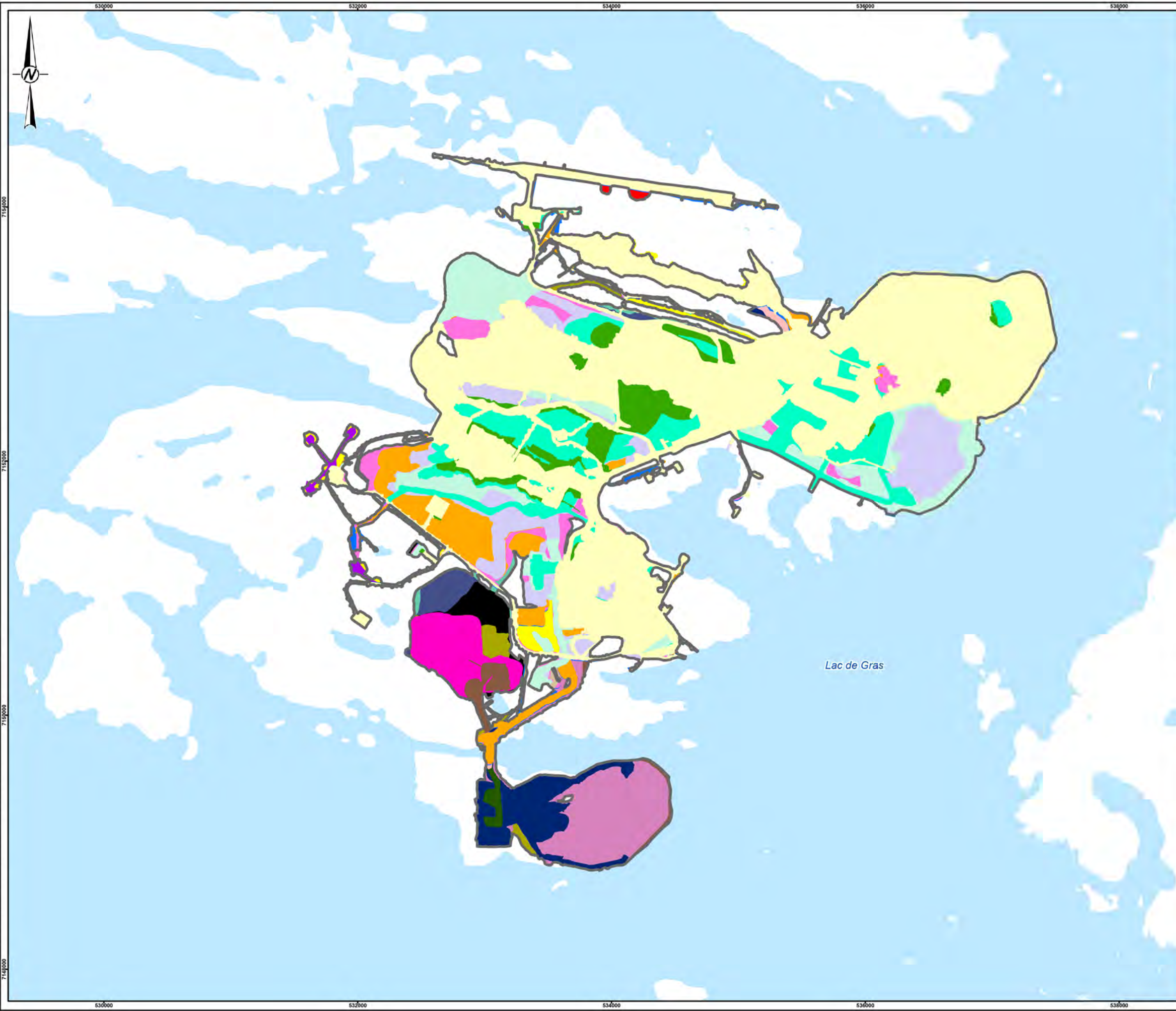
(a) Represents cumulative loss up to the end of 2025.

(b) From DDMI 1998c.

(c) Disturbed includes areas that were already disturbed by exploration activities when the ELC was created.

(d) Any discrepancies in totals across the rows results from the rounding of numbers in annual columns for presentation purposes.

ELC = Ecological Landscape Classification.

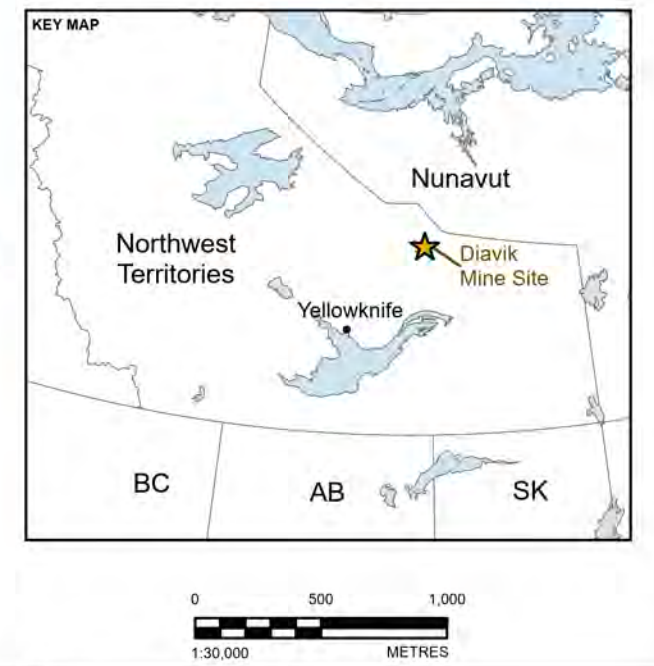


**LEGEND**

- MINE PERIMETER 2025
- WATERBODY

**DISTURBANCE (2002-2025)**

2002	2014
2003	2015
2004	2016
2005	2017
2006	2018
2007	2019
2008	2020
2009	2021
2010	2022
2011	2023
2012	2024
2013	



**NOTE(S)**  
NO NEW DISTURBANCE IN 2025.

**REFERENCE(S)**  
DISTURBANCE AND MINE FOOTPRINT DATA OBTAINED FROM CLIENT. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 12N

CLIENT

**RioTinto | Diavik**

PROJECT  
DIAVIK DIAMOND MINES INC.

TITLE  
**MINE FOOTPRINT EXPANSION BY YEAR, 2002 TO 2025**

CONSULTANT		YYYY-MM-DD	2026-04-23
		DESIGNED	MB
		PREPARED	AA
		REVIEWED	MB
		APPROVED	MB

PROJECT NO. CA0047332.8932    CONTROL 4000.3000    REV. 0    FIGURE 3

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## 4.0 BARREN GROUND CARIBOU

The Mine is within the spring (northern migration), summer, and fall/rut seasonal ranges of the Bathurst caribou herd (Gunn et al. 2002) and more recently in the shifted winter range. Caribou of this herd may travel through the Lac de Gras area during the northern migration to the calving grounds, and forage and move through the area during the summer and fall periods, sometimes following shorelines and onto the West and East Islands. Caribou from the Ahiak and Beverly caribou herds may also have ranges that overlap with the Mine to a lesser extent based on collared animal locations. At the time of this report, wintering caribou were south of the study area. However, caribou collar locations suggest these animals were most likely from the Beverly/Ahiak and Bathurst herds. Caribou from different herds may interact with the Mine and mitigation used by the Mine is designed to protect all caribou from any herd.

In 1996, the mean population size ( $\pm$  95% confidence interval [CI]) of the Bathurst caribou herd was estimated at 349,000  $\pm$  95,000 (Case et al. 1996; Gunn et al. 1997). The most recent population estimate determined by GNWT-ENR in 2025 was 3,609 animals (GNWT-ECC 2026). Although the Beverly and Ahiak herds are not monitored as intensively as the Bathurst herd, the last census for the Ahiak herd was in June of 2021 and estimated 39,131 individuals (Campbell et al. 2022). The population of the Beverly herd was estimated to be 103,372 individuals in 2018 (COMA 2020). Similar to the Bathurst caribou herd, these herds are believed to also be in decline as are a number of other circum-Arctic herds (Vors and Boyce 2009; Festa-Bianchet et al. 2011; Gunn et al. 2011).

Barren ground caribou (*Rangifer tarandus groenlandicus*) were listed as threatened by the NWT Species at Risk (SAR) Committee on 11 July 2018 (NWT SAR 2018). The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessed barren-ground caribou in November 2016 as threatened (COSEWIC 2016). To support the recovery of all barren-ground caribou herds, the Conference of Management Authorities (COMA) developed a 2020 Recovery Strategy for Barren-Ground Caribou in the Northwest Territories (COMA 2020). The overall goals of the strategy are to:

- Maintain or restore self-sustaining, resilient populations of each barren-ground caribou herd, such that no herd is lost.
- Support and maintain the caribou-people relationship.
- Promote conditions that allow caribou to move and migrate across their historic ranges without barriers.
- Promote the conditions necessary for recovery.

The COMA (2020), which is comprised of wildlife co-management boards and governments in the NWT, has outlined five objectives to obtain this goal:

- Partners collaborate on the development and implementation of management, monitoring, guardianship, and conservation plans for barren-ground caribou in the NWT.
- Monitor barren-ground caribou, their habitat, and key factors and threats that may be affecting the status and health of herds in the NWT.
- Fill knowledge gaps, using traditional, community, and scientific knowledge, to enhance responsible and respectful barren-ground caribou conservation.
- Conserve and protect barren-ground caribou populations and their habitat.

- Provide education and promote respect for barren-ground caribou, their habitat, and conservation initiatives.

The strategy outlined the need to monitor the effects of predators on caribou as predation was considered a factor that could be managed. Wolves are the most important year-round natural predator of barren-ground caribou and knowledge of wolf numbers could help understand fluctuations in caribou populations and provide information required to support management decisions. In 2019, GNWT-ENR developed a Bathurst Caribou Range Plan (GNWT-ENR 2019), which proposes development limitations and hierarchical management actions for different areas in the Bathurst annual range. The Mine is located in Area 2 of the Bathurst Caribou Range Plan, which has a proposed moderate development level and status of cautionary. Mitigation included in the WMMP (DDMI 2024) is consistent with mitigation prescribed in the Bathurst Caribou Range Plan for developments in Area 2.

## 4.1 Habitat Loss

Physical alteration of the landscape reduces available caribou forage (DDMI 1998c). Habitat loss on East Island is expressed in habitat units (HUs) for caribou summer habitat. A HU is the product of surface area and suitability of the habitat in that area to supply food for caribou and cover from predators (DDMI 1998c). Habitats were rated on a scale of 0 to 1 HUs for their capability to support caribou, with values greater than 0.30 regarded as highly suitable habitat and values less than 0.25 rated as low suitability for caribou. The area of each habitat type on East Island was multiplied by its habitat suitability value to determine the number of foraging HU available to caribou.

One objective of the caribou component of the WMMR is to determine if direct summer habitat loss (in HUs) is greater than predicted. The impact prediction in the EER (DDMI 1998c) is:

- At full development, direct summer habitat loss from the project is predicted to equal 2.965 HUs.

Dust deposition can also alter the landscape either by positively influencing vegetation vigour through deposition of nutrients and increased snowmelt rates, or by reducing plant growth by coating leaves and adversely changing soil chemistry. Both mechanisms can lead to a change in plant communities, and forage quality and quantity for caribou. Diavik also monitors for the effect of dust deposition on vegetation (including lichen) and soil chemistry.

### 4.1.1 Methods

Using the ecological landscape classification (ELC) unit loss (Table 2), the area (km<sup>2</sup>) of ELC lost was multiplied by its habitat suitability value (DDMI 1998c) to determine HUs lost.

### 4.1.2 Results

There was no new habitat loss in 2025; therefore, the cumulative habitat loss values presented herein are identical to those presented in the 2024 WMMR (WSP 2025a). Direct summer habitat loss to date from the Mine is approximately 2.885 HUs (Table 3). As noted above, ELC unit loss is below the level predicted in the EER (Table 2). Similarly, total direct losses of summer HUs for caribou are currently below the 2.965 HUs predicted in the EER (Table 3).

**Table 3: Caribou Summer Habitat Unit Loss to 2025**

ELC Type	Habitat Suitability Value	Cumulative ELC Loss to 2025 (km <sup>2</sup> )	Cumulative Habitat Unit Loss to 2025
Heath Tundra	0.37	3.67	1.36
Heath Boulder	0.40	1.77	0.71
Riparian Shrub	0.46	0.04	0.02
Bedrock Complex	0.27	0.07	0.02
Tussock/Hummock	0.30	1.62	0.49
Sedge Wetland	0.28	0.25	0.07
Esker Complex	0.30	0.17	0.05
Birch Seep and Shrub	0.11	0.11	0.01
Boulder Complex	0.21	0.05	0.01
Heath Bedrock	0.23	0.66	0.15
<b>Total<sup>(a)</sup></b>	-	<b>8.41</b>	<b>2.88</b>

(a) Any discrepancies in totals result from the rounding of numbers for presentation purposes.

ELC = Ecological Landscape Classification.

## 4.2 Changes to Movement

To evaluate changes in caribou movement in proximity to the Mine, collar data collected from Beverly/Ahiak and Bathurst caribou herds from 2011 to 2025 were analyzed following Poole et al. (2021), and the methods presented in the 2022 WMMR (WSP 2023a). Poole et al. (2021) provided the first exploratory analysis of geo-fence collar data and caribou interactions with the Ekati Mine. DDMI committed to completing a similar analysis of geo-fence caribou collar data, following Poole et al.'s (2021) approach and in relation to the Diavik Mine. These initial movement analyses were submitted as an addendum to the 2021 WMMR (WSP Golder 2022a,b). A caribou movement analysis was also completed as part of the 2022 and 2023 WMMRs (WSP 2023a, 2024), which evaluated caribou movement at varying distances from the Diavik-Ekati mine complex to evaluate potential changes to caribou movement behaviours in response to the Mine. EMAB recommended that additional 3-km buffer zones (up to 30 km from the Diavik Mine) be used to further quantify patterns of movements at further distances (MSES 2022). This section of the 2025 WMMR provides an update to the movement analyses undertaken in 2022 (WSP 2023a) and incorporates 3-km buffer zones, as recommended by EMAB (MSES 2022).

This section of the WMMR provides an analysis of potential interactions with the Mine and characterizes movement metrics of caribou near the Mine. Movement behaviours of caribou from Bathurst and Beverly/Ahiak herds are assessed using two movement metrics (i.e., speed and proportion of hard turns). A series of 3-km buffer zones within 30 km of the Diavik-Ekati mine complex (or mine complex) are used as focal areas to evaluate movement metrics in relative proximity to the mine complex, and metrics are compared with a Reference Group for each herd that represents population-level estimates from collared caribou movement paths located outside the 30-km buffer zone up to 111 km surrounding the Mine. As a result, this analysis examines whether movement metrics were within expected population-level estimates or if they differ when closer to the Mine.

In previous years, residency time was included as an additional movement metric but has since been removed to reduce redundancy, as it was found to be correlated with speed and proportion of hard turns (WSP 2023a). In the second portion of the caribou movement analyses, speed and proportion of hard turns are evaluated using generalized linear mixed-effect models (GLMMs) and predictor variables such as ELC and individual caribou attributes. The overall objectives of these movement analyses are to test for changes in caribou movement

metrics between animals using areas adjacent to the mine complex and a Reference Group. This analysis will also investigate whether continuous landcover covariates (versus categorical landcover covariates) are appropriate for evaluating changes in caribou movement behaviour, based on a recommendation from GNWT-ECC on the 2022 WMMR (WSP 2023a,b; Table 1).

## 4.2.1 Methods

### 4.2.1.1 Data Preparation

Telemetry data from caribou in the Bathurst and Beverly/Ahiak herds from 11 April 1996 to 31 December 2025 were provided by the GNWT-ECC. Telemetry data were collected from both male and female caribou from the Bathurst and Beverly/Ahiak herds; however, a higher proportion of female caribou were equipped with collars (Table 4). Satellite collars deployed from 1996 to 2005 were generally programmed to collect location data at fix rates greater than 24 hours. In some cases, satellite collars collected location data more frequently (i.e., 8 to 24-hour fix rates), but this was not common. Beginning in 2006, GPS collars were more commonly deployed, which typically provided more accurate and precise location estimates than satellite collars. Most collars deployed from 2008 to 2015 collected location data every 24 hours, while some had an 8-hour fix rate, and few had a fix rate of 1 to 3 hours during specific seasons. Almost all collars deployed after 2015 were geo-fence collars, which were programmed to collect location data at 8-hour fixes but increased to 1-hour fixes when a caribou triggered a 'geo-fence' by travelling within a 30-km radius of the Diavik-Ekati mine complex.

Multiple steps were taken to filter out imprecise and erroneous locations from the telemetry dataset:

- Telemetry data with location accuracy greater than 100 m were excluded from analyses. A detailed description of location accuracy is included below.
- Records missing location data were excluded.
- Duplicate telemetry data were identified and removed, which included entirely duplicated records as well as records with duplicated timestamps from the same individual despite varying information in other columns.
- The first two weeks of data collected from each collar were removed to exclude locations that may have been influenced by behavioural effects from capture events (Werdel et al. 2021).
- Data collected from collars with fix rates greater than 24 hours were removed following Poole et al. (2021).
- Some records had been assigned a collar type of 'GPS' but were imprecise locations that were calculated as dopler locations from collars, according to the GNWT-ENR; these records were removed (WSP 2023a,b).
- Caribou-years with less than five records were excluded.
- Telemetry data with speeds (calculated based on the distance and time between fixes) greater than 80 km/h were considered erroneous and were therefore removed.

The field "Class" in the dataset was used to filter records collected with adequate precision and/or accuracy, where Classes "5" and "GPS" were retained because these classes indicated that the location data was estimated with an accuracy of 100 m or better. Remaining classes were removed, including Class "0", "1", "2", "3", "B", and "NA". The final cleaned dataset consisted of 644,418 records from the Bathurst herd and 324,371 records from the Beverly/Ahiak herd. Unlike Poole et al. (2021), the movement analyses presented herein included male caribou. Inclusion of male caribou and satellite collar locations support a greater understanding of caribou

movement behaviours around the Diavik-Ekati mine complex. Figure 4 presents the filtered telemetry locations from caribou in the Bathurst and Beverly/Ahiak herds from 2010 to 2025.

Telemetry data from a total of 515 individual caribou ( $n = 254$  Bathurst caribou;  $n = 261$  Beverly/Ahiak caribou) were used in the movement analyses. Caribou generally collect data for more than one year, so each year from an individual was treated independently from other years (with a unique caribou-year identifier) to account for variation among years. From the 515 individual caribou, 1,190 caribou-years ( $n = 603$  Bathurst caribou-years;  $n = 587$  Beverly/Ahiak caribou-years; Table 4) were used in the movement analysis. The mean duration that data were collected from caribou during the study period (i.e., 2010 to 2025) was 1.60 years (standard deviation [SD] = 1.04) and 1.17 years (SD = 0.96) for the Bathurst and Beverly/Ahiak herds, respectively. The mean number of telemetry locations collected from collared caribou during the study period was 2,537 locations (SD = 2,251) in the Bathurst herd and 1,243 locations (SD = 1,351) in the Beverly/Ahiak herd.

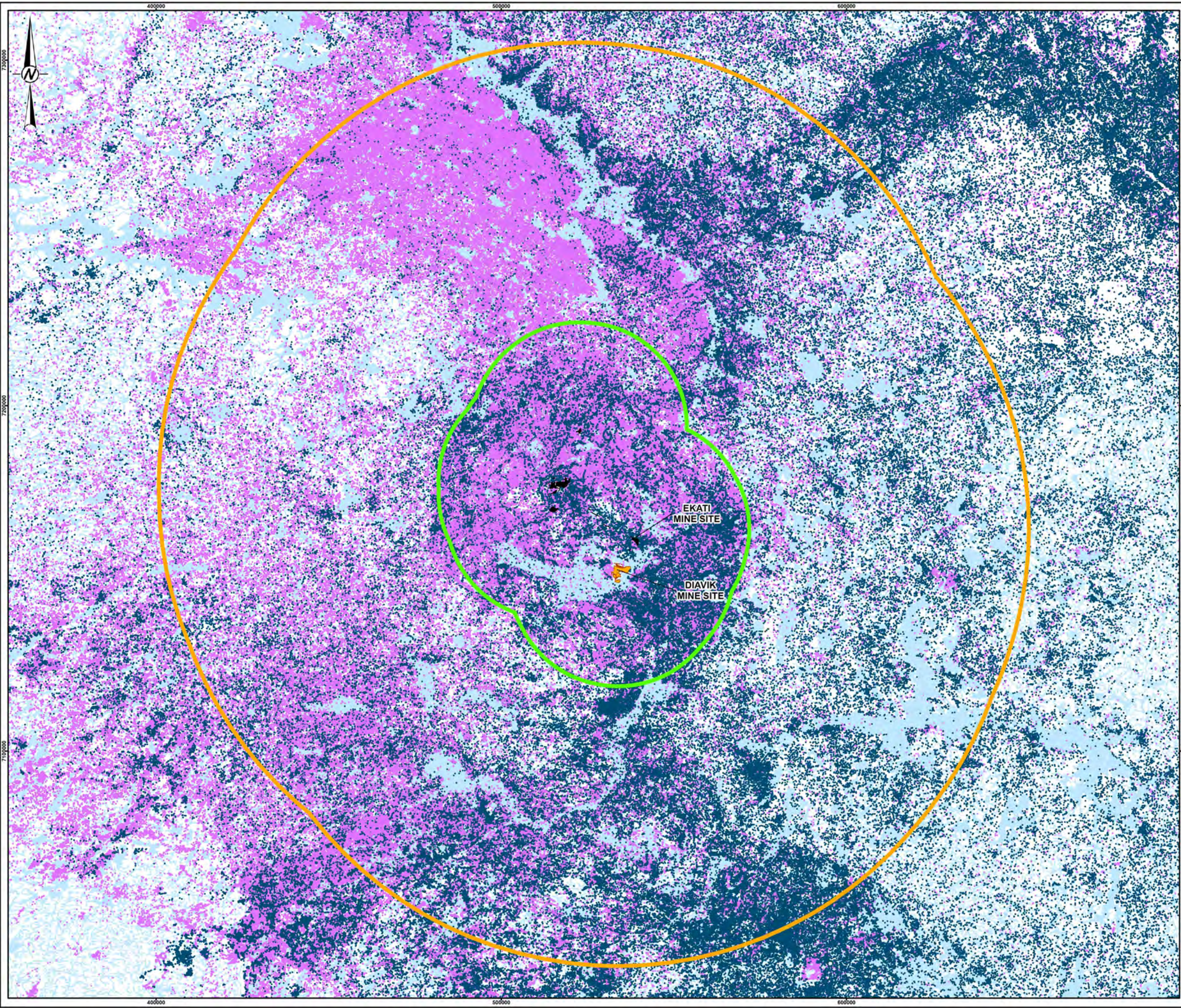
**Table 4: Summary of Collared-Caribou Data from the Bathurst and Beverly/Ahiak Herds used in the Movement Analysis, 2010 to 2025**

Herd	Count type	Count of Collared Caribou		
		Female	Male	Total
Bathurst	Caribou	185	69	254
	Caribou-years	444	159	603
Beverly/Ahiak	Caribou	161	100	261
	Caribou-years	341	246	587

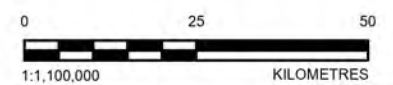
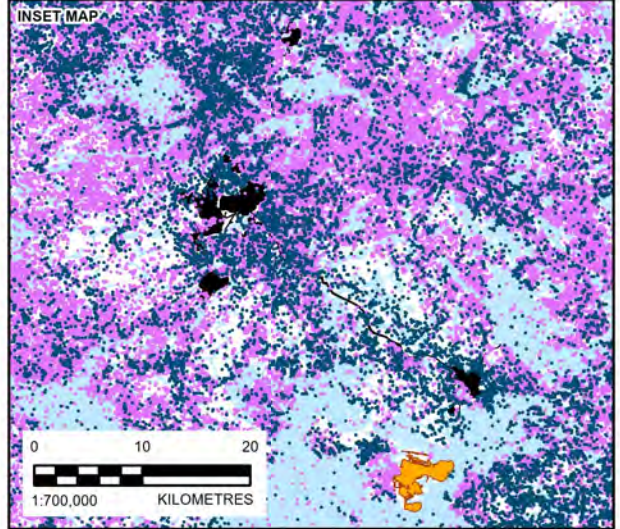
Data records were assigned a biological year and season. A biological year was defined as the time from the start of spring migration until the end of winter the following year (e.g., 20 April 2020 to 19 April 2021). For example, a caribou location collected on 16 January 2021 would be classified into the 2020 biological year. Sorting by biological year rather than calendar year is important so that the data collected during the same winter season can be evaluated together, rather than being split into two separate years. Data were sorted into six seasons (Table 5), which were defined according to Poole et al. (2021).

**Table 5: Caribou Seasons, Defined by Poole et al. (2021)**

Season	Date Range
Spring migration	20 April – 1 June
Calving	2 June – 16 June
Post-calving	17 June – 28 June
Summer	29 June – 6 September
Fall	7 September – 30 November
Winter	1 December – 19 April



- LEGEND**
- BATHURST TELEMETRY LOCATION
  - BEVERLY TELEMETRY LOCATION
  - 30 KILOMETRE BUFFER ZONE AROUND THE DIAVIK AND EKATI MINE COMPLEX
  - 111 KILOMETRE BUFFER ZONE AROUND THE DIAVIK AND EKATI MINE COMPLEX
  - DIAVIK FOOTPRINT
  - EKATI FOOTPRINT
  - WATERCOURSE
  - WATERBODY



**REFERENCE(S)**  
 DISTURBANCE AND MINE FOOTPRINT DATA OBTAINED FROM CLIENT. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.  
 PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 12N

CLIENT  
**RioTinto | Diavik**

PROJECT  
 DIAVIK DIAMOND MINES INC.

TITLE  
**FILTERED TELEMETRY LOCATIONS COLLECTED FROM COLLARED BARREN-GROUND CARIBOU IN THE BATHURST AND BEVERLY/AHIAK HERDS, 2010 – 2025**

CONSULTANT	YYYY-MM-DD	2026-04-23
	DESIGNED	JP
	PREPARED	AA
	REVIEWED	MB
	APPROVED	MB

PROJECT NO. CA0047332.8932    CONTROL 4000.3000    REV. 0    FIGURE 4

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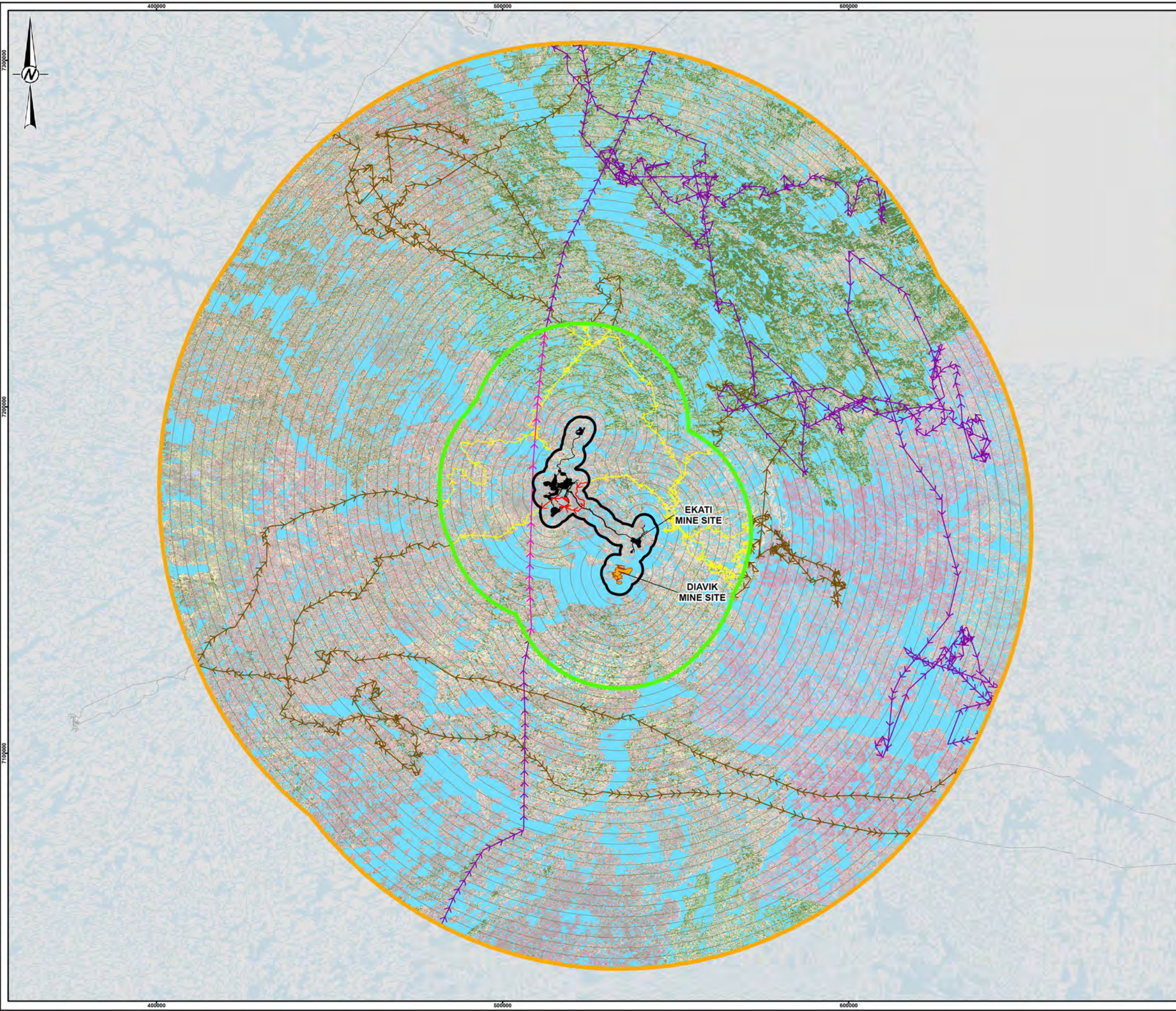
25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN ADJUSTED FROM A4 (B5)

### 4.2.1.2 *Movement Metrics*

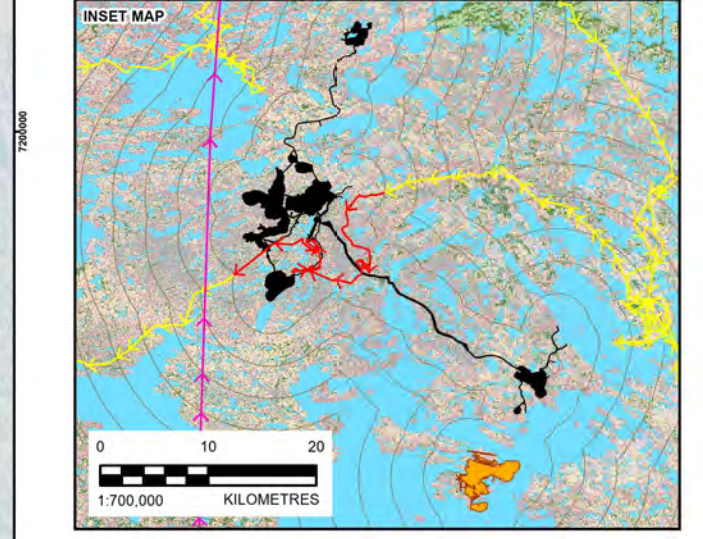
To test the effect of distance from the mine complex on caribou movement metrics, 3 km-wide ‘test’ buffers were generated surrounding the Diavik-Ekati mine complex, from a 0 to 3 km buffer zone to a 27 to 30 km buffer zone. The 30-km buffer zone was chosen as the outermost buffer zone for the test buffers, following Poole et al. (2021), because it was approximately double the mean distance of the modelled zone of influence (ZOI) for the Diavik-Ekati mine complex on caribou (i.e., ZOI = 7 to 14 km; Boulanger et al. 2012, 2021). In addition, 3 km-wide ‘reference’ buffers were generated from 30 to 33 km to 108 to 111 km buffer zones. The 111-km buffer zone was chosen as the outermost ‘reference’ buffer, because this was the maximum spatial extent of existing landcover data, which was used in modelling movement metrics described in Section 4.2.1.3. All caribou paths that were within the reference buffers (i.e., 30 to 111 km) were referred to as the Reference Group and were compiled by herd. As described below, movement metrics were calculated within the test buffer zones and the Reference Group of each herd, which allowed for comparisons between movement metrics of caribou within 30 km of the mine complex and caribou outside 30 km. It was assumed that movement metrics from the Reference Group (greater than 30 km) would not be affected by activities at the Diavik-Ekati mine complex, which is consistent with Poole et al. (2021). Figure 5 shows the 3 km-wide test and reference buffer zones and demonstrates how movement paths were segmented within buffer zones, as described below.

The filtered telemetry dataset was input into a Geographic Information System (GIS; ESRI 2025), and movement paths (steps) were created for each caribou as spatial polylines using the XY to line tool in ArcGIS (ESRI 2025). Paths are the straight-line steps that connect two consecutive GPS-collar caribou locations. Caribou paths were overlaid on top of the 3 km-wide test and reference buffer zones in a GIS (ESRI 2025), and if they crossed a buffer zone boundary, they were segmented at the buffer zone boundary and each segment was assigned to the applicable buffer zone. Figure 5 depicts how two movement paths from caribou-years were segmented within test and reference buffer zones.

All segmented paths were given a unique code (ID) that identified the original path it was derived from and the order of occurrence in the original path (e.g., “200-2” referred to the second segment of path 200). Segmented paths did not have a timestamp associated with them, so multiple processes were taken to assign each segmented path a revised timestamp. First, the length of each original path and segmented path were calculated in kilometres in a GIS. Then, the duration (time length) of each segmented path was calculated by dividing the distance of a segmented path by the total distance of its original path and multiplying the proportionate length by the fix rate of the original path. This calculation resulted in a duration (hours) for each segmented path. Next, segmented paths were grouped by their original path and then ordered using their unique ID, which ordered the segmented paths consecutively. A cumulative duration was calculated for each segmented path by summing the duration of each segmented path with the durations of the previous segmented paths from the original path. Finally, a new timestamp was estimated for each segmented path by adding its cumulative duration with the timestamp from the previous original path.



- LEGEND**
- EKATI FOOTPRINT
  - DIAVIK FOOTPRINT
  - 3 KILOMETRE BUFFER ZONE AROUND THE DIAVIK AND EKATI MINE COMPLEX
  - 30 KILOMETRE BUFFER ZONE AROUND THE DIAVIK AND EKATI MINE COMPLEX
  - 111 KILOMETRE BUFFER ZONE AROUND THE DIAVIK AND EKATI MINE COMPLEX
  - MULTIPLE RING 3 km BUFFER TO 111 km
  - WATERCOURSE
  - WATERBODY
  - LANDCOVER**
  - BRYOIDS
  - CONIFER
  - EXPOSED LAND/ROCK
  - LOW SHRUB/HERB
  - MIXED/DECIDUOUS
  - WATER/SNOW/ICE
  - WETLAND
  - PATH OUTSIDE OF 111 KILOMETRE BUFFER
  - BATHURST 2012 PATH BGCA12404**
  - 3 km - 30 km
  - 30 km - 111 km
  - BATHURST 2021 PATH BGCA21702**
  - 0 km - 3 km
  - 3 km - 30 km
  - 30 km - 111 km



**REFERENCE(S)**  
 DISTURBANCE AND MINE FOOTPRINT DATA OBTAINED FROM CLIENT. CARIBOU PATHS DERIVED FROM CARIBOU TELEMETRY DATA PROVIDED BY ENR, GNWT. EOSD LANDCOVER PROVIDED BY NRCAN. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS. © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.  
 PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 12N

CLIENT  
**RioTinto | Diavik**

PROJECT  
 DIAVIK DIAMOND MINES INC.

TITLE  
**EXAMPLES OF TWO CARIBOU-YEARS WITH MOVEMENT PATHS INSIDE BUFFER ZONES AROUND THE DIAVIK AND EKATI MINE COMPLEX, 2012 AND 2021**

CONSULTANT	YYYY-MM-DD	2026-04-23
	DESIGNED	JP
	PREPARED	AA
	REVIEWED	MB
	APPROVED	MB

PROJECT NO. CA0047332.8932    CONTROL 4000.3000    REV. 0    FIGURE 5

03/11/21 11:51:15 AM C:\GIS\Projects\Diavik\2026\Map\Map\Map\_2026\CA0047332\_8932\_Fig05\_CaribouTelemetry\_Disturbance\_Printed\_OH\_AT\_4\_23\_26.PDF  
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Speed was calculated for all movement paths within each of the 3 km-wide test and reference buffer zones by dividing the distance of each path (kilometres) by the duration (in hours) of each path (as described above). For each herd and season in a biological year, a mean speed (plus 2 SD) was also calculated by averaging caribou movement rate within each 3 km-wide test buffer zone. Additionally, a mean speed (plus 2 SD) was calculated for the Reference Group by herd and season across years and reference buffer zones. Movement metrics were calculated and summarized in R v. 4.3.3 (R Core Team 2026).

Turning angle was calculated as the relative difference in headings between two consecutive full movement paths (i.e., the estimated path between two consecutive GPS-collar caribou locations). If a sequential movement path was missing from the dataset (i.e., due to data cleaning and/or missed GPS fixes), a turning angle could not be calculated. Records without turning angles were removed from the dataset before summarizing turning angle information, resulting in a smaller sample size of turning angles (relative to the speed dataset) for analyses. Turning angles were first calculated in radians but were converted to degrees for easier interpretation. The absolute values of turning angles were reported because it does not matter whether a caribou turns left or right but, rather, if they deviate from their heading (Poole et al. 2021). Following Poole et al. (2021), turning angles were identified as a 'hard turn' if the absolute turning angle was greater than or equal to 60°. The mean proportions of hard turns (plus 2 SD) were calculated for each herd within each of the 3 km-wide test buffer zones by season and year. The mean proportions of hard turns (plus 2 SD) were also calculated for the Reference Group by herd and season across biological years and buffer zones.

Comparisons of movement metrics between test buffer zones and the Reference Group helped to determine if caribou movements near the mine complex varied substantially from caribou assumed to be not influenced by mining activity. Speed and proportion of hard turns were further evaluated using modelling approaches, as described in Section 4.2.1.3.

#### **4.2.1.3 Modelling**

GLMMs were used to examine the relationship between distance from the mine complex and other explanatory variables on the speed (km/h) and hard turns (greater than or equal to 60°) of caribou paths. Speed (km/h) was a positive, continuous response variable that was heavily skewed right. A GLMM with a gamma distribution with log-link was used to evaluate speed. Hard turns were evaluated using GLMM with a binomial distribution because the response variable is binary, where hard turns were assigned a "1" if the relative turning angle was greater than or equal to 60° and assigned a "0" if the relative turning angle was less than 60°.

Explanatory variables evaluated in this analysis included landcover, buffered distance from the mine complex at 3-km buffer intervals, herd, and sex. Speed (km/h) was evaluated as a potential covariate to be included in the models of proportion of hard turns. Explanatory variables were developed from two spatial datasets, including a landcover layer and the caribou telemetry data from GNWT-ECC. First, 21 landcover classes from Earth Observation for Sustainable Development of Forests (available at a 25 m by 25 m resolution and developed by Natural Resources Canada [NRC] 2000) were reclassified into seven classes based on expected benefit to caribou and influence on caribou movements (Table 6).

Following comments from the GNWT-ECC on the 2022 WMMR (WSP 2023a,b), DDMI committed to investigating whether continuous landcover covariates (versus categorical landcover covariates) were appropriate for evaluating changes in caribou movement behaviour. Therefore, landcover was included as both categorical and continuous covariates in movement analyses. Landcover was calculated as a categorical variable by assigning a predominant landcover class to each movement step. Predominant landcover was defined as the landcover class with the greatest proportional coverage within a 300-m radius surrounding an extraction point. Landcover was calculated as a continuous variable by first developing a suite of continuous raster surfaces based on a 300-m moving window, which represented the proportion of a target landcover class within the 300-m window

surrounding each raster cell. For the speed analysis, landcover was extracted at the midpoint of each movement segment, whereas for the turning angle analysis, landcover was extracted at each turn.

Each movement path was assigned a discrete variable based on which 3-km buffer zone the path occurred in (i.e., “0–3 km”, “3–6 km”, “108–111 km”; Table 7). Buffer zones from 30–33 km to 108–111 km were pooled into a “Reference Group” buffer zone for the analysis. Buffer zone was included as a discrete variable to test for an effect of distance from the Diavik-Ekati mine complex on caribou speed and proportion of hard turns.

The remaining explanatory variables presented in Table 7 were related to individual caribou attributes (i.e., herd, sex) and a temporal variable (i.e., biological year). The reference assigned for herd was “Bathurst”, “Female” was the reference for sex, and “2012” was the reference assigned for biological year. It was necessary to use “2012” as the reference because no paths remained in years 2010 and 2011 after data cleaning and after removing years with low sample sizes of caribou (i.e., 2010 had  $n = 1$  caribou).

The continuous effect of buffered distance from the mine complex and speed were modelled as a natural cubic spline to allow for a non-linear temporal trend in relative weight; therefore, the estimated model coefficients were not useful for interpretation and are not shown. The degrees of freedom for the model splines was set to three to represent the potential for caribou movement behaviour to vary near and far from the mine complex. Sensitivity testing was performed to confirm model convergence using three degrees of freedom; model results were generally found to be stable at three degrees of freedom.

A candidate model set with six candidate models plus a null model was applied to the speed and hard turn datasets for four of the six seasons, specifically spring migration, summer, fall, and winter. Calving and post-calving seasons were not included because data were limited during these seasons, particularly for the Beverly/Ahiak herd (Table 4). The same candidate model set was applied to examine speed and hard turns, except speed was included as an additional explanatory variable in two of the candidate models for hard turns. The ability of a caribou to achieve a hard turn will be related to the speed of movement. The candidate model set, including model hypotheses, is presented in Appendix C.

Explanatory variables were screened for collinearity using a Pearson’s correlation test, as well as using their variance inflation factor (VIF). If two variables were found to be significantly correlated ( $|r|$  greater than 0.6 or VIF greater than 3.0), then only one of the correlated variables were included in the model to avoid explanatory redundancy. No explanatory variables correlated significantly; therefore, all selected variables were included in the models. For models that included continuous landcover covariates, Water/Ice/Snow was dropped from the model to act as a reference category and avoid perfect continuous covariate proportions that summed to 1.0.

Caribou ID was included as a random effect to account for temporal and spatial autocorrelation that arises from comparing data from the same individual (grouped separately by buffer zone or year), as some individual caribou naturally move faster or make more frequent hard turns. Random intercept models did not provide coefficient estimates for the random effects; these were treated as unobserved random variables (Bates 2010).

Model selection was based on an information-theoretic approach using Akaike’s Information Criteria (AIC). The number of model parameters ( $K$ ), log-likelihood, difference in AIC score ( $\Delta AIC$ ) relative to the lowest AIC score, and model weight ( $AIC_w$ ) were estimated for each model. The model with the lowest AIC value was considered the top-ranking model (Burnham and Anderson 2002). Models with  $\Delta AIC$  score less than or equal than 2.0 were considered competitive.

The top model for each season was used to assess statistical significance of predictors. Predictor significance for main effects was assessed using a Type II Analysis of Variance (ANOVA; Langsrud 2003). The ANOVA was applied to each top fitted model. Type II ANOVAs are preferred for assessing main effects in unbalanced designs (Langsrud 2003). In addition to testing model effects using Type II ANOVAs, parameter estimates (i.e., beta estimates) from the top model of each season for speed and hard turns were evaluated and presented in Appendix D.

For the top models, population-level model predictions (i.e., model prediction across all collared caribou, not by individual) were plotted against observed data averaged across individuals to visualize the estimated relationships between caribou speed or hard turns and the various explanatory variables. Because the model contained multiple predictor variables, the visualization of predictions relative to specific variables of interest required setting the other predictor variables to a constant value. These predictor values were given the value of their reference category if categorical or were given a zero if continuous. The following predictor values were used to visualize model predictions: "Bathurst" for herd, "Female" for sex, "Water/Snow/Ice" for landcover, zero for buffered distance from the mine complex at (3 km buffer intervals), and the median for speed (km/h) only in the models for proportion of hard turns.

**Table 6: Landcover Classes and Associated Reclassified Landcover Classes from Earth Observation for Sustainable Development of Forests Landcover Data (NRC 2000) within 111-km Buffered Area**

Reclassified Landcover Class	EOSD Landcover Class	Description <sup>(a)</sup>	Expected Benefit to Caribou	Expected Influence on Caribou
Bryoids	Bryoids	Bryophytes (mosses, liverworts, and hornworts) and lichen (foliose or fruticose; not crustose); minimum of 20% ground cover or one-third of total vegetation must be a bryophyte or lichen	<ul style="list-style-type: none"> <li>Source of forage (year-round)</li> </ul>	<ul style="list-style-type: none"> <li>Reduce speed</li> <li>Many hard turns</li> </ul>
Conifer Forest	Coniferous Dense	Greater than 60% crown closure; coniferous trees are 75% or more of total basal area.	<ul style="list-style-type: none"> <li>Source of forage</li> <li>Thermal cover</li> </ul>	<ul style="list-style-type: none"> <li>Reduce speed</li> <li>Many hard turns</li> </ul>
	Coniferous Open	26%–60% crown closure; coniferous trees are 75% or more of total basal area.		
	Coniferous Sparse	10%–25% crown closure; coniferous trees are 75% or more of total basal area.		
Exposed and Rock	Exposed Land	River sediments, exposed soils, pond or lake sediments, reservoirs, margins, beaches, landings, burned areas, road surfaces, mudflat sediments, cutbanks, moraines, gravel pits, tailings, railway surfaces, buildings and parking, or other non-vegetated surfaces.	<ul style="list-style-type: none"> <li>No benefit expected</li> </ul>	<ul style="list-style-type: none"> <li>Increase speed</li> <li>Few hard turns</li> </ul>
	Rock/Rubble	Bedrock, rubble, talus, blockfield, rubble mine spoils, or lava beds.		
Low Shrub and Herb	Shrub Low	At least 20% ground cover which is at least one-third shrub; average shrub height less than 2 m.	<ul style="list-style-type: none"> <li>Low shrub as source of forage (when lichen limited)</li> <li>Herb as source of food in post-calving, summer, fall</li> </ul>	<ul style="list-style-type: none"> <li>Reduce speed</li> <li>Many hard turns</li> </ul>
	Herb <sup>(b)</sup>	Vascular plant without woody stem (grasses, crops, forbs, graminoids); minimum of 20% ground cover or one-third of total vegetation must be herb.		
Mixed or Deciduous Forest	Broadleaf Dense	Greater than 60% crown closure; broadleaf trees are 75% or more of total basal area.	<ul style="list-style-type: none"> <li>No benefit expected</li> <li>Trees may act as movement obstacles</li> </ul>	<ul style="list-style-type: none"> <li>Reduce speed</li> <li>Many hard turns</li> </ul>
	Broadleaf Open	26%–60% crown closure; broadleaf trees are 75% or more of total basal area.		
	Broadleaf Sparse	10%–25% crown closure; broadleaf trees are 75% or more of total basal area.		
	Mixedwood Dense	Greater than 60% crown closure; neither coniferous nor broadleaf tree account for 75% or more of total basal area.		
	Mixedwood Open	26%–60% crown closure; neither coniferous nor broadleaf tree account for 75% or more of total basal area		
	Mixedwood Sparse	10%–25% crown closure; neither coniferous nor broadleaf tree account for 75% or more of total basal area.		

**Table 6: Landcover Classes and Associated Reclassified Landcover Classes from Earth Observation for Sustainable Development of Forests Landcover Data (NRC 2000) within 111-km Buffered Area**

Reclassified Landcover Class	EOSD Landcover Class	Description <sup>(a)</sup>	Expected Benefit to Caribou	Expected Influence on Caribou
Water/Snow/Ice	Water	Lakes, reservoirs, rivers, streams, or salt water.	<ul style="list-style-type: none"> <li>■ Winter travel</li> <li>■ Reduced predation risk</li> </ul>	<ul style="list-style-type: none"> <li>■ Increase speed</li> <li>■ Few hard turns</li> </ul>
	Snow/Ice	Includes glacier, snow, ice		
Wetland	Wetland-Treed	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes; the majority of vegetation is coniferous, broadleaf, or wetland or aquatic processes; the majority of vegetation is coniferous, broadleaf, or mixed wood.	<ul style="list-style-type: none"> <li>■ Preferred grizzly bear habitat, may increase predation risk</li> <li>■ Source of early emergent vegetation forage</li> </ul>	<ul style="list-style-type: none"> <li>■ Uncertain</li> </ul>
	Wetland-Herb	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes; the majority of vegetation is tall, low, or a mixture of tall and low shrub.		
	Wetland-Shrub	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes; the majority of vegetation is herb.		
No Data	Cloud	No landcover data available for these classes; therefore, not included in modelling.		
	No Data			

(a) Descriptions provided by NRC (2000).

(b) Herb was investigated in a GIS and was found to be associated with the Shrub Low areas and, thus, was combined with Low Shrub.

EOSD = Earth Observation for Sustainable Development of Forests; GIS = geographical information systems.

**Table 7: Explanatory Variables Considered in Candidate Model Sets**

Variable Type	Explanatory Variable	Data Source	Definition
Landcover Class	Landcover	EOSD <sup>(a)</sup> landcover	Categorical variable coding for each landcover class a movement path occurred in. Seven landcover classes were reclassified from the EOSD <sup>(a)</sup> landcover (Table 6). Classes include: Bryoids, Conifer Forest, Exposed Land and Rock, Low Shrub and Herb, Mixed or Deciduous Forest, Water/Snow/Ice, and Wetland. No Data class was not included in the model because it was not expected to influence speed or hard turns.
Landcover Proportion	Landcover	EOSD <sup>(a)</sup> landcover	Continuous landcover covariates representing the proportion of each landcover class for a movement path. Proportions of Bryoids, Conifer Forest, Exposed Land and Rock, Low Shrub and Herb, Mixed or Deciduous Forest, and Wetland were calculated from EOSD landcover data and included as separate explanatory variables.
Buffer Zone	Buffered Distance from Mine Complex	Diavik and Ekati mine complex footprint	Discrete variable ranging from 3–111 km that assigned each movement path to the buffer zone that it was in. The 3 km-wide buffers were calculated from the edge of the Diavik and Ekati mine complex footprint and developed in a GIS.
Caribou Attributes	Herd	GNWT collar data	Categorical variable coding Bathurst and Beverly/Ahiak herds.
	Sex		Categorical variable coding male and female caribou.
	Speed	Calculated from movement paths	Continuous variable ranging from 0–80 km/h. Speed was calculated as the distance of a path (km) divided by the duration of the path (hour). Speed was only included as an explanatory variable in the candidate model set for hard turns.
Temporal Variable	Biological Year	GNWT collar data	Categorical variable coding the biological year the movement path occurred in. Biological years included all years from 2010 to 2025 except for 2011, which was not included due to limited caribou (2011: $n = 1$ ).

(a) NRC (2000).

EOSD = Earth Observation for Sustainable Development of Forests; GNWT = Government of Northwest Territories.

## 4.2.2 Results

The number of caribou with at least one movement path (i.e., caribou that contributed to movement analyses) varied by buffer zone, season, and herd (Table 8; Figure 6). The total number of caribou and caribou-years considered for movement analyses was highest in the Reference Group, when compared to each buffer zone (Table 8; Figure 6). The total number of caribou with at least one movement path increased as the buffer zone increased (Table 8; Figure 6). As buffers increase in distance from the mine complex, they also increase in area; thus, farther buffer zones have more available area for caribou to occupy. More caribou contributed movement paths to the analyses in successive buffer zones, which is also related to the high number of caribou and caribou-years in the Reference Group.

The post-calving season, followed by the calving season, had the lowest number of collared caribou across all buffer zones and Reference Group (Table 8; Figure 6). This was expected due in part because the calving and post-calving seasons are the shortest seasons (Table 5). Bathurst caribou were observed in the buffer zones more commonly in the fall season, followed by summer, while Beverly/Ahiak caribou were most observed in the winter, then fall. Overall, there were 32–234 caribou and 48–471 caribou-years with at least one movement path from the Bathurst herd, and 3–231 caribou and 3–413 caribou-years with at least one movement path from the Beverly/Ahiak herd (Table 8; Figure 6). Examples of the movement paths included in the analyses are presented in Figure 5.

**Table 8: Number of Caribou (*n*) and Number of Caribou-Years (*n-year*), with at least One Movement path, by Buffer Zone, Herd, Season, and Reference Group.**

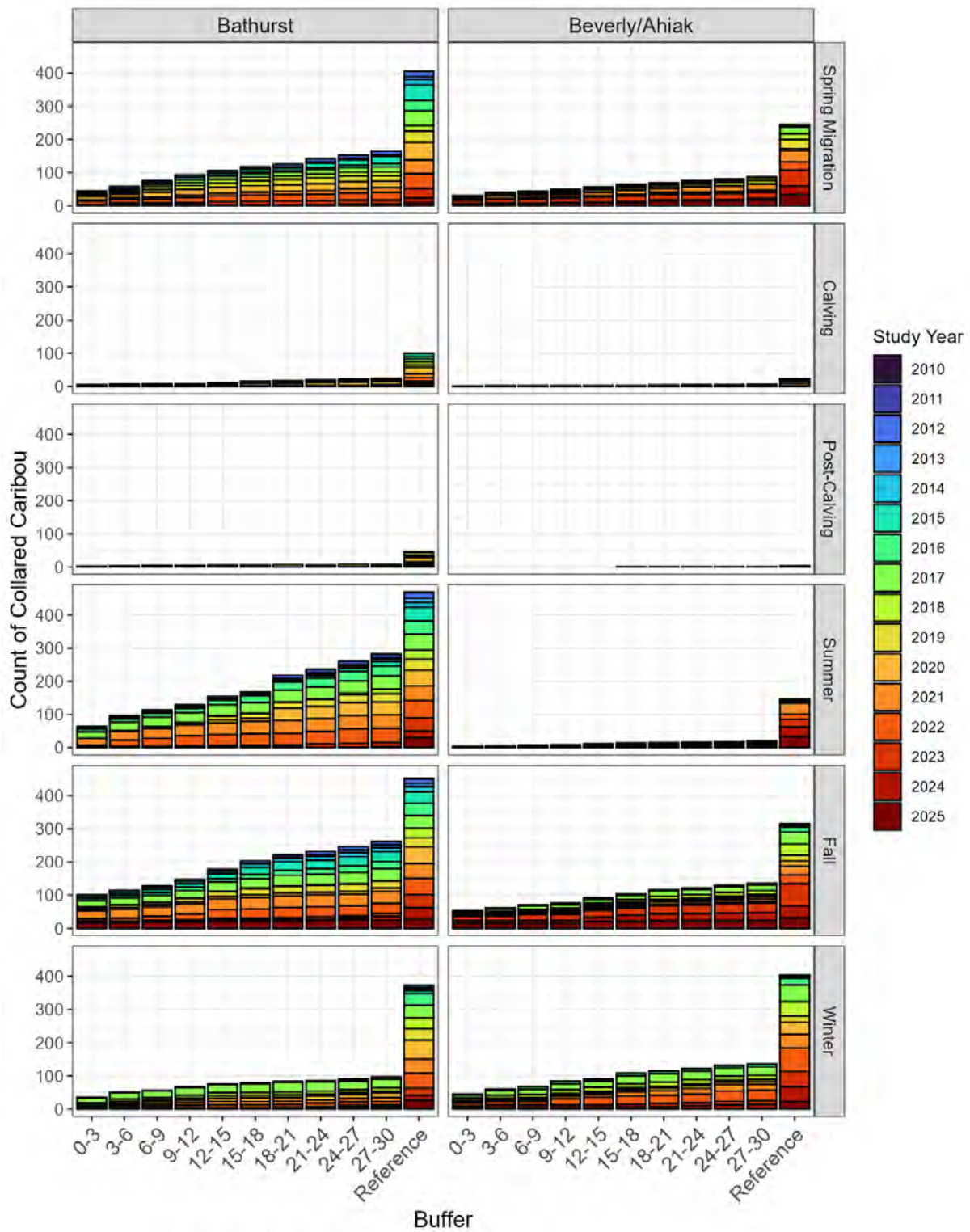
Herd	Buffer Zone <sup>(a)</sup> (km)	Caribou Counts											
		Spring Migration		Calving		Post-calving		Summer		Fall		Winter	
		<i>n</i>	<i>n-year</i>	<i>n</i>	<i>n-year</i>	<i>n</i>	<i>n-year</i>	<i>n</i>	<i>n-year</i>	<i>n</i>	<i>n-year</i>	<i>n</i>	<i>n-year</i>
Bathurst	0 – 3	41	45	5	5	2	2	55	64	87	101	32	35
	3 – 6	52	58	7	7	3	3	81	96	98	115	43	51
	6 – 9	68	76	8	8	5	5	91	114	107	129	45	56
	9 – 12	80	93	8	8	5	5	104	129	119	147	53	66
	12 – 15	89	106	11	11	6	6	118	155	136	178	61	75
	15 – 18	94	118	15	16	6	6	122	168	152	203	64	79
	18 – 21	100	125	17	18	7	7	141	218	157	222	66	83
	21 – 24	111	141	18	20	6	6	150	236	161	231	70	86
	24 – 27	117	152	19	22	7	8	160	261	166	247	75	90
	27 – 30	126	164	20	24	7	8	168	283	171	262	80	97
	Reference Group <sup>(b)</sup>	225	405	61	99	31	46	232	469	224	452	194	372
	Total Population <sup>(c)</sup>	226	406	61	99	32	48	234	471	224	454	194	384
Beverly/Ahiak	0 – 3	28	31	2	2	-	-	4	4	48	53	41	45
	3 – 6	36	40	3	3	-	-	5	5	56	61	54	60
	6 – 9	40	44	3	3	-	-	6	7	66	71	61	67
	9 – 12	44	49	3	3	-	-	8	9	70	76	74	84
	12 – 15	51	57	3	3	-	-	12	13	83	92	77	90
	15 – 18	56	64	3	3	1	1	13	14	90	104	89	108
	18 – 21	59	70	4	4	1	1	14	15	98	116	95	115
	21 – 24	65	76	5	5	1	1	15	16	103	121	102	122
	24 – 27	69	80	5	5	1	1	16	17	109	130	110	132
	27 – 30	75	88	6	6	1	1	19	20	111	136	112	135
		Reference Group <sup>(b)</sup>	170	244	21	23	3	3	103	146	208	315	230
	Total Population <sup>(c)</sup>	170	245	21	23	3	3	103	146	208	315	231	413

(a) Buffer zones are 3 km wide and surround the Diavik-Ekati mine complex.

(b) Reference Group refers to movement paths from caribou between 30 km and 111 km from the Diavik-Ekati mine complex.

(c) Total population is the sum of all caribou with at least one movement path included in analyses, by herd.

- = no caribou movement paths available within buffer for the corresponding season.



Note: Total count of collared caribou in the Reference Group is presented in each figure ('Reference'). Corresponding sample sizes for this figure are presented in Table 8.

**Figure 6: Total Count of Collared Caribou (with at least one movement path) by Buffer Zone ('Buffer'), Season, Herd, and Study Year (2010 to 2025)**

### 4.2.2.1 *Movement Metrics*

#### **Speed**

Mean caribou speed varied by buffer zone, herd, season, and year (Table 9). Mean speed outside buffer zones (i.e., for Reference Group caribou) varied from 0.4 km/h during the winter, for both Bathurst and Beverly/Ahiak herds, to 0.8 km/h for Bathurst caribou during spring migration and summer and 0.9 km/h for Beverly/Ahiak caribou during post-calving season (Table 9; Figure 7). Generally, speed remained similar across seasons and herds (Table 9; Figure 7). The uncertainty (i.e., 2 standard deviations) surrounding Reference Group caribou speed was similar across seasons and herds (Figure 7).

Mean speed values for each buffer zone were nearly all within two SD of the Reference Group for each herd and season (Table 9; Figure 7). The one exception is the 9–12 km buffer zone of the Beverly/Ahiak herd, which was considered an outlier due to its small sample size ( $n = 2$ ; Table 9). Overall, the results indicate that the average speed of caribou within 30 km of the Diavik-Ekati mine complex from 2010 through 2025 were generally similar to the average speed of Reference Group caribou.

**Table 9: Mean Speed, Calculated in km/h, by Herd, Buffer Zone, Season, and Reference Group**

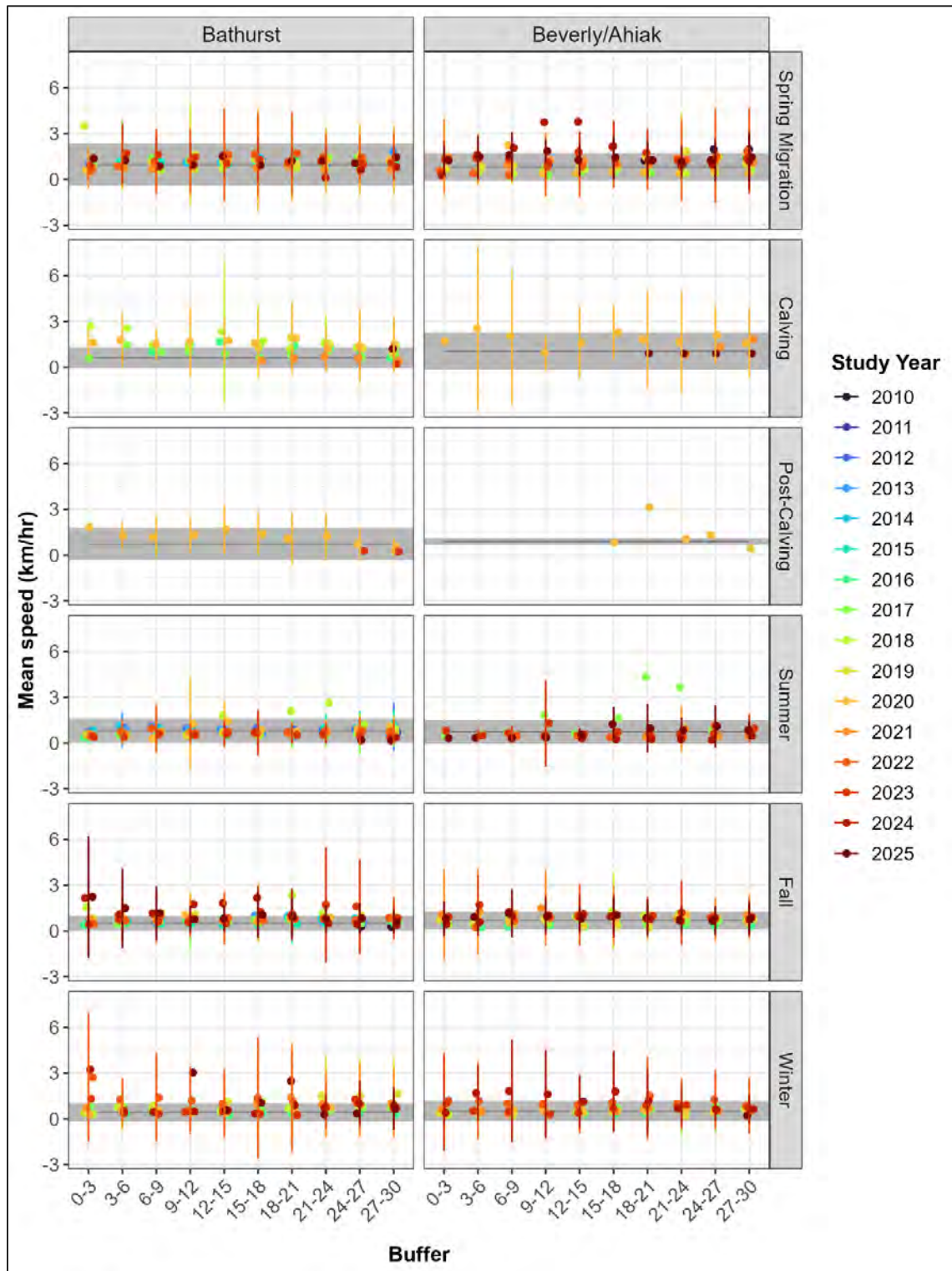
Herd	Buffer Zone (km) <sup>(a)</sup>	Mean speed (km/h) <sup>(b)</sup>											
		Spring Migration		Calving		Post-calving		Summer		Fall		Winter	
		Mean	2 SD	Mean	2 SD	Mean	2 SD	Mean	2 SD	Mean	2 SD	Mean	2 SD
Bathurst	0 – 3	0.6	1.6	1.6	2.9	1.7	1.1	0.4	1.0	0.4	1.4	0.3	1.2
	3 – 6	0.7	1.9	1.5	2.6	0.8	1.9	0.5	1.3	0.5	1.5	0.5	1.4
	6 – 9	0.6	1.8	1.1	2.6	0.6	1.6	0.5	1.3	0.6	1.6	0.4	1.4
	9 – 12	0.6	1.7	0.9	2.1	0.4	1.2	0.5	1.2	0.6	1.6	0.4	1.3
	12 – 15	0.7	1.7	1.0	2.2	0.4	1.3	0.5	1.1	0.6	1.6	0.3	1.2
	15 – 18	0.6	1.7	0.7	1.8	0.4	1.2	0.4	1.0	0.6	1.5	0.4	1.3
	18 – 21	0.7	1.7	0.5	1.4	0.3	0.9	0.4	1.0	0.5	1.3	0.4	1.4
	21 – 24	0.5	1.7	1.8	2.9	1.1	2.0	0.5	1.1	0.5	1.6	0.4	1.4
	24 – 27	0.5	1.7	1.3	2.6	1.1	2.1	0.5	1.3	0.6	1.7	0.4	1.3
	27 – 30	0.5	1.6	1.0	2.3	1.2	2.2	0.5	1.3	0.6	1.7	0.4	1.2
	Reference Group <sup>(c)</sup>	0.8	2.4	0.6	1.5	0.6	1.6	0.8	2.5	0.6	1.7	0.4	1.2
Beverly/Ahiak	0 – 3	0.6	1.6	1.1	2.4	-	-	0.5	1.0	0.5	1.6	0.3	1.1
	3 – 6	0.7	1.9	0.6	2.1	-	-	0.4	0.9	0.7	1.8	0.4	1.3
	6 – 9	0.6	1.7	2.0	2.9	0.8	2.3	0.5	1.2	0.6	1.7	0.4	1.3
	9 – 12	0.6	1.6	1.1	2.8	3.1	1.8	0.4	1.1	0.6	1.7	0.4	1.3
	12 – 15	0.6	1.6	0.9	2.4	1.1	2.8	0.5	1.1	0.6	1.6	0.4	1.3
	15 – 18	0.5	1.5	1.7	2.0	1.3	1.2	0.5	1.2	0.6	1.6	0.4	1.4
	18 – 21	0.6	1.6	1.4	2.1	0.4	0.9	0.6	1.2	0.6	1.4	0.3	1.2
	21 – 24	0.7	1.8	1.1	4.0	-	-	0.5	1.0	0.7	2.0	0.4	1.4
	24 – 27	0.5	1.4	1.0	3.7	-	-	0.5	1.0	0.8	2.1	0.4	1.2
	27 – 30	0.6	1.7	0.6	2.8	-	-	0.5	1.2	0.7	1.8	0.4	1.2
	Reference Group <sup>(c)</sup>	0.7	1.6	0.8	1.7	0.9	1.3	0.7	1.6	0.6	1.6	0.4	1.3

(a) Buffer zones are 3 km wide and surround the Diavik-Ekati mine complex.

(b) Mean speed is speed in km/h, averaged across caribou-years.

(c) Reference Group refers to movement paths from caribou between 30 km and 111 km from the Diavik-Ekati mine complex.

SD = standard deviation; - = no caribou movement paths available within buffer for the corresponding season.



Note: Error bars represent two standard deviations of the mean. Grey horizontal lines and light grey shading represents the mean plus/minus two standard deviations for the Reference Group of each herd and season. Standard deviations are provided where sample sizes  $\geq 3$  caribou. Corresponding mean speed values by buffer zone, season, and herd (i.e., pooled over years) are presented in Table 9.

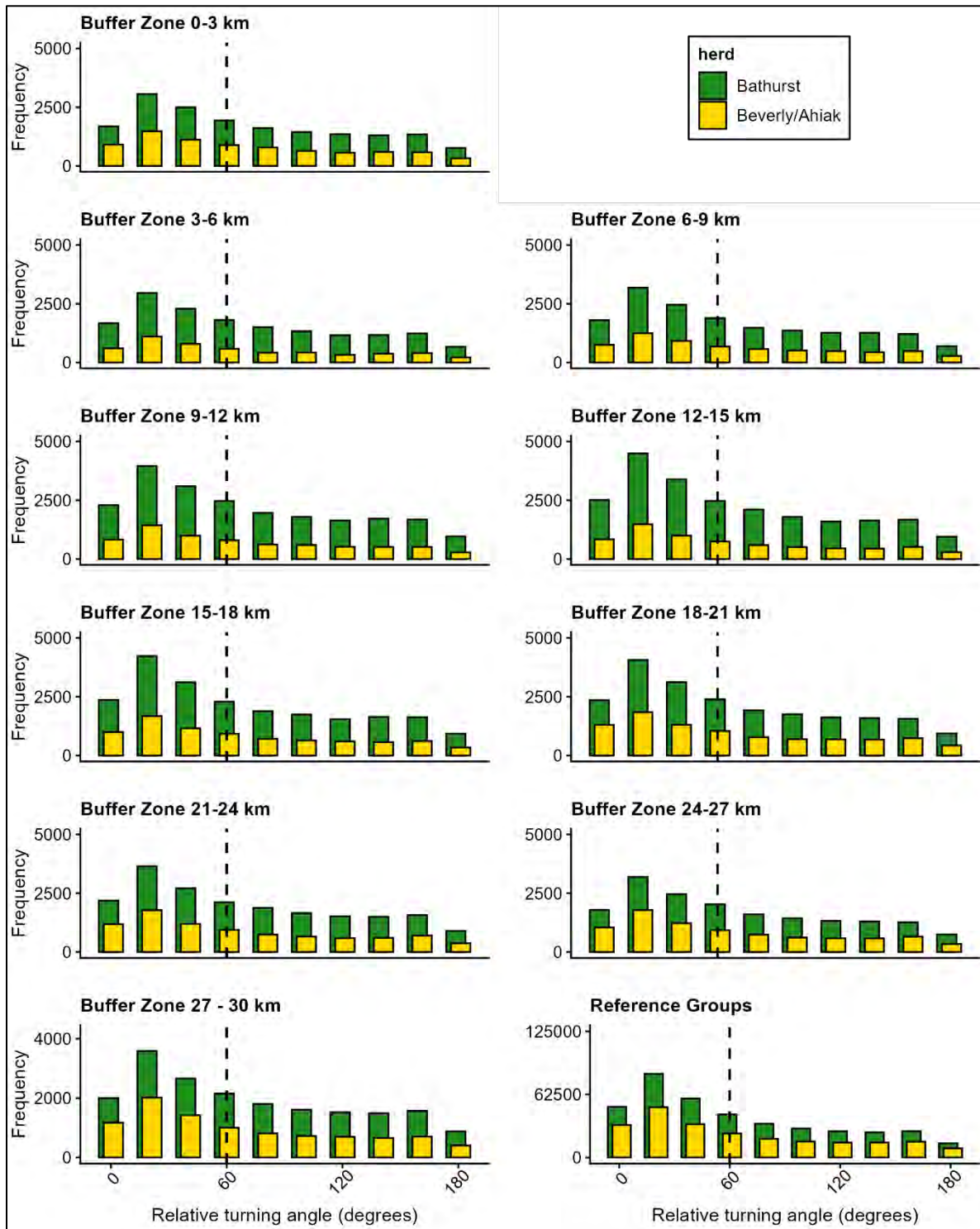
$\geq$  = greater than or equal to.

**Figure 7: Mean Speed (km/h) by Herd, Buffer Zone (buffer), Season, and Study Year (2010 to 2025)**

## Proportion of Hard Turns

The distribution of relative turning angles for test buffer zones surrounding the Diavik-Ekati mine complex are compared for Bathurst and Beverly/Ahiak herds in Figure 8. The Reference Group for each herd had the highest sample size of turning angles, and the frequency was higher for Bathurst than Beverly/Ahiak caribou (Figure 8). Distribution of turning angles was similar across buffer zones and herds; however, some buffer zones had much lower sample sizes of turning angles, which resulted in smaller distributions (i.e., buffer zone 0 – 3 km versus Reference Group; Figure 8). Buffer zones closer to the Diavik-Ekati mine complex typically had lower frequencies of turning angles because fewer caribou movement paths were available in smaller buffer zones.

Mean proportion of hard turns varied by buffer zone, herd, season, and year (Table 10; Figure 9). Mean proportion of hard turns was relatively constant for Reference Groups, regardless of herd, and ranged from 0.2 to 0.5 (Table 10; Figure 9). Thus, during most seasons and years, approximately one fifth to half of turns made by Reference Group caribou were hard turns (greater than or equal to 60°; Table 10; Figure 9). In contrast, in some years, caribou within 30 km of the Diavik-Ekati mine complex appeared to have higher proportions of hard turns during spring migration, summer, and fall, regardless of herd, relative to the Reference Group (Figure 9). However, variation across years, and in the Reference Group, was high (Figure 9).



Note: The dashed line indicates the threshold for determining a hard turn (i.e.,  $\geq 60^\circ$ ). Reference Group includes all buffers from 30–111 km.

**Figure 8: Frequency of Relative Turning Angles (°) for Bathurst and Beverly/Ahiak Caribou Herds, by Buffer Zone, within 30 km of the Diavik-Ekati Mine Complex**

**Table 10: Mean Proportion of Hard Turns (Calculated as Proportion of Turns Greater Than or Equal to 60°), by Herd, Buffer Zone, Season, and Reference Group**

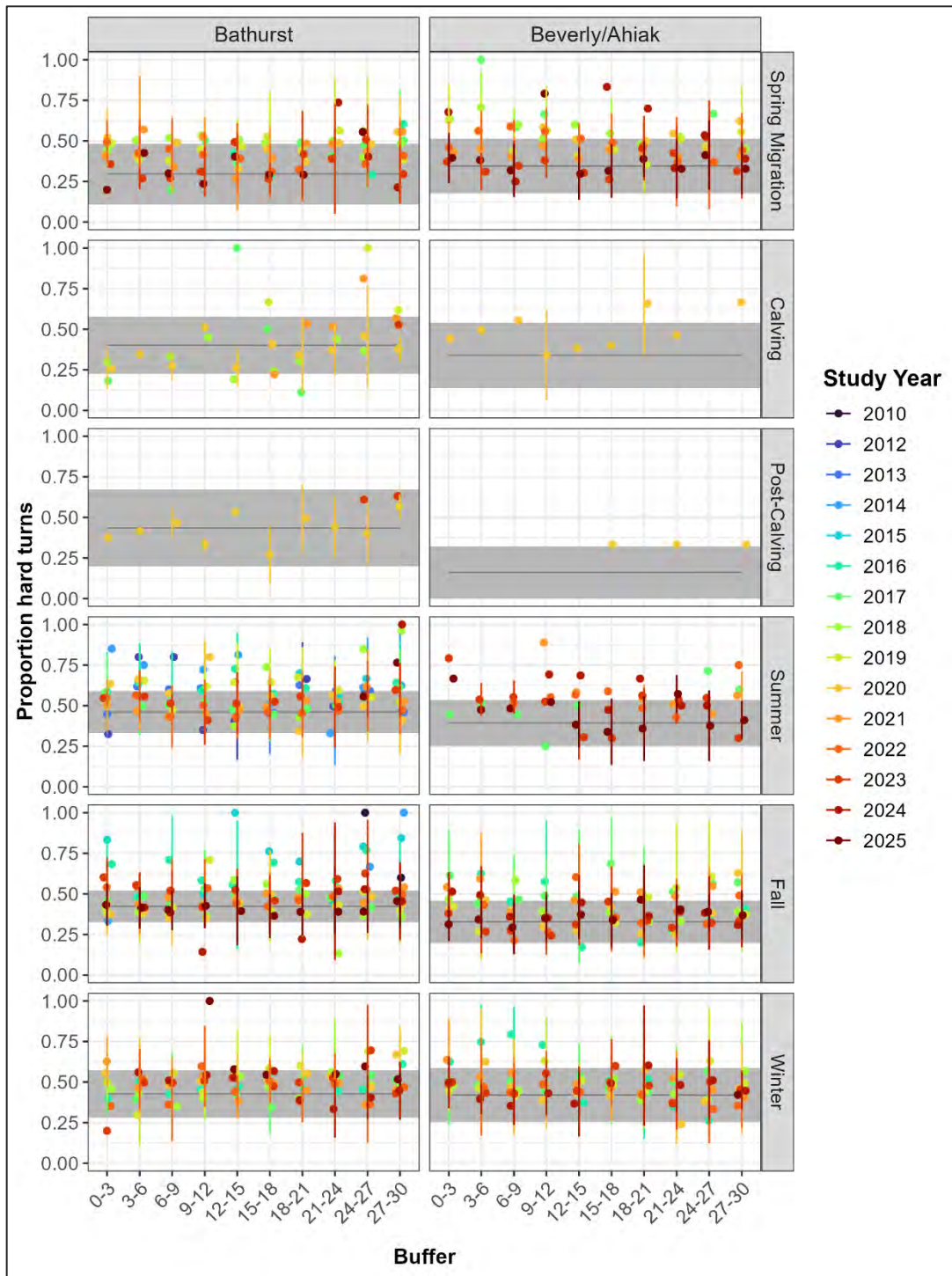
Herd	Buffer Zone (km) <sup>(a)</sup>	Mean proportion of hard turns <sup>(b)</sup>											
		Spring Migration		Calving		Post-calving		Summer		Fall		Winter	
		Mean	2 SD	Mean	2 SD	Mean	2 SD	Mean	2 SD	Mean	2 SD	Mean	2 SD
Bathurst	0 – 3	0.4	0.4	0.3	0.2	0.2	0.5	0.5	0.4	0.4	0.5	0.4	0.4
	3 – 6	0.4	0.5	0.1	0.4	0.6	0.7	0.5	0.5	0.4	0.4	0.4	0.5
	6 – 9	0.3	0.5	0.2	0.3	0.3	0.5	0.4	0.4	0.4	0.5	0.4	0.4
	9 – 12	0.3	0.4	0.3	0.5	0.2	0.4	0.5	0.5	0.4	0.5	0.5	0.4
	12 – 15	0.3	0.5	0.2	0.6	0.2	0.6	0.5	0.4	0.4	0.4	0.4	0.5
	15 – 18	0.3	0.5	0.3	0.4	0.2	0.4	0.4	0.5	0.4	0.5	0.4	0.4
	18 – 21	0.3	0.5	0.2	0.4	0.4	0.6	0.4	0.5	0.4	0.5	0.4	0.5
	21 – 24	0.3	0.6	0.2	0.5	0.4	0.5	0.4	0.6	0.4	0.5	0.4	0.5
	24 – 27	0.3	0.5	0.4	0.8	0.3	0.5	0.4	0.6	0.4	0.6	0.4	0.5
	27 – 30	0.3	0.6	0.3	0.5	0.6	0.3	0.4	0.7	0.4	0.5	0.4	0.6
	Reference Group <sup>(c)</sup>	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.3	0.4	0.2	0.4	0.3
Beverly/Ahiak	0 – 3	0.4	0.4	0.4	0.2	-	-	0.7	0.5	0.4	0.4	0.4	0.5
	3 – 6	0.4	0.6	0.3	0.7	-	-	0.5	0.2	0.3	0.5	0.4	0.5
	6 – 9	0.3	0.5	0.4	0.6	-	-	0.4	0.4	0.2	0.4	0.4	0.5
	9 – 12	0.4	0.6	0.3	0.6	-	-	0.5	0.5	0.3	0.4	0.4	0.5
	12 – 15	0.3	0.5	0.3	0.7	-	-	0.4	0.3	0.3	0.5	0.4	0.5
	15 – 18	0.3	0.5	0.1	0.5	0.3	-	0.3	0.4	0.3	0.5	0.4	0.5
	18 – 21	0.3	0.5	0.7	0.6	0	-	0.4	0.5	0.3	0.5	0.4	0.5
	21 – 24	0.3	0.5	0.3	0.5	0.3	-	0.4	0.5	0.3	0.5	0.3	0.5
	24 – 27	0.3	0.5	0	0	0	-	0.3	0.5	0.3	0.5	0.3	0.6
	27 – 30	0.2	0.5	0.2	0.7	0.3	-	0.4	0.5	0.2	0.5	0.3	0.5
	Reference Group <sup>(c)</sup>	0.3	0.4	0.2	0.5	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4

(a) Buffer zones are 3 km wide and surround the Diavik-Ekati mine complex.

(b) Mean proportion of hard turns is the proportion of relative turning angles greater than or equal to 60°, averaged across caribou-years. Relative turning angles were first transformed into absolute degrees. Standard deviations (SD) are provided when means are calculated from ≥3 caribou-years.

(c) Reference Group refers to movement paths from caribou between 30 km and 111 km from the Diavik-Ekati mine complex.

SD = standard deviation; - = no caribou movement paths available within buffer for the corresponding season, or <3 caribou-years in sample size and SD cannot be calculated; < = less than; ≥ = greater than or equal to.



Note: Error bars represent two standard deviations of the mean. Grey horizontal lines and light grey shading represent the mean plus/minus two standard deviations for the Reference Group of each herd and season. Standard deviations are provided where sample sizes  $\geq 3$  caribou. Corresponding mean proportion of hard turn values by buffer zone, season, and herd (i.e., pooled over years) are presented in Table 10.

$\geq$  = greater than or equal to.

**Figure 9: Mean Proportion of Hard Turns by Herd, Buffer Zone ('Buffer'), Season, and Study Year (2010 to 2025)**

### 4.2.2.2 Modelling Speed

Generalized linear mixed-effects models were used to examine the relationship between speed (km/h) and several explanatory variables, including buffered distance from the Diavik-Ekati mine complex, herd, sex, biological year, categorical landcover, and continuous landcover (Table 7). Models were fit using a gamma distribution with a log-link function. Calving and post-calving seasons could not be modelled because data were limited during these seasons, particularly for the Beverly/Ahiak herd.

Model 7 was the top performing model ( $\Delta AIC = 0.0$ ) for explaining variation in speed (km/h) in all four seasons, and included herd, sex, and an interaction term between each continuous landcover covariate and the buffered distance from the mine complex (Table 11). The continuous effect of buffered distance from the mine complex were modelled as natural cubic splines, which allowed for non-linear relationships between the landcover covariates and speed to be identified. Model selection results do not support that biological year is an important predictor of speed, although biological year was present in other candidate models that performed better than the null model (Table 11). The effect of individual variation significantly improved the model, accounting for 2-5% of the variation, across seasons (ANOVA,  $p$ -values less than 0.001 for all seasons).

Table 12 presents the  $P$ -values for the effects of each model parameter, from the top model, on caribou speed. Beta estimates of model parameters from top model for each season are presented in Appendix D. Parameter estimates and  $P$ -values from the top model indicate that female caribou exhibited significantly faster speeds than males across all seasons except fall (Table 12; Figure 10). Caribou in the Beverly/Ahiak herd were found have significantly lower speeds than Bathurst caribou in summer and spring migration, and significantly higher speeds than Bathurst caribou in fall and winter (Table 12; Figure 10).

Speed was significantly influenced by landcover and distance to mine regardless of season, and seasonal variation in speed was also observed (Table 12; Figure 11). Caribou speed was usually highest in spring migration and summer, as shown by more yellow and orange, and lowest in winter, as shown by more dark purple and black (Figure 11). Caribou speed also varied by landcover class, as shown by the varying colours and speed scale bars for panels A–F in Figure 11. For instance, caribou speed was fastest (approximately 2.0–2.5 km/h) in spring where proportion of wetland or broadleaf/mixedwood landcover was high (Panels B and F; Figure 11). Caribou speed was slow (less than 0.5 km/h) in spring where proportion of bryoids was high (Panel A; Figure 11). Notably, the slow spring speed in high bryoid landcover was observed within 30 km of the mine complex (Panel A; Figure 11). Caribou speeds near the mine complex (i.e., within 30 km) were lowest for landcover classes with suitable caribou forage (i.e., bryoids, wetland; Figure 11).

**Table 11: Ranked Model Selection Results for Evaluating Speed using Generalized Linear Mixed-Effect Models for Each Season**

Season	Model Name	Model <sup>(a)</sup>	K	Log-Likelihood	Δ AIC	AICw
Spring Migration	<b>Model 7</b>	<b>Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + (1 id)</b>	<b>32</b>	<b>-46854.8</b>	<b>0.0</b>	<b>1</b>
	Model 6	Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	30	-46881.5	49.4	0
	Model 5	Speed ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	9	-47313.5	871.4	0
	Model 4	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + (1 id)	32	-47772.0	1834.4	0
	Model 2	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	30	-47797.3	1881.0	0
	Model 1	Speed ~ Landcover + (1 id)	9	-48164.1	2572.5	0
	Model 3	Speed ~ Herd + Sex + Biological Year + (1 id)	19	-48816.4	3897.1	0
	Null	Speed ~1 + (1 id)	3	-49412.1	5056.5	0
Summer	<b>Model 7</b>	<b>Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + (1 id)</b>	<b>32</b>	<b>-128699.1</b>	<b>0.0</b>	<b>1</b>
	Model 6	Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	30	-128720.9	39.5	0
	Model 4	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + (1 id)	32	-129338.3	1278.3	0
	Model 2	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	30	-129362.9	1323.6	0
	Model 5	Speed ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	9	-131960.9	6477.4	0
	Model 3	Speed ~ Herd + Sex + Biological Year + (1 id)	19	-132305.8	7187.4	0
	Model 1	Speed ~ Landcover + (1 id)	9	-132551.1	7657.8	0
	Null	Speed ~1 + (1 id)	3	-133110.7	8765.0	0

**Table 11: Ranked Model Selection Results for Evaluating Speed using Generalized Linear Mixed-Effect Models for Each Season**

Season	Model Name	Model <sup>(a)</sup>	K	Log-Likelihood	Δ AIC	AICw
<b>Fall</b>	<b>Model 7</b>	<b>Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + (1 id)</b>	<b>32</b>	<b>-102337.9</b>	<b>0.0</b>	<b>1</b>
	Model 6	Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	30	-102353.3	26.9	0
	Model 5	Speed ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	9	-102910.7	1099.7	0
	Model 4	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + (1 id)	32	-104066.3	3457.0	0
	Model 2	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	30	-104080.9	3482.1	0
	Model 1	Speed ~ Landcover + (1 id)	9	-104552.9	4384.1	0
	Model 3	Speed ~ Herd + Sex + Biological Year + (1 id)	19	-106768.6	8835.4	0
	Null	Speed ~1 + (1 id)	3	-107226.4	9719.1	0
<b>Winter</b>	<b>Model 7</b>	<b>Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + (1 id)</b>	<b>32</b>	<b>72334.7</b>	<b>0.0</b>	<b>1</b>
	Model 6	Speed ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	30	72303.4	58.6	0
	Model 5	Speed ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	9	71383.8	1855.7	0
	Model 4	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + (1 id)	32	68902.1	6865.1	0
	Model 2	Speed ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	30	68863.8	6937.7	0
	Model 1	Speed ~ Landcover + (1 id)	9	68223.0	8177.3	0
	Model 3	Speed ~ Herd + Sex + Biological Year + (1 id)	19	63723.0	17197.4	0
	Null	Speed ~1 + (1 id)	3	63394.4	17822.6	0

(a) Top models are indicated in bold. Descriptions of covariates can be found in Table 7. The reference category for categorical variables is “Water/Snow/Ice” for landcover; “Bathurst” for Herd; and “Female” for Sex. 1|id indicates a random effect for individual caribou, which accounts for variation in movement among individual caribou.

(b) Covariate was included as a spline with three degrees of freedom (df = 3).

k = number of random effects; AIC = Akaike Information Criterion, AICw = Akaike Information Criterion weight.

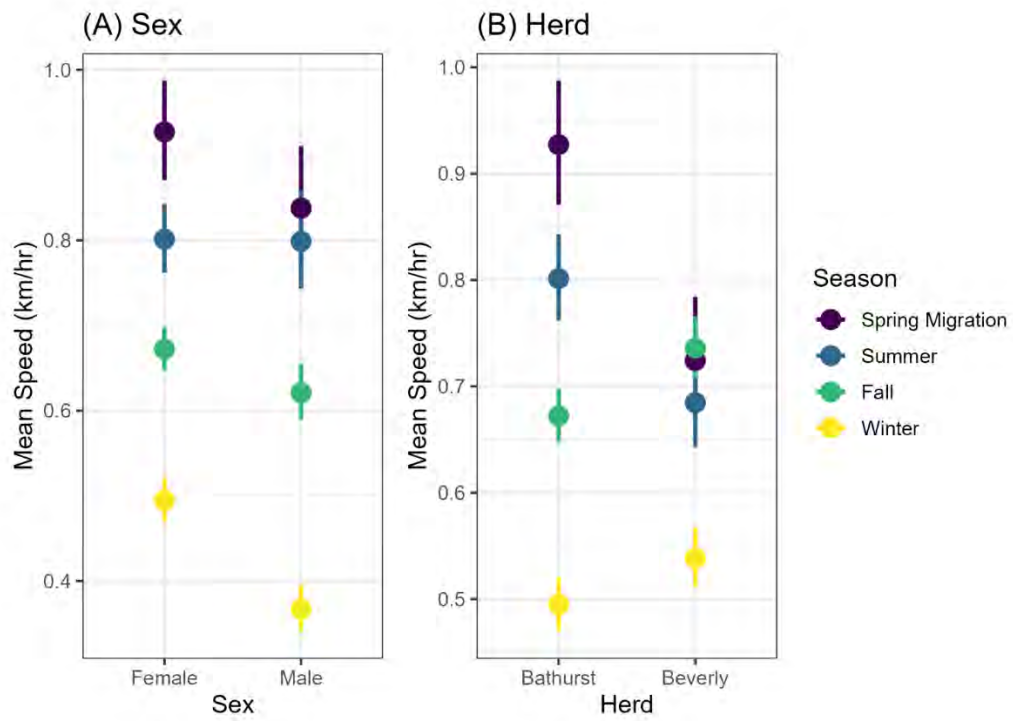
**Table 12: Statistical Results for Model Covariates Included in the Top Speed Model for Each Season**

Season	Covariate	$\chi^2$	df	P
Spring Migration	Bryoids	2356.6	1	<0.001
	Conifer	45.0	1	<0.001
	Rock/Rubble Exposed	781.8	1	<0.001
	Shrub Low Herb	144.0	1	<0.001
	Broadleaf/Mixedwood	12.2	1	<0.001
	Wetland	15.9	1	<0.001
	ns(Distance to Mine, df = 3)	448.3	3	<0.001
	Herd	38.5	1	<0.001
	Sex	4.8	1	0.029
	Bryoids:ns(Distance to Mine, df = 3)	126.6	3	<0.001
	Conifer:ns(Distance to Mine, df = 3)	23.3	3	<0.001
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	18.3	3	<0.001
	Shrub Low Herb:ns(Distance to Mine, df = 3)	94.3	3	<0.001
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	55.9	3	<0.001
Wetland:ns(Distance to Mine, df = 3)	39.3	3	<0.001	
Summer	Bryoids	934.6	1	<0.001
	Conifer	0.2	1	0.669
	Rock/Rubble Exposed	2.9	1	0.089
	Shrub Low Herb	127.8	1	<0.001
	Broadleaf/Mixedwood	34.5	1	<0.001
	Wetland	2.7	1	0.102
	ns(Distance to Mine, df = 3)	5506.7	3	<0.001
	Herd	42.7	1	<0.001
	Sex	0.0	1	0.939
	Bryoids:ns(Distance to Mine, df = 3)	140.8	3	<0.001
	Conifer:ns(Distance to Mine, df = 3)	137.1	3	<0.001
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	301.7	3	<0.001
	Shrub Low Herb:ns(Distance to Mine, df = 3)	88.3	3	<0.001
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	146.3	3	<0.001
Wetland:ns(Distance to Mine, df = 3)	39.6	3	<0.001	

**Table 12: Statistical Results for Model Covariates Included in the Top Speed Model for Each Season**

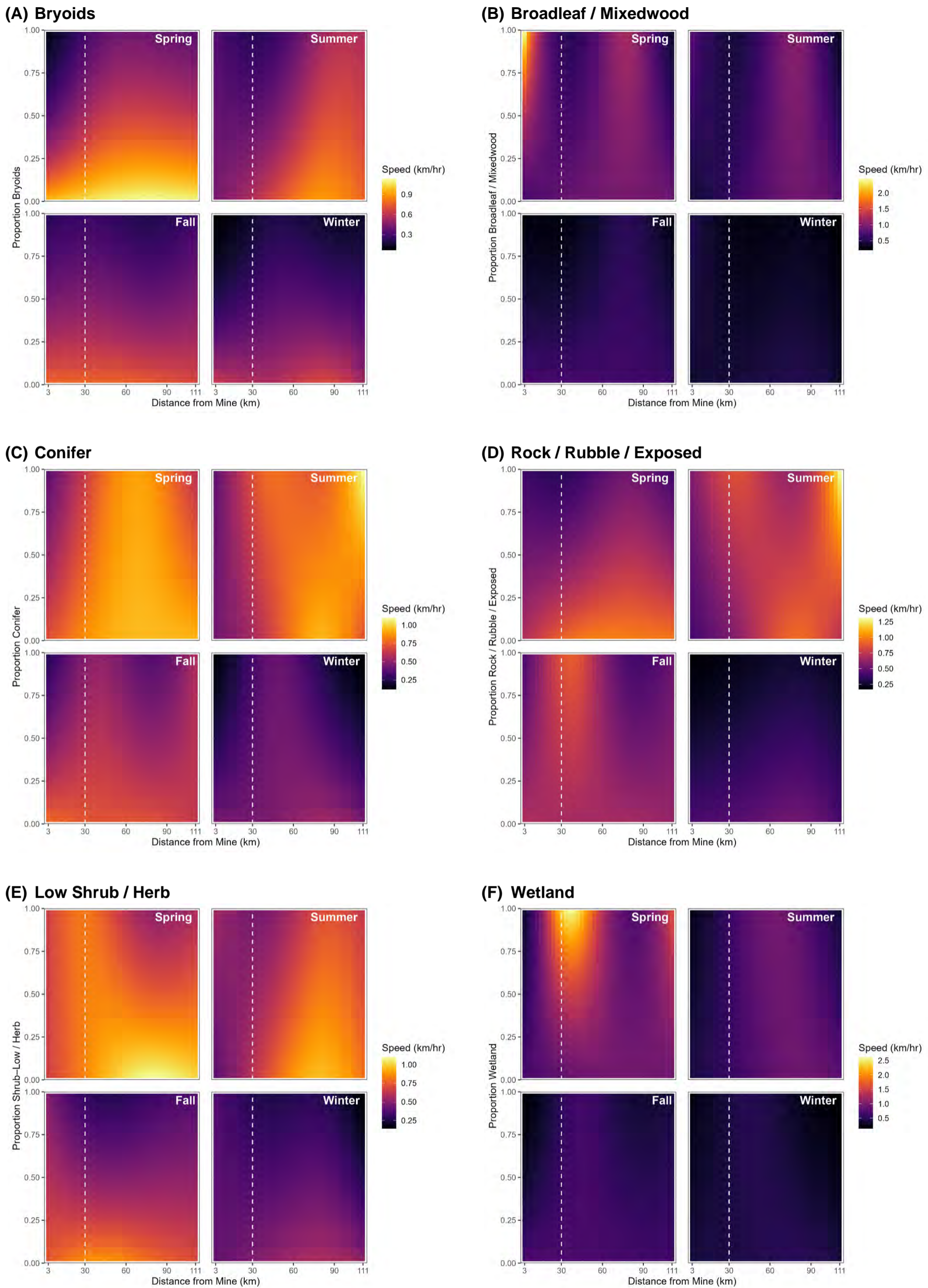
Season	Covariate	$\chi^2$	df	P
Fall	Bryoids	4664.2	1	<0.001
	Conifer	1260.3	1	<0.001
	Rock/Rubble Exposed	140.3	1	<0.001
	Shrub Low Herb	2381.2	1	<0.001
	Broadleaf/Mixedwood	955.4	1	<0.001
	Wetland	215.4	1	<0.001
	ns(Distance to Mine, df = 3)	166.9	3	<0.001
	Herd	27.0	1	<0.001
	Sex	7.1	1	0.008
	Bryoids:ns(Distance to Mine, df = 3)	44.7	3	<0.001
	Conifer:ns(Distance to Mine, df = 3)	137.8	3	<0.001
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	211.4	3	<0.001
	Shrub Low Herb:ns(Distance to Mine, df = 3)	113.4	3	<0.001
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	202.3	3	<0.001
Wetland:ns(Distance to Mine, df = 3)	112.0	3	<0.001	
Winter	Bryoids	9131.9	1	<0.001
	Conifer	1172.5	1	<0.001
	Rock/Rubble Exposed	1243.9	1	<0.001
	Shrub Low Herb	1412.6	1	<0.001
	Broadleaf/Mixedwood	160.6	1	<0.001
	Wetland	139.7	1	<0.001
	ns(Distance to Mine, df = 3)	852.2	3	<0.001
	Herd	19.0	1	<0.001
	Sex	49.2	1	<0.001
	Bryoids:ns(Distance to Mine, df = 3)	199.3	3	<0.001
	Conifer:ns(Distance to Mine, df = 3)	337.1	3	<0.001
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	16.9	3	<0.001
	Shrub Low Herb:ns(Distance to Mine, df = 3)	208.5	3	<0.001
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	20.6	3	<0.001
Wetland:ns(Distance to Mine, df = 3)	75.1	3	<0.001	

$\chi^2$  = Chi-square statistic; ns = indicates that a natural cubic spline was used; df = degrees of freedom, statistical significance determined using P, where  $\alpha = 0.05$ ; < = less than.



Note: Error bars represent 95% confidence intervals.

**Figure 10: Mean speed (km/h) Predicted from the Top Model, in Response to (A) Sex and (B) Herd**



Dashed vertical line indicates the outermost distance of the test buffers (0 to 30 km) and innermost buffer of the reference buffers (30 to 111 km) to the Diavik-Ekati mine complex.

**Figure 11: Mean Speed (km/h) Predicted by the Top Model using the Interaction between Six Continuous Landcover Classes (A-F) and Distance from Mine across Four Seasons, while Holding All other Variables Constant**

## Proportion of Hard Turns

Generalized linear mixed-effects models were used to examine the relationship between the proportion of hard turns and several explanatory variables, including buffered distance from the Diavik-Ekati mine complex, herd, sex, biological year, speed, continuous landcover, and categorical landcover (Table 7). Model 7 was the top performing model ( $\Delta\text{AIC} = 0.0$ ) for explaining variation in proportion of hard turns for all seasons (Table 13). Model 7 included herd, sex, speed, and an interaction term between the continuous landcover classes and buffered distance from the mine complex (Table 13). The continuous effect of buffered distance from the mine complex and speed were modelled as natural cubic splines, which allowed for non-linear relationships between the variables and for proportion of hard turns to be identified. Model 7 did not include biological year, but biological year was present in other candidate models that performed better than the null (Table 13). The top model does not account for annual effects, which may explain some variation in hard turns, but rather treats all paths as equal across years. The effect of individual variation significantly improved the model, accounting for 2% to 7% of the variation, across seasons (ANOVA,  $p$ -values less than 0.001 for all seasons).

Table 14 presents the  $P$ -values for the effects of each model parameter, from the top model, on proportion of hard turns. Beta estimates of model parameters from top model for each season are presented in Appendix D. Parameter estimates and  $P$  values from the top model indicate that during spring migration and winter, females exhibited a significantly lower proportion of hard turns than males (Table 14; Figure 12). In summer and fall, there were no significant differences between the proportion of hard turns for females and males (Table 14; Figure 12). Caribou in the Beverly/Ahiak herd had significantly lower proportions of hard turns than Bathurst caribou in summer and fall (Table 14; Figure 12). There was no significant difference in proportion of hard turns between the two herds during spring migration or winter (Table 14; Figure 12).

Speed was a significant predictor for the proportion of hard turns among all seasons (Table 14). For all seasons except fall, the relationship was parabolic; the proportions of hard turns were highest at low and high speeds and lowest at moderate speeds (Figure 12). In contrast, the relationship resembled a negative exponential relationship in the fall, where the proportion of hard turns was high at low speeds and decreased to approximately zero as speed increased (Figure 12).

Figure 13 presents the relationship between proportion of hard turns and landcover at differing distances from the Diavik-Ekati mine complex. Proportion of hard turns was significantly influenced by landcover class and distance to the mine complex, but the nature of the relationships varied by season (Table 14; Figure 13). In general, proportion of hard turns was lowest during spring migration regardless of landcover class, as shown in dark purple (Figure 13), which supports directional migration behaviour. Proportion of hard turns usually reached its peak in summer, regardless of landcover class, as shown in yellow (Figure 13), which supports that caribou were foraging more in summer. In summer, the highest proportions of hard turns occurred even where suitable forage cover (i.e., byroids, wetland, low shrub/herb) was low, as shown by more yellow at the bottom of summer figures (Panels A, E, and F; Figure 13). Notably, in areas with high proportion of wetland landcover, the proportion of hard turns was highest in winter; this occurred within 30 km of the mine complex (Panel F; Figure 13). In areas with lower expected caribou forage (i.e., conifer, broadleaf/mixedwood, rock/rubble/exposed), the proportion of hard turns was consistently high near and far from the mine complex in summer, as shown by more yellow at the bottom of summer figures (Panels B, C, and D; Figure 13).

**Table 13: Ranked Model Selection Results for Evaluating Proportion of Hard Turns Using Mixed-Effect Logistic Regression for Each Season**

Season	Model Name	Model <sup>(a)</sup>	K	Log-Likelihood	Δ AIC	AICw
Spring Migration	<b>Model 7</b>	<b>Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + Speed<sup>(b)</sup> + (1 id)</b>	<b>34</b>	<b>-47465.8</b>	<b>0.0</b>	<b>1</b>
	Model 4	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + Speed <sup>(b)</sup> + (1 id)	34	-47478.0	24.5	0
	Model 3	Hard Turns ~ Herd + Sex + Biological Year + Speed <sup>(b)</sup> + (1 id)	19	-47542.1	122.7	0
	Model 6	Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	29	-64237.9	33534.3	0
	Model 2	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	29	-64311.2	33680.8	0
	Model 5	Hard Turns ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	8	-64598.9	34214.2	0
	Model 1	Hard Turns ~ Landcover + (1 id)	8	-64664.6	34345.6	0
	null	Hard Turns ~ 1 + (1 id)	2	-64810.7	34625.8	0
Summer	<b>Model 7</b>	<b>Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + Speed<sup>(b)</sup> + (1 id)</b>	<b>34</b>	<b>-112769.2</b>	<b>0.0</b>	<b>1</b>
	Model 4	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + Speed <sup>(b)</sup> + (1 id)	34	-112798.3	58.2	0
	Model 3	Hard Turns ~ Herd + Sex + Biological Year + Speed <sup>(b)</sup> + (1 id)	20	-112918.2	270.0	0
	Model 6	Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	29	-134713.6	43878.9	0
	Model 2	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	29	-134794.4	44040.5	0
	Model 5	Hard Turns ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	8	-135043.0	44495.6	0
	Model 1	Hard Turns ~ Landcover + (1 id)	8	-135172.4	44754.4	0
	null	Hard Turns ~ 1 + (1 id)	2	-135621.1	45639.8	0
Fall	<b>Model 7</b>	<b>Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + Speed<sup>(b)</sup> + (1 id)</b>	<b>34</b>	<b>-145496.3</b>	<b>0.0</b>	<b>1</b>
	Model 4	Hard Turns ~ Landcover * Distance from Mine + Herd + Sex + Speed <sup>(b)</sup> + (1 id)	34	-145597.0	201.2	0
	Model 3	Hard Turns ~ Herd + Sex + Biological Year + Speed <sup>(b)</sup> + (1 id)	20	-146017.1	1013.5	0
	Model 6	Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	29	-179231.5	67460.2	0
	Model 2	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	29	-179281.5	67560.4	0
	Model 1	Hard Turns ~ Landcover + (1 id)	8	-179795.2	68545.8	0
	Model 5	Hard Turns ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	8	-179824.7	68604.7	0
	null	Hard Turns ~ 1 + (1 id)	2	-179880.6	68704.4	0

**Table 13: Ranked Model Selection Results for Evaluating Proportion of Hard Turns Using Mixed-Effect Logistic Regression for Each Season**

Season	Model Name	Model <sup>(a)</sup>	K	Log-Likelihood	Δ AIC	AICw
Winter	<b>Model 7</b>	<b>Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine<sup>(b)</sup> + Herd + Sex + Speed<sup>(b)</sup> + (1 id)</b>	<b>34</b>	<b>-147788.0</b>	<b>0.0</b>	<b>1</b>
	Model 4	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + Herd + Sex + Speed <sup>(b)</sup> + (1 id)	34	-147832.6	89.1	0
	Model 3	Hard Turns ~ Herd + Sex + Biological Year + Speed <sup>(b)</sup> + (1 id)	19	-147956.0	305.9	0
	Model 6	Hard Turns ~ (Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland) * Distance from Mine <sup>(b)</sup> + (1 id)	29	-194863.9	94141.8	0
	Model 2	Hard Turns ~ Landcover * Distance from Mine <sup>(b)</sup> + (1 id)	29	-195038.5	94490.9	0
	Model 5	Hard Turns ~ Bryoids + Conifer + Rock/Rubble + Low Shrub/Herb + Broadleaf/Mixedwood + Wetland + (1 id)	8	-195345.0	95061.8	0
	Model 1	Hard Turns ~ Landcover + (1 id)	8	-195447.7	95267.4	0
	null	Hard Turns ~ 1 + (1 id)	2	-195549.5	95459.0	0

(a) Top models are indicated in bold. Descriptions of covariates can be found in Table 14. The reference category for categorical variables is "Water/Snow/Ice" for landcover; "Bathurst" for Herd; and "Female" for Sex. 1|id indicates a random effect for individual caribou, which accounts for variation in movement among individual caribou.

(b) Covariate was included as a spline with three degrees of freedom (df = 3).

k = number of random effects; AIC = Akaike Information Criterion; AICw = Akaike Information Criterion weight.

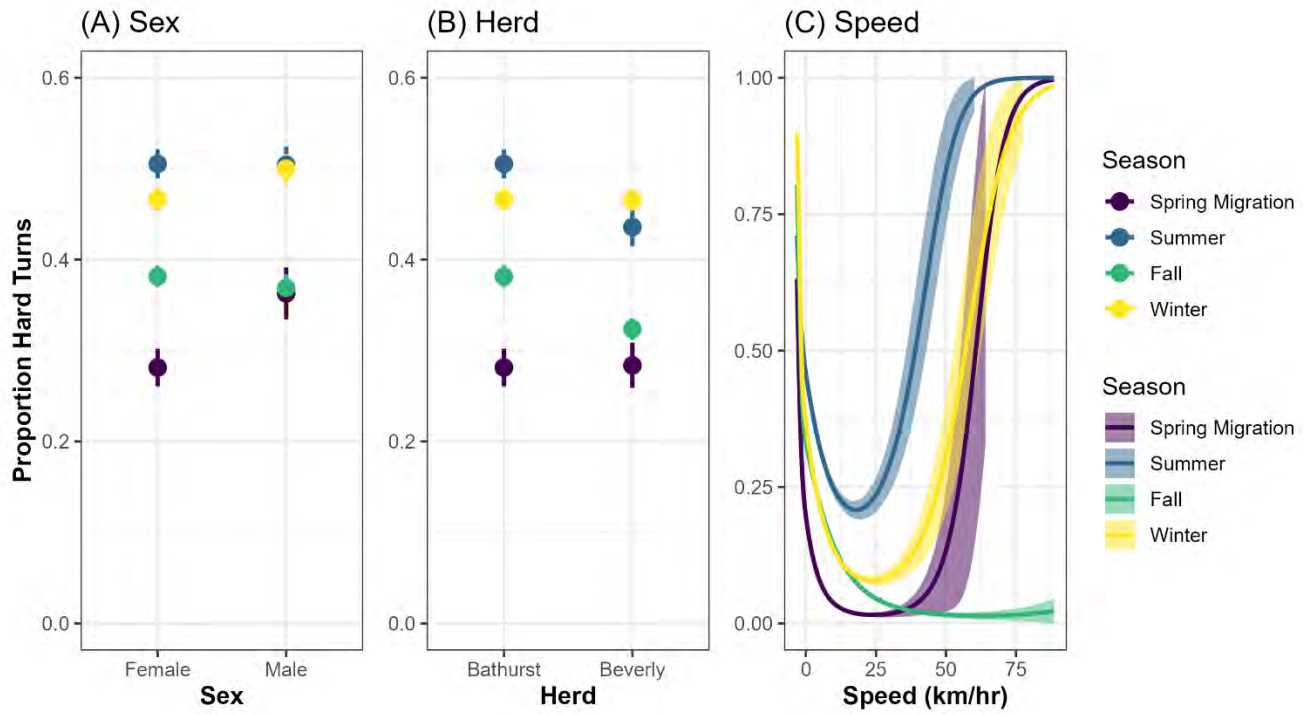
**Table 14: Statistical Results for Model Covariates Included in the Top Proportion of Hard Turns Model for Each Season**

Season	Covariate	$\chi^2$	df	P
Spring Migration	Bryoids	7.4	1	0.007
	Conifer	7.2	1	0.007
	Rock/Rubble Exposed	1.7	1	0.197
	Shrub Low Herb	2.4	1	0.12
	Broadleaf/Mixedwood	0.5	1	0.484
	Wetland	27.5	1	<0.001
	ns(Distance to Mine, df = 3)	177.9	3	<0.001
	Herd	0.0	1	0.842
	Sex	32.7	1	<0.001
	ns(Speed, df = 3)	9824.9	3	<0.001
	Bryoids:ns(Distance to Mine, df = 3)	13.0	3	0.005
	Conifer:ns(Distance to Mine, df = 3)	2.1	3	0.562
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	0.3	3	0.963
	Shrub Low Herb:ns(Distance to Mine, df = 3)	14.9	3	0.002
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	11.6	3	0.009
Wetland:ns(Distance to Mine, df = 3)	10.0	3	0.019	
Summer	Bryoids	140.3	1	<0.001
	Conifer	148.8	1	<0.001
	Rock/Rubble Exposed	169.9	1	<0.001
	Shrub Low Herb	169.9	1	<0.001
	Broadleaf/Mixedwood	153.8	1	<0.001
	Wetland	27.4	1	<0.001
	ns(Distance to Mine, df = 3)	105.3	3	<0.001
	Herd	67.4	1	<0.001
	Sex	0.0	1	0.911
	ns(Speed, df = 3)	9343.0	3	<0.001
	Bryoids:ns(Distance to Mine, df = 3)	3.9	3	0.276
	Conifer:ns(Distance to Mine, df = 3)	3.7	3	0.297
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	35.2	3	<0.001
	Shrub Low Herb:ns(Distance to Mine, df = 3)	3.1	3	0.375
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	12.0	3	0.007
Wetland:ns(Distance to Mine, df = 3)	7.8	3	0.05	

**Table 14: Statistical Results for Model Covariates Included in the Top Proportion of Hard Turns Model for Each Season**

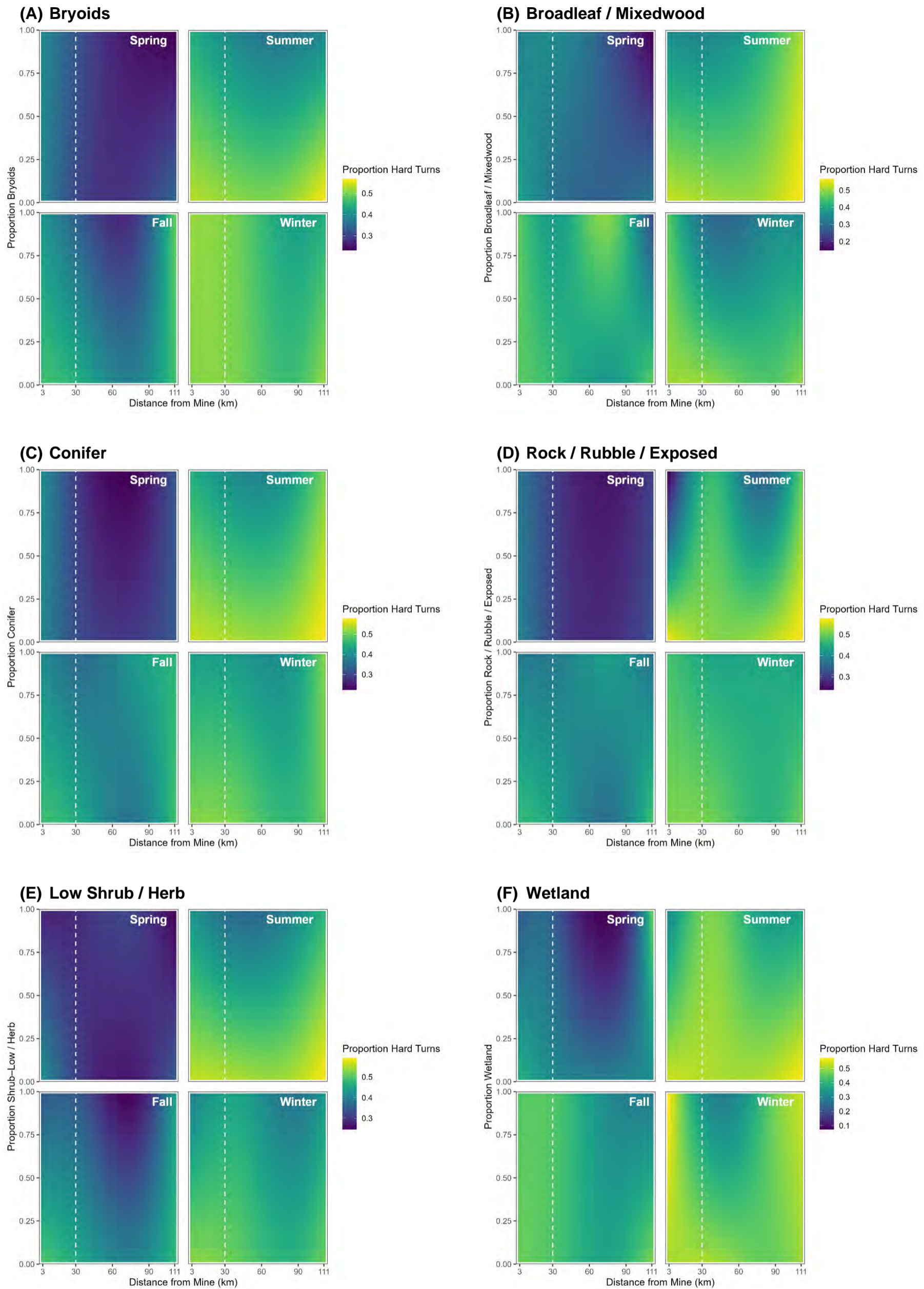
Season	Covariate	$\chi^2$	df	P
Fall	Bryoids	81.5	1	<0.001
	Conifer	0.9	1	0.356
	Rock/Rubble Exposed	0.8	1	0.357
	Shrub Low Herb	192.7	1	<0.001
	Broadleaf/Mixedwood	1.1	1	0.29
	Wetland	5.0	1	0.026
	ns(Distance to Mine, df = 3)	455.6	3	<0.001
	Herd	100.5	1	<0.001
	Sex	2.9	1	0.09
	ns(Speed, df = 3)	15680.4	3	<0.001
	Bryoids:ns(Distance to Mine, df = 3)	20.2	3	<0.001
	Conifer:ns(Distance to Mine, df = 3)	43.6	3	<0.001
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	37.4	3	<0.001
	Shrub Low Herb:ns(Distance to Mine, df = 3)	11.1	3	0.011
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	52.0	3	<0.001
Wetland:ns(Distance to Mine, df = 3)	9.4	3	0.025	
Winter	Bryoids	27.0	1	<0.001
	Conifer	32.3	1	<0.001
	Rock/Rubble Exposed	19.8	1	<0.001
	Shrub Low Herb	98.7	1	<0.001
	Broadleaf/Mixedwood	88.5	1	<0.001
	Wetland	10.2	1	0.001
	ns(Distance to Mine, df = 3)	203.1	3	<0.001
	Herd	0.0	1	0.868
	Sex	16.1	1	<0.001
	ns(Speed, df = 3)	20672.3	3	<0.001
	Bryoids:ns(Distance to Mine, df = 3)	14.4	3	0.002
	Conifer:ns(Distance to Mine, df = 3)	12.0	3	0.007
	Rock/Rubble Exposed:ns(Distance to Mine, df = 3)	3.7	3	0.3
	Shrub Low Herb:ns(Distance to Mine, df = 3)	2.9	3	0.402
	Broadleaf/Mixedwood:ns(Distance to Mine, df = 3)	6.5	3	0.091
Wetland:ns(Distance to Mine, df = 3)	21.8	3	<0.001	

$\chi^2$  = Chi-square statistic; ns = indicates that a natural cubic spline was used; df = degrees of freedom, statistical significance determined using P-values, where  $\alpha = 0.05$ ; < = less than.



Note: Error bars represent 95% confidence intervals for each season.

**Figure 12: Proportion of Hard Turns (≥ 60°) Predicted from the Top Model from Each Season in Response to (A) Sex, (B) Herd, and (C) Speed (km/h)**



Dashed vertical line indicates the outermost distance of the test buffers (0 to 30 km) and innermost buffer of the reference buffers (30 to 111 km) to the Diavik and Ekati mine complex.

**Figure 13: Proportion of Hard Turns ( $\geq 60^\circ$ ) Predicted by the Top Model Using the Interaction Between Six Continuous Landcover Classes and Distance from Mine Across Four Seasons, while Holding all other Variables Constant**

### 4.2.3 Conclusions

The presented movement analyses evaluated changes to caribou speed and proportion of hard turns at different distance buffer zones from the Diavik-Ekati mine complex, and in relation to different proportions of landcover. Caribou speed and proportion of hard turns within test buffers (i.e., the ten 3-km buffer zones established within 30 km of the mine complex) were often within two SDs of the values estimated for reference caribou (i.e., animals further than 30 km from the mine complex in the Reference Group). Where deviations occurred, they were not consistent across distance classes, years, or landcover gradients. This suggests substantial natural variability in movement patterns. Across analyses, the factors of sex, herd, season, distance to mine complex, and landcover proportions all influenced caribou behavior. The random effect of individual variation also influenced behaviour, with some caribou naturally move quicker or making a higher proportion of hard turns than others.

#### Sex and Herd

Females moved at faster speeds and had a lower proportion of hard turns than males, suggesting that females had more directional movement, which aligned with *a priori* expectations. During spring migration, female caribou move directionally and quickly to reach calving grounds. Following parturition, females with young move slowly and less directionally (i.e., higher proportion of hard turns). Because calving and post-calving seasons were not included in these analyses due to small sample sizes, the periods when females move slowly and non-directionally are excluded from analysis, which may also contribute to the significant differences between speed and proportion of hard turns for male and female caribou.

Caribou in the Beverly/Ahiak herd moved at slower speeds than caribou in the Bathurst herd during spring migration and summer and had significantly lower proportions of hard turns during summer and fall.

The Beverly/Ahiak herd may have higher natural intra-herd variation in migratory behaviour than the Bathurst herd, with some Beverly/Ahiak individuals migrating less far south for winter than other Beverly/Ahiak individuals. Differences in travel routes and distances could contribute to the inter-herd differences in movement behavior.

#### Seasonal Movement Patterns

Across all analyses, season remained the strongest and most interpretable predictor of caribou movement behaviour. Spring migration was characterized by high speeds and low proportions of hard turns across all landcover classes and distances from the mine complex, indicating directional, long-distance movements typical of migration. Winter showed the opposite pattern. Caribou demonstrate low speeds and a high proportion of hard turns during winter. This reflects non-directional, slow, foraging-focused movements consistent with energetic conservation. Summer movements were typically slower than spring with high turning rates, likely indicative of increased foraging in response to the increased abundance of high-quality forage (Ehlers et al. 2021). Fall values suggest an intermediate state, with speeds generally higher than winter but slower than spring and turning behaviour correspondingly lower. These patterns highlight that season exerts the strongest and most consistent influence on caribou movement, reflecting shifts in ecological and energetic demands across the annual cycle (Mallory et al. 2020; Mac Hugh et al. 2026).

#### Distance to the Mine Complex

Although distance from the mine complex was statistically significant in most top models, the direction and magnitude of effects varied across seasons and landcover classes. In several landcover classes (e.g., conifer, wetland), caribou tended to slow down within 30 km of the mine complex during some seasons (e.g., summer and spring; Figure 11). Notably, hard turns were also common at distances far from the mine complex for many landcover classes and seasons (e.g., summer-bryoids, summer-broadleaf/mixedwood, winter-wetlands; Figure 13).

Collectively, these patterns suggest that caribou may exhibit somewhat less directional movement near the mine complex, but the responses are not uniformly expressed across seasons or landcover classes and often also occur at distances far from the mine complex. Similar responses at varied distances, particularly in forage-associated habitats such as bryoids, indicate that caribou are primarily responding to habitat features relevant to their ecology (e.g., foraging opportunities) rather than to proximity to the mine complex itself. An additional, non-mutually exclusive explanation is that slower and less directional movement near the Diavik–Ekati mine complex may reflect a behavioural advantage associated with reduced predation risk near human developments, consistent with behaviors documented in other ungulates (Hebblewhite and Merrill 2007; Shannon et al. 2014). Finally, in areas where forage is limited, slow and less directional movement near the mine complex may reflect uncertainty or cautious navigation as animals move through or around the mine complex footprint.

### **Landcover Effects**

The explicit inclusion of continuous landcover proportions provided insight on how habitat composition shapes movement. High proportions of bryoids were often associated with slower speeds and higher turning rates, consistent with foraging in high-quality lichen habitat. Areas with a high proportion of a single landcover classes tended to have more directional movement, but not necessarily with higher speeds. Areas with more uniform habitat may encourage more uniform behavior. Proportion of habitat had less of an effect on speed during winter and on hard turns during spring, emphasizing the importance of energy conservation and directional movement irrespective of habitat composition during periods of stronger thermoregulation demand or challenges of snow. Speed and turning angle varied least with habitat proportion for coniferous forests. This suggests that coniferous forest does not overly impede movement, nor does it offer substantial foraging opportunities. These results suggest that habitat quality and seasonal energetic strategies likely explain much of the variation in caribou movement.

### **Summary**

The analysis results suggest that seasonal movement strategies (directed migration vs. localized foraging) remain the strongest predictors of speed and turning behaviour for barren-ground caribou. Furthermore, habitat composition, especially the availability of bryoids and low shrubs/herbs, strongly shapes movement rates, consistent with expected foraging ecology. Notably, patterns from the movement analysis were consistent with the behaviour scan observations (Section 4.3): slower speeds and more frequent hard turns near the mine complex, particularly in forage-rich habitats, align with the predominance of feeding and bedding behaviours recorded during behaviour scans.

This movement analyses should not be used to infer the presence and/or magnitude of a ZOI surrounding the Diavik-Ekati mine complex, nor should 30 km (where 3-km buffer zones switch from 'test' to 'reference') be inferred as the ZOI surrounding the mine complex. Boulanger et al. (2021) investigated second order habitat selection (Johnson et al. 1980) and changes in distribution within 40 km of mine complex and found that the ZOI around the mine complex varied by year and ranged from 6.1 to 18.7 km from 2003 through 2017. The movement analyses presented here investigated movement behaviour within 3 km intervals (i.e., at a finer scale, or third order scale; Johnson et al. 1980). Thus, if caribou speed, and turning angles differ within the ZOI estimated by Boulanger et al. (2021), these differences would not be easily detectable using the movement analyses completed here.

Based on this analysis of 15 years of caribou movement data collected throughout the operation of the Diavik and Ekati mines, these results do not suggest strong adverse effects of mine activity on caribou. Mine-related activity at Diavik will continue during the closure phase as the Mine site undergoes decommissioning of infrastructure and other reclamation.

## 4.3 Changes to Behaviour

In 2024, it was agreed (GNWT-ECC 2024) that DDMI would continue group scan methods for caribou observed from the Mine site (i.e., near field) and discontinue far-field scans as far-field scans could not be increased and were therefore unlikely to meet the monitoring objective to determine if caribou behaviour changes with distance from the mine. The objective of the near-field caribou monitoring is to:

- determine whether caribou behaviour changes with Mine development phase (Operations versus Closure).

Monitoring results of a given year will be reported annually, and a more formal statistical analysis of the near-field data will be completed following methods described in an approved Tier 2 WMMP, sufficient data permitting.

### 4.3.1 Methods

Caribou groups were scanned every eight minutes for a minimum of four observations and a maximum of eight observations. For each scan, the number of animals exhibiting each type of behaviour was recorded (Murphy and Curatolo 1987). Individual caribou activities were recorded as feeding, bedded, standing, alert, walking, trotting, or running. Individuals were classified as feeding when they were actively foraging or searching for food (i.e., walking with head down). The GPS location and observations were recorded during the autumn (and more recently, during winter) when more caribou were passing through the area. Group composition was classified (e.g., males, females, males and females, and females and calves), and the number of animals in the group was recorded. If a group was too large where recording behaviour for each individual was not feasible, the total group size was noted, and a subset of the group was observed for behaviour.

Caribou observations during snow-free periods were performed in one habitat type (tundra with less than 30% bedrock or boulders). In winter months, habitat types are not observable, and scans are completed on caribou groups irrespective of habitat type. For the scan observations, weather conditions such as wind speed and direction, temperature, and type of precipitation were documented.

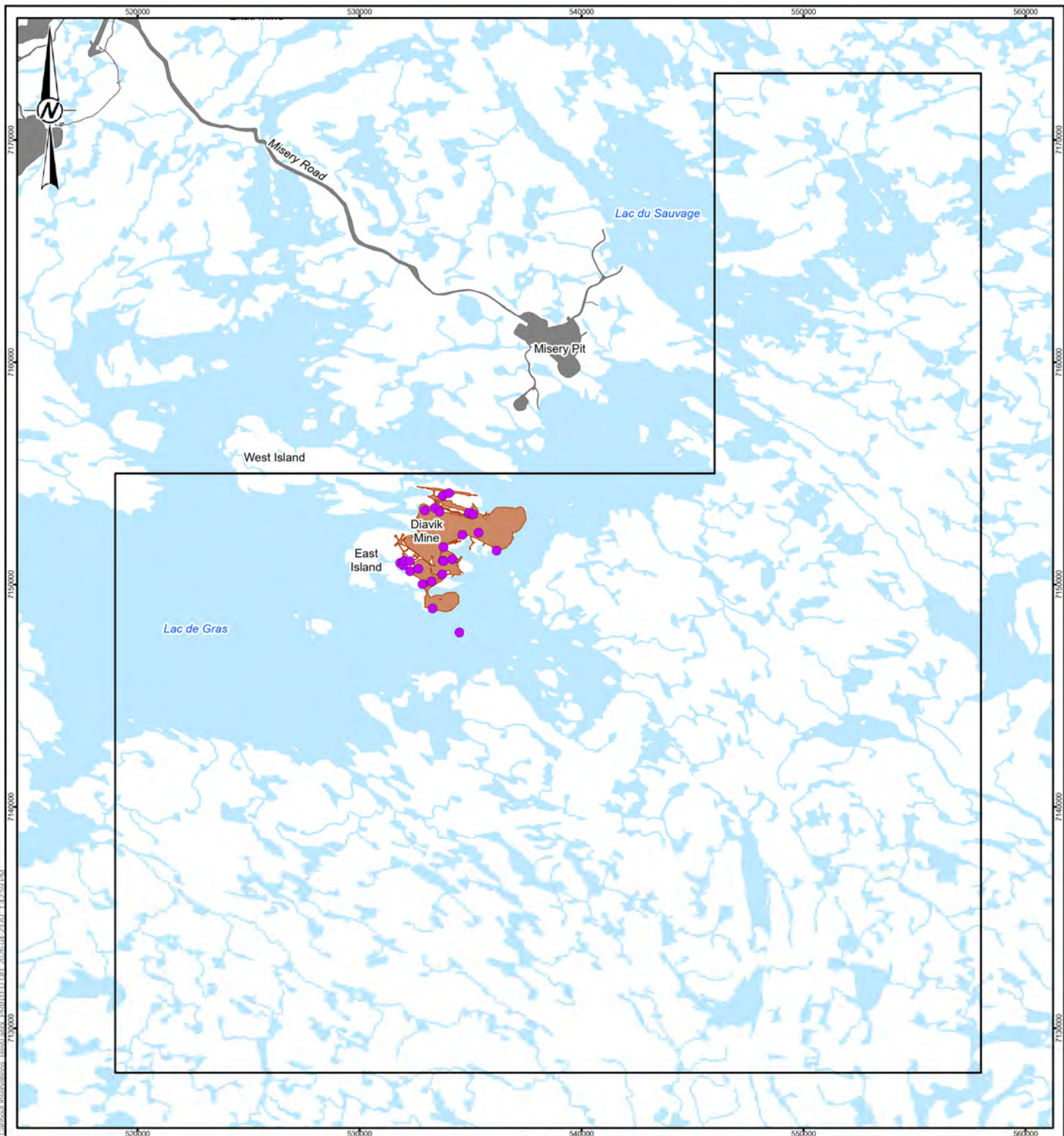
Response of caribou to stressors (natural or anthropogenic) was also assessed. In the event that a stressor was introduced during scan sampling, the observers noted the time and recorded the response of caribou to stressors as either no response, looked in the direction of the stressor, trotted or ran away. The reaction of the majority of the group was used in selecting the category. Estimated distance (m) from the stressor was also recorded. Stressors included type of wildlife, type of aircraft, type of vehicle, and blasts from pits. The observers then waited until the animals resumed their previous behaviour (usually one to two minutes) and would begin scanning observations again. Associations between behaviour proportions and stressor exposure were assessed using Spearman's rank correlations. For each group, stressor exposure was quantified as the proportion of observations during which a stressor was recorded. Spearman's rho values range from -1 to 1, with values closer to these values indicating stronger relationships. Positive values indicate an increase of behavior with an increase in stressor exposure. Negative values indicate a decrease in behavior with an increase in stressor exposure. Values near zero indicate no relationship.

### 4.3.2 Results

From 21 February to 30 August behaviour scans were completed on 27 caribou groups from 0 m to 1,054 m from the Mine (Figure 14; Appendix E). The caribou behaviour analysis was conducted with all 27 behaviour scans. Based on collared caribou locations, these caribou were potentially from the Beverly/Ahiak and Bathurst herds.

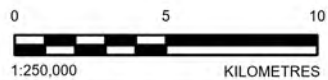
A total of 173 caribou were observed across the 27 behaviour scans. Group size ranged from 1 to 64 with an average group size of 6 animals (1SD = 10 individuals). The estimated mean proportions ( $\pm$  2SE) of caribou behaviour observed were as follows: bedded 26% ( $\pm$  8%), feeding 55% ( $\pm$  12%), standing 7% ( $\pm$  4%), alert 2% ( $\pm$  2%), walking 11% ( $\pm$  5%), trotting 0% ( $\pm$  0%), and running 0% ( $\pm$  1%).

A total of 155 stressor events during caribou behaviour group scans were recorded in 2025. The most frequent stressor type was light vehicles (67%), followed by heavy vehicles (13%), and then aircrafts (i.e., airplanes and helicopters; 7%). Predators (i.e., bears, wolves, fox) and other wildlife were not common, accounting for 4% and 2% of the stressor types, respectively. Caribou did not respond to 73% of light vehicle stressor events ( $n = 30$ ) or to 67% of the heavy vehicle stressor events ( $n = 6$ ). Caribou showed an alert response to light vehicle ( $n = 30$ ) stressors 3% of the time. Caribou also responded 33% of the time during aircraft events ( $n = 3$ ) by walking. Caribou responded by walking away during 13% of light vehicle events ( $n = 30$ ). These results are summarized in Figure 15. There were no significant correlations between proportions of displayed behaviour and stressor exposure (Table 15).



**LEGEND**

- LOCATION OF SCANNING OBSERVATIONS
- DIAVIK FOOTPRINT
- DIAVIK WILDLIFE STUDY AREA BOUNDARY
- EKATI FOOTPRINT
- WATERCOURSE
- WATERBODY



**REFERENCE(S)**

DISTURBANCE AND MINE FOOTPRINT DATA OBTAINED FROM CLIENT. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 12N

CLIENT

**RioTinto | Diavik**

PROJECT  
DIAVIK DIAMOND MINES INC.

TITLE  
**LOCATIONS OF CARIBOU BEHAVIOUR SCANNING  
OBSERVATIONS, 2025**

CONSULTANT

YYYY-MM-DD      2026-04-23

DESIGNED      SS

PREPARED      AA

REVIEWED      MB

APPROVED      MB



PROJECT NO.  
CA0047332.8932

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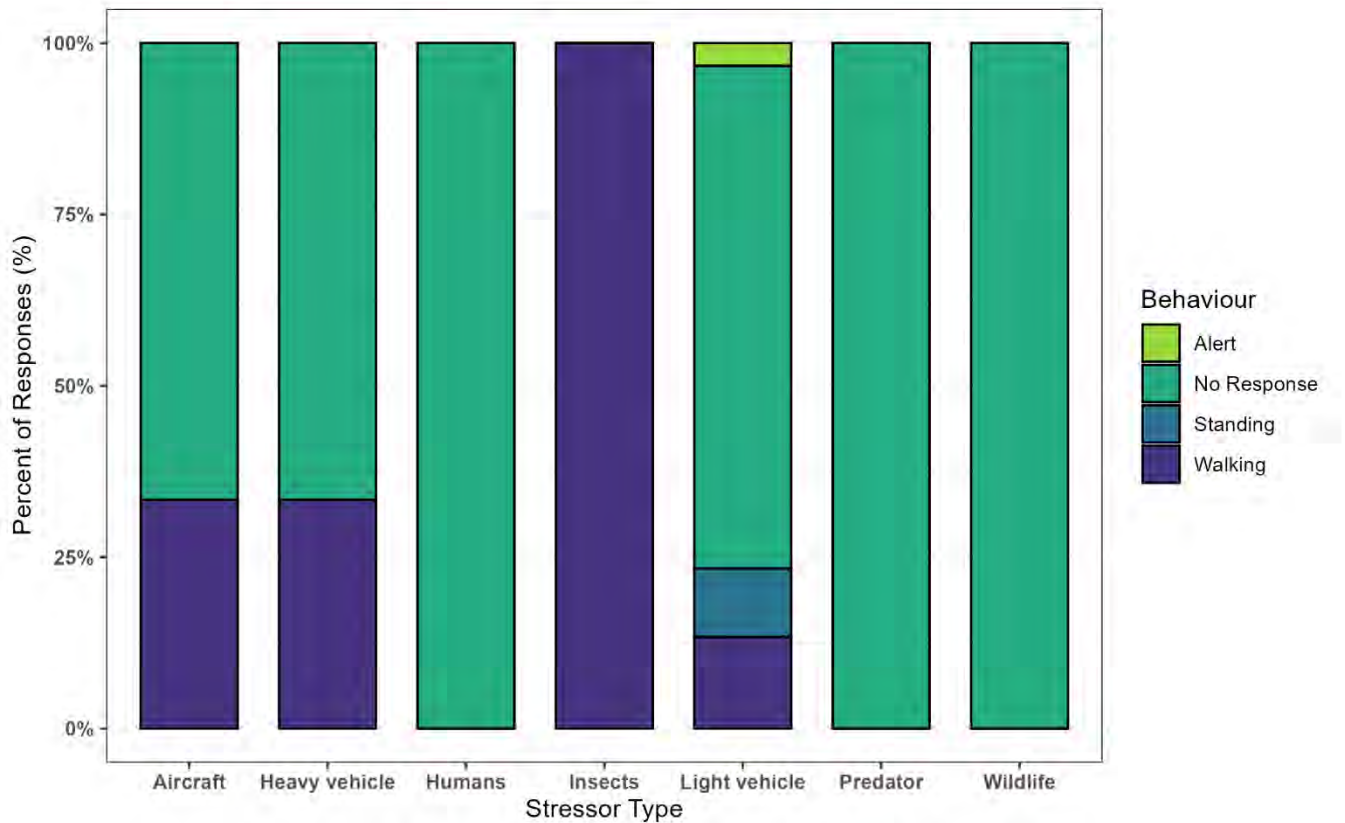
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FIGURE  
14

PATH: I:\P1\BILLS\DIAMOND\CA0047332\_8932\Map\CA0047332\_8932\_Diavik\_CaribouObservations\_2025.mxd, RESOLUTION: 2025-04-23 10:25:01 AM, 1:250,000

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**Figure 15: Caribou Behaviour Responses to Stressor Events During Caribou Behaviour Group Scans, 2025**

**Table 15: Statistical Results for Spearman’s Rho Correlations Between Displayed Behaviours and Stressor Exposure for Observed Groups of Caribou**

Behaviour	Spearman’s Rho	p-value
Bedded	-0.28	0.154
Feeding	0.16	0.411
Alert	0.21	0.283
Standing	0.06	0.751
Walking	0.28	0.158
Running	0.18	0.371

## 4.4 Incidents and Mortalities

Mineral development in the Bathurst caribou herd range created concerns about increased mortality, which includes vehicle collisions, aircraft collisions, and accidents associated with caribou in hazardous areas around mining activities (DDMI 1998c). Mitigation practices and policies have been implemented to avoid and reduce the potential for mortalities such as, review of collared caribou maps provided regularly by the GNWT-ECC to detect approaching caribou, wildlife have the right-of-way on all roads, communicating the presence of caribou via radio, and the caribou traffic advisory. The objective for this component is to determine the number of caribou mortalities or injuries associated with the Mine. The following section summarizes the methods and results from incident reporting and road observations. The impact prediction in the EER (DDMI 1998c) is:

- Mine-related mortality is expected to be low (i.e., less than 1% change from baseline conditions; DDMI 1998c).

### 4.4.1 Methods

Mine-related incidents and mortalities are reported to the Environment Department for documentation in a detailed incident investigation for immediate follow-up (Appendix F). All caribou mortalities are reported immediately to the GNWT-ECC, and the GNWT-ECC is consulted for follow-up mitigation and disposal procedures. The information is tabulated and provided for annual comparisons.

### 4.4.2 Results

In 2025, there were no known Mine-related caribou injuries or mortalities recorded, which has been the case for the past 21 years. The only Mine-related caribou mortality reported to date occurred in 2004 (Table 16).

**Table 16: Caribou Mortalities on East Island, Baseline to 2025**

Year	Natural Caribou Mortalities on East Island	Mine-related Mortalities
Baseline <sup>(a)</sup>	8	0
2000	7	0
2001	1	0
2002	1	0
2003	0	0
2004	2	1
2005	0	0
2006	0	0
2007	1	0
2008	0	0
2009	0	0
2010	0	0
2011	1	0
2012	1	0
2013	1	0
2014	1	0
2015	0	0
2016	0	0
2017	1	0
2018	0	0
2019	0	0
2020	1	0
2021	0	0
2022	1	0
2023	0	0
2024	0	0
2025	0	0
<b>Total</b>	<b>27</b>	<b>1</b>

(a) Includes data from 1995 to 1997.

## 4.5 Caribou Advisories

The objective of the caribou advisories is to make certain that workers are aware of the approximate numbers of caribou on and near East Island, which is related to the potential for interactions between caribou and mining activities. This raises general awareness so that employees are alert to the likelihood that mitigation could be triggered. The number of animals on East Island and in specific areas dictates the type of mitigation practices that will be undertaken (e.g., haul road closure, speed reduction).

### 4.5.1 Methods

Various methods were used to determine whether or not animals were present in the vicinity of East Island, which included incidental observations reported from pilots and workers, and using the satellite collar locations provided by GNWT-ECC.

### 4.5.2 Results

In 2025, caribou numbers on the East Island reported by staff ranged from 1 to 200 individuals (Appendix G). Caribou were most likely from the Beverly/Ahiak and Bathurst herds based on collared caribou data. Photos of caribou taken at the Mine are included in Appendix H. There were two instances where groups of 200 caribou or more were observed. The first instance occurred in February where a herd of about 200 caribou were observed in south of the A21 Area on the Lac De Gras. The second occurred in March with a herd of about 200 caribou located near the end of a wolverine survey transect (WT17). In total, there were 128 different incidental observations reported from 1 January to 30 September 2025 (Appendix G).

A total of 28 caribou were spotted on or in proximity to haul roads in 2025 during 23 separate sightings (1 to 2 individuals/observation). These sightings resulted in traffic control measures being implemented based on proximity to road and presence of traffic in area, such as radio wildlife advisories on local channels. Caribou were also observed near the airport (i.e., helipad, runway, road) on 16 occasions, with none of these observations resulting in traffic control measures being implemented.

There were five occurrences of caribou requiring deterrence on the Mine site in 2025 (Section 4.6).

## 4.6 Deterring Caribou from Hazardous Areas

When caribou are present on East Island their movements are monitored so that Mine personnel are aware of their presence and location. Of particular importance from a safety perspective (both human and animal), is caribou presence near hazardous areas (such as the airstrip and blast areas). When caribou are sighted adjacent to potentially hazardous areas, DDMI implements its Standard Operation Procedure for deterring caribou from these areas.

### 4.6.1 Methods

The method used to move caribou away from hazardous areas consists of the slow advancement of Environment Department staff behind the caribou, encouraging the movement of the animals in a safe direction.

### 4.6.2 Results

In 2025, five instances of caribou deterrence occurred. On 6 June 2025, four caribou were observed near the airport runway. With a flight incoming, the Environment Department was notified, and caribou were directed away from the runway on foot. Once the caribou moved far enough away, near the North Inlet, staff retreated from the area.

On 12 June 2025, two caribou were observed near the airport runway. With a flight incoming, the Environment Department was notified and caribou were directed away from the runway. Staff first tried to direct the caribou using trucks but switched to herding them on foot when the first method failed. Once the caribou were approximately 150 m away from the runway, near the North Inlet, staff retreated.

On 5 July 2025, three caribou were observed on the Process Run of Mine (ROM) Hill. The Environment Department was notified and a radio announcement was made on local channels and the area was closed to traffic. Staff used a truck to direct the caribou away from the site. Staff retreated once the caribou had moved to a safe grazing location near the Main Accommodations.

On 23 July 2025, a caribou was observed near the Process ROM Hill. The Environment Department was notified and the caribou was herded from the immediate area, while stopping briefly to let the caribou feed. Staff continued to herd the caribou until it was in a safe zone, east of the main accommodations. The last instance of caribou deterrence occurred in 29 July 2025.

Deterrence of caribou away from hazardous areas within the Mine continue to be low. Since 2002, there have been 44 instances where caribou were deterred from hazardous areas, with 26 of these instances occurring in 2002 (Table 17). Of these 44 instances, 39 were completed by positioning light vehicles to block caribou access, and five were completed by staff on foot. The majority (71.1%) of these deterrent actions have occurred at the airstrip.

**Table 17: Instances of Caribou Deterrence, 2002 to 2025**

Year <sup>(a)</sup>	Deterrence Type	Number of Caribou Involved	General Location
2002	truck	2	Airstrip
2002	truck	150–200	Airstrip
2002	truck	40–50	Airstrip
2002	truck	2	Airstrip
2002	truck	2	Airstrip
2002	truck	4	Airstrip
2002	truck	1	Airstrip
2002	truck	3	Airstrip
2002	truck	4	Airstrip
2002	truck	8	Airstrip
2002	truck	10	Airstrip
2002	truck	6	Airstrip
2002	truck	1	Airstrip
2002	truck	1	Airstrip
2002	truck	8	Airstrip
2002	truck	3	Airstrip
2002	truck	4	Airstrip
2002	truck	4	Airstrip
2002	truck	3	Airstrip
2002	truck	1	Airstrip
2002	truck	5	Airstrip
2002	truck	2	Airstrip
2002	truck	3	Airstrip
2002	truck	1	Airstrip

**Table 17: Instances of Caribou Deterrence, 2002 to 2025**

Year <sup>(a)</sup>	Deterrence Type	Number of Caribou Involved	General Location
2002	truck	100	Airstrip
2002	truck	Unknown	Airstrip
2009	truck	27	Airstrip
2009	truck	1	Type I Rock Pile
2011	truck	100+	Airstrip
2011	truck	12	ROM Road and South Haul Road
2011	truck	3	Processed Kimberlite Containment area
2014	staff on foot	1	Processed Kimberlite Containment area
2016	truck	1	Airstrip
2016	staff on foot	1	Airstrip
2021	truck	1	South Haul Road
2022	truck	1	ROM Hill
2023	staff on foot	1	Pond 7
2023	truck	1	A21 Dike
2023	truck	1	Magazine Storage Area
2025	staff on foot	4	Airstrip
2025	staff on foot	2	Airstrip
2025	truck	3	Process ROM Hill
2025	truck	1	Process ROM
2025	truck	1	Process ROM Hill

(a) Only years when deterrent actions were undertaken are included in the table.

ROM = run of mine.

## 4.7 Adaptive Management and Recommendations

From the last comprehensive WMMR (DDMI 2023), the 2021 Diamond Mine Wildlife Monitoring Meetings (GNWT-ENR 2021) concluded that caribou behaviour monitoring is no longer necessary. In the 2023 WMMR (DDMI 2024), DDMI met with EMAB and GNWT-ECC and agreed to continue monitoring behaviour of caribou visible from the Mine throughout the remainder of operations. This progressive streamlining of behaviour ensures that valuable data are collected efficiently for future analyses.

Monitoring methods have also adapted to rely more heavily on telemetry data from GPS collars for movement and behaviour monitoring. Fewer behaviour group scans are conducted, and aerial surveys for caribou ZOI monitoring were discontinued (DDMI 2023), with telemetry data being collected in lieu of these methods for caribou monitoring.

Over the last 26 years, since construction of the Mine, there has been one Mine-related caribou mortality/injury. Additionally, each WMMR from 2022 to 2025 reports 0–5 caribou deterrent actions. Low numbers of injuries or mortalities and low deterrent actions indicate a stable and effective mitigation framework during the 25 years since Mine construction began.

## 5.0 GRIZZLY BEAR

The barren-ground grizzly bear (*Ursus arctos*) ranges throughout most of the NWT. The western population of grizzly bear is currently designated as Special Concern under Schedule 1 of the *Species at Risk Act* (GOC 2025) and listed as Special Concern under the NWT General Status Rank (NWT SAR 2025).

Grizzly bears have low population densities, low reproductive rates, and are sensitive to human activity (DDMI 1998c; McLoughlin et al. 1999). While some grizzly bears may avoid mineral developments, others may be attracted to human activity through odours associated with development (Gau and Case 2002; Johnson et al. 2005). Effects to grizzly bears from mining may occur through direct habitat loss, habitat suitability reduction, and direct mortality. The focus of grizzly bear monitoring is to estimate direct habitat loss, monitor grizzly bear presence, and minimize and report Mine-related mortalities.

### 5.1 Habitat Loss

Grizzly bears use a wide variety of vegetation and habitat types. Studies of grizzly bears in the NWT have led to understanding their seasonal habitat preferences (McLoughlin et al. 2002; Johnson et al. 2005). Loss of habitat may result in negative effects on grizzly bears. The objective of this component of the WMMR is to determine if direct habitat loss for grizzly bear from the Mine footprint is within the prediction in the EER (DDMI 1998c):

At full development, direct terrestrial habitat loss for grizzly bear from the project is predicted to be 8.67 km<sup>2</sup>.

#### 5.1.1 Methods

Methods used to determine grizzly bear habitat loss are similar to that described in Section 4.1; grizzly bear habitat is assumed to include all terrestrial habitats (i.e., all landscape types in Table 2) except for deep water, shallow water, and disturbed areas).

#### 5.1.2 Results

Cumulative direct grizzly bear habitat loss resulting from the Mine up to 2025 was 8.41 km<sup>2</sup>, which is below that predicted in the EER.

## 5.2 Incidents and Mortalities

Although there is some interaction between the Mine and grizzly bears, every effort is made to immediately report any animals that came into contact with the Mine. Bear awareness instruction is provided to employees and has contributed to the timely reporting of bears approaching site, which limits interactions. Despite mitigation, Mine activities may lead to grizzly bear mortalities, injuries, or relocations. The specific impact prediction in the EER (DDMI 1998c) is:

Mortalities associated with mining activities are predicted to be 0.12 to 0.24 bears per year.

#### 5.2.1 Methods

Incidental observations of grizzly bears are recorded and are usually made by Mine staff and reported to the Environment Department. Each independent grizzly bear observation is recorded because it is usually not known if different observations are of the same bear. As the number of incidental observations, deterrent actions, and removals (i.e., relocations and mortalities) may be partially related to the number of people on site, these variables were compared to the camp population. Additionally, these same variables were compared to amount of waste rock hauled and total material moved to ascertain if relationships between these variables exists. Total materials moved include waste rock, till, ore, processed kimberlite, and other re-mined materials.

Mine-related incidents and mortalities are reported to the Environment Department for documentation in a detailed incident investigation for immediate follow-up. All grizzly bear mortalities are reported immediately to GNWT-ECC, and GNWT-ECC is consulted for follow-up mitigation and disposal procedures. If wildlife had to be deterred to reduce the risk of a wildlife-human incident, then all effort is made by the Environment staff to start with the least intrusive method available, and all deterrent actions are recorded.

## 5.2.2 Results

There were 32 reported instances of grizzly bears on East Island in 2025, and a total of 35 grizzly bears were observed (Table 18; Appendix I). Grizzly bears were observed on 29 days from 12 May to 16 October 2025. While these observations are not collected systematically, and contain repeated observations, incidental observations provide an indication of the potential for wildlife incidents or problem wildlife.

In 2025 there was an average of 470 people at the Mine, a total of 728,489 tonnes of waste rock hauled, and a total of 4,231,095 tonnes of total material moved (Table 18). The number of incidental observations of grizzly bears was not correlated with number of people on site (Spearman correlation  $\rho = -0.09$ ,  $p = 0.65$ ); however, staff reporting incidental observations does foster an awareness of wildlife issues at the Mine. The number of incidental observations of grizzly bears was moderately negatively correlated with the amount of waste rock hauled (Spearman correlation  $\rho = -0.62$ ,  $p$  less than 0.01) and total material moved (Spearman correlation  $\rho = -0.50$ ,  $p = 0.01$ ).

Of the 35 individual grizzly bears observed (i.e., 32 observation instances), 12 individuals (10 observation instances) involved deterrent actions and 23 individuals (22 observation instances) did not involve deterrent actions (Table 19). Deterrents were used to encourage bears to move away from infrastructure and included trucks, air horns, bear bangers, rubber bullets, gun cycles (noise), yelling, and clapping (Appendix J). The number of deterrents used was not correlated with the number of people on site (Spearman correlation  $\rho = -0.09$ ,  $p = 0.68$ ); however, it was moderately negatively correlated with the amount of waste rock hauled (Spearman correlation  $\rho = -0.55$ ,  $p$  less than 0.01) and total material moved (Spearman correlation  $\rho = -0.45$ ,  $p$  less than 0.01).

No grizzly bear relocations or mortalities occurred in 2025. The calculated Mine-related mortality rate over the 23-year monitoring period is 0.11 bears per year, which is below the range predicted in the EER. The number of grizzly bear relocations (Spearman correlation  $\rho = -0.05$ ,  $p = 0.81$ ) and number of grizzly bear mortalities (Spearman correlation  $\rho = -0.28$ ,  $p = 0.19$ ) were not correlated with the number of people on site. The number of grizzly bear relocations (Spearman correlation  $\rho = -0.29$ ,  $p = 0.17$ ) and number of grizzly bear mortalities (Spearman correlation  $\rho = 0.12$ ,  $p = 0.59$ ) were not correlated with the amount of waste rock hauled. The number of grizzly bear relocations (Spearman correlation  $\rho = -0.27$ ,  $p = 0.19$ ) and number of grizzly bear mortalities (Spearman correlation  $\rho = 0.08$ ,  $p = 0.72$ ) were not correlated with the amount of total material moved.

**Table 18: Average Camp Population, Total Waste Rock Moved, and Number of Incidental Grizzly Bear Observations, 2002 to 2025**

Year	Average Camp Population	Total Waste Rock Moved (millions of tonnes) <sup>(a)</sup>	Total Materials Moved (millions of tonnes) <sup>(a)</sup>	Grizzly Bears Reported on East Island
2002	1100	2.39	6.74	5
2003	470	19.88	25.99	19
2004	397	28.73	33.46	24
2005	646	26.90	31.31	43
2006	716	23.32	27.99	21
2007	747	18.13	25.72	41
2008	979	19.98	25.81	5
2009	562	17.23	20.10	22
2010	579	18.24	22.30	44
2011	630	9.02	13.34	56
2012	629	0.40	4.38	97
2013	537	0.39	5.11	65
2014	484	1.88	7.55	69
2015	524	0.45	7.65	77
2016	625	0.35	7.33	137
2017	641	0.39	5.65	89
2018	578	6.23	12.66	90
2019	586	7.44	12.98	80
2020	585	8.33	14.73	95
2021	558	8.81	15.45	80
2022	557	4.92	11.55	75
2023	583	7.37	17.77	87
2024	537	1.79	6.54	113
2025	470	0.73	4.23	32

(a) Values have been rounded for presentation purposes.

**Table 19: Grizzly Bear Deterrent Actions, Incidents, and Mine-related Mortalities, 2000 to 2025**

Year	Days with Bear Visitations on East Island	Total Grizzly Bear Observations	Days Deterrent Actions were Utilized	Total Grizzly Bear Relocations	Total Grizzly Bear Mortalities
2002	15	-	10	0	0
2003	14	-	8	1	0
2004	5	-	2	0	0
2005	15	-	6	1	0
2006	24	-	20	0	1
2007	34	-	23	0	0
2008	20	-	8	0	0
2009	34	-	20	0	0
2010	5	-	3	0	0
2011	22	-	18	0	0
2012	44	-	40	0	0
2013	41	-	31	0	0
2014	77	-	65	1	0
2015	47	-	40	1	0
2016	59	69	39	0	0
2017	56	77	27	0	0
2018	94	137	50	0	0
2019	73	89	51	1	0
2020	70	90	36	0	0
2021	70	125	45	0	0
2022	79	169	50	1	2
2023	60	89	41	0	0
2024	57	164	33	0	0
2025	77	134	26	0	0

### 5.3 Adaptive Management and Recommendations

Diavik participated in regional grizzly bear hair snagging monitoring in collaboration with BHP Billiton and De Beers Canada Inc. in 2012 and 2017. The results through 2017 indicated that the regional grizzly bear population is stable or increasing and not adversely affected by the Diavik and Ekati Mines (ERM 2018). Program partners at the 2021 Diamond Mine Wildlife Monitoring Meetings (GNWT-ENR 2021) concluded that the grizzly bear hair snagging program should be discontinued. Low numbers of injuries or mortalities and deterrent actions indicate a stable and effective mitigation framework during the 25 years since Mine construction that keep grizzly bears and Mine personnel safe.

## 6.0 WOLVERINE

### 6.1 Introduction

Wolverine (*Gulo gulo*) are annual residents in the Lac de Gras region (DDMI 1998c). Wolverines are federally listed as Special Concern under Schedule 1 of the SARA (GOC 2025) and are considered Not at Risk in the NWT (NWT SAR 2025, Species at Risk Committee 2014).

Wolverine home ranges have been estimated at 126 km<sup>2</sup> for adult females and 404 km<sup>2</sup> for adult males (Mulders 2000). The feeding behaviour of wolverine may result in their attraction to camps and habituation if they receive a food reward, which has been demonstrated during baseline, construction, and operations in the Lac de Gras area. Wolverines in the tundra have been shown to depend primarily on scavenging barren-ground caribou for their diet (Mattisson et al. 2016) particularly in the winter (Magoun 1987) and may travel long distances in search of carrion (NWT SAR 2025).

### 6.2 Presence and Distribution

The initial objective of this component of the WMMR was to determine if mining activities are influencing the presence of wolverines in the study area. The revised monitoring objective determined in Handley (2010) is to:

- Provide estimates of wolverine abundance and distribution in the study area over time.

To meet this objective, DDMI participated in a joint wolverine DNA hair sampling research program in cooperation with Dominion Diamond Mines and the GNWT. Program partners present at the 2021 Diamond Mine Wildlife Monitoring Meetings (GNWT-ENR 2021) determined to discontinue hair sample monitoring for wolverine. The initial monitoring objective of determining wolverine presence noted previously resumes.

Wolverine presence around the Mine is monitored using the following systematic and anecdotal methods:

- snow track surveys
- incidental observations at site

### 6.3 Snow Track Surveys

#### 6.3.1 Background

Surveys designed to detect organisms on the landscape are important for understanding factors influencing population dynamics and species ranges. Many surveys stratify the landscape into sampling locations (i.e., sites) and seek to determine whether a site is occupied by a given species or not. To estimate patterns of site occupancy, methods either assume perfect detection in the sampling methods or statistically control for imperfect detection in the analysis. Snow-track surveys are a popular non-invasive method for surveying mammalian communities with better detectability than alternative methods (Bayne et al. 2005). In snow-track surveys, the site occupancy of an animal is inferred by the presence of tracks in snow; however, the assumption of perfect detection is rarely met (Whittington et al. 2015). For the length of a transect to be occupied by an animal, the path of that animal must intersect with the transect at some point and leave behind distinguished, identifiable tracks. Detection depends on the observer(s) visually detecting the track and correctly identifying the source of the track. There is a non-zero probability that a transect be occupied by an animal and its tracks go undetected either through failure to see the track, or misidentification. To test hypotheses relating to the spatial distribution of animals on the landscape by way of contrasting occupied sites against unoccupied sites, the analysis must concurrently account for the probability that a site was occupied but the animal was not detected (MacKenzie et al. 2002).

In some circumstances the parameter of interest is not site occupancy itself, but rather the change in occupancy over time. For example, long-term monitoring programs might be more interested in the temporal variation in occupancy and factors influencing the probability of a site changing state (e.g., from occupied to unoccupied). These multi-season analyses require parameterization of the extinction probability and the colonization probability; that is an occupied site becoming unoccupied, and an unoccupied site becoming occupied, respectively. In this context ‘extinction’ refers to a site becoming unoccupied and not the extinction of a species. MacKenzie et al. (2003) developed a statistical approach to model these processes along with site occupancy (at time  $t = 1$ ) while correcting for the imperfect detection of a species in multi-season datasets. The multi-season occupancy model (MSOM), or dynamic occupancy model, allows for the parameterization of covariate effects on any of these four processes, and at the scale of either the visit, the season (i.e., typically year), or the site. A MSOM approach was used to analyse the snow-tracking data for wolverines in the study area.

### 6.3.2 Methods

Snow track surveys began in 2003 and have been completed with the assistance of a community member, when available. From 2003 to 2006, the study design and data collection used the experience of Inuit Qaujimagatuqangit to locate transects and record wolverine snow tracks. This included surveys of 23 transects of variable length and distance from the Mine in a 1,270-km<sup>2</sup> area. In 2008, DDMI revised the wolverine track survey to increase statistical power to detect changes in wolverine occurrence in the study area. Design changes included the placement of 40 survey transects of equal length (4 km long, total length = 160 km) located in areas of preferred wolverine habitat including heath tundra and heath boulder. The final locations of snow track transects were the result of a stratified random sampling process of potential locations in the study area, but some transects were relocated from Lac de Gras to areas of preferred wolverine habitat (based on Inuit Qaujimagatuqangit), including heath tundra and heath tundra boulder.

Each transect is driven by a snowmobile in March and/or April and all wolverine tracks and other sign (e.g., digs and dens) are recorded. In most years since 2015, each transect was surveyed twice so that detection probability could be estimated and incorporated into analyses of relative presence and distribution in the study area. However, two rounds of wolverine transect surveys were not completed in 2020 and 2021 due to delays and cancellations of the programs as a result of a staff shortage at the Mine from COVID-19 impacts.

The detection of snow tracks can be influenced by wind or snowfall. The effect of snowfall was estimated by determining the number of days from the survey date since the most recent snowfall. A wind threshold index was estimated from Mine meteorological data by determining the number of days prior to the survey date that the mean hourly wind speed eclipsed 7.7 metres per second (m/s) because a wind speed of 7.7 m/s is sufficient to move dry snow along the ground (Li and Pomeroy 1997). For each survey, a track density index (TDI) was calculated as the number of wolverine tracks per transect length per number of days since recent snowfall or threshold wind speed.

#### 6.3.2.1 Multi-season Occupancy Model

The MSOM approach uses the detection history at a given site (i.e., transect) to estimate changes in occupancy over time while accounting for imperfect detection (MacKenzie et al. 2003). Primary sampling periods, in this case years, are used to estimate occupancy, colonization and extinction rates, while secondary sampling periods, (i.e., repeat visits within a year) are used to estimate the detection probability. The MSOMs were developed in R version 4.3.3 (R Core Team 2026) using the `colext` function in the package ‘unmarked’ (Fiske and Chandler 2011).

A forward stepwise model selection procedure was conducted to produce the final model. Models were compared using AIC as recommended by Kéry and Chandler (2016) to produce the best model without overfitting variables. Initially a null model was tested with no covariate effects on occupancy, colonization, estimation, or detectability, and then covariates were added based on *a priori* hypotheses. If no covariate effects improved model fit, the null model and any competing models were retained to the next step. Covariates were considered to improve model fit if model comparison resulted in a  $\Delta$ AIC greater than 2.0 relative to other competing candidate models. Multiple competing covariates could be retained at each step. Covariate effects were first tested on detectability, followed by occupancy, colonization, and extinction in the stepwise model selection procedure. Once a covariate was deemed significant based on AIC model selection, it was included in all future candidate models. The covariates tested in the MSOMs are summarized in Table 20, and the associated process for which an effect was hypothesized are summarized in Table 21.

**Table 20: Covariates Tested in the Multi-Season Occupancy Modeling Framework**

Covariate Name <sup>(a)</sup>	Description <sup>(b)</sup>	Scale <sup>(c)</sup>	Process(es)
thresh	The minimum number of days since the last snowfall or high wind event, whichever was more recent	Secondary	Detection
snow	The number of days since the last snowfall	Secondary	Detection
wind	The number of days since the last windy day (hourly average >7.7m/s)	Secondary	Detection
year	Scaled year of survey (years since first survey in 2008)	Primary	Extinction, Colonization, Occupancy
habitat	Exponentiated mean resource selection function score, previously produced for Slave Geological Province (Johnson et al. 2005), for each transect	Site	Occupancy
distance	Distance (in kilometres) from transect centre point to nearest Mine infrastructure	Site	Occupancy
Full-time equivalents	The number of full-time staff at the Mine in March when winter tracking surveys were conducted, to serve as a proxy measure for Mine activity level	Primary	Extinction

(a) Covariates are hereafter referred to by these names rather than their descriptions.

(b) All covariates were scaled from 0-1 to improve convergence of the maximum-likelihood routine (Kéry and Chandler 2012).

Primary = yearly covariate constant across sites; Secondary = visit level covariate; site = site-level covariate constant across years; > = greater than.

**Table 21: Hypotheses Tested with Each Covariate and Process in the Multi-season Occupancy Model**

Covariate	Process	Hypotheses Being Tested
wind snow thresh	Detectability	The effects of weather on the ability for observers to detect a track if one is present. Snowfall effects may be bidirectional, as fresh snow creates opportunities for easy to identify tracks, but will also cover pre-existing tracks, whereas wind effects should only have a negative effect on detectability.
year	Detectability	Annual variation in detectability could be due to observer ability.
habitat	Detectability	Different habitat conditions may produce variable snow conditions, which could influence track detectability and identification.
distance	Occupancy	The occurrence of wolverines may be influenced by proximity to the Mine.
habitat	Occupancy	The occurrence of wolverines is driven by habitat quality as determined by a resource selection function previously produced for Slave Geological Province (Johnson et al. 2005).
distance*habitat	Occupancy	Wolverine occurrence in response to habitat quality is mediated by the distance to the Mine. This interaction tests whether habitat availability is a stronger driver than selection.
year	Colonization	Wolverines are moving into areas due to intrinsic population dynamics and/or range expansion over the course of the study.
FTE	Colonization	Wolverines are attracted to increased mining activity and are moving into areas in response.
habitat	Colonization	Wolverine habitat selection is changing over time, and they are colonizing areas with varying habitat quality.
FTE	Extinction	Increasing mining activity is forcing wolverines out of areas they previously occupied.
year	Extinction	Wolverines are abandoning areas previously occupied due to intrinsic population dynamics and/or range contraction over the course of the study.

FTE = full-time equivalents.

### 6.3.3 Results

In 2025, two rounds of snow track surveys were completed between 26 March and 9 April 2025. In 2025, 39 of 40 transects were surveyed at least once and 27 of 40 were surveyed twice. In addition to wolverine, wolf tracks were observed.

Wolverine tracks were identified at 32 of 39 (82% occurrence) transects (Appendix K). The number of wolverine tracks identified ranged from 0 to 5 tracks. One wolverine was observed on 27 March off transect during surveys, and one was observed on 5 April on transect WT27 (Figure 16). Weather-adjusted measures of TDI yielded a mean TDI ( $\pm$  2SE) of  $0.082 \pm 0.032$  tracks/km/day since the last weather threshold (Table 22). Mean TDI in 2025 was lower than in 2024 ( $0.20 \pm 0.09$ ; Table 22). However, more wolverine tracks were observed overall in 2025 (2025: 76 tracks; 2022: 57 tracks; Table 22). The last comprehensive analysis of long-term wolverine snow tracking data found that occupancy rates have remained stable during the study program (WSP 2023a).

**Table 22: Wolverine Track Index and Mean Days Since Snow Fall, 2003 to 2025**

Year	Survey Period	Number of Tracks	Distance Surveyed (km)	Mean Days Since Snowfall <sup>(a)</sup>	Mean Days Since Threshold Wind Speed <sup>(a)</sup>	Track Index (Tracks/km)	Mean Track Density Index ( $\pm 2SE$ ) <sup>(b)</sup>
2003	10 – 12 Apr	13	148	2.2	2.1	0.09	0.05 $\pm$ 0.04
2004	16 – 24 Apr	22	148	4.0	4.6	0.15	0.06 $\pm$ 0.04
2004	2 – 8 Dec	10	148	3.9	2.5	0.07	0.05 $\pm$ 0.04
2005	30 – 31 Mar	7	148	7.5	3.9	0.05	0.03 $\pm$ 0.02
2005	7 – 12 Dec	18	148	2.4	3.5	0.12	0.11 $\pm$ 0.04
2006	30 Mar – 1 Apr	5	148	1.0	2.5	0.03	0.03 $\pm$ 0.01
2007 <sup>(c)</sup>	-	-	-	-	-	-	-
2008 <sup>(d)</sup>	30 Apr – 2 May	15	160	17.1	4.1	0.09	0.02 $\pm$ 0.01
2009	2 – 4 Apr	11	156	31.0	9.0	0.07	0.01 $\pm$ 0.01
2010 <sup>(e)</sup>	-	-	-	-	-	-	-
2011	30 Mar – 3 Apr	23	156	0.9	6.7	0.15	0.17 $\pm$ 0.07
2012	28 Mar – 3 Apr	22	160	2.8	4.4	0.14	0.10 $\pm$ 0.06
2013	2 – 6 Apr	26	156	3.1	2.9	0.17	0.08 $\pm$ 0.04
2014	23 – 26 Mar	25	160	6.7	1.0	0.13	0.16 $\pm$ 0.08
2015	24 – 29 Mar	21	160	5.3	11.0	0.13	0.06 $\pm$ 0.05
	14 – 17 Apr	17	160	2.1	1.6	0.11	0.17 $\pm$ 0.13
2016	22 – 27 Mar	50	160	6.5	5.5	1.25	0.19 $\pm$ 0.13
	8 – 13 Apr	50	160	6.7	3.1	1.25	0.21 $\pm$ 0.10
2017	22 Mar – 4 Apr	10	160	4.1	2.5	0.06	0.02 $\pm$ 0.01
	9 – 19 Apr	42	160	2.4	2.7	0.26	0.26 $\pm$ 0.01
2018	23 Mar – 11 Apr	10	132	4.5	1.8	0.08	0.08 $\pm$ 0.06
	13 – 22 Apr	4	132	3.2	1.7	0.03	0.03 $\pm$ 0.03
2019	23 Mar – 2 Apr	14	160	1.6	1.2	0.09	0.14 $\pm$ 0.11
	13 – 21 Apr	32	160	2.1	2.3	0.20	0.21 $\pm$ 0.11
2020 <sup>(f)</sup>	01 Apr – 18 Apr	21	160	2.0	3.6	0.13	0.14 $\pm$ 0.10
2021 <sup>(f)</sup>	26 Mar – 4 Apr	24	156	4.6	4.8	0.15	0.04 $\pm$ 0.02
2022 <sup>(f)</sup>	29 Mar – 14 Apr	16	148	5.9	4.3	0.11	0.06 $\pm$ 0.04
2023	24 Mar – 4 Apr	61	144	4.6	2.3	0.42	0.31 $\pm$ 0.14
	6 – 12 Apr	9	100	2.1	3.1	0.09	0.11 $\pm$ 0.08
2024	27 Mar – 5 Apr	51	156	6.9	2.6	0.33	0.21 $\pm$ 0.11
	6 Apr	6	24	4.0	2.0	0.25	0.13 $\pm$ 0.16
2025	26 – 31 Mar	61	136	6.6	7.0	0.45	0.07 $\pm$ 0.02
	2 – 9 Apr	15	128	1.2	5.2	0.12	0.09 $\pm$ 0.06

(a) Presented as a summary of the data used to calculate track densities. Wind threshold speed = 7.7 m/s.

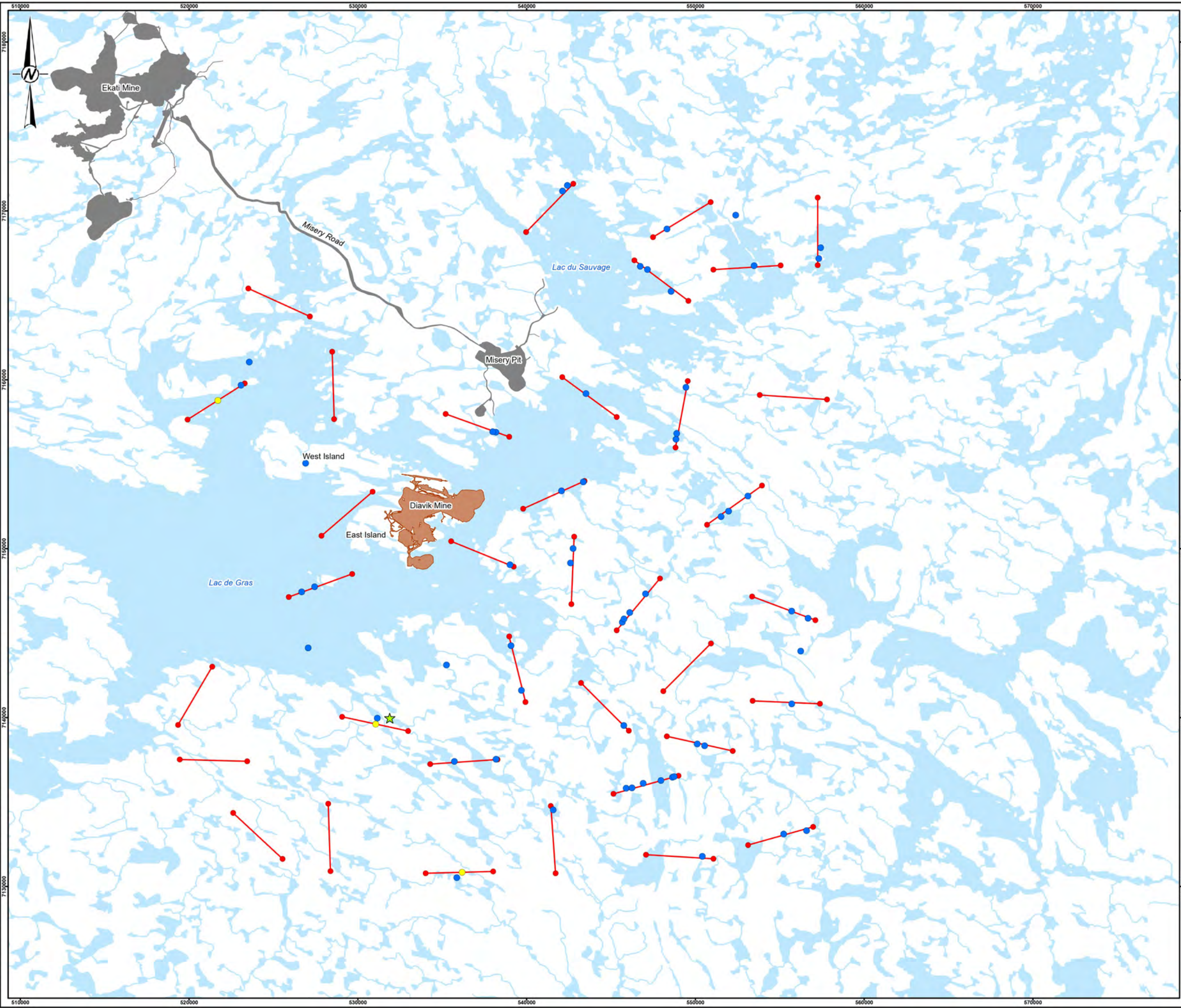
(b) For each transect, a track density index (TDI) was calculated as the number of wolverine tracks per transect length per number of days since recent snowfall or threshold wind speed. TDI is reported as mean Track Density Index  $\pm$  2 times the standard error.

(c) Survey was not completed in 2007 because a Wildlife Research permit was not acquired in time.

(d) The new survey technique was introduced in 2008. Only data hereafter was included in the multi-season occupancy analysis.

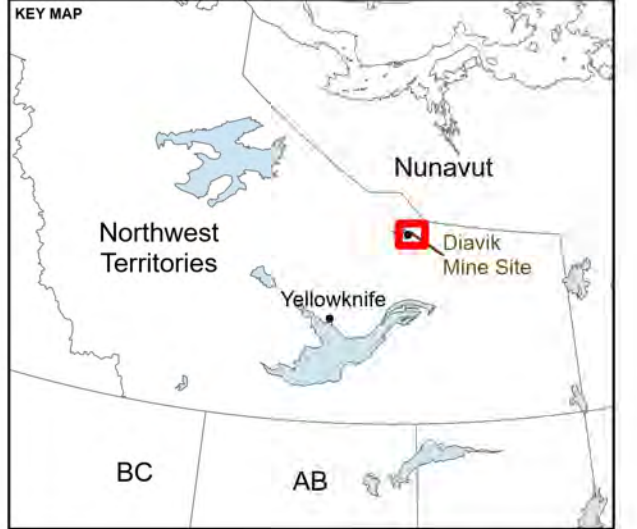
(e) Survey was not completed in 2010 due to community assistant not being available to participate in survey.

(f) Second round of surveys was not completed due to site access restrictions or staffing issues resulting from the COVID-19 pandemic. tracks/km = tracks per kilometre; SE = standard error.



**LEGEND**

- ★ WOLVERINE SIGHTING
- WOLVERINE TRACK
- WOLVERINE TRACK\*
- TRANSECT
- DIAVIK FOOTPRINT
- EKATI FOOTPRINT
- WATERCOURSE
- WATERBODY



**NOTE(S)**  
 \* LOCATION OF OBSERVED WOLVERINE TRACKS ALONG THE TRANSECT SURVEYED WAS ESTIMATED BASED ON INCOMPLETE UTM COORDINATES.

**REFERENCE(S)**  
 DISTURBANCE AND MINE FOOTPRINT DATA OBTAINED FROM CLIENT. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 12N

CLIENT

**RioTinto | Diavik**

PROJECT  
 DIAVIK DIAMOND MINES INC.

TITLE  
**SNOW TRACK TRANSECTS AND WOLVERINE OCCURRENCE IN 2025**

CONSULTANT	YYYY-MM-DD	2026-04-23
	DESIGNED	JVE
	PREPARED	AA
	REVIEWED	MB
	APPROVED	MB

PROJECT NO. CA0047332.8932    CONTROL 4000.3000    REV. 0    FIGURE 16

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25mm: \P\GIS\Diavik\CA0047332\_8932\MapInfo\MapInfo\_2026\MapInfo\Tracks\_0400\_0000\_PUBLISHED\_04\_23\_26\_14:51:19.PMX

### 6.3.3.1 Multi-season Occupancy Model

#### Detectability

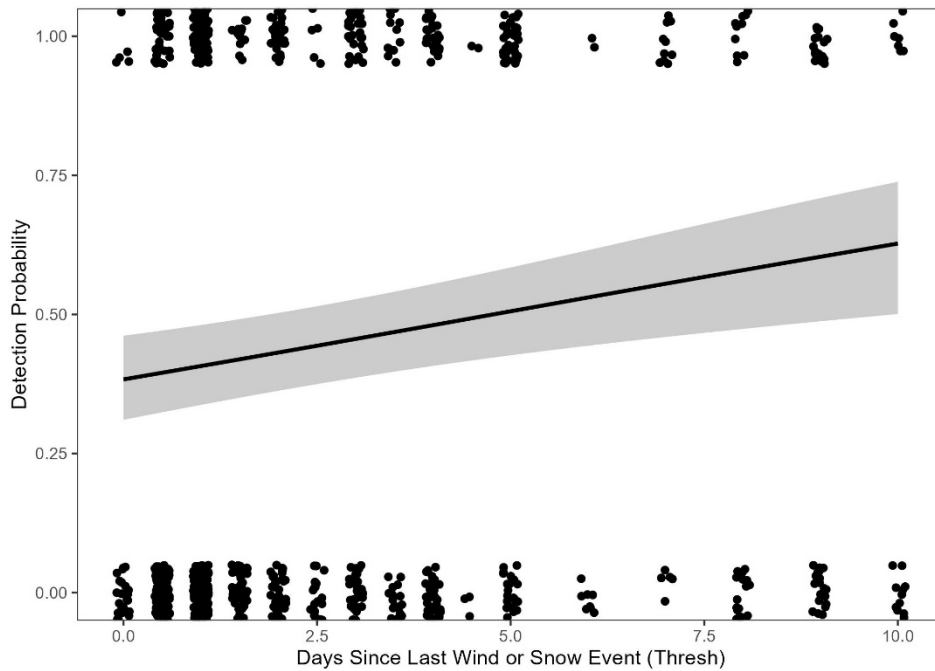
Five candidate covariates were evaluated for their influence on detection probability in the MSOM. These included year, habitat, wind (days since the last wind event), snow (days since the last snow event), and thresh (minimum days since the last wind or snow event). The best fitting variable included the thresh variable (Table 23). Thresh had a positive effect on detectability ( $\beta = 0.957$ ,  $Z = 3.22$ ,  $p$  less than 0.01; Figure 17), indicating that detectability improves as the number of days since the last wind or snow event increases. Although thresh was the best-fitting predictor, similar to the 2022 multi-seasonal occupancy model (WSP 2023a), there were also a significant positive relationship between days since last wind event (i.e., wind) and track detection ( $\beta = 0.98$ ,  $Z = 2.39$ ,  $p = 0.02$ ). These results highlight the importance of continuing to account for imperfect detection due to weather events in future analyses. The thresh variable was carried forward as the detection process in modelling subsequent processes (i.e., occupancy, colonization, and extinction).

**Table 23: Candidate Models for Detectability**

Model	AIC	$\Delta$ AIC	$p$ (detection)	
			Intercept	OR
<b>p.thresh</b>	<b>1192.19</b>	<b>0.00</b>	<b>0.39</b>	<b>2.60</b>
p.year	1194.99	2.80	0.32	2.57
p.wind	1197.19	5.01	0.41	2.68
p.snow	1199.63	7.44	0.44	2.13
p.null	1201.03	8.84	0.47	-
p.habitat	1202.53	10.34	0.44	1.26

Note: The intercept is presented as a probability and is interpreted as the probability of detection when the associated covariate values is set to '0'. The covariate is presented as the odds ratio (OR) and is the predicted change in the odds of a detection when the covariate value is set to '1' (i.e., the max). Bold text indicates the top model.

AIC = Akaike's Information Criterion;  $\Delta$ AIC = difference in Akaike's Information Criterion.



Note: Observed Points are Plotted with Jitter to Show all Points, but Always Exist at 0 or 1 (not observed or observed).

**Figure 17: Effect of Days Since Last Wind or Snow Event (Thresh) on the Detectability of Wolverine Tracks with 95% Confidence Intervals in Grey Ribbon**

### Occupancy

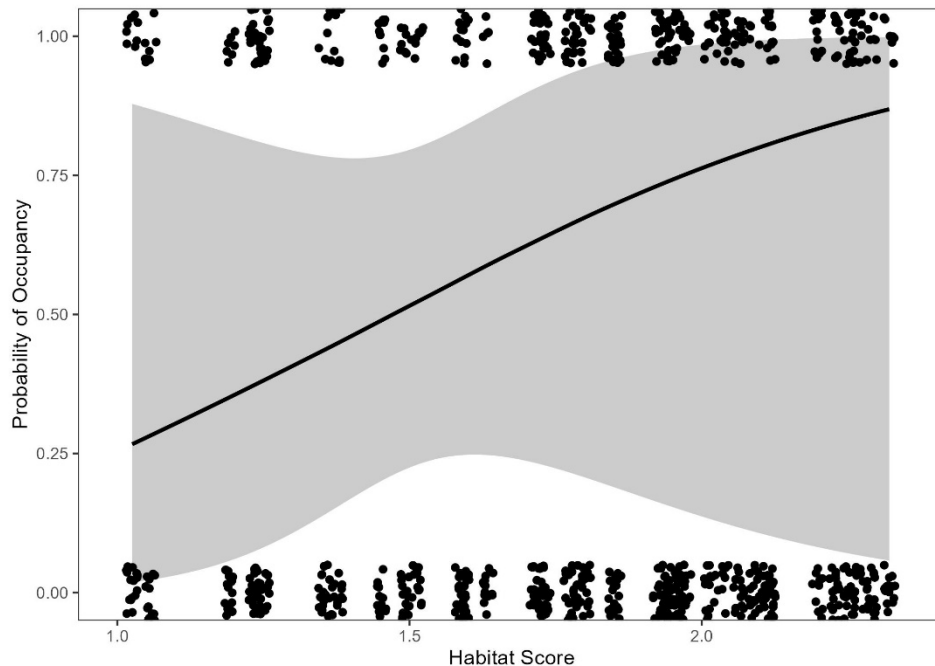
The effects of distance to the Mine (distance) and habitat were tested on the initial probability of site occupancy of wolverines in the study area. An interaction was also tested between distance and habitat to tease apart the potential confounding effect of habitat availability across the distance gradient. The null model provided the best fit for the data (Table 24), suggesting little support for the effect of habitat, distance or their interaction on the probability of occupancy. Although the habitat model (based on a previously developed resource selection model [Johnson et al. 2005]) was competitive, its effect should be interpreted with caution as the uncertainty around this estimate (i.e., confidence interval) is large (Figure 18). The initial probability of site occupancy is based on the first year of data collection (2008), which was a single-visit survey, and the lack of recapture data may partially explain the large standard error. Both the null model and habitat model were carried forward as the occupancy process in modelling subsequent processes (i.e., colonization and extinction).

**Table 24: Candidate Multi-Season Models for Occupancy**

Model	AIC	ΔAIC	<i>psi (occupancy)</i>	
			Intercept	OR
<b>psi.null</b>	<b>1192.19</b>	<b>0.00</b>	<b>0.60</b>	-
<b>psi.habitat</b>	<b>1193.02</b>	<b>0.83</b>	<b>0.27</b>	<b>17.75</b>
psi.distance	1194.13	1.95	0.56	1.55
psi.distance*habitat	1194.71	2.53	0.015	5.43 × 10 <sup>-10</sup>

Note: the intercept is presented as the probability of occupancy when covariate values are set to '0', and covariate effect is presented as the odds ratio (OR) when covariate value is set to '1' (i.e., the maximum). Bold text indicates the top models.

AIC = Akaike's Information Criterion; ΔAIC = difference in Akaike's Information Criterion.



Note: Grey Ribbon Shows 95% Confidence Intervals. Observed Points are Plotted with Jitter to Show all Points, but Always Exist at 0 or 1 (not observed or observed).

**Figure 18: The Effect of Habitat Quality on the Probability of Wolverine Occurrence at the Start of the Study In 2008**

### Colonization

The effects of year, full-time equivalents (FTE), and habitat were tested on site colonization, or the probability that a previously unoccupied transect will become occupied in the following year. Colonization effects tests for any changes over time that may cause previously unoccupied transects to become occupied by wolverines in the study area. A negative colonization effect is therefore interpreted as a lower probability of colonization at higher levels of a covariate. For example, a negative mean annual temperature effect would be interpreted as wolverines are likely to colonize areas when annual temperatures are lower but does not indicate whether wolverines would leave the area when temperatures increase (this has to be inferred by the extinction process).

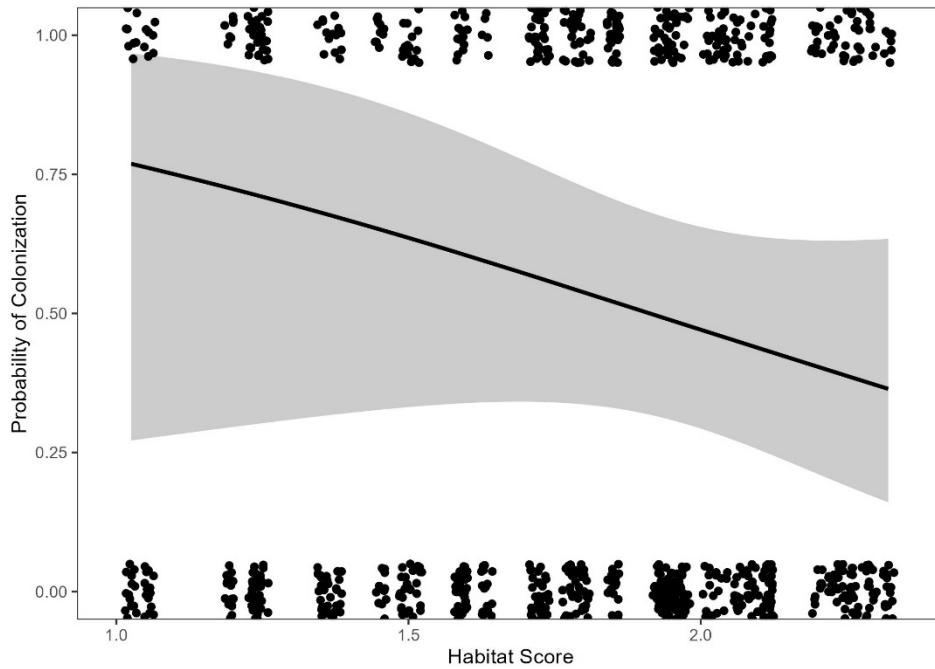
Two models received nearly equal support for the effect on colonization probability and were carried forward: the null model and the habitat model for colonization. For both top-supported models, occupancy was held constant and detectability included the effect of threshold event (Table 25). Although the habitat model was top-supported, the effect of habitat on colonization is uncertain. Predicted colonization probability declined with increasing habitat score, but confidence intervals were wide and the effect was statistically insignificant ( $\beta = -1.75$ ,  $Z = -1.20$ ,  $p = 0.23$ ; Figure 19), indicating limited evidence for habitat-driven variation in colonization. The FTE model for colonization was also competitive and was carried forward to subsequent modelling steps (i.e., extinction)

**Table 25: Candidate Multi-Season Occupancy Models for Colonization Effects**

Model	Occupancy	Colonization	Detection	AIC	ΔAIC	gamma (colonization)	
						Intercept	OR
<b>gamma.null</b>	<b>1</b>	<b>1</b>	<b>Thresh</b>	<b>1192.19</b>	<b>0.00</b>	<b>0.53</b>	<b>-</b>
<b>gamma.habitat</b>	<b>1</b>	<b>habitat</b>	<b>Thresh</b>	<b>1192.28</b>	<b>0.10</b>	<b>0.77</b>	<b>0.17</b>
<b>gamma.fte</b>	<b>1</b>	<b>FTE</b>	<b>Thresh</b>	<b>1192.99</b>	<b>0.81</b>	<b>0.67</b>	<b>0.20</b>
gamma.h.null	habitat	1	Thresh	1193.02	0.83	0.53	-
gamma.h.fte	habitat	FTE	Thresh	1193.18	1.00	0.73	0.10
gamma.year	1	year	Thresh	1193.36	1.17	0.43	3.69
gamma.h.habitat	habitat	habitat	Thresh	1193.42	1.23	0.73	0.22
gamma.h.year	habitat	year	Thresh	1194.09	1.90	0.42	4.27

Note: The intercept is presented as the probability of colonization when covariate values are set to '0', and covariate effect is presented as the odds ratio (OR) when covariate value is set to '1' (i.e., the maximum). Bold text indicates the top competing models.

AIC = Akaike's Information Criterion; ΔAIC = difference in Akaike's Information Criterion; FTE = full-time equivalents.



Note: Observed Points are Plotted with Jitter to Show all Points, but Always Exist at 0 or 1 (not observed or observed).

**Figure 19: Effect of Habitat Quality on Wolverine Colonization in the Study Area with 95% Confidence Intervals Shown in Grey Ribbon**

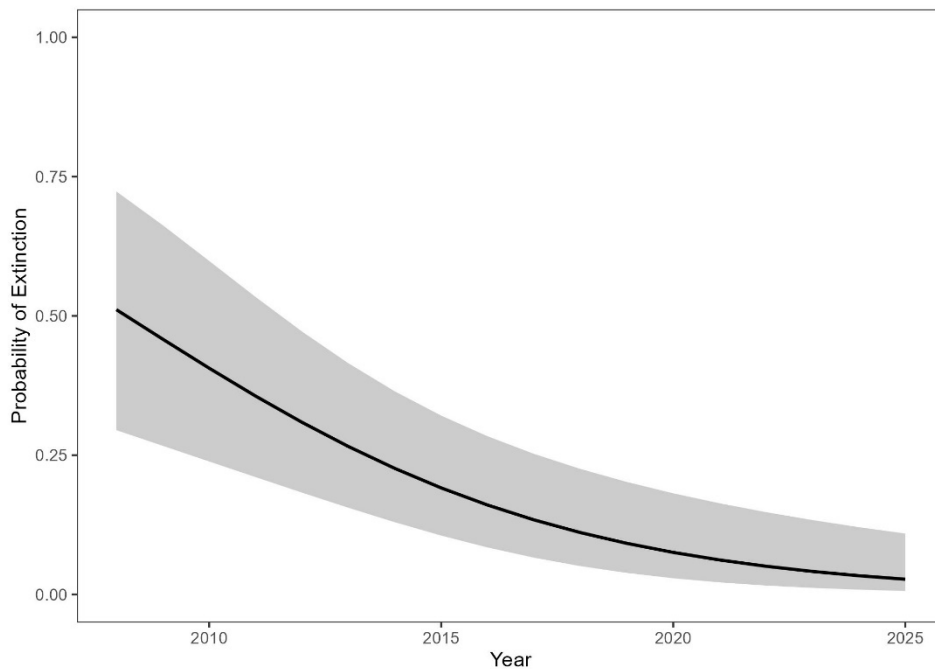
### Extinction

Site extinction ( $\epsilon$ ), defined as the probability that an occupied transect becomes unoccupied in the subsequent year, was evaluated using MSOMs. Based on results from the colonization analysis, candidate extinction models were constructed by pairing the top-ranked colonization structures (null, habitat, FTE) with alternative extinction covariates, including the null model, FTE, and year. This resulted in a total of nine candidate extinction models (Table 26). All models included wind threshold as the detectability covariate and a constant occupancy process.

**Table 26: Competing Candidate Models in Final Step of Multi-Season Occupancy Model Selection**

Model Name	Occupancy	Colonization	Extinction	Detection	AIC	$\Delta$ AIC
<b>epsilon.h.year</b>	<b>1</b>	<b>habitat</b>	<b>Year</b>	<b>thresh</b>	<b>1179.70</b>	<b>0.00</b>
<b>epsilon.year</b>	<b>1</b>	<b>1</b>	<b>Year</b>	<b>thresh</b>	<b>1180.08</b>	<b>0.38</b>
<b>epsilon.f.year</b>	<b>1</b>	<b>FTE</b>	<b>Year</b>	<b>thresh</b>	<b>1181.26</b>	<b>1.56</b>
epsilon.h.fte	1	habitat	FTE	thresh	1183.23	3.54
epsilon.f.fte	1	FTE	FTE	thresh	1183.38	3.68
epsilon.fte	1	1	FTE	thresh	1183.54	3.84
epsilon.null	1	1	1	thresh	1192.19	12.49
epsilon.h.null	1	habitat	1	Thresh	1192.28	12.58
epsilon.f.null	1	FTE	1	thresh	1192.99	13.30

Note: The top competing models are indicated in bold. '1' indicates the null process; no covariate effects were tested on this process. AIC = Akaike's Information Criterion;  $\Delta$ AIC = difference in Akaike's Information Criterion; FTE = full-time equivalents.



**Figure 20: The Effect of Year on the Probability of Site Extinction of Wolverines in the Study Area with 95% Confidence Intervals Shown in Grey Ribbon**

## Final Models

Three models received support in the final stage of multi-season occupancy model selection (Table 27). All supported models included year-dependent extinction, indicating temporal variation in the probability that occupied transects became unoccupied. Colonization structure varied among supported models and included a model with habitat-dependent colonization, a model with FTE-dependent colonization, and a null colonization model, suggesting limited and inconsistent support for specific drivers of colonization. Initial occupancy was modelled as constant across all supported models, and detectability was consistently modelled as a function of days since last threshold event (Table 27).

In the top-supported model, extinction probability decreased with increasing year ( $\beta = -3.61$ ,  $Z = -3.67$ ,  $p$  less than 0.01; Figure 20), indicating lower rates of site abandonment in later years. Colonization effects of habitat and FTE were model-dependent and associated with substantial uncertainty. Collectively, these results suggest that temporal variation in extinction, rather than colonization, was the most consistently supported process influencing wolverine occupancy dynamics during the study period.

**Table 27: Final Multi-Season Occupancy Models and Associated Covariate Effects and Intercept Values for Each Process**

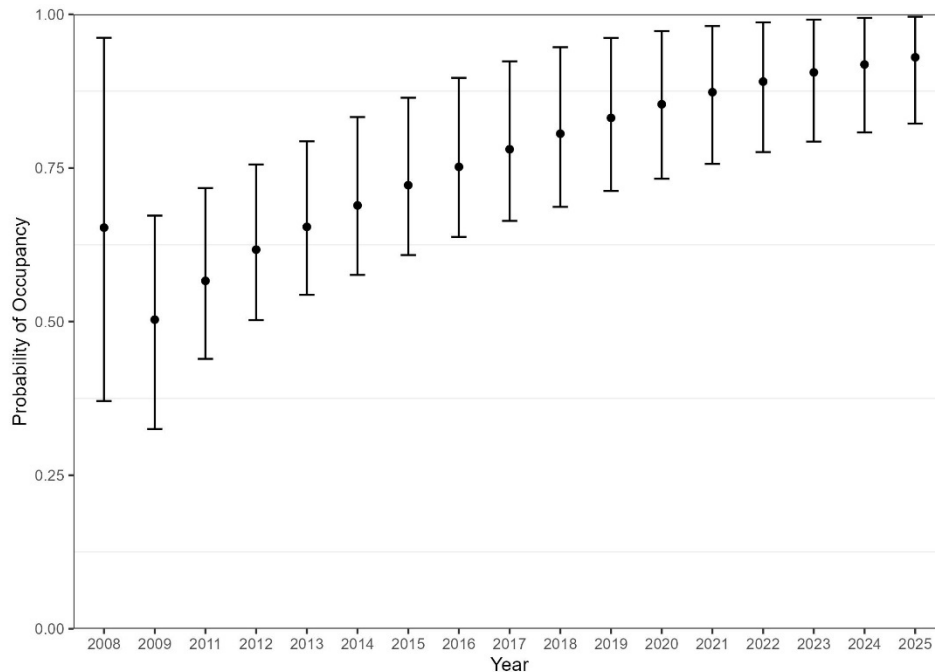
Model	Occupancy ( $\psi$ )		Colonization ( $\gamma$ )		Extinction ( $\epsilon$ )		Detection ( $p$ )	
	Intercept <sub>t</sub>	OR	Intercept <sub>t</sub>	OR	Intercept <sub>t</sub>	OR	Intercept <sub>t</sub>	OR
$\psi(\cdot)\gamma(\text{habitat})\epsilon(\text{year})p(\text{thresh})$	0.67	-	0.82	0.16	0.52	0.03	0.41	3.64
$\psi(\cdot)\gamma(\cdot)\epsilon(\text{year})p(\text{thresh})$	0.63	-	0.59	-	0.51	0.03	0.41	3.65
$\psi(\cdot)\gamma(\text{fte})\epsilon(\text{year})p(\text{thresh})$	0.59	-	0.67	0.33	0.50	0.03	0.41	3.92

Note: The intercept is presented as the probability of occupancy when covariate values are set to '0', and covariate effect is presented as the odds ratio (OR) when covariate value is set to '1' (i.e., the maximum).

$\psi$  (psi) = occupancy;  $\gamma$  (gamma) = colonization;  $\epsilon$  (epsilon) = extinction;  $p$  = detectability

## Probability of Occupancy over Time

To track changes in wolverine occupancy over the course of the study, the average occupancy rates and standard errors from the three competing top final MSOMs were calculated (averaged models: Table 26; predicted occupancy: Figure 21). Predicted occupancy rates showed a steady increase during the study period from a low of 50% of transects occupied in 2009 to 93% of transects occupied in 2025 (Figure 21). The number of incidental wolverine observations on East Island (Table 28) was not correlated with average predicted occupancy (Spearman correlation  $\rho = 0.10$ ,  $p = 0.70$ ).



**Figure 21: Average Predicted Occupancy Rates Over Time as Estimated from the Top Multi-Season Occupancy Models**

## Conclusions

There are many factors contributing to wolverine site occupancy in the study area. The snow track monitoring shows that conducting multiple snow tracking surveys within a year is integral to correctly estimating these occupancy rates, as wolverine detectability is relatively low at around 40%. Collection of wind and snow conditions also helps make accurate and unbiased estimates of detectability and, subsequently, occupancy. The data and analyses showed an increase in predicted wolverine occupancy over time based on predictions from the top model. These results differ from the results from the 2022 comprehensive WMMR (WSP 2023a), which showed limited variation in predicted occupancy over time.

Across supported MSOMs, detectability was consistently influenced by days since the last snow or wind event, indicating that survey conditions play an important role in the likelihood of detecting wolverines during snow-tracking surveys. When snowfall or wind become less frequent wolverine tracks are easier to find. Habitat effects on occupancy were supported as a top model; however, variability was high in the habitat model, and a null occupancy model was also a slightly better fit. This suggests that habitat does not have a strong effect on occupancy. Colonization effects of habitat and FTE staffing were supported in individual models; however, null colonization models also received comparable support, indicating uncertainty in the factors influencing colonization dynamics. In contrast, extinction probability consistently declined with year across all top-supported models, suggesting reduced rates of site abandonment over time. Overall, these results indicate that detectability and temporal variation in extinction were more consistently supported than covariate effects on occupancy or colonization.

There are assumptions of the MSOM that may not have been met by the snow track data, which are important to acknowledge. The model requires that all parameters are constant across sites at any given time (MacKenzie et al. 2013). In general, the data meet this assumption as both temporal and site-level factors were identified and modeled directly. Other potential sources of unaccounted variation include prey availability, interspecific

interactions (Rød-Eriksen et al. 2023), and site-specific Mine disturbance (e.g., noise or other disturbance that may be greater at one transect than another) that can influence occupancy rates. Another assumption is that the transect is “closed” within a primary sampling period (i.e., year). The closure assumption is important because it determines how the detection probability is calculated. If a wolverine track is detected at a transect in one visit within a primary sampling period but not the other, then occupancy is deemed a false negative. It is possible that during the interval between survey visits, a wolverine home range either included or excluded a transect (within-year colonization and extinction). This discrepancy may cause the detection probability to be under-estimated, which can subsequently inflate the occupancy estimates. The best way to control for this potential bias is to reduce the amount of time between survey visits as much as possible so that the closure assumption can be met (i.e., the site remains occupied or unoccupied over the duration of the primary sampling period).

## 6.4 Incidents and Mortalities

Mortalities can occur if wolverines become habituated to mining activities resulting from efforts to locate food or shelter (DDMI 1998c). Diligent waste management and strictly enforced speed limits and immediate reporting of wildlife sightings on East Island have limited the mortality of wolverine during the operation phase of the Mine. To date, efforts have been focused on limiting Mine-related mortalities and associated changes to wolverine population parameters.

The prediction made in the EER was:

- Mine-related mortalities, if they occur, are not expected to alter wolverine population parameters in the Lac de Gras area.

### 6.4.1 Methods

Incidental observations of wolverine by Mine staff are reported to the Environment Department (Appendix L). Mine-related incidents and mortalities are also reported to the Environment Department for documentation in a detailed incident investigation and through incident reports submitted by Mine staff (Appendices F). All wolverine mortalities are reported immediately to GNWT-ECC, and GNWT-ECC is consulted for follow-up mitigation and disposal procedures. If wildlife had to be deterred to reduce the risk of a wildlife-human incident, then all effort is made by the Environment staff to start with the least intrusive method available and all deterrent actions are recorded. Correlation analysis was completed for wolverine observations, use of deterrence, and removals to ascertain if relationships exist between these variables and the number of individuals on site, and total waste rock hauled. Additionally, a logistic regression analysis was performed on the number of relocations and mortalities in relation to the camp population and waste rock hauled. For these analyses, any year with a relocation or mortality was coded as a ‘1’, while years without mortalities or relocations were coded as a ‘0’.

## 6.4.2 Results

In 2025, there were two reported wolverine observations on East Island (Table 28; Appendix L) reported over two days, between 19 October and 27 December 2025. These observations are collected incidentally and may contain repeated observations of the same animal. Incidental observations provide an indication of the potential for wildlife incidents or problem wildlife. Wolverine incidental observations decreased in 2025 from 2024 (Table 28).

There was no significant correlation between the number of incidental observations of wolverine and the number of people on site (Spearman correlation  $\rho = 0.27$ ,  $p = 0.20$ ) or the amount of waste rock hauled (Spearman correlation  $\rho = 0.17$ ,  $p = 0.45$ ). There was a positive correlation between the number of incidental observations and total material moved which was marginally significant (Spearman correlation  $\rho = 0.41$ ,  $p = 0.04$ ). The continued reporting incidental observations by staff fosters an awareness of wildlife issues at the Mine.

Of the two wolverine observations on East Island in 2025, neither were mortality incidents, required relocation, or required deterrent action (Table 29). These actions continue to be uncommon at the Mine and are not expected to have a measurable influence on wolverine population parameters of survival and reproduction. Wolverine relocations were not correlated to the number of people on site (Spearman correlation  $\rho = 0.02$ ,  $p = 0.94$ ; logistic regression Odds Ratio [OR] = 1.00, 95% CI [0.99, 1.00],  $p = 0.63$ ), the amount of waste rock hauled (Spearman correlation  $\rho = -0.28$ ,  $p = 0.18$ ; logistic regression OR = 0.89, 95% CI [0.68, 1.03],  $p = 0.23$ ), or total material moved (Spearman correlation  $\rho = -0.13$ ,  $p = 0.53$ ; logistic regression OR = 0.92, 95% CI [0.75, 1.05],  $p = 0.29$ ).

There was no significant relationship between wolverine mortalities and the number of people on site (Spearman correlation  $\rho = 0.33$ ,  $p = 0.11$ ; logistic regression OR = 1.00, 95% CI [1.00, 1.01],  $p = 0.15$ ), the amount of waste rock hauled (Spearman correlation  $\rho = -0.22$ ,  $p = 0.30$ ; logistic regression OR = 0.89, 95% CI [0.68, 1.03],  $p = 0.23$ ), or the total material moved (Spearman correlation  $\rho = -0.17$ ,  $p = 0.42$ ; logistic regression OR = 0.96, 95% CI [0.79, 1.10],  $p = 0.29$ ). No deterrent actions were required in 2025. The number of deterrent actions since 2000 was not related to the number of people on site (Spearman correlation  $\rho = 0.33$ ,  $p = 0.12$ ), the amount of waste rock hauled (Spearman correlation  $\rho = 0.13$ ,  $p = 0.55$ ) or the total material moved (Spearman correlation  $\rho = 0.22$ ,  $p = 0.30$ ).

**Table 28: Average Camp Population and Number of Incidental Wolverine Observations, 2002 to 2025**

Year <sup>(a)</sup>	Average Camp Population	Total Waste Rock Moved (millions of tonnes) <sup>(b)</sup>	Total Material Moved (millions of tonnes) <sup>(b)</sup>	Wolverine Observation Instances on East Island
2002	1100	2.39	6.74	4
2003	470	19.88	25.99	38
2004	397	28.73	33.46	14
2005	646	26.90	31.31	43
2006	716	23.32	27.99	31
2007	747	18.13	25.72	19
2008	979	19.98	25.81	46
2009	562	17.23	20.1	21
2010	579	18.24	22.3	28
2011	630	9.02	13.34	4
2012	629	0.40	4.38	11
2013	537	0.39	5.11	3
2014	484	1.88	7.55	6
2015	524	0.45	7.65	118
2016	625	0.35	7.33	105
2017	641	0.39	5.65	44
2018	578	6.23	12.66	28
2019	586	7.44	12.98	21
2020	585	8.33	14.73	17
2021	558	8.81	15.45	6
2022	557	4.92	11.55	8
2023	583	7.37	17.77	15
2024	537	1.79	6.54	6
2025	470	0.73	4.23	2

(a) Monthly average camp population is not available for 2000 and 2001.

(b) Values have been rounded for presentation purposes.

**Table 29: Wolverine Observations, Deterrents, Relocations, and Mortalities, 2000 to 2025**

Year	Days with Wolverine Visitations on East Island	Total Number of Independent Wolverine Observations	Days Deterrent Actions were Utilized	Relocations	Mortalities
2000	25	-	9	0	0
2001	36	-	10	2	1
2002	4	-	0	0	0
2003	38	-	1	0	0
2004	14	-	1	0	0
2005	43	-	5	0	0
2006	31	-	2	0	0
2007	19	-	1	0	0
2008	46	-	17	0	1
2009	21	-	1	0	0
2010	28	-	0	0	0
2011	4	-	0	0	0
2012	11	-	1	0	2 <sup>(a)</sup>
2013	3	-	0	0	0
2014	6	-	0	0	0
2015	83 <sup>(b)</sup>	118	4	1	0
2016	73	105	6	2	1
2017	36	44	4	0	0
2018	23	28	0	0	0
2019	21	21	7	2	0
2020	16	17	4	1	0
2021	6	6	0	0	0
2022	8	10	1	0	0
2023	15	17	0	0	0
2024	6	6	0	0	0
2025	2	2	0	0	0

(a) Two wolverine mortalities occurred in 2012 at an off-site fish compensation program undertaken by DDMI.

(b) It is believed that the majority of these observations were for the same wolverine which was relocated on 23 March 2015.

## 6.5 Adaptive Management and Recommendations

Results from the analysis of long-term snow track monitoring indicate consistent presence of wolverine since 2008. Low numbers of injuries or mortalities and deterrent actions over time indicate a stable and effective mitigation framework that keep wolverine and Mine personnel safe during the 25 years since Mine construction. The Mine will enter the closure phase in early 2026. During closure wolverine and other wildlife sightings will continue to be reported as these promote awareness at site and help to prevent and limit incidents. The successful waste segregation practices and securing waste bins to prevent wildlife access will also continue.

## 7.0 RAPTORS AND MIGRATORY BIRDS

Raptors (birds of prey) present in the study area include bald eagle (*Haliaeetus leucocephalus*), gyrfalcon (*Falco rusticolous*), northern harrier (*Circus hudsonius*), peregrine falcon (*Falco peregrinus anatum/tundrius*), rough-legged hawk (*Buteo lagopus*), snowy owl (*Bubo scandiacus*), and short-eared owl (*Asio flammeus*). The federal SARA previously listed peregrine falcon as Special Concern; however, on 15 February 2023, peregrine falcon was removed from Schedule 1 and is no longer considered at risk (GOC 2025). Additionally, peregrine falcon is not a listed species at risk under NWT species at risk legislation (NWT SAR 2025). Short-eared owl is designated as Special Concern under Schedule 1 of the SARA (GOC 2025), threatened by COSEWIC (COSEWIC 2008), but is not listed under NWT Species at Risk legislation (NWT SAR 2025).

Habitat loss, sensory disturbance, and changes to prey populations may influence raptors nesting in the Lac de Gras area. Mining activities may cause raptors to avoid the area and surrounding habitats. Mine-related changes in habitat quality can influence the presence and distribution of raptors. Impact predictions related to raptors (DDMI 1998c) were:

- Disturbance from the Mine and the associated ZOI is not predicted to result in measurable impacts to the distribution of raptors in the study area.
- The Mine is not predicted to cause a measurable change in raptor presence in the study area.

Analysis of Diavik and Ekati peregrine falcon and gyrfalcon nest data from 1998 to 2010 determined that sensory disturbance was not influencing nest occupancy and success (Coulton et al. 2013). Instead, the study concluded that the patterns of use and success were associated with the spatial distribution of nest site quality and the age of nest sites, respectively, which is consistent with findings from another long-term study (Wightman and Fuller 2005). The results confirmed the decisions at the 2010 Diamond Mine Wildlife Monitoring Workshop that annual collection of raptor nest occupancy and success in the study area should be discontinued, and data collection should be focused on mitigating effects to raptors nesting in open pits and on Mine infrastructure.

The monitoring objectives presented in Handley (2010) are to:

- Determine if pit walls or other infrastructure are utilized as nesting sites for raptors.
- Determine nest success in areas of development and document effectiveness of deterrent efforts used.
- Document and determine the cause of direct Mine-related mortalities of raptors.

Another objective related to monitoring the regional status of raptor populations includes:

- Support GNWT-ECC in regional monitoring of raptor nest occupancy and productivity to determine long-term population trends.

Note that the Handley (2010) objective for regional monitoring of raptor nest occupancy for the Canadian Peregrine Falcon Survey (CPFS) has been changed because the CPFS has been discontinued. Instead, monitoring is contributed to a regional database administered by GNWT-ECC.

## 7.1 Nest Site Occupancy

### 7.1.1 Methods

The CPFS is no longer completed; however, DDMI will still support surveys of nest use and success in the study area for regional monitoring by GNWT-ECC and other researchers. Nest monitoring for inclusion in regional and national databases is scheduled for every five years and was last completed in 2020. The monitoring was completed by GNWT-ECC biologists and included surveys of known nest sites in early and late summer to determine nest use and the presence of hatchlings. The monitoring approach included a helicopter survey using fly-by techniques to minimize disturbance to nesting birds.

Falcons and other raptors have been known to nest on Mine infrastructure and in the vertical rock faces of open pits at both the Mine and the Ekati Mine. Pit wall/infrastructure inspections at the Mine are completed at least once per week during the nesting season. Pit walls and other infrastructure are inspected for nests and falcon nesting behaviour. If nests are found, DDMI attempts to determine the species occupying the nest along with the presence of eggs and/or chicks. Nests are only considered active if eggs or young are observed. Deterrent actions are only considered in consultation with GNWT-ECC if the nest is in an area hazardous to the birds but not if eggs or young are observed.

Pit wall/infrastructure inspections are completed at eight locations on the Mine: A21 Pit area (Lookout 1, 2, 3, and A21 South Ramp), A154 Pit area (Lookout 1 and 2), A418 Pit area (Lookout #1 and #2), South Tank Farm, Process Plant, Powerhouse 1 and Powerhouse 2, Site Services Building, Boiler House, and Backfill Plant. The survey is completed by stopping at a clear vantage point and thoroughly scanning the area for any potential nesting locations. Incidental observations of raptors or bird species at risk are also noted in the results.

### 7.1.2 Results

Regional nest monitoring was not completed by GNWT-ECC in 2025. A total of 11 pit wall/infrastructure inspections were completed from 17 May to 16 August 2025, to determine use by raptors (Appendix M). No deterrent actions were used to prevent raptor nesting in 2025.

In 2025, one active peregrine falcon nest was recorded on the rockwall behind the site services lineup (Table 30). The nest was confirmed as active on 30 June 2025, with two adults perched and nesting on the nest. Although not considered raptors, common ravens (*Corvus corax*) are functional raptors and were confirmed nesting on the central northern tank staircase at the South Tank Farm on 15 May. There were no nests belonging to migratory bird species at risk observed during the pit wall/infrastructure inspections between May and August 2025 (Appendix M).

**Table 30: Active Nests Observed on Mine Infrastructure, Open Pits, and Equipment in 2025**

Area	Species	Date	Observations
Site Services Lineup	Peregrine falcon	17 May to 30 June	Nesting behaviour was first observed on 17 May, where an individual was seen returning to the Site Services Lineup nesting site from 2024. The final observation was on 30 June. The nest was confirmed as active, with two adults perched and nesting in the nest at the Lineup.
Southern Tank Farm	Common raven	15 May to 15 June	An active common raven nest was recorded on 15 May. On 15 June the nest was deemed successful when fledglings were observed perched on one of the north tanks.

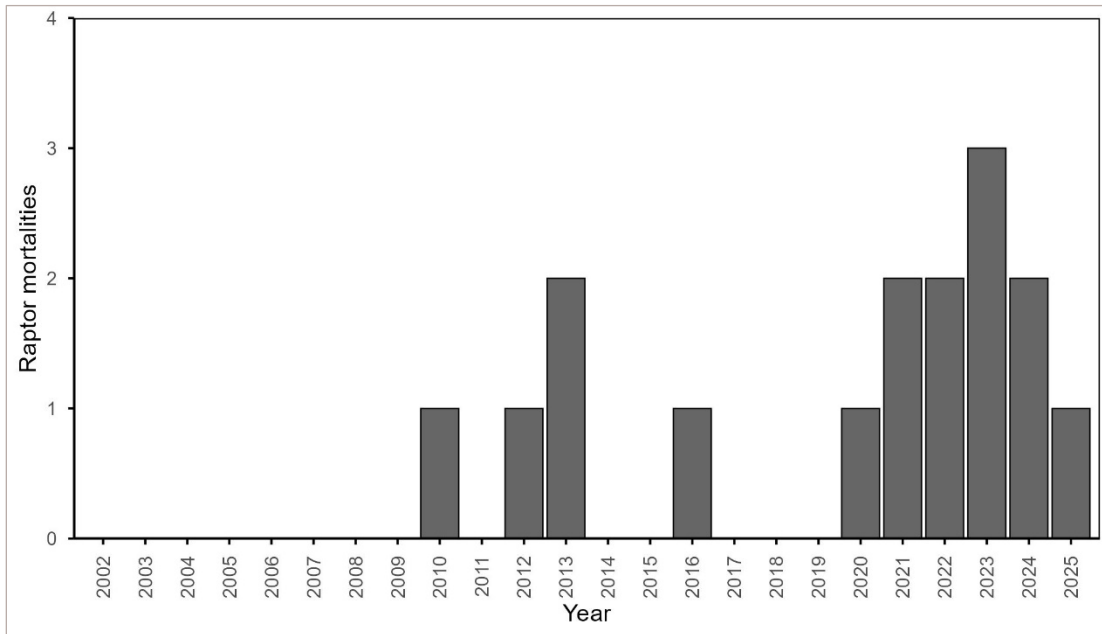
## 7.2 Incidents and Mortalities

### 7.2.1 Methods

Mine-related incidents that occur are reported to Environment Department staff through incident reports submitted by Mine staff. Environment Department staff follow up on any incident and complete the necessary documentation, GNWT-ECC is consulted for mitigation and disposal procedures. This information is tabulated and provided for annual comparisons. Mine-related raptor mortalities per year are also displayed in the results.

### 7.2.2 Results

One raptor mortality occurred in 2025 (Figure 22; Appendix F). On 16 May 2025, a dead American kestrel was discovered in the process plant light vehicle parking lot. A common raven mortality was reported on 24 June 2025. On 30 August 2025, a female green winged teal mortality was reported. Since 2002, 15 Mine-related or Mine-suspected raptor mortalities have occurred, 11 of which have occurred since 2020 (Figure 22). Most of these mortalities have occurred in proximity to Mine roads.



**Figure 22: Reported Raptor Mortalities, 2000 to 2025**

### **7.3 Adaptive Management and Recommendations**

Diavik will continue pit wall/infrastructure monitoring for nesting raptors and support regional nest monitoring during the closure phase of the Mine. Further, DDMI has committed to presenting raptor mortalities across years in this WMMR (Figure 22) and subsequent WMMRs during the closure phase.

## 8.0 WASTE MANAGEMENT

Diavik is committed to taking the necessary steps to collect, store, transport, and dispose of all waste generated by the Mine. These procedures are being completed in a safe, efficient, and environmentally compliant manner. The Waste Management Plan is an integral part of DDMI's Environmental Management System and focuses on practical and positive management of waste.

The objectives of the Waste Management Plan include:

- creating a system for proper disposal of waste
- minimizing potentially adverse impacts on the physical and biological environment
- complying with Federal and NWT legislation

Mitigation practices include food waste incineration, categorical segregation of non-food waste for storage and subsequent removal from site, and on-site disposal and monitoring. In addition to these mitigation practices, DDMI has implemented waste recycling/reduction initiatives.

### 8.1 Waste Inspections

The DDMI Waste Management Plan outlines practices for waste disposal and mitigation actions. The most recent version of Waste Management Plan was submitted to the Wek'èezhìi Land and Water Board (WLWB) in July 2025 and was implemented in October 2025 (DDMI 2022b). The Asset Management Department at the Mine maintains the various waste collection transfer and disposal points, inventories of bulk wastes, waste management datasheets, and status of protective equipment and spill kits. This assists in evaluating the capacity of waste management facilities, planning for logistics associated with backhauling, and requirements for any modifications to the system.

Waste Management staff identify problem areas and work with contractors and Mine employees to resolve any issues. Numbering and inspecting waste collection bins prior to pick up is an effective method of facilitating communication between Waste Management and Environment Department staff and addressing issues within various departments. Efforts are made to identify improperly disposed waste in the large waste collection bins prior to collection; however, on occasion improperly disposed waste may end up in either the Landfill or the burn pit.

Incineration, segregation, and storage of waste takes place at the Waste Transfer Area (WTA), which was established to provide proper handling and storage of waste on site. The facility is located on the south side of East Island. The WTA is a lined facility surrounded by a gated, three-metre-high chain link fence to control wind transportation of any litter and prevent most wildlife intrusion. Contained within the WTA are two incinerators for food waste, a burn pit for nontoxic/non-food contaminated burnable material, a contaminated soils containment area, a treated sewage containment area, as well as sea cans, sheds, and storage areas for drums, crates, bins, and totes. The majority of waste is inventoried and stored at the WTA while awaiting backhaul on the Tibbitt-to-Contwoyto Winter Road.

On-site disposal of non-burnable wastes such as steel (mainly ground support for Underground mining), vent tubing, plastics, and glass currently occurs at the inert Landfill located within the Waste Rock Storage Area – North Country Rock Pile. Waste is pushed into a large depression in the Landfill. The location of the Landfill within the waste rock pile and traffic in the area will continue to discourage wildlife access to the Landfill, thereby limiting the availability of infrequently misdirected food and food packaging for animals.

### 8.1.1 Methods

In 2025, waste inspections at the WTA, Landfill, Underground waste bins, and A21 Area were completed twice per week throughout the year. These inspections are to confirm that all waste segregation, storage, and disposal procedures set out in the Waste Management Plan are being followed. Inspections undertaken by Environment Department staff consist of walking the area of the WTA, Landfill, A21 area, and Underground waste bins, where safe to do so, and documenting the type and number of misdirected waste items, as well as wildlife species and signs that were present during the survey. Corrective actions at the WTA and Landfill area include notifying a WTA coordinator and transferring items to the appropriate disposal area. Corrective actions at the A21 Area and Underground waste bins include notifying the area supervisor to arrange for the transfer of items to the appropriate disposal area, notifying the area manager and safety superintendents for follow-up, and additional worker education where required. All misdirected waste items found during inspections in the WTA and Landfill are sorted into the proper disposal area by Waste Management staff. For example, non-burnable material is removed from the incinerator waste stream and transferred to the designated area in the Landfill. Hazardous wastes are stored in the WTA until they can be shipped to licensed facilities off-site.

### 8.1.2 Results

Development of the Underground mines in 2025 yielded 57,194 tonnes of mined waste rock; a total of 1,594,824 tonnes of ore were processed. The average daily population at the Mine in 2025 was 470 people and, weekly, the population ranged from 390 to 548 people (Appendix N). In 2025, the WTA, Landfill, A21 Area, and Underground were surveyed 96, 97, 44, and 96 times, respectively. All surveys occurred from 3 January to 29 December (Appendix O). A total of 273 misdirected waste items were found during WTA inspections, 1,381 items during Landfill inspections, 119 items at the A21 Area, and 209 items at the waste segregation area of the Underground (Table 31). At the WTA, Landfill, A21, and Underground, 34.4%, 62.9%, 15.9%, and 31.3% of the inspections had at least one item of misdirected waste, respectively.

In the WTA, the most common misdirected waste item was food packaging (119), followed by gloves (70 items), and recyclable drink containers (44 items). In the Landfill, the most common misdirected item was cigarette butts (476 items), followed by gloves (453 items), and food packaging (134 items). In the A21 Area, the most common misdirected waste item was cigarette butts (100 items), followed by gloves (4 items). In the Underground, the most common misdirected waste item was gloves (80 items), followed by food packaging (39 items).

In 2025, wildlife and wildlife signs were observed on 9.3% of inspections of the WTA, 16.4% of inspections of the Landfill, 15.6% of inspections at the waste segregation area of the Underground, and 2.2% of inspections of the A21 Area. Wildlife species observed during inspections were grizzly bear, common raven, and red fox (Table 32).

Since 2014, wildlife observed during waste inspections has remained relatively low and consistent. The most wildlife was recorded at the WTA in 2014 when 38 red fox, 14 common raven, and 2 unknown gull species were recorded. No wildlife was recorded at the Landfill in 2019 and 2022, the Underground in 2020, and the A21 Area from 2019 to 2021, and in 2023. Overall, 7.5% of inspections since 2014 have included wildlife observations (Figure 23).

Wildlife observed since 2014 during waste inspections are summarized in Table 33. The WTA has had an average of 13.3 wildlife observations recorded per year during inspections, with 2014 having the most wildlife recorded (58 observations). The most frequently observed species at the WTA has been red fox. The Landfill has had an average of 4.9 observations recorded per year during inspections, with 2024 having the most wildlife recorded (19 observations). The most frequently observed species at the Landfill has been red fox. An average of 2.2 observations have been recorded per year since 2016, when inspections began at the A21 Area, with 2016

having the most wildlife recorded (14 observations). The most frequently observed species at the A21 Area has been fox species. An average of 3.4 observations have been recorded per year since 2016, when inspections began at the Underground, with 2017 having the most wildlife recorded (9 observations). The most frequently observed species at the Underground has been common raven.

**Table 31: Misdirected Waste at the Waste Transfer Area, Landfill, A21 Area, and Underground, 2025**

Misdirected Waste Type	Waste Transfer Area (n = 96 surveys)		Landfill (n = 97 surveys)		A21 Area (n = 44 surveys)		Underground (n = 96 Surveys)	
	Total Number Found in All Inspections	Percent of Inspections	Total Number Found in All Inspections	Percent of Inspections	Total Number Found in All Inspections	Percent of Inspections	Total Number Found in All Inspections	Percent of Inspections
Aerosol Cans	1	1.04	90	18.56	2	2.27	4	2.08
Batteries	0	0	25	5.15	0	0	0	0
Cigarette Butts	0	0	476	3.09	100	2.27	0	0
Cigarette Packaging	12	9.38	15	8.25	0	0	10	5.21
Drink Containers Recyclable	44	11.46	78	26.80	1	2.27	19	10.42
Food	16	4.17	8	4.12	0	0	8	4.17
Food Packaging	119	23.96	134	24.74	3	6.82	39	10.42
Gloves	70	23.96	453	74.23	4	6.82	80	27.08
Oil Contaminated Waste	0	0	6	4.12	0	0	0	0
Oil Products and Containers	0	0	8	6.19	0	0	6	3.13
Oily Rags	1	1.04	33	7.22	0	0	28	6.25
Other	10	3.13	96	20.62	1	2.27	15	5.21
<b>Total</b>	<b>273</b>	<b>34.4</b>	<b>1381</b>	<b>62.9</b>	<b>119</b>	<b>15.9</b>	<b>209</b>	<b>31.3</b>

(a) This value indicates the total percentage of inspections with at least one misdirected waste item for that particular sample location.

**Table 32: Wildlife and Wildlife Sign in the Waste Transfer Area, Landfill, A21 Area, and Underground, 2025**

Species	Waste Transfer Area (n = 96 surveys)			Landfill (n = 97 surveys)			A21 Area (n = 44 surveys)			Underground (n = 96 Surveys)		
	Number of Inspections with Wildlife Observations	Total Number of Observations	Number of Inspections with Wildlife Sign Observed	Number of Inspections with Wildlife Observations	Total Number of Observations	Number of Inspections with Wildlife Sign Observed	Number of Inspections with Wildlife Observations	Total Number of Observations	Number of Inspections with Wildlife Sign Observed	Number of Inspections with Wildlife Observations	Total Number of Observations	Number of Inspections with Wildlife Sign Observed
Bear spp.	0	0	0	0	0	0	0	0	0	0	0	0
Red fox	0	0	0	5	5	5	0	0	0	3	3	3
Common raven	5	5	5	5	5	5	0	0	0	11	11	11
Unidentified	4	4	4	6	6	6	1	1	1	2	2	2
<b>Total</b>	9	9	9	16	16	16	1	1	1	15	15	15

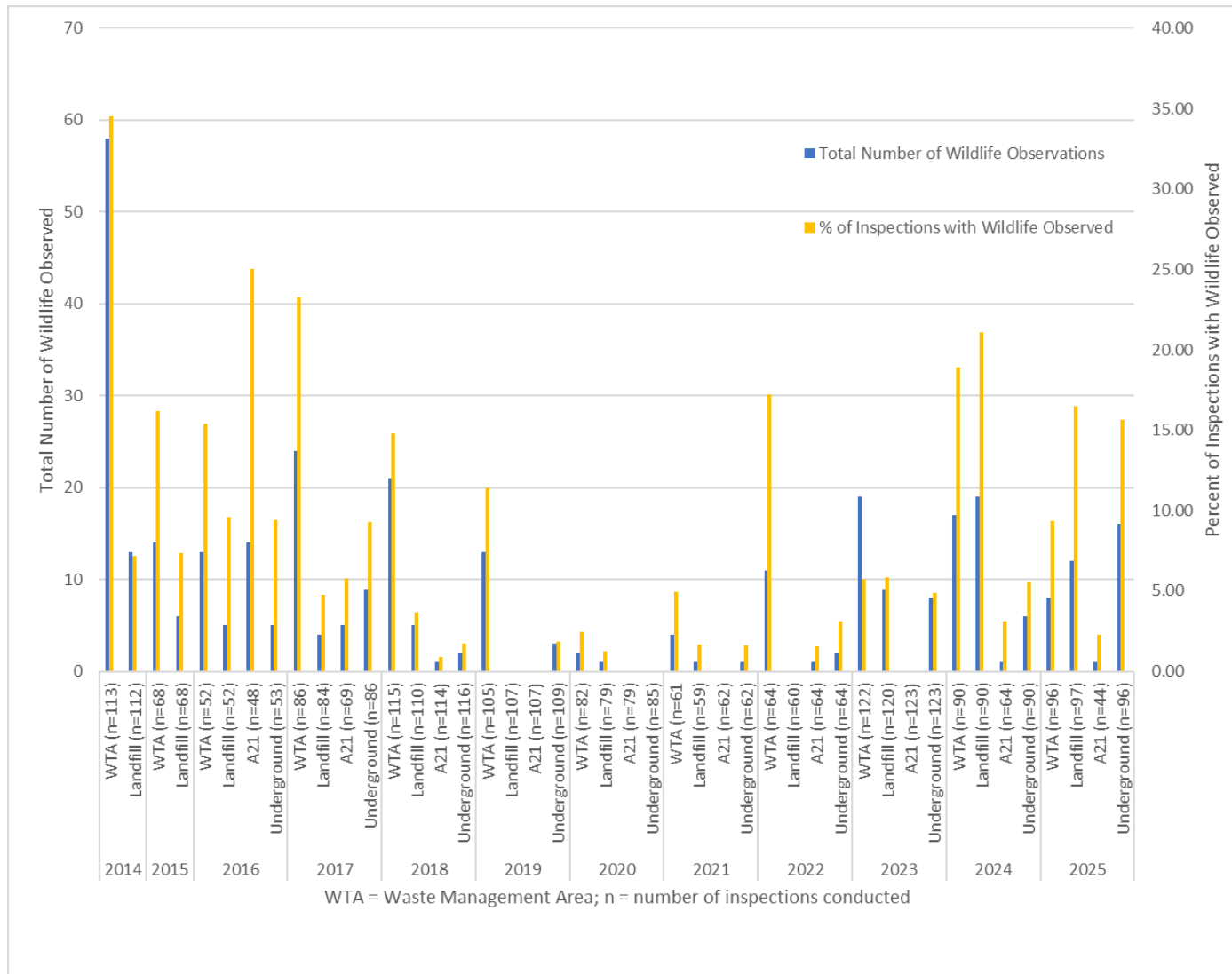


Figure 23: Total Number of Wildlife Observations per Waste Management Area, 2014 to 2025

**Table 33: Wildlife Reported During Waste Inspections, 2014 to 2025**

Year	Location	Number of Surveys in Year	Red Fox	Fox spp.	Grey Wolf	Wolverine	Arctic Hare	Common Raven	Rough-legged	Gull spp.	Unidentified	Total
2014	WTA	113	38	0	0	0	0	14	0	2	4	58
	Landfill	112	4	0	1	1	0	4	3	0	0	13
2015	WTA	68	0	6	0	0	0	5	0	0	3	14
	Landfill	68	0	3	0	0	0	3	0	0	0	6
2016	WTA	52	0	5	0	0	0	1	0	0	7	13
	Landfill	52	0	2	0	0	0	2	0	0	1	5
	A21	48	0	11	0	3	0	0	0	0	0	14
	Underground	53	0	3	0	2	0	0	0	0	0	5
2017	WTA	86	0	16	0	2	0	5	0	1	0	24
	Landfill	84	0	2	0	0	0	2	0	0	0	4
	A21	69	0	1	0	1	0	2	0	0	1	5
	Underground	86	0	7	0	0	0	2	0	0	0	9
2018	WTA	115	19	0	0	1	0	1	0	0	0	21
	Landfill	110	2	0	0	0	0	3	0	0	0	5
	A21	114	0	0	0	1	0	0	0	0	0	1
	Underground	116	0	0	0	0	0	2	0	0	0	2
2019	WTA	105	11	0	0	0	0	1	0	1	0	13
	Landfill	107	0	0	0	0	0	0	0	0	0	0
	A21	107	0	0	0	0	0	0	0	0	0	0
	Underground	109	2	0	0	0	1	0	0	0	0	3
2020	WTA	82	2	0	0	0	0	0	0	0	0	2
	Landfill	79	1	0	0	0	0	0	0	0	0	1
	A21	79	0	0	0	0	0	0	0	0	0	0
	Underground	85	0	0	0	0	0	0	0	0	0	0
2021	WTA	61	3	0	0	0	0	1	0	0	0	4
	Landfill	59	0	0	0	0	0	1	0	0	0	1
	A21	62	0	0	0	0	0	0	0	0	0	0
	Underground	62	0	0	0	0	0	1	0	0	0	1
2022	WTA	64	3	0	0	0	0	17	0	0	0	20
	Landfill	60	0	0	0	0	0	0	0	0	0	0
	A21	64	1	0	0	0	0	0	0	0	0	1
	Underground	64	0	0	0	0	0	3	0	0	0	3
2023	WTA	122	11	0	0	0	0	8	0	0	0	19
	Landfill	120	9	0	0	0	0	0	0	0	0	9
	A21	123	0	0	0	0	0	0	0	0	0	0
	Underground	123	2	0	0	0	1	5	0	0	0	2
2024	WTA	90	7	0	0	0	0	10	0	0	0	17
	Landfill	90	15	0	0	0	0	4	0	0	0	19
	A21	64	1	0	0	0	0	0	0	0	0	1
	Underground	90	1	0	0	0	0	5	0	0	0	6
2025	WTA	96	0	0	0	0	3	5	0	0	0	8
	Landfill	97	5	0	0	0	2	5	0	0	0	17
	A21	44	0	0	0	0	1	0	0	0	0	1
	Underground	96	3	0	0	0	2	11	0	0	0	19
<b>Total</b>			117	56	1	11	9	110	3	4	16	335

Note: waste inspections began in 2016 at the A21 and Underground waste bin areas.  
WTA = waste transfer area.

## Waste Recycling and Reduction Initiatives

In 2025, approximately 119,000 litres of waste oil were collected to be used in the waste oil boiler that was commissioned in the second quarter of 2014. Since the boiler was commissioned, 2,271,494 litres of waste oil has been burned to generate heat at the Mine, rather than being shipped off-site.

In addition, a number of waste materials generated on-site are shipped off-site to a third-party waste receiver for re-use or disposal using winter road backhauls. These materials include:

- used oil, oil filters, and grease
- used glycol
- aerosol cans
- batteries (lead-acid and dry cell)
- expired/waste fuel (e.g., Jet B)
- oil-based paint
- absorbents

Diavik will continue to look for opportunities for recycling and reduction of waste streams generated at the Mine.

## 8.2 Adaptive Management and Recommendations

Procedures and mitigation strategies currently in place have been relatively successful at limiting wildlife interactions in the WTA and Landfill. While foxes, ravens, and occasionally wolverine appear to be present at the WTA, Landfill, A21 Area, and Underground waste bins, these animals are natural scavengers and will continue to visit these areas throughout the Mine's life. In consideration of the low frequency of mine-related mortalities over the life of the Mine, the current waste management system and practices have been successful at mitigating wildlife and environmental impacts. As the Mine's operational phase is over and is now entering the closure phase, the waste management practices and monitoring demonstrated to be effective will be continued. Diavik remains committed to carrying out employee education programs related to waste handling.

## Signature Page

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**APPENDIX A**

**Comments on the 2024 Wildlife  
Management and Monitoring  
Report**

## Comments on the 2024 Wildlife Management and Monitoring Report

**Table 1: Comments on the 2024 Wildlife Management and Monitoring Report**

No.	Topic.	Reviewer Comment	Reviewer Recommendation	Proponent Response
Fisheries and Oceans Canada (DFO)				
1	-	DFO has reviewed the Diavik Diamond Mine 2024 Wildlife Management and Monitoring Report, in accordance with our mandate, and has no comments or recommendations at this time.	-	DDMI thanks DFO for their review.
Yellowknives Dene First Nation (YKDFN)				
1	Incomplete Caribou Behavioural Surveys:	Seventeen of thirty-five caribou behavioural scan surveys were excluded from analysis due to incomplete records. This is nearly 50% of the intended dataset. The reduced sample size undermines the robustness of the behavioural analysis and weakens the report's ability to assess potential mine-related impacts on caribou behaviour.	Clarify the reasons behind incomplete records and implement stricter protocols to ensure all behavioural scans are fully documented and usable in future reports.	Reasons for incomplete records vary, but were often because a caribou was incorrectly recorded as having multiple behaviours at the same time or the number of caribou in the herd exhibiting each behaviour was not recorded properly. This has already been corrected with the field teams. DDMI accepts this recommendation and deems it complete.
2	Discontinuation of Far Field Caribou Scans:	Far-field group scan monitoring was discontinued in 2024 following discussions between Diavik, GNWT-ECC, EMAB, and the Tłı̄chǫ Government. YKDFN was not included in these discussions. The removal of far-field observations reduces the ability to detect broader spatial effects of the mine on caribou and limits transparency around cumulative impacts.	Reinstate far-field behavioural scans in consultation with all impacted Indigenous governments, including YKDFN, and ensure their perspectives are meaningfully incorporated into any future monitoring scope changes. YKDFN notes with concern that it was not included in discussions regarding the discontinuation of these scans.	Discontinuation of far-field caribou group scans has been discussed with EMAB since 2021, with the primary concerns being the safety of personnel during winter conditions and lack of sufficient numbers of caribou groups. As explained in the Tier 3 WMMP (Section 5.4.3.1 in DDMI 2024), far-field monitoring in cold temperatures would either require a helicopter to run more frequently and cause greater disturbance to caribou and/or result in an increased risk to human safety. Because of the current low abundance of caribou, there are insufficient numbers of caribou groups to sample. As a result, it was agreed that DDMI would no longer continue far-field group scans for caribou but will continue near-field scans for comparison across the Mine development phases of Operations and Closure. Additionally, collared caribou behavioural monitoring has been conducted in previous years (WSP Golder 2022; WSP 2023, 2024) and will replace the need for far-field group scans to continue to monitor caribou behaviour. Use of collar data adequately mitigates the safety and disturbance reasons associated with field observations of caribou groups. DDMI disagrees with this recommendation is applicable to the WMMP, it relates to the design of the WMMP.
3	Incomplete Seasonal Coverage:	The 2024 caribou behavioural scans were conducted from March to October, excluding the peak period of winter road activity. This omission limits the ability to assess potential behavioural disruptions related to industrial traffic and public use along the Tibbitt to Contwoyto Winter Road during its busiest months.	Extend the behavioural monitoring period to include the full operational window of the winter road, to assess potential impacts during peak traffic.	Behavioural monitoring of caribou is conducted when caribou are within the near-field range. If no caribou observations are recorded between October and March this is because there were no caribou in the area. DDMI accepts this recommendation and deems it complete.

**Table 1: Comments on the 2024 Wildlife Management and Monitoring Report**

No.	Topic.	Reviewer Comment	Reviewer Recommendation	Proponent Response
4	Monitoring Along the Winter Road Corridor:	YKDFN's guardian program observes significant non-mining traffic along the Tibbitt to Contwoyto winter road in February and March between Mackay Lake and Diavik and sometime farther north, which affects caribou movement. Cumulative impacts from this traffic on caribou movement and behaviour are not well-captured in the current monitoring program.	YKDFN recommends reinstating far field behavioural scans and expanding observation sites along the ice road corridor near the Diavik mine to better capture cumulative impacts on caribou. The YKDFN suggests observations sites at a pre-determined and reasonable distance immediately south of the Diavik mine site.	Please see response to YKDFN-2.
<b>Wek'eezchii Renewable Resources Board</b>				
1	2024 Wildlife Management and Monitoring Report	The WRRB has reviewed the annual report and has no comments at this time.	-	DDMI thanks WRRB for their review.
<b>Environmental Monitoring Advisory Board (EMAB)</b>				
1	Caribou Movement (DDMI-WMP-82)	DDMI has not examined within-individual movement behaviour metrics and they see no need to compare group scan data to geo-fence collar data for interpretations about the behaviour of collared caribou movement. Given that DDMI is now using satellite collar data outside of the geo-fence area (i.e., data recorded every 8h instead of every 1h) to infer movement behaviour.	We recommend that ground truthing of the inferences about caribou behaviour made from the satellite collars using group scan data, where a collared individual is present, would be useful and add confidence to the interpretations made by DDMI. This could be done utilizing data from previous years where group scans and satellite collar data is available.	To DDMI's knowledge , a collared caribou has never been observed during a caribou group scan. Behaviour measured from collared caribou includes the proportion of hard turns and movement speed based on telemetry fixes. Caribou group scans record the number of caribou observed feeding, resting, standing, alert running and trotting. Ground truthing (validation) of proportions of hard turns and movement speed are not possible because the proportion of hard turns and movement speed is not recorded from caribou group scans and not feasible to record. Group scans are reported for up to an hour. Behaviour inferences made for collared caribou occur over multiple fix intervals with the most frequent fix interval being 1-hour. The proportion of hard turns is estimated using a minimum of 3 consecutive locations, which would represent a minimum of 3 hours of time. Thus, behaviours from group scans and collar data are not measured on the same time scale. Ground truthing of collar behaviour would require an observer to follow a collared caribou over multiple hours. Recognizing that caribou are frequently moving, ground truthing would be problematic to achieve, particularly during winter conditions. The inferences being made about collared movement behaviour are consistent with those in the scientific literature (Johnson et al. 2001, 2002; Nicholson et al. 2016; Thompson et al. 2024). As the WMMP indicates, DDMI has committed to continuing near-field caribou group scans, which record feeding, resting, alert, walking, trotting and running activities, as well as evaluating caribou movement metrics using caribou collar data. As such, trying to make inferences about fine-scale caribou activity (feeding, bedded, walking) from movement metrics is unnecessary, because activity budgets from group scans are already provided in the WMMR. DDMI disagrees with this recommendation.

**Table 1: Comments on the 2024 Wildlife Management and Monitoring Report**

No.	Topic.	Reviewer Comment	Reviewer Recommendation	Proponent Response
2	Caribou Behaviour (DDMI-WMP-83)	DDMI indicated it would consider contributing financial support for the purchase of audio/accelerometer loggers for caribou behaviour monitoring. They also recommended that the GNWT undertake an analysis to determine how many loggers would have to be deployed annually to provide adequate sample sizes to detect behavioural changes in caribou.	We support this recommendation.	DDMI thanks EMAB and recognises that the recommendation is partly addressed to GNWT-ECC.
3	Wildlife Mortality Incident Figure (DDMI-WMP-86)	DDMI committed to present a graph of raptor mortalities across years in the 2024 WMMR. However, mortalities of other, non-VEC species, are still listed on a case by case basis in an Appendix to the WMMR. This makes it difficult to clearly identify if any non-VEC species are experiencing high mortality. For example, a high-level review of Appendix D showed there were 15 ptarmigan mortalities in 2024. Summarizing mortalities in text or visually on a species by species basis would allow for easier identification of potential issues. Is this level of mortality higher than normal? Is additional mitigation required? None of this is addressed in the WMMR. Understanding these dynamics would be helped by starting Appendix D with a summary figure showing the number of mortalities for each species observed in a given year.	We recommend developing a summary graphic showing the number of mortalities on a species by species basis in each WMMR or writing a summary paragraph to introduce Appendix D in future years to identify species experiencing relatively high mortality in a given year and potentially comparing that to mortality levels in previous years to guide mitigation efforts.	Per the WMMP, Diavik has focused on the monitoring of VEC species identified within the WMMP. Non-VEC species mortality monitoring is not a requirement of the WMMP. DDMI voluntarily provides mortality reports for non-VEC species in Attachment D. DDMI disagrees that this recommendation is applicable to the WMMR.
4	Wolverine Presence and Distribution (DDMI-WMP-87)	DDMI utilizes a combination of snow track surveys and incidental observations to monitor wolverine occurrence in the study area. As in past years, severe weather limited the number of surveys, particularly repeat surveys along transects, that could be completed. This limits the inferences that can be made from the Occupancy models which require multiple visits. Only 6 of 33 transects were surveyed twice in 2024. The WMMR states that snow track surveys were conducted from March 27 to April 6 2024. What determines the sampling period and can this be expanded to increase the opportunity to avoid inclement weather? What can DDMI do to increase the repeatability of snow track surveys?	We recommend extending the length of the survey period, in 2024 it was 11 days, in order to increase the opportunity to complete repeated surveys.	As identified the short duration was the results of severe weather. Often, there are weather days during the surveys (e.g., high winds, cold temperatures etc.) that prevents personnel from completing surveys. In 2024, warming weather had decreased the snow pack and DDMI was unable to safely conduct the remainder of the second round of surveys. DDMI notes that it was able to complete both rounds of wolverine snow track surveys in 2025. DDMI deems this recommendation as complete.
5	Waste Management (DDMI-WMP-88)	The percent of inspections with misdirected items reported in the text on page 49 do not align with what is reported in Table 17.	We recommend DDMI confirm which numbers are correct (i.e., text or table) and revise WMMR accordingly.	DDMI thanks EMAB for their detailed review. The text contained some errors the correct percentages are 36.7%, 58.9%, 14.1%, 48.9%, for the WTA, Landfill, A21, and Underground, respectively. This does not change the overall interpretation of the data and DDMI does not agree that the text needs to be updated.

**APPENDIX B**

**Comments on the 2024 Wildlife  
Management and Monitoring Plan**



## DIAVIK DIAMOND MINES (2012) INC.

### TECHNICAL MEMORANDUM

**DATE** April 29, 2026

**Reference No.** CA0022391.6786-2561-TM-Rev0-7000

**DIAVIK WORK PLAN No. 778 Rev. 0**

**DIAVIK PO No. 3106033602**

**TO** Kyla Gray  
Diavik Diamond Mines (2012) Inc.

**CC** Nicole Goodman (DDMI), Mark Nelson (DDMI) Rainie Sharpe (WSP)

**FROM** Dan Coulton and Grace Enns

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#### RESPONSES TO COMMENTS ON WMMP V1.4

On 20 March 2025, the Tłı̨ch̓ Government (TG), Environmental Monitoring Advisory Board (EMAB), Government of Northwest Territories, Department of Environment and Climate Change (GNWT-ECC), and Environment and Climate Change Canada (ECCC) provided comments and recommendations from their review of the Wildlife Management and Monitoring Plan V1.4 to Diavik Diamond Mines (2012) Inc. (DDMI). The comments provided by EMAB included the review by Roam Ecology, EMAB's technical consultant. WSP Canada Inc. (WSP) has prepared responses to the EMAB comments #1, #3, and #4 in Table 1, as requested by DDMI.

**Table 1: Responses to Comments on WMMP V1.4**

Comment ID	Comment	Recommendation	DDMI Response
DDMI-WMMP1.4-EMAB-01	<p>In section 5.4.3.1, the revised WMMP states only that statistical analyses will be completed on the near-field group scans when enough data are available to analyze caribou behaviour across mine phases of operations, closure and post-closure. Can the data be used to verify behaviour metrics measured using satellite collared caribou. For example, an analysis looking at the correlation in group scan behaviour metrics and behaviours as inferred from satellite collars. This would validate the satellite collar data and aid the interpretation of behaviour metrics based on satellite collar data at all distances from the mine (i.e., 3-30 km) where direct observations are not occurring.</p>	<p>We recommend using the group scan behaviour data to validate the movement metrics estimated from the satellite collared caribou that DDMI will use for caribou movement behaviour analyses in the future.</p>	<p>DDMI uses the behaviour metrics of movement speed and proportion of hard turns from collared caribou data to meet the monitoring objective of Handley (2010): To determine if caribou behaviour changes with distance from the mines. Validation is about the accuracy of results. Movement speed and the proportion of hard turns cannot be validated from caribou group scan observations because caribou group scans do not record the behaviours of movement speed or the proportion of hard turns. DDMI completed an exploratory analysis of collared caribou using geofenced collar data (WSP 2022), DDMI compared collar movement metrics of speed and hard turns with group scan behaviour results of feeding, resting, alert, walking, trotting and running activities to examine whether collar movement metrics were correlated with behaviours measured by group scans, which was supported by a small amount of data available. At the time, DDMI proposed to discontinue the group scan methods and replace it with collared caribou behaviour monitoring to meet the monitoring objective. EMAB expressed concern that discontinuing the group scans would also mean that these behaviour activities would not be monitored even though the monitoring objective does not explicitly include the monitoring of these behaviour activities. As the WMMP indicates, near-field caribou group scans which record feeding, resting, alert, walking, trotting and running activities will be continued, so there is no need for this comparison. Caribou collar movement speed and the proportion of hard turns will also be continued to meet the monitoring objective.</p>
DDMI-WMMP1.4-EMAB-02	<p>Given the difficulties DDMI had collecting far-field samples, in January 2024, EMAB recommended DDMI and GNWT explore the use of new technologies (i.e., audiloggers and accelerometers) for use on caribou collars that might address fine-scale behaviour questions. However, no mention of this recommendation was made in the Revised WMMP. Elsewhere in the WMMP DDMI notes their contributions to environmental knowledge in the region and that they will maintain that commitment throughout the life of the mine to contribute to and support GNWT-led programs (DDMI, 2024, Section 5.4.4., pg. 5-11). By funding new and emerging technologies to study caribou behaviour and fill long-term knowledge gaps, DDMI could maintain their commitment to regional environmental knowledge during closure. This would address not only current information gaps, but also future mine planning and mitigation efforts in the NWT.</p>	<p>We recommend DDMI and the GNWT explore the use of audiloggers and accelerometers to study fine-scale caribou behaviour around industrial developments in the NWT.</p>	<p>DDMI understands the potential use of audiloggers would be a GNWT-ECC led program.</p>

**Table 1: Responses to Comments on WMMP V1.4**

Comment ID	Comment	Recommendation	DDMI Response
DDMI-WMMP1.4-EMAB-03	<p>We do not agree that the size of the ZOI from year to year is irrelevant, we just think that around the mine ZOI monitoring was never implemented and utilized to effectively verify impact predictions, guide adaptive management or help establish thresholds. Part of DDMI's justification for removing ZOI monitoring is that impact predictions had been verified multiple times and evidence suggested it varies in size and is not always present or detectable. This type of reasoning overlooks the fact there was never agreement on whether or not a ZOI even existed around the mine and downplays the fact that ZOIs were present in some years and minimal effort was put into correlating that with mine activity data in as near to real-time as possible. Long standing disagreements over methods and interpretation were allowed to go unresolved, stalling any potential adaptive management. There was never significant effort put into seeing if the ZOI that did exist could be more regularly pushed farther from the mine with adaptive management. Instead, time was primarily spent discussing whether or not there even was a ZOI.</p>	<p>We recommend future WMMPs include mechanisms for the timely resolution of monitoring issues as they arise, and well-defined triggers for adaptive management.</p>	<p>The WMMP includes many monitoring triggers for adaptive management. One example includes the threshold defined for cumulative direct habitat loss (total of 12.67 km<sup>2</sup>), which is the amount of direct habitat loss predicted in the EER (DDMI 1998) and approved through the Environmental Assessment process (see WMMP Section 5.1). Mine footprint updates and associated habitat loss due to development of Diavik mine are reported annually to identify if direct habitat loss has exceeded the defined threshold; and, if exceeded or trending toward an exceedance, adaptive management actions would be considered to avoid and/or minimize the potential exceedance. The WMMP also defines a threshold (or trigger) for direct loss of caribou summer habitat (2.965 habitat units; WMMP Section 5.4.2), as well as for grizzly bear habitat.</p> <p>Tables 4.4-1 and 4.4-2 in the WMMP define trigger levels and tiered mitigations to minimize sensory disturbance and avoid injury or mortality risk to caribou (Section 4.1.1). For example, drivers are to stop their vehicle if caribou are observed less than 100 m from a site road, and remain stopped if caribou are approaching (Table 4.1-2). If caribou are travelling away from the road, the driver can proceed at a reduced speed of 20km/hr. As caribou are observed at further distances from site roads (i.e., 100-200 m, 200-500 m, &gt;500 m), speed guidelines increase accordingly (i.e., 20 km/hr, 40 km/hr or posted speed limit if less than 40 km/hr).</p> <p>Diavik Mine's 1 km blast exclusion zone is a trigger for surface blasting to minimize sensory disturbance to caribou or injury, or mortality associated with fly rock (WMMP Section 4.1.2).</p> <p>As described in Section 4.1.5 in the WMMP, visual observation of fugitive dust is also identified as an action trigger for application of dust suppressants. In conclusion, the WMMP contains numerous defined triggers for adaptive management.</p> <p>See DDMI response to EMAB-04 regarding ZOI monitoring.</p>

**Table 1: Responses to Comments on WMMP V1.4**

Comment ID	Comment	Recommendation	DDMI Response
DDMI-WMMP1.4-EMAB-04	In September 2021 responses to the MSES review of the 2020 WMMR (Golder, 2021) DDMI maintained their position that no ZOI existed around the mine based on their own analysis. DDMI did not agree with the ZOI analyses completed in Boulanger et al. (2021). However, now they appear to accept the findings of Boulanger et al. (2021) and use the variable ZOI it documented as justification for removing ZOI monitoring. We raise this example now, not for its changing opinion, instead as a demonstration of why the conversation around ZOIs has proven intractable. In our opinion there was no serious effort put into improving the monitoring methods during the life of the mine in a manner that could resolve long standing concerns or guide adaptive management.	If the Boulanger et al. (2021) method was considered invalid before, why are conclusions based on it considered valid now in DDMI's opinion?	DDMI disagrees that there has been no serious effort placed into improving monitoring methods. DDMI (and Ekati mine) has invested considerable resources in monitoring and assessing caribou ZOIs since monitoring began in 1998. In 2015, Diavik (and other mines) provided funding to the GNWT to purchase and deploy geofence collars on caribou to improve collar data resolution. DDMI has applied different statistical methods consistent with the scientific literature including linear, piecewise, logistic regressions with aerial survey and collared caribou data to detect ZOIs over the last 13 years (Golder 2011, 2014, 2017, 2019) and has detected significant distance effects, which were larger than predicted in the EER (DDMI 1998). However, when Mine-related activity indices like Full-Time-Equivalents (FTE) are tested in ZOI analyses (Golder 2011, 2017; 2019, WSP 2023) there has never been a statistically significant relationship. DDMI has demonstrated that FTEs are correlated with various Mine activities like flights and blasting (Golder 2017). Similar to DDMI findings, ZOI analysis by Boulanger et al. (2012, 2021) have detected effects for distance but no mine-related mechanism correlated with estimated ZOIs has been identified. Flydal et al. (2019) demonstrated that the assumptions about distance effects representing caribou responses are flawed and conclusions about them need to be viewed cautiously. DDMI's message for any study has been that until a mine-related mechanism is identified, it is impossible to adaptively manage ZOIs. None of the ZOI monitoring over the last 20 plus years (all studies considered) has influenced how mines operate, so DDMI does not believe there is value in continuing it.
DDMI-WMMP1.4-EMAB-05	Given the late stage of operations the mine is in, and the lack of progress on ZOI monitoring over the last decade, we do agree with DDMI that if ZOI monitoring is to be effective it needs regional standardization and oversight. We note this has been attempted previously through the ZOI Technical Task Group, however it has not met since 2017. Input from the ZOI Technical Task Group did lead to the development of a DRAFT ZOI Guidance document, which was meant to provide guidance on when ZOI monitoring is operationally and technically appropriate, and to recommend approaches for estimating ZOIs (GNWT 2021). To our knowledge guidance from this document has never been implemented or updated.	We recommend the GNWT reinvigorates the multi-stakeholder ZOI Technical Task Group, with the goal of developing a more effective regional approach to ZOI monitoring for use in the planning, construction and operations of future projects. This group should revisit the DRAFT ZOI Guidance Document, which can serve as a review of what has been tried previously, and as a foundation on which to build a more effective approach to ZOI monitoring.	DDMI notes this comment is directed to the GNWT-ECC.
DDMI-WMMP1.4-EMAB-06	Roam Ecology Review of DDMI's Revised WMMP for EMAB	N/A	N/A
DDMI-WMMP1.4-ECCC-01	ECCC has reviewed this file in accordance with our mandate and has no comments at this time.	N/A	DDMI thanks ECCC for its review.
DDMI-WMMP1.4-DFO-01	DFO has reviewed the Tier 3 Wildlife Management and Monitoring Plan Amendment in accordance with our mandate and has no comments at this time.	N/A	DDMI thanks DFO for its review.

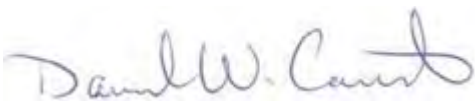
**Table 1: Responses to Comments on WMMP V1.4**

Comment ID	Comment	Recommendation	DDMI Response
DDMI-WMMP1.4-TG-01	Diavik's decision to drop the ZOI reflects greater issues of process and oversight. As noted by EMAB (Comment #5), TG also encourages GNWT to revive the multi-stakeholder ZOI Technical Task Group (or something similar that includes technical consultants from industry, government, watchdog organizations, and Indigenous groups), as a step towards improving ZOI monitoring that is effective and explicitly linked to adaptive management and mitigation.	see comment.	DDMI notes this comment is directed to the GNWT-ECC.

## Closure

We trust that this technical memorandum meets your current requirements. Please contact the undersigned if you have any questions or concerns.

### WSP Canada Inc.



Dan Coulton, Ph.D., R.P.Bio.  
Principal, Senior Wildlife Biologist



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DWC/GE/anr

[https://wsponlinecan.sharepoint.com/sites/ca-ca0047332/4000wmmr/technical/04\\_reporting/03\\_final/appb - comments on 2024 wildlife management and monitoring plan/appb - comments on 2024 wmmp.docx](https://wsponlinecan.sharepoint.com/sites/ca-ca0047332/4000wmmr/technical/04_reporting/03_final/appb-03_comments_on_2024_wildlife_management_and_monitoring_plan/appb_comments_on_2024_wmmp.docx)

### Disclaimer

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**APPENDIX C**

**Candidate Model Set for  
Caribou Movement**

## Candidate Model Set: Evaluating Speed and Hard Turns

**Table 1: Final candidate model set and hypotheses used to evaluate speed and proportion of hard turns.**

Model Grouping	Model Name	Model <sup>(a)</sup>	Hypothesis
Null	Null Model	Response variable ~ 1	Covariates improve model fit.
Habitat	Model 1	Response variable ~ Landcover	<p>This model tests the relationship of different landcover classes on the speed or proportion of hard turns exhibited by barren-ground caribou.</p> <p>Barren-ground caribou use an assemblage of habitat types for various functions (Baltensperger and July 2019; Fullman et al. 2017; Prichard et al. 2020). It is a recurring theme in caribou ecology that lichen species and other bryoids are caribou's preferred forage (Baltensperger and July 2019; Schaefer et al. 2016). For instance, caribou are known to feed on low shrubs and herbs despite lower preference, when preferred forage is limited (Baltensperger and July 2019; Fullman et al. 2017; Prichard et al. 2020; Schaefer et al. 2016). Caribou are expected to reduce speed and exhibit higher proportions of hard turns when foraging in areas with bryoids (lichens), low shrubs, and herbs to meet their survival requirements.</p> <p>It is expected that caribou reduce speed and increase hard turns to forage on lichens in areas with conifer, or to access thermal cover, especially during fall and winter when migratory caribou move to treeline (Heard et al. 1992). Other factors could affect caribou movement on the landscape. For instance, it has been long documented that caribou movement may be influenced and slowed by excessive snow cover, hardness, and depth (Duquette et al. 1988). In contrast, it is expected caribou may increase their speed and reduce hard turns when traversing exposed land and rocky areas, particularly in response to their higher visibility and risk of predation.</p> <p>Wetland and mixed deciduous forests are not known to be preferred habitats of migratory caribou and thus caribou are expected to move through these habitats more quickly and reduce hard turns, if the habitat is not avoided altogether. Additionally, during seasons of open water, water/snow/ice is expected to hinder or alter caribou travel, while it may help facilitate travel during seasons where water has frozen over (Leblond et al. 2016). Therefore, caribou are expected to increase speeds and decrease their proportion of hard turns when making straight-line movements on frozen water/snow/ice to reduce predation risk and because little forage is available.</p> <p>Alternatively, when the lakes are not frozen, caribou are expected to reduce speeds and exhibit higher proportion of hard turns, especially near large water bodies, because their straight-line movements may be altered as they are forced to walk along the lake boundaries or adjust their routes.</p>

**Table 1: Final candidate model set and hypotheses used to evaluate speed and proportion of hard turns.**

Model Grouping	Model Name	Model <sup>(a)</sup>	Hypothesis
Habitat & Mine	Model 2	Response variable ~ Landcover * Distance from Mine	This model tests the effect of buffered distance from the Diavik and Ekati mine complex on the occurrence of speed or hard turns in relation to the landcover classes that a caribou uses along its path. If proximity to the mine complex has an effect on caribou movements, it is expected that caribou will reduce their speed and will make more hard turns closer to the mine complex due to delays caused by mining activity, as hypothesized by Poole et al. (2021). Alternatively, if the mine complex does not influence caribou movement, then there will not be a trend in speed or proportion of hard turns across distances from the mine complex. Further, it would be expected that caribou speed and proportion of hard turns would vary across landcover classes and distances from the mine complex.
Individual Attributes & Temporal Patterns	Model 3	Response variable ~ Herd + Sex + Biological Year + Speed	Caribou may vary in speeds and proportion of turning angles by sex, herd, and year due to differences in seasonal and/or daily movements. Movements of male and female caribou can vary seasonally, and thus, it is expected that the speeds and proportion of hard turns may vary by sex. For example, females are expected to make longer migrations to calving grounds during spring migration (Bergman et al. 2000), which may result in females exhibiting faster and straighter paths than males during spring migration. Additionally, speed and proportion of hard turns may vary by biological year due to random annual stochasticity and/or factors that vary temporally like snow depth, spring green-up, or other natural factors.  Lastly, speed was incorporated as an explanatory variable in the candidate model set evaluating hard turns. It is expected that slower speeds result in higher proportions of hard turns, and faster speeds result in less hard turns.
Habitat & Mine & Individual Attributes	Model 4	Response variable ~ Landcover * Distance from Mine + Herd + Sex + Speed	Combined Models 2 and 3, except biological year was removed due to failure to converge.
Habitat	Model 5	Response variable ~ Proportion of Landcover Classes	Following the 2022 comprehensive report, DDMI committed to investigating whether continuous landcover covariates (versus categorical landcover covariates) are appropriate for evaluating changes in caribou movement behaviour (WSP 2023). Therefore, models 1, 2, and 4 were replicated, replacing landcover as a categorical covariate with proportions of each landcover class.  Given that these models contain more precise landcover class data than the categorical landcover classes, they were expected to better reflect variation in landcover on the landscape and therefore perform better explain more variation in the models. Additionally, each landcover class is included in the model as a separate landcover class, so individual landcover class effects can be explored separately. It is expected that speeds will be lower and proportions of hard turns will be higher in high-quality caribou habitat (i.e., bryoid, conifer, and wetland), and speeds will be higher and proportion of hard turns will be lower in low-quality habitat (i.e., exposed rock/rubble).

**Table 1: Final candidate model set and hypotheses used to evaluate speed and proportion of hard turns.**

Model Grouping	Model Name	Model <sup>(a)</sup>	Hypothesis
Habitat & Mine	Model 6	Response variable ~ Proportion of Landcover Classes * Distance from Mine	See Model 5 Hypothesis.
Habitat & Mine & Individual Attributes	Model 7	Response variable ~ Proportion of Landcover Classes * Distance from Mine + Herd + Sex + Speed	See Model 5 Hypothesis.

(a) Response variable refers to either speed (km/hr) or hard turn (Y/N).

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**APPENDIX D**

**Movement Analysis  
Modelling Results**

## Model Results: Evaluating Speed

### Spring Migration

**Table 1: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for spring migration**

Covariate	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	-0.4	0.0	-0.4	-0.3
prop_conifer	-0.1	0.0	-0.1	0.0
prop_rock_rubble_exposed	-0.1	0.0	-0.1	-0.1
prop_shrub_low_herb	0.0	0.0	0.0	0.0
prop_broadleaf_mixedwood	0.1	0.0	0.1	0.2
prop_wetland	0.0	0.0	-0.1	0
ns(dist.from.mine, df = 3)1	0.3	0.0	0.3	0.4
ns(dist.from.mine, df = 3)2	0.5	0.0	0.4	0.6
ns(dist.from.mine, df = 3)3	0.1	0.0	0.1	0.1
Herd(Beverly)	-0.2	0.0	-0.3	-0.2
Sex(Male)	-0.1	0.0	-0.2	0.0
prop_bryoids:ns(dist.from.mine, df = 3)1	0.1	0.0	0.1	0.2
prop_bryoids:ns(dist.from.mine, df = 3)2	0.4	0.0	0.3	0.4
prop_bryoids:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1
prop_conifer:ns(dist.from.mine, df = 3)1	0.1	0.0	0.0	0.1
prop_conifer:ns(dist.from.mine, df = 3)2	0.1	0.1	0.0	0.2
prop_conifer:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	-0.1	0.0	-0.2	0.0
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.2	-0.1
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	-0.1	0.0	-0.2	0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	-0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	-0.4	0.1	-0.5	-0.3
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	0.0
prop_wetland:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.1	0.0
prop_wetland:ns(dist.from.mine, df = 3)2	0.2	0.0	0.1	0.3
prop_wetland:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.0

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class

The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.

'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).

Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).

Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

**Summer**

**Table 2: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for summer**

Covariate	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	-0.1	0.0	-0.1	0.0
prop_conifer	0.0	0.0	0.0	0.0
prop_rock_rubble_exposed	0.1	0.0	0.0	0.1
prop_shrub_low_herb	0.0	0.0	0.0	0.1
prop_broadleaf_mixedwood	0.1	0.0	0.1	0.1
prop_wetland	0.0	0.0	-0.1	0.0
ns(dist.from.mine, df = 3)1	0.7	0.0	0.7	0.7
ns(dist.from.mine, df = 3)2	0.8	0.0	0.7	0.8
ns(dist.from.mine, df = 3)3	0.4	0.0	0.4	0.4
herdBeverly	-0.2	0.0	-0.2	-0.1
sexMale	0.0	0.0	-0.1	0.1
prop_bryoids:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_bryoids:ns(dist.from.mine, df = 3)2	-0.2	0.0	-0.2	-0.1
prop_bryoids:ns(dist.from.mine, df = 3)3	0.1	0.0	0.1	0.1
prop_conifer:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.2	-0.1
prop_conifer:ns(dist.from.mine, df = 3)2	0.1	0.0	0.1	0.2
prop_conifer:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	-0.2	0.0	-0.2	-0.2
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.0	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.1	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	-0.2	0.0	-0.3	-0.2
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.1	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	-0.3	0.0	-0.4	-0.3
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	-0.1
prop_wetland:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_wetland:ns(dist.from.mine, df = 3)2	0.0	0.0	0.0	0.1
prop_wetland:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	0.0

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class  
 The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.  
 'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).  
 Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).  
 Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

**Fall**

**Table 3: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for fall**

Covariate	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	-0.2	0.0	-0.2	-0.2
prop_conifer	-0.2	0.0	-0.2	-0.2
prop_rock_rubble_exposed	-0.1	0.0	-0.1	-0.1
prop_shrub_low_herb	-0.1	0.0	-0.1	-0.1
prop_broadleaf_mixedwood	-0.1	0.0	-0.1	-0.1
prop_wetland	-0.1	0.0	-0.1	-0.1
ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
ns(dist.from.mine, df = 3)2	0.2	0.0	0.2	0.3
ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	-0.1
herdBeverly	0.1	0.0	0.1	0.1
sexMale	-0.1	0.0	-0.1	0.0
prop_bryoids:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.1	0.0
prop_bryoids:ns(dist.from.mine, df = 3)2	0.1	0.0	0.0	0.1
prop_bryoids:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1
prop_conifer:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0
prop_conifer:ns(dist.from.mine, df = 3)2	0.3	0.0	0.3	0.4
prop_conifer:ns(dist.from.mine, df = 3)3	0.1	0.0	0.1	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.1	-0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.2	0.0	0.1	0.2
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	-0.2	0.0	-0.2	-0.1
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	0.1	0.0	0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.2	0.0	0.1	0.2
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	0.0	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1
prop_wetland:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_wetland:ns(dist.from.mine, df = 3)2	0.2	0.0	0.2	0.3

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class  
 The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.  
 'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).  
 Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).  
 Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

**Winter**

**Table 4: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for winter**

Covariate	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	-0.4	0.0	-0.4	-0.4
prop_conifer	-0.1	0.0	-0.2	-0.1
prop_rock_rubble_exposed	-0.1	0.0	-0.1	-0.1
prop_shrub_low_herb	0.0	0.0	0.0	0.0
prop_broadleaf_mixedwood	0.0	0.0	0.0	0.0
prop_wetland	0.0	0.0	-0.1	0.0
ns(dist.from.mine, df = 3)1	0.3	0.0	0.3	0.3
ns(dist.from.mine, df = 3)2	0.2	0.0	0.1	0.2
ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.2	-0.1
herdBeverly	0.1	0.0	0.0	0.1
sexMale	-0.3	0.0	-0.4	-0.2
prop_bryoids:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_bryoids:ns(dist.from.mine, df = 3)2	0.4	0.0	0.4	0.5
prop_bryoids:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.0
prop_conifer:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_conifer:ns(dist.from.mine, df = 3)2	0.2	0.0	0.1	0.2
prop_conifer:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.2	-0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.1	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	-0.2	0.0	-0.3	-0.2
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	-0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	-0.1	0.0	-0.2	-0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_wetland:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_wetland:ns(dist.from.mine, df = 3)2	0.0	0.0	0.0	0.1

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class  
 The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.  
 'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).  
 Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).  
 Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

## Model Results: Evaluating Proportion of Hard Turns

### Spring Migration

**Table 5: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for spring migration**

Covariate <sup>(a)</sup>	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	0.0	0.0	-0.1	0.1
prop_conifer	0.0	0.1	-0.1	0.1
prop_rock_rubble_exposed	0.0	0.0	-0.1	0.0
prop_shrub_low_herb	-0.1	0.0	-0.1	0.0
prop_broadleaf_mixedwood	0.0	0.1	-0.1	0.1
prop_wetland	0.0	0.0	-0.1	0.0
ns(dist.from.mine, df = 3)1	-0.5	0.0	-0.6	-0.4
ns(dist.from.mine, df = 3)2	-0.7	0.1	-0.9	-0.5
ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	0.0
herd1	0.0	0.0	-0.1	0.1
sex1	-0.2	0.0	-0.3	-0.1
ns(speed.ms, df = 3)1	-7.3	0.1	-7.6	-7
ns(speed.ms, df = 3)2	-3.5	0.5	-4.4	-2.5
ns(speed.ms, df = 3)3	3.1	1	1.2	5
prop_bryoids:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.1
prop_bryoids:ns(dist.from.mine, df = 3)2	-0.1	0.1	-0.2	0.1
prop_bryoids:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.2	0
prop_conifer:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.2	0
prop_conifer:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.3	0.2
prop_conifer:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.1	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.1
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	0.1	0.0	0.1	0.2
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	0.1	0.1	0.0	0.3
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.0
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.2	0.2
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.2	0.0
prop_wetland:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.2	0.0
prop_wetland:ns(dist.from.mine, df = 3)2	0.1	0.1	-0.1	0.2
prop_wetland:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class  
 The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.  
 'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).  
 'speed.ms' refers to the explanatory variable 'speed' that was fit as a spline with 3 degrees of freedom (df = 3).  
 Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).  
 Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

## Summer

**Table 6: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for summer**

Covariate <sup>(a)</sup>	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	-0.1	0.0	-0.1	0.0
prop_conifer	-0.1	0.0	-0.2	0.0
prop_rock_rubble_exposed	-0.2	0.0	-0.3	-0.2
prop_shrub_low_herb	-0.1	0.0	-0.1	0.0
prop_broadleaf_mixedwood	-0.1	0.0	-0.2	-0.1
prop_wetland	-0.1	0.0	-0.1	0.0
ns(dist.from.mine, df = 3)1	-0.2	0.0	-0.2	-0.1
ns(dist.from.mine, df = 3)2	0.1	0.1	0.0	0.2
ns(dist.from.mine, df = 3)3	0.2	0.0	0.2	0.2
herd1	0.1	0.0	0.1	0.2
sex1	0.0	0.0	0.0	0.0
ns(speed.ms, df = 3)1	-4.9	0.1	-5.1	-4.6
ns(speed.ms, df = 3)2	1.3	0.5	0.3	2.2
ns(speed.ms, df = 3)3	9.3	1.0	7.3	11.4
prop_bryoids:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_bryoids:ns(dist.from.mine, df = 3)2	-0.1	0.1	-0.2	0.1
prop_bryoids:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.0
prop_conifer:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_conifer:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.2	0.1
prop_conifer:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.4	0.1	0.2	0.5
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.1
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.2	0.1
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.1	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	0.1	0.1	-0.1	0.2
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.2
prop_wetland:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_wetland:ns(dist.from.mine, df = 3)2	0.1	0.1	0.0	0.2
prop_wetland:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.0

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class

The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.

'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).

'speed.ms' refers to the explanatory variable 'speed' that was fit as a spline with 3 degrees of freedom (df = 3).

Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).

Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

**Fall****Table 7: Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for fall**

Covariate <sup>(a)</sup>	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	0.0	0.0	-0.1	0.0
prop_conifer	-0.1	0.0	-0.1	0.0
prop_rock_rubble_exposed	-0.1	0.0	-0.1	0.0
prop_shrub_low_herb	-0.1	0.0	-0.1	-0.1
prop_broadleaf_mixedwood	0.0	0.0	0.0	0.1
prop_wetland	0.0	0.0	0.0	0.0
ns(dist.from.mine, df = 3)1	-0.4	0.0	-0.4	-0.3
ns(dist.from.mine, df = 3)2	-0.3	0.1	-0.4	-0.2
ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1
herd1	0.1	0.0	0.1	0.2
sex1	0.0	0.0	0.0	0.1
ns(speed.ms, df = 3)1	-9.4	0.2	-9.7	-9
ns(speed.ms, df = 3)2	-2.4	1.2	-4.7	-0.1
ns(speed.ms, df = 3)3	7.3	2.4	2.6	12
prop_bryoids:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.1	0.0
prop_bryoids:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.2	0.1
prop_bryoids:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1
prop_conifer:ns(dist.from.mine, df = 3)1	0.2	0.0	0.1	0.2
prop_conifer:ns(dist.from.mine, df = 3)2	0	0.1	-0.1	0.2
prop_conifer:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	0.1	0.0	0.1	0.2
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.1	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	-0.1	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	-0.1	0.0	-0.1	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	0.1	0.0	0.0	0.2
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.2	0.0	0.1	0.2
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	-0.1	0.1	-0.2	0.0
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.2	0.0
prop_wetland:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_wetland:ns(dist.from.mine, df = 3)2	0.0	0.0	-0.1	0.1
prop_wetland:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	0.0

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class

The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.

'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).

'speed.ms' refers to the explanatory variable 'speed' that was fit as a spline with 3 degrees of freedom (df = 3).

Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).

Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

**Winter**

**Table 8. Beta estimates, standard error and 95% confidence intervals of explanatory variables in the top model for winter**

Covariate <sup>(a)</sup>	Beta Estimate	SE	Lower 95% CI	Upper 95% CI
prop_bryoids	0.0	0.0	0.0	0.0
prop_conifer	0.0	0.0	-0.1	0.0
prop_rock_rubble_exposed	0.0	0.0	0.0	0.0
prop_shrub_low_herb	-0.1	0.0	-0.1	0.0
prop_broadleaf_mixedwood	0.0	0.0	-0.1	0.0
prop_wetland	0.0	0.0	0.0	0.1
ns(dist.from.mine, df = 3)1	-0.3	0.0	-0.4	-0.3
ns(dist.from.mine, df = 3)2	-0.2	0.1	-0.3	-0.1
ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
herd1	0.0	0.0	0.0	0.0
sex1	-0.1	0.0	-0.1	0.0
ns(speed.ms, df = 3)1	-5	0.1	-5.2	-4.9
ns(speed.ms, df = 3)2	-3	0.2	-3.4	-2.5
ns(speed.ms, df = 3)3	1.5	0.5	0.6	2.4
prop_bryoids:ns(dist.from.mine, df = 3)1	0.0	0.0	-0.1	0.0
prop_bryoids:ns(dist.from.mine, df = 3)2	-0.1	0.1	-0.2	0.0
prop_bryoids:ns(dist.from.mine, df = 3)3	-0.1	0.0	-0.1	0.0
prop_conifer:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_conifer:ns(dist.from.mine, df = 3)2	0.0	0.1	-0.1	0.2
prop_conifer:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)2	0.0	0.0	-0.1	0.0
prop_rock_rubble_exposed:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.0
prop_shrub_low_herb:ns(dist.from.mine, df = 3)2	0.1	0.0	0.0	0.2
prop_shrub_low_herb:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.0
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)2	-0.1	0.1	-0.2	0.0
prop_broadleaf_mixedwood:ns(dist.from.mine, df = 3)3	0.0	0.0	0.0	0.1
prop_wetland:ns(dist.from.mine, df = 3)1	0.0	0.0	0.0	0.1
prop_wetland:ns(dist.from.mine, df = 3)2	-0.1	0.1	-0.2	0.0
prop_wetland:ns(dist.from.mine, df = 3)3	0.1	0.0	0.0	0.1

Notes: 'prop\_' covariates refer to the proportion of landcover classified as the indicated 'Landcover' class  
 The landcover class Water/Snow/Ice was set as the reference for landcover classes included in the model.  
 'Dist.from.mine' refers to the explanatory variable 'Buffered Distance from Mine Complex' that was fit as a spline with 3 degrees of freedom (df = 3).  
 'speed.ms' refers to the explanatory variable 'speed' that was fit as a spline with 3 degrees of freedom (df = 3).  
 Covariates with ':' (e.g., prop\_bryoids:ns(dist.from.mine, df = 3)1) refers to the interaction between 'Landcover' classes and a spline of 'Buffered Distance from the Mine Complex' (df = 3).  
 Abbreviations: ns = model annotation for spline; df = degrees of freedom; SE = standard error; CI = confidence interval.

**APPENDIX E**

**Caribou Behavioural Observations  
Summary, 2025**

Date	Time	Distance to Mine Component (m)	UTM Easting	UTM Northing	Group Size	Sample Composition
2025-02-21	8:50	1054	534497	7147849	64	Females/Males
2025-03-04	11:21	0	532650	715172	19	Females/Males
2025-03-15	16:18	62	531829	7150977	12	Females/Males/Calves
2025-03-18	16:22	20	531964	7151017	11	Females/Calves
2025-03-19	9:10	0	531963	7150864	11	Females/Calves
2025-03-24	15:57	99	532842	7150012	10	Females/Males
2025-03-31	9:07	36	533289	7148929	1	Males
2025-04-03	15:08	9	532036	7151079	1	-
2025-04-07	13:35	23	532251	7151054	2	Females/Calves
2025-04-18	10:02	56	536167	7151529	1	Females
2025-05-10	10:20	16	533392	7153446	2	Calves
2025-05-13	15:53	0	533605	7153285	2	Calves
2025-05-18	13:43	137	532274	7150603	10	Females/Males
2025-06-03	17:00	52	534926	7153227	3	Females/Males
2025-06-05	15:45	52	534926	7153227	4	Females/Males
2025-06-21	11:14	0	535116	7153173	3	Females/Males
2025-07-08	13:03	0	533748	7153993	1	Males
2025-07-11	9:56	39	534028	7154112	2	Males
2025-07-15	13:04	0	533749	7151078	1	-
2025-07-19	10:55	0	535362	7152337	2	Females/Males
2025-07-23	17:20	0	533783	7151061	1	Females
2025-07-25	10:35	0	532943	7153336	1	Males
2025-07-29	10:55	0	533728	7150460	1	Males
2025-07-30	11:00	0	533788	7151684	2	Males
2025-08-03	9:17	0	534633	7152236	2	Females/Males
2025-08-13	12:07	0	534179	7151139	1	Males
2025-08-30	15:05	38	533242	7150145	3	Males

- = Data unavailable

**APPENDIX F**



**Wildlife Mortality Incident Reports,  
2025**

# Wildlife Report - 2021

american kestrel - 2025-05-16 - Process Plant

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				american kestrel - 2025-05-16 - Process Plant	
<b>Document No.</b>				WildlifeReport000423	
				16.05.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	16.05.2025 15:30 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Process Plant	
<b>Environment at Call-out Location</b>	16.05.2025 15:40 MDT
<b>Location</b>	
Process Plant LV parking	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Deceased american kestrel , under storage shelving	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	16.05.2025 15:50 MDT
<b>Final Location of Carcass</b>	
Environment Sulphur lab freezer - to be shipped to ECC	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	
Tina Burke 16.05.2025 16:46 MDT	

## Media summary

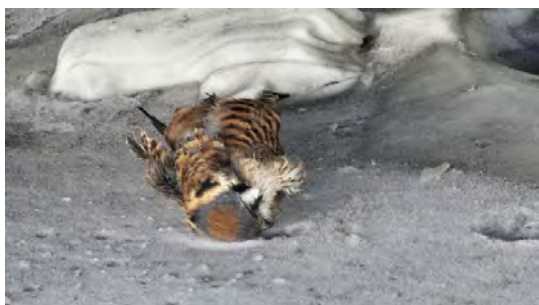


Photo 1



Photo 2

# Wildlife Report - 2025

Ptarmigan - 2025-05-19 - FAR

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Ptarmigan - 2025-05-19 - FAR

**Document No.**

WildlifeReport000424

20.05.2025

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	19.05.2025 11:50 MDT
<b>Department/Individual Who Reported Mortality:</b>	
IT Department	
<b>Environment at Call-out Location</b>	19.05.2025 12:00 MDT
<b>Location</b>	
FAR - Fresh Air Raise on road towards the dyke.	
	
Photo 1	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Two deceased Ptarmigans. One in the middle of the road, the other on the shoulder.	
<b>Photo of Scene</b>	
	
Photo 2      Photo 3	
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	19.05.2025 12:10 MDT
<b>Final Location of Carcass</b>	
Environment sulphur lab freezer to be shipped to ECC	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On

## Signature

Rebecca Huang  
20.05.2025 07:04 MDT

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## Media summary



Photo 1



Photo 2





Photo 3

# Wildlife Report - 2025

Ptarmigan - 2025-05-25 SCAP Warehouse Yard

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Ptarmigan - 2025-05-25 SCAP Warehouse Yard	
<b>Document No.</b>				WildlifeReport000425	
				25.05.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	25.05.2025 08:43 MDT
<b>Department/Individual Who Reported Mortality:</b>	
SCAP Warehouse	
<b>Environment at Call-out Location</b>	25.05.2025 09:15 MDT
<b>Location</b>	
In the middle of the SCAP warehouse yard on the ground.	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Deceased ptarmigan, only wings remaining with inside bits on the ground. Raven was flying around the area.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	25.05.2025 09:30 MDT
<b>Final Location of Carcass</b>	
Incinerator	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	

Rebecca Huang

25.05.2025 13:50 MDT

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Media summary



Photo 1



Photo 2

# Wildlife Report - 2025

2025-05-30 - Hare - SCRP Ramp

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

2025-05-30 - Hare - SCRP Ramp

**Document No.**

WildlifeReport000426

30.05.2025

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	30.05.2025 11:00 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Open Pit Operations	
<b>Environment at Call-out Location</b>	30.05.2025 11:10 MDT
<b>Location</b>	
SCRP Ramp	
Latitude : 64.47	
Longitude: -110.31	
	
Photo 1	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
<p>11:00AM - Open Pit called environment about a hare exhibiting strange physical behavior.</p> <p>11:10AM - At call out location at the SCRП ramp, took pictures and videos of the behavior of hare, and could walk up to animal without it reacting to human encounter. Animal was in clear distress, falling backwards and convulsing constantly.</p> <p>11:20AM - Final decision was to euthanize hare.</p>	
<b>Photo of Scene</b>	
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	30.05.2025 11:30 MDT
<b>Final Location of Carcass</b>	
Environment freezer waiting for send off to ENR.	
Closure & Sign-off	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On

## Signature

Brennan Debassige  
30.05.2025 11:52 MDT

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## Media summary




Photo 1

# Wildlife Report - 2025

Raven - 2025-06-24 - Powerhouse Sprung

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Raven - 2025-06-24 - Powerhouse Sprung	
<b>Document No.</b>				WildlifeReport000435	
				24.06.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	24.06.2025 16:05 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Powerhouse personnel	
<b>Environment at Call-out Location</b>	24.06.2025 16:10 MDT
<b>Location</b>	
Inside powerhouse sprung	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Deceased raven found near the front bay door of the Powerhouse Sprung	
<b>Photo of Scene</b>	
	
Photo 1	
<b>Estimated Time of Death</b>	Days
<b>End of Environment Call-out</b>	24.06.2025 16:20 MDT
<b>Final Location of Carcass</b>	
Freezer in Sulfur Lab	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On

**Signature**



Anton Jitnikovitch  
24.06.2025 17:27 MDT



## Media summary



Photo 1

# Wildlife Report - 2025

Rabbit - 2025-07-31 - STP

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Rabbit - 2025-07-31 - STP

**Document No.**

WildlifeReport000441

31.07.2025

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	31.07.2025 06:35 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Sewage Treatment Plant Operator	
<b>Environment at Call-out Location</b>	31.07.2025 06:50 MDT
<b>Location</b>	
In front of Sewage Treatment Plant	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Deceased hare - no obvious signs of injuries or cause of death	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	31.07.2025 07:00 MDT
<b>Final Location of Carcass</b>	
Freezer in Environment Sulfur Lab	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	
	Anton Jitnikovitch 31.07.2025 07:40 MDT



## Media summary



Photo 1



Photo 2

# Wildlife Report - 2025

Duck - 2025-08-30 - Truck Shop Parking Lot

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Duck - 2025-08-30 - Truck Shop Parking Lot	
<b>Document No.</b>				WildlifeReport000442	
				30.08.2025	

**Audit** 1 / 1 (100%)

**Type of Wildlife Report** General sighting / Other

**Report Type** Mortality

Wildlife Mortality

**Enter Initial Time of Report** 30.08.2025 06:30 MDT

**Department/Individual Who Reported Mortality:**  
Training Team

**Environment at Call-out Location** 30.08.2025 06:45 MDT

**Location**  
On top of the truck shop parking lot berm - in front of the main entrance

**Animal Type** Other

**Description of Animal/Scene**  
Deceased duck - no obvious cause of death

**Photo of Scene**

Photo 1  Photo 2  Photo 3 


**Estimated Time of Death** Hours

**End of Environment Call-out** 30.08.2025 06:50 MDT

**Final Location of Carcass**  
Freezer in Environment lab

**Closure & Sign-off** 1 / 1 (100%)

**Wildlife Report Complete** On

**Signature**  
 Anton Jitnikovitch  
30.08.2025 07:04 MDT



## Media summary



Photo 1



Photo 2








Photo 3

# Wildlife Report - 2025

Ptarmigans-2025-09-30-Airport Road

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Ptarmigans-2025-09-30-Airport Road	
<b>Document No.</b>				WildlifeReport000443	
				30.09.2025	

<b>Audit</b>	1 / 1 (100%)			
<b>Type of Wildlife Report</b>	General sighting / Other			
<b>Report Type</b>	Mortality			
Wildlife Mortality				
<b>Enter Initial Time of Report</b>	30.09.2025 13:55 MDT			
<b>Department/Individual Who Reported Mortality:</b>				
Site Services				
<b>Environment at Call-out Location</b>	30.09.2025 14:00 MDT			
<b>Location</b>				
At the intersection of the Airport with and the N17 laydown, one on the east berm and on the west side of the road.				
<b>Animal Type</b>	Other			
<b>Description of Animal/Scene</b>				
Two deceased ptarmigans, corpses intact, no blood. Near the powerlines.				
<b>Photo of Scene</b>				
				
Photo 1	Photo 2	Photo 3	Photo 4	Photo 5
<b>Estimated Time of Death</b>	Hours			
<b>End of Environment Call-out</b>	30.09.2025 14:10 MDT			
<b>Final Location of Carcass</b>				
Sulphur Lab freezer				
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)			
<b>Wildlife Report Complete</b>	On			
<b>Signature</b>				

Jessica Gosselin  
01.10.2025 08:07 MDT

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## Media summary



Photo 1



Photo 2



Photo 3



Photo 4





Photo 5

# Wildlife Report - 2025

Ptarmigan - 2025-10-06

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Ptarmigan - 2025-10-06	
<b>Document No.</b>				WildlifeReport000444	
				06.10.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	06.10.2025 07:30 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Fuel Truck Operator	
<b>Environment at Call-out Location</b>	06.10.2025 09:30 MDT
<b>Location</b>	
Middle of haul road, HME entrance to South Tank Farm refuel bay.	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Single deceased Ptarmigan, body intact. Injury to neck, unknown cause of death.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	06.10.2025 09:30 MDT
<b>Final Location of Carcass</b>	
Sulphur lab freezer to shipped.	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	
Rebecca Huang 06.10.2025 11:42 MDT	

Media summary



Photo 1





Photo 2

# Wildlife Report - 2025

Ptarmigan 2025-10-13 Truck Shop Parking Lot

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Ptarmigan 2025-10-13 Truck Shop Parking Lot	
<b>Document No.</b>				WildlifeReport000445	
				14.10.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	13.10.2025 11:00 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Truck Shop	
<b>Environment at Call-out Location</b>	13.10.2025 11:15 MDT
<b>Location</b>	
Truck Shop Parking Lot	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Single deceased adult ptarmigan. Injury to neck.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	13.10.2025 11:20 MDT
<b>Final Location of Carcass</b>	
Environment Freezer	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On

**Signature**

Justin Macek  
14.10.2025 06:58 MDT



## Media summary



Photo 1




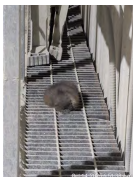
Photo 2

# Wildlife Report - 2025

Muskrat-2025-10-14-BackfillCrusher

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Muskrat-2025-10-14-BackfillCrusher	
<b>Document No.</b>				WildlifeReport000446	
				14.10.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	14.10.2025 05:30 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Backfill	
<b>Environment at Call-out Location</b>	14.10.2025 06:50 MDT
<b>Location</b>	
3rd floor of crusher at Backfill on the grating.	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Deceased muskrat, full body, unknown cause of death.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	14.10.2025 06:00 MDT
<b>Final Location of Carcass</b>	
Sulphur lab freezer	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On

### Signature

Rebecca Huang  
14.10.2025 17:25 MDT



## Media summary



Photo 1





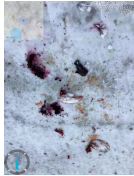
Photo 2

# Wildlife Report - 2025

Ptarmigan 2025-10-19 South Haul Road

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Ptarmigan 2025-10-19 South Haul Road	
<b>Document No.</b>				WildlifeReport000447	
				19.10.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	19.10.2025 11:30 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Technical	
<b>Environment at Call-out Location</b>	19.10.2025 11:35 MDT
<b>Location</b>	
On the South Haul Road, between the Backfill Plant and the C-Portal, near the pipeline.	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
One deceased ptarmigan, partially eaten by a crow. Only wings, intestines and stomachal content left on the scene. Most probable cause of death: collision with a vehicle.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
	
Photo 3	
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	19.10.2025 11:45 MDT
<b>Final Location of Carcass</b>	
Incinerator	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	

Jessica Gosselin  
20.10.2025 07:03 MDT

---

## Media summary



Photo 1



Photo 2





Photo 3

# Wildlife Report - 2025

Ptarmigan 2025-10-29 Airport Road

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>	Ptarmigan 2025-10-29 Airport Road				
<b>Document No.</b>	WildlifeReport000448				
	29.10.2025				

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	29.10.2025 10:20 MDT
<b>Department/Individual Who Reported Mortality:</b>	
Environment, while driving in the area	
<b>Environment at Call-out Location</b>	29.10.2025 10:20 MDT
<b>Location</b>	
Airport Road, at the intersection of the N17 Laydown.	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Single deceased ptarmigan, body intact, no injury visible. In the middle of the Airport Road. Powerlines in the area.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	29.10.2025 10:25 MDT
<b>Final Location of Carcass</b>	
Sulphur Lab freezer - Send to ENR.	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	

Jessica Gosselin  
29.10.2025 16:54 MDT

---

## Media summary



Photo 1



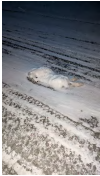
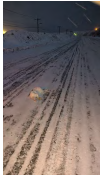
Photo 2

# Wildlife Report - 2025

Arctic Hare - 2025-11-03 - South Haul Road

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Arctic Hare - 2025-11-03 - South Haul Road	
<b>Document No.</b>				WildlifeReport000449	
				03.11.2025	

<b>Audit</b>	1 / 1 (100%)
<b>Type of Wildlife Report</b>	General sighting / Other
<b>Report Type</b>	Mortality
Wildlife Mortality	
<b>Enter Initial Time of Report</b>	03.11.2025 06:45 MST
<b>Department/Individual Who Reported Mortality:</b>	
Fixed Plant Maintenance	
<b>Environment at Call-out Location</b>	03.11.2025 07:10 MST
<b>Location</b>	
South Haul Road, approximately 100m south of Backfill intersection.	
<b>Animal Type</b>	Other
<b>Description of Animal/Scene</b>	
Single deceased Arctic Hare. Significant injuries as a result of interaction with a light vehicle driving on haul road.	
<b>Photo of Scene</b>	
	
Photo 1	Photo 2
<b>Estimated Time of Death</b>	Hours
<b>End of Environment Call-out</b>	03.11.2025 07:20 MST
<b>Final Location of Carcass</b>	
Waste Transfer Area for incineration	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	

Justin Macek  
03.11.2025 09:35 MST

---

## Media summary



Photo 1



Photo 2

# Wildlife Report - 2025

Ptarmigan 2025 12 14 North Mine Dry

Complete

<b>Score</b>	1 / 1 (100%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Ptarmigan 2025 12 14 North Mine Dry	
<b>Document No.</b>				WildlifeReport000451	
				14.12.2025	

**Audit** 1 / 1 (100%)

**Type of Wildlife Report** General sighting / Other

**Report Type** Mortality

Wildlife Mortality

**Enter Initial Time of Report** 14.12.2025 10:00 MST

**Department/Individual Who Reported Mortality:**  
Site Services

**Environment at Call-out Location** 14.12.2025 10:30 MST

**Location**  
Road leading to North Mine Dry

**Animal Type** Other

**Description of Animal/Scene**  
Ptarmigan, no physical signs of blunt force trauma.

**Photo of Scene**



 

Photo 1      Photo 2

**Estimated Time of Death** Hours

**End of Environment Call-out** 14.12.2025 11:00 MST

**Final Location of Carcass**  
Environment freezer

**Closure & Sign-off** 1 / 1 (100%)

**Wildlife Report Complete** On

**Signature**  
  
Dylan Price  
14.12.2025 11:43 MST

---

## Media summary



Photo 1



Photo 2

**APPENDIX G**

**Caribou Incidental Observations  
Summary, 2025**

## Caribou Incidental Observations Summary 2025

Date	Estimated Number of Caribou	Description
2025-01-01	50-100	On ice, near A154 dike
2025-01-01	40	On ice, north of dust C1
2025-02-12	1	Not recorded
2025-02-21	~200	S of A21 on LDG
2025-03-01	30	LDG west of Wind Farm
2025-03-04	19	South of SCRCP on tundra
2025-03-05	20	South of SCRCP on tundra
2025-03-07	10	South of SCRCP on tundra
2025-03-07	10	South of SCRCP on tundra
2025-03-09	2	AN Road
2025-03-12	13	Tundra near Emulsion Plant
2025-03-13	5	Tundra near Magazine Storage
2025-03-15	12	N of Emulsion
2025-03-19	11	N of Emulsion
2025-03-20	7	Wind Farm Tower 4
2025-03-24	10	Tundra south of SCRCP near Water Tree
2025-03-26	200	End of WT17 wolverine transect
2025-03-31	1	Southern entrance to A21 dike on tundra
2025-04-03	1	Tundra near Wind Farm Tower 4
2025-04-05	3	South of SCRCP on tundra
2025-04-07	2	Tundra near Emulsion Plant
2025-04-13	3	South of South Tank Farm
2025-04-18	1	A418 Dike
2025-05-04	2	Airport Road/NIWTP
2025-05-08	2	East of runway on tundra
2025-05-10	2	Tundra by Airport Road/N17 laydown
2025-05-11	2	Tundra by Airport Road/N17 Laydown
2025-05-13	2	Tundra by Airport Road/N17 laydown
2025-05-18	10	Bedded on SW side of SCRCP
2025-05-19	11	Near A21 on the ice (LDG)
2025-06-03	3	Airport Road on tundra
2025-06-05	4	Airport Road near North Inlet
2025-06-06	4	Airport runway/North Inlet
2025-06-12	2	Runway/North Inlet between runway and helipad
2025-06-20	3	North Inlet between Airport Road and NI
2025-06-21	3	North Inlet between Airport Road and NI
2025-06-24	2	Shallow Bay
2025-06-24	1	Main Camp - Cafeteria toward BB dorm

Date	Estimated Number of Caribou	Description
2025-06-26	2	Shallow Bay - South Haul Road - MAC
2025-06-28	2	Between C and D dorms
2025-07-01	1	South Haul Rd to MAC to SCRP
2025-07-02	1	South Haul Rd to MAC
2025-07-02	2	A21 Muster Station
2025-07-04	2	A21 Haul Road to Zone 3
2025-07-04	1	MAC - Raw Water Inlet building
2025-07-05	3	On top of ROM to beside BB dorm
2025-07-06	1	South Haul Road by the Backfill
2025-07-06	2	A154 dike
2025-07-08	1	N of helipad
2025-07-09	1	A21 Muster Station
2025-07-10	1	North Inlet
2025-07-11	2	Airport/ helipad
2025-07-12	1	Pond 2
2025-07-15	1	ROM Hill
2025-07-16	2	Magazine storage
2025-07-16	1	A21 Haul Road/JJM Mudex Stockpile
2025-07-17	1	Road between DOC and Powerhouse
2025-07-17	1	SCRP south ramp
2025-07-17	1	A21 Haul Road by Watering Tree
2025-07-19	1	South Haul Road
2025-07-19	2	A418 Haul Road at top of pit
2025-07-20	2	Emulsion Plant tundra
2025-07-20	2	A21 Haul Road by A21 muster
2025-07-20	1	South Haul Road
2025-07-22	1	North Inlet
2025-07-22	2	Emulsion Plant tundra
2025-07-23	1	Emulsion Plant tundra
2025-07-23	1	Middle of Process ROM
2025-07-24	1	Tundra by the SCRP Watering Tree
2025-07-24	1	Emulsion Plant tundra
2025-07-25	1	NC17 Laydown
2025-07-28	3	Airport Runway went to the tundra
2025-07-28	1	Tundra near Emulsion Plant
2025-07-28	2	Tundra by the Airport Road
2025-07-29	1	A21 Haul Road
2025-07-29	3	A21 Muster Station towards JJM Laydown
2025-07-29	1	Road between Main Camp and Truck Shop
2025-07-29	1	Light vehicle road to Process ROM
2025-07-29	1	South cell of PKC

Date	Estimated Number of Caribou	Description
2025-07-30	1	Process ROM
2025-07-30	2	Pond 5
2025-07-30	3	Near E21 Sump
2025-07-30	2	PKC South Cell
2025-07-31	3	South Country Rock Pile
2025-07-31	1	A21 Access Road
2025-08-01	1	South Haul Road by Backfill
2025-08-01	1	ROM Hill
2025-08-01	1	South Haul Road
2025-08-01	1	South Tank Farm - LV Refueling Bay
2025-08-01	1	BB Dorm
2025-08-01	1	A21 Muster Station
2025-08-02	2	N17 Laydown/Pond 2
2025-08-02	1	Near South Haul Road and Batch Plant
2025-08-03	2	South Haul Road by Backfill
2025-08-03	2	Pond 1
2025-08-04	1	Truck shop parking lot
2025-08-04	1	South Haul Road
2025-08-11	2	AN Road
2025-08-11	2	Pond 2 and 3
2025-08-12	1	A21 Haul Road near A21 pit
2025-08-12	1	Process ROM hill
2025-08-12	1	Zone 3
2025-08-13	1	Outside Truckshop Parking lot
2025-08-13	2	On Airport Runway
2025-08-13	1	SCRP/PKC Ramp
2025-08-13	1	A21 haul Road
2025-08-14	1	Tundra near A21 West ramp
2025-08-15	1	Pond 10
2025-08-16	1	Main Camp - Cafeteria toward D dorm
2025-08-16	1	Outside Truckshop Parking lot
2025-08-16	1	North Haul Road
2025-08-16	1	A21 Haul Road
2025-08-17	1	Outside Truckshop Parking lot, around megadome
2025-08-21	1	Batch plant road heading to SCAP
2025-08-22	1	South Haul Road going to Pond 1
2025-08-22	3	Western Explosives yard
2025-08-23	1	N Portal heading toward batch plant
2025-08-23	1	On the AN road near the AN building
2025-08-24	1	Pond 5/ROM Hill
2025-08-24	1	South Haul Road

Date	Estimated Number of Caribou	Description
2025-08-27	1	Tundra near the AN road
2025-08-28	1	Pond 2 heading towards N17
2025-08-28	2	AN Road, Mag storage
2025-08-29	1	SCRP on tundra
2025-08-30	3	AN road and A21 Portal
2025-09-21	1	Airport Road
2025-09-26	1	Tundra, in front of Pond 4
2025-09-30	3	A21 Ramp

**APPENDIX H**

**Site Wildlife Photographs, 2025**

**Figure 1: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 5 July 2025.**



**Figure 2: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 18 March 2025.**



**Figure 3: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 19 March 2025.**



**Figure 4: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 18 March 2025.**



**Figure 5: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 19 March 2025.**



**Figure 6: Barren-ground caribou (*Rangifer tarandus groenlandicus*).**



**Figure 7: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 19 July, 2025**



**Figure 8: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 2 August 2025.**



**Figure 9: Barren-ground caribou (*Rangifer tarandus groenlandicus*). 30 August 2025.**



**Figure 10: Grizzly bear (*Ursus arctos*).**



**Figure 11: Grizzly bear (*Ursus arctos*). 19 May 2024.**



**Figure 12: Grey wolf (*Canis lupus*). 1 December 2025.**



**Figure 13: Grey wolf (*Canis lupus*). 11 November 2025.**



**Figure 14: Arctic hare (*Lepus arcticus*).**



**Figure 15: Redpoll (*Acanthis flammea*) on nest. 25 July 2025.**



**Figure 2: Red fox (*Vulpes vulpes*). 10 May 2025.**



**APPENDIX I**

**Grizzly Bear Incidental  
Observations Summary, 2025**

Date	Number of Animals	Characteristics of Animals	Location	Deterrents Used?
2025-05-12	1	Single dark grizzly	Wind tower 2 (1), A21 muster (2)	Yes
2025-05-15	1	Light brown adult	Metcon	Yes
2025-05-20	1	Blonde grizzly	South Tank Farm/SCRP	No
2025-05-27	1	Large dark brown bear	On ice near the A21 muster point	No
2025-05-29	1	Large dark brown bear	On ice in Shallow Bay	No
2025-06-02	2	Large dark brown grizzly, and light golden grizzly	Between Backfill and SCAP Warehouse	No
2025-06-03	1	Large dark brown grizzly	North Inlet	No
2025-06-04	1	No further description	North Inlet	No
2025-06-05	2	Large dark brown grizzly, and light golden grizzly	Pond 1	Yes
2025-06-07	2	Large dark brown grizzly, and light golden grizzly	Batch Plant, Shallow Bay, and Pond 13	Yes
2025-06-09	1	Light brown adult	North Mine Dry	Yes
2025-06-11	1	No further description	North Inlet	No
2025-06-12	1	Light brown adult, likely female based on interactions with male	SCAP Warehouse yard	Yes
2025-06-25	1	Blonde grizzly	SCAP Warehouse yard to vegetation patch near ERT Training Grounds	Yes
2025-07-02	1	Blonde grizzly	North Inlet to A154 Infield	Yes
2025-07-11	1	Single small blonde bear	Pond 5	Yes
2025-07-12	1	Single grizzly and caribou	Pond 2	No
2025-07-13	1	Single brown grizzly	ENV dock	No
2025-07-17	1	1 grizzly	SCAP headed to North Mine Dry	No
2025-07-19	1	1 grizzly	Warehouse heading towards Main Camp	No
2025-07-19	1	1 grizzly	Backfill	No
2025-07-19	1	1 grizzly	Backfill Pond 1	No
2025-07-20	1	1 grizzly	Backfill to North Inlet	No
2025-07-23	1	1 grizzly	Pond 1	Yes
2025-07-25	1	1 grizzly	Between NIWTP and Airport	No
2025-08-13	1	Single grizzly	SCRP	No
2025-08-13	1	Single grizzly	Waste Transfer Area	No
2025-08-14	1	Single grizzly	Pond 4	No
2025-08-17	1	Single grizzly	A154 ramp	No
2025-08-18	1	Single grizzly - probably same as yesterday last night	Near NIWTP	No
2025-09-12	1	Single grizzly	PKC channel	No
2025-10-16	1	1 grizzly bear	North of Airstrip	No

**APPENDIX J**

**Wildlife Deterrent Action  
Incident Reports, 2025**

# Wildlife Report - 2021

Grizzly - 2025-05-12 - A21 muster

Complete

<b>Score</b>	5 / 401 (1.25%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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---

**Audit Title (Animal - yyyy-mm-dd - Location)**

Grizzly - 2025-05-12 - A21 muster

---

**Document No.**

WildlifeReport000421

---

12.05.2025

---

**Audit**

5 / 401 (1.25%)

**Type of Wildlife Report**

Deterrent Reporting

Deterrent Report

4 / 400 (1%)

**Enter Initial Time of Wildlife Sighting**

12.05.2025 15:15 MDT

**Department/Individual Who Reported Wildlife:**

Surface ops

**Environment at Call-out Location**

12.05.2025 15:30 MDT

**Animal Type**

Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**

Single medium grizzly bear

**Photo (If Possible):**

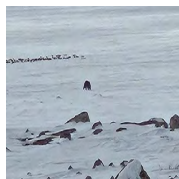


Photo 1

**Chronological Events**

09:20 - Environment (ENV) supervisor spotted grizzly walking by wind tower 2, used TRUCK 1x to deter  
09:25 - Grizzly walked away from site towards West

-----  
15:15 - ENV received a call single grizzly was on the ice heading towards A21 muster  
15:30 - ENV arrived and observed grizzly still on the ice, ENV continued to monitor grizzly  
16:20 - Grizzly was still on shore of ice, ENV shot 3 x BANGERS to move bear away from muster station  
16:40 - Grizzly walking shore line heading away from the muster area, ENV left scene

**Movement Map (Import NotePlus Site Map)**



Photo 2

**Deterrent Count**

4 / 400 (1%)

**Truck**

1  
From 0 to 40

**Air Horn** 0  
From 0 to 40

---

**C/F Bear Banger** 3  
From 0 to 40

---

**C/F Pen Whistle** 0  
From 0 to 40

---

**12GA Explosive** 0  
From 0 to 40

---

**12GA B.B. Marker** 0  
From 0 to 40

---

**12GA Rubber Bullet** 0  
From 0 to 40

---

**12GA Slug** 0  
From 0 to 40

---

**Helicopter** 0  
From 0 to 40

---

**Other** 0  
From 0 to 40

---

**Specify**

---

**End of Environment Call-out** 12.05.2025 16:40 MDT

---

**Final Location of Wildlife**

Shoreline of ice, going towards A21 dike

Closure & Sign-off 1 / 1 (100%)

**Wildlife Report Complete** On

---

**Signature**

Tina Burke  
12.05.2025 17:31 MDT

---

Media summary



Photo 1



Photo 2

# Wildlife Report - 2021

Grizzly - 2025-05-15 - West ramp exploration

Complete

<b>Score</b>	4 / 401 (1%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Grizzly - 2025-05-15 - West ramp exploration	
<b>Document No.</b>				WildlifeReport000422	
				16.05.2025	

**Audit** 4 / 401 (1%)

**Type of Wildlife Report** Deterrent Reporting

Deterrent Report 3 / 400 (0.75%)

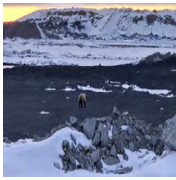
**Enter Initial Time of Wildlife Sighting** 15.05.2025 22:20 MDT

**Department/Individual Who Reported Wildlife:**  
Surface Ops

**Environment at Call-out Location** 15.05.2025 22:45 MDT

**Animal Type** Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**  
Single light brown grizzly bear

**Photo (If Possible):**  
  
Photo 1

**Chronological Events**

22:20 - Environment (ENV) received a call a single grizzly spotted near A21 west ramp exploration tent.  
22:45 - ENV arrives at scene searching for bear, Surface supervisor stops by and says it is now in the Metcon.  
22:55 - ENV spots grizzly in Metcon and uses TRUCK x3 to deter bear away from the area.  
23:20 - ENV follows bear up PKC towards the North Country Rock Pile.  
23:40 - ENV monitors bear moving away from site and leaves scene.

**Movement Map (Import NotePlus Site Map)**

  
Photo 2

**Deterrent Count** 3 / 400 (0.75%)

**Truck** 3  
From 0 to 40

**Air Horn** 0  
From 0 to 40

**C/F Bear Banger**

0  
From 0 to 40

**C/F Pen Whistle**

0  
From 0 to 40

**12GA Explosive**

0  
From 0 to 40

**12GA B.B. Marker**

0  
From 0 to 40

**12GA Rubber Bullet**

0  
From 0 to 40

**12GA Slug**

0  
From 0 to 40

**Helicopter**

0  
From 0 to 40

**Other**

0  
From 0 to 40

**Specify**

**End of Environment Call-out**

15.05.2025 23:30 MDT

**Final Location of Wildlife**

Northwest on the North Country Rock Pile

Closure & Sign-off

1 / 1 (100%)

**Wildlife Report Complete**

On

**Signature**

Tina Burke  
16.05.2025 08:50 MDT

Media summary



Photo 1



Photo 2

# Wildlife Report - 2025

2025-06-05 Pond 1

Complete

<b>Score</b>	5 / 401 (1.25%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				2025-06-05 Pond 1	
<b>Document No.</b>				WildlifeReport000427	
				05.06.2025	

**Audit** 5 / 401 (1.25%)

**Type of Wildlife Report** Deterrent Reporting

Deterrent Report 4 / 400 (1%)

**Enter Initial Time of Wildlife Sighting** 05.06.2025 07:45 MDT

**Department/Individual Who Reported Wildlife:**  
Site Services

**Environment at Call-out Location** 05.06.2025 07:55 MDT

**Animal Type** Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**  
Two grizzly bears - 1 large dark bear. 1 smaller (but still large) lighter coloured bear.

**Photo (If Possible):**  
Chronological Events

0745: Environment (ENV) received call about two grizzlies near the Backfill Plant  
0755: ENV arrived on-scene in a Light Vehicle (LV). ENV could not locate grizzlies.  
0820: ENV received an update about the location of the two grizzly bears - near Pond 13.  
08:30: ENV located the two grizzly bears and began to guide them away from populated areas by blocking off their walking routes with the LV and using the LV HORN and 1x BEAR BANGER.  
0845: Both grizzlies walked up the rock wall from the Pond 1 area to the North Haul Road intersection leading towards the PKC North Dam Road.  
0900: ENV left the scene.

**Movement Map (Import NotePlus Site Map)**



Photo 1

**Deterrent Count** 4 / 400 (1%)

**Truck** 2  
From 0 to 40

**Air Horn** 0  
From 0 to 40

**C/F Bear Banger** 1  
From 0 to 40

C/F Pen Whistle 0  
From 0 to 40

12GA Explosive 0  
From 0 to 40

12GA B.B. Marker 0  
From 0 to 40

12GA Rubber Bullet 0  
From 0 to 40

12GA Slug 0  
From 0 to 40

Helicopter 0  
From 0 to 40

Other 1  
From 0 to 40

Specify LV HORN

End of Environment Call-out 05.06.2025 09:00 MDT

**Final Location of Wildlife**

PKCF near the PKC North Dam Road

Closure & Sign-off 1 / 1 (100%)

Wildlife Report Complete On

**Signature**



Anton Jitnikovitch  
05.06.2025 09:18 MDT

Media summary



Photo 1

# Wildlife Report - 2025

Grizzly - 2025-06-07 North Mine Dry

Complete

<b>Score</b>	15 / 401 (3.74%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>	Grizzly - 2025-06-07 North Mine Dry				
<b>Document No.</b>	WildlifeReport000428				
	07.06.2025				

<b>Audit</b>	15 / 401 (3.74%)
<b>Type of Wildlife Report</b>	Deterrent Reporting
Deterrent Report	14 / 400 (3.5%)
<b>Enter Initial Time of Wildlife Sighting</b>	06.06.2025 06:20 MDT
<b>Department/Individual Who Reported Wildlife:</b>	
Underground	
<b>Environment at Call-out Location</b>	07.06.2025 06:30 MDT
<b>Animal Type</b>	Grizzly Bear
<b>Description (eg. number of individuals, colour, age, size, etc.):</b>	
2 individuals, 1 blonde small bear, 1 large dark adult	
<b>Photo (If Possible):</b>	
Chronological Events	
<p>06:20 Underground personnel reported a grizzly investigating empty totes of masterroc at North Mine Dry, Environment (ENV) mobilized to area.</p> <p>06:30 ENV on scene, no signs of grizzly but evidence bear had pushed over a tote. No damage to totes. ENV patrolled area,</p> <p>06:50 ENV spotted small blonde bear lying down on tundra patch South of Batch plant</p> <p>06:52 ENV climbed road berm and CYCLED SHOTGUN ACTION to persuade bear to move south. The bear responded by trotting away towards the shallow bays. ENV lost site on bear.</p> <p>06:54 While patrolling for the blonde bear, a site services worker reported a bear crossing the south haul road towards the shallow bays. ENV moved to check on that report.</p> <p>07:10 ENV arrived on South Haul Road and confirmed the second bear was the large dark adult, heading East across the shallow bay towards the last known location of first bear. No deterrent actions taken.</p> <p>07:40 ENV patrolled area but could not regain visual on either bear. Closed walking trail and updated site wide announcement.</p> <p>---</p> <p>11:10 ENV tech received a bear called in at C-portal</p> <p>11:20 ENV arrived and spotted a single bear sleeping in a tundra area at Pond 13</p> <p>11:45 ENV used 3x C/F BANGERS, bear had little to no response.</p> <p>12:00 ENV monitors bear for movement - none</p> <p>12:55 ENV leaves scene</p> <p>---</p> <p>13:10 ENV arrived onsite and observed single golden grizzly bear in Pond 13 vegetation patch area.</p> <p>13:15 ENV SHOUTED and CLAPPED - no response from grizzly.</p> <p>13:20 ENV released 4X C/F BEAR BANGERS, and 4X 12GA EXPLOSIVE. Grizzly had minimum reaction.</p> <p>13:30 Due to terrain, ENV could not approach the grizzly and after observing a short while, left the scene.</p>	
<b>Movement Map (Import NotePlus Site Map)</b>	
Deterrent Count	14 / 400 (3.5%)
<b>Truck</b>	0 From 0 to 40

<b>Air Horn</b>	0 From 0 to 40
<b>C/F Bear Banger</b>	7 From 0 to 40
<b>C/F Pen Whistle</b>	0 From 0 to 40
<b>12GA Explosive</b>	4 From 0 to 40
<b>12GA B.B. Marker</b>	0 From 0 to 40
<b>12GA Rubber Bullet</b>	0 From 0 to 40
<b>12GA Slug</b>	0 From 0 to 40
<b>Helicopter</b>	0 From 0 to 40
<b>Other</b>	3 From 0 to 40
<b>Specify</b>	1 Shotgun action cycling, 1X SHOUTING, 1X CLAPPING
<b>End of Environment Call-out</b>	07.06.2025 13:30 MDT
<b>Final Location of Wildlife</b>	
Shallow Bays, Pond 13	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	<b>On</b>
<b>Signature</b>	
Tina Burke 29.12.2025 08:49 MST	

# Wildlife Report - 2025

Grizzly - 2025-06-09 - North Mine

Complete

<b>Score</b>	37 / 401 (9.23%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Grizzly - 2025-06-09 - North Mine

**Document No.**

WildlifeReport000430

09.06.2025

**Audit**

37 / 401 (9.23%)

**Type of Wildlife Report**

Deterrent Reporting

Deterrent Report

36 / 400 (9%)

**Enter Initial Time of Wildlife Sighting**

09.06.2025 00:15 MDT

**Department/Individual Who Reported Wildlife:**

- (1) Surface Mining Operator
- (2) Site Services
- (3) Surface Mining Operator

**Environment at Call-out Location**

09.06.2025 00:30 MDT

**Animal Type**

Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**

Single light brown bear

**Photo (If Possible):**

Photo 1

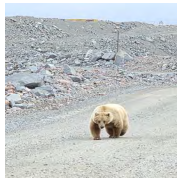


Photo 2



Photo 3



Photo 4

**Chronological Events**

00:15 Environment (ENV) received a bear call reported at the Old Mine Dry

00:30 ENV arrived and the operator reported showed where the bear moved to, on tundra, next to the Batch Plant

00:50 ENV used 3x C/F BEAR BANGER, had no effect on the bear

01:02 ENV used 2x 12GA EXPLOSIVE and bear started moving East then laid back down

01:10 ENV moved positions and used 1x 12GA EXPLOSIVE, bear went North over berm towards the back of Batch Plant

01:17 ENV used TRUCK, bear walked over another berm towards dump 12. ENV used TRUCK one more time and bear walked over berm towards the North haul road. ENV repositioned to get on the haul road and lost bear.

01:30 ENV searched around nearby areas and could not locate bear.

01:50 ENV leaves scene.

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(2) ROUTE ON ATTACHED MAP

08:15 ENV was notified of a single grizzly on the South Haul Road.

08:20 ENV arrived on scene and was informed the grizzly had moved to the North Haul Road

08:25 ENV was notified the grizzly had moved towards the Waste Transfer Area

08:30 ENV made visual contact with the grizzly and using the TRUCK HORN encouraged the bear to move towards the South Country Rock Pile and then towards the tundra southwest of the South Country Rock Pile. ENV released 1X BEAR BANGER to encourage the grizzly to move further into the tundra.

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(3) ROUTE ON ATTACHED MAP

16:30 ENV was notified of a single grizzly near the North Inlet Water Treatment Plant.

16:35 ENV arrived on-scene and began efforts to deter the bear away from active work areas.

16:40 ENV used TRUCK 3X, 2X AIR HORN, 1X CLAPPED, 1X SHOUTED. Grizzly had no response.  
 16:45 ENV continued to deter the bear - the grizzly moved through the SCAP warehouse, Pond 13, and into the shallow bays. During this time, ENV released 1X C/F BEAR BANGER, 2X CYCLE SHOTGUN ACTION, 6X GA EXPLOSIVE, and 3X 12 GA RUBBER BULLET - all deterrents had minimal effect.  
 16:50 ENV used the TRUCK HORN to guide the bear into the shallow bays.  
 17:10 After observing the bear. ENV left the scene.

**Movement Map (Import NotePlus Site Map)**



Photo 5

<b>Deterrent Count</b>	36 / 400 (9%)
<b>Truck</b>	5 From 0 to 40
<b>Air Horn</b>	2 From 0 to 40
<b>C/F Bear Banger</b>	4 From 0 to 40
<b>C/F Pen Whistle</b>	0 From 0 to 40
<b>12GA Explosive</b>	9 From 0 to 40
<b>12GA B.B. Marker</b>	0 From 0 to 40
<b>12GA Rubber Bullet</b>	3 From 0 to 40
<b>12GA Slug</b>	0 From 0 to 40
<b>Helicopter</b>	0 From 0 to 40
<b>Other</b>	13 From 0 to 40
<b>Specify</b>	CYCLE SHOTGUN ACTIONX4, TRUCK HORN X2, SHOUT X1, CLAP X1,
<b>End of Environment Call-out</b>	09.06.2025 02:30 MDT

**Final Location of Wildlife**

- (1) Dump 12 headed North
- (2) Tundra SW of SCRP
- (3) Shallow Bay

Closure & Sign-off

1 / 1 (100%)

**Wildlife Report Complete**

On

**Signature**

Tina Burke, Anton Jitnikovitch  
09.06.2025 17:52 MDT

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Media summary



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

# Wildlife Report - 2025

Grizzly - 2025-06-12 multiple

Complete

<b>Score</b>	7 / 401 (1.75%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Grizzly - 2025-06-12 multiple

**Document No.**

WildlifeReport000432

12.06.2025

**Audit** 7 / 401 (1.75%)

**Type of Wildlife Report** Deterrent Reporting

Deterrent Report 6 / 400 (1.5%)

**Enter Initial Time of Wildlife Sighting** 12.06.2025 04:20 MDT

**Department/Individual Who Reported Wildlife:**  
Site Services

**Environment at Call-out Location** 12.06.2025 04:45 MDT

**Animal Type** Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**  
Blonde female, assumed based on interactions with large male over past week.

**Photo (If Possible):**

**Chronological Events**

04:20 Bear reported at SCAP warehouse going towards North Country Rock Pile (NCRP)  
04:45 Environment wildlife monitor arrived on scene. Bear was heading down into the A154 dike infield area. Environment monitored bear as it travelled deeper into the A154 dike infield.  
05:35 Bear laid down to rest in the A154 area, in a good area. Environment updated bear advisory and then left the area.  
...  
21:20 Bear reported near A21 pit, heading north, Environment made site wide announcement.  
21:45 Bear reported near the South Tank Farm refueling area. Environment mobilized to area.  
21:58 Environment arrived on scene, began search for bear.  
22:00 Bear spotted in Metcon laydown near powerhouse sprung,  
22:02 Environment blocked the bear from heading towards powerhouses and camp with the TRUCK, guided the bear towards the North Haul Road. Environment notified surface operations haul traffic and process plant ROM operator of bear approach.  
22:04 Bear moved up to North Haul Road and down the ROM hill towards pond 5. Environment followed at a distance of 50m and communicated with haul traffic requesting them to pull over and let animal pass.  
22:20-22:35 Bear moved through pond 5 and continued north along ditch to Pond 1. Environment followed slowly on the south haul road.  
22:45 Bear began investigating empty totes stored in backfill yard. Environment CYCLED SHOTGUN ACTION and bear continued moving north.  
22:50 Bear stopped in the ditch outside backfill to graze on grass shoots, Environment CYCLED SHOTGUN ACTION and bear responded by walking north along pipelines.  
23:05 bear stopped in the ditch again to graze beside road, Environment CYCLED SHOTGUN ACTION and bear continued moving up backfill loadout access ramp to North Haul Road. Environment repositioned to North Haul Road.  
23:13 Environment spotted bear crossing south haul road towards SCAP warehouse. Environment repositioned to SCAP warehouse and got on the warehouse side of the bear, blocked it with the TRUCK from continuing towards active work areas. Environment SPOKE to the bear from the vehicle and encouraged it to continue north towards the North Inlet.  
23:22 Bear was on Till Pile heading north towards the North Inlet. Environment updated the Bear advisory and left the area.

**Movement Map (Import NotePlus Site Map)**



Photo 1

<b>Deterrent Count</b>	6 / 400 (1.5%)
<b>Truck</b>	2 From 0 to 40
<b>Air Horn</b>	0 From 0 to 40
<b>C/F Bear Banger</b>	0 From 0 to 40
<b>C/F Pen Whistle</b>	0 From 0 to 40
<b>12GA Explosive</b>	0 From 0 to 40
<b>12GA B.B. Marker</b>	0 From 0 to 40
<b>12GA Rubber Bullet</b>	0 From 0 to 40
<b>12GA Slug</b>	0 From 0 to 40
<b>Helicopter</b>	0 From 0 to 40
<b>Other</b>	4 From 0 to 40
<b>Specify</b>	(3) Cycled Shotgun Action (1) Spoke to Bear
<b>End of Environment Call-out</b>	12.06.2025 23:30 MDT
<b>Final Location of Wildlife</b>	Till Pile heading towards North Inlet
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On

**Signature**

Gordon Cumming

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke.

15.06.2025 10:18 MDT

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Media summary



Photo 1

# Wildlife Report - 2025

Grizzly - 2025-06-25 - SCAP

Complete

<b>Score</b>	3 / 401 (0.75%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Grizzly - 2025-06-25 - SCAP

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**Document No.**

WildlifeReport000436

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26.06.2025

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**Audit** 3 / 401 (0.75%)

**Type of Wildlife Report** Deterrent Reporting

Deterrent Report 2 / 400 (0.5%)

**Enter Initial Time of Wildlife Sighting** 25.06.2025 16:15 MDT

**Department/Individual Who Reported Wildlife:**  
SCAP Worker

**Environment at Call-out Location** 25.06.2025 16:25 MDT

**Animal Type** Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**  
Single Grizzly. Blonde colored adult.

**Photo (If Possible):**

Chronological Events

- 16:15 - Environment (ENV) was notified of a single grizzly in the SCAP area
- 16:25 - ENV arrived on scene in a TRUCK and observed the grizzly laying behind a set of totes
- 16:26 - ENV moved the TRUCK towards the grizzly and used the TRUCK HORN
- 16:27 - Grizzly began to move north, over the berm, towards the A418 Haul Road
- 16:30 - Grizzly moved towards the vegetation patch adjacent to the ERT Training Grounds
- 16:35 - Grizzly moved deeper in the vegetation patch adjacent to the ERT Training Grounds.
- 16:40 - ENV left the scene.

**Movement Map (Import NotePlus Site Map)**



Photo 1

**Deterrent Count** 2 / 400 (0.5%)

**Truck** 2  
From 0 to 40

**Air Horn** 0  
From 0 to 40

**C/F Bear Banger** 0  
From 0 to 40

**C/F Pen Whistle** 0

From 0 to 40

**12GA Explosive**

0  
From 0 to 40

**12GA B.B. Marker**

0  
From 0 to 40

**12GA Rubber Bullet**

0  
From 0 to 40

**12GA Slug**

0  
From 0 to 40

**Helicopter**

0  
From 0 to 40

**Other**

0  
From 0 to 40

**Specify**

**End of Environment Call-out**

25.06.2025 16:40 MDT

**Final Location of Wildlife**

Vegetation Patch near ERT Training Grounds

Closure & Sign-off

1 / 1 (100%)

**Wildlife Report Complete**

On

**Signature**



Anton Jitnikovitch  
26.06.2025 08:02 MDT

Media summary



Photo 1

# Wildlife Report - 2025

Grizzly - 2025-07-02 - North Inlet to A154 Infield

Complete

<b>Score</b>	5 / 401 (1.25%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				Grizzly - 2025-07-02 - North Inlet to A154 Infield	
<b>Document No.</b>				WildlifeReport000438	
				02.07.2025	

**Audit**

5 / 401 (1.25%)

**Type of Wildlife Report**

Deterrent Reporting

Deterrent Report

4 / 400 (1%)

**Enter Initial Time of Wildlife Sighting**

02.07.2025 05:45 MDT

**Department/Individual Who Reported Wildlife:**

Site Services

**Environment at Call-out Location**

02.07.2025 06:04 MDT

**Animal Type**

Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**

Single blonde adult, small size.

**Photo (If Possible):**



Photo 1



Photo 2



Photo 3

**Chronological Events**

5:45 - Environment (ENV) was notified of a single grizzly in the North Inlet area.

6:04 - ENV arrived on scene in a TRUCK and observed the grizzly grazing in the vegetation patch by the North Inlet.

6:09 - Grizzly moved south and climbed on a berm. ENV moved the TRUCK towards the grizzly and used the TRUCK HORN x1 to prevent the bear from crossing the Airport Road.

6:15 - Grizzly crossed the Airport Road, ran to a small pond in front of the North Inlet and hide behind a pile of rock at the Till Dump.

6:18 - ENV let the grizzly cross the Airport Road again and followed while it continued to move southeast along the road.

6:30 - ENV used the TRUCK and TRUCK HORN x1 to keep the grizzly in the A154 area.

6:35 Grizzly moved northeast towards the A154 infield.

6:45 - Grizzly moved deeper in the vegetation patch of the northwest A154 infield. ENV monitored the grizzly.

7:03 - ENV left the scene.

**Movement Map (Import NotePlus Site Map)**

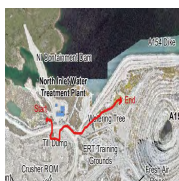


Photo 4

Deterrent Count	4 / 400 (1%)
<b>Truck</b>	2 From 0 to 40
<b>Air Horn</b>	0 From 0 to 40
<b>C/F Bear Banger</b>	0 From 0 to 40
<b>C/F Pen Whistle</b>	0 From 0 to 40
<b>12GA Explosive</b>	0 From 0 to 40
<b>12GA B.B. Marker</b>	0 From 0 to 40
<b>12GA Rubber Bullet</b>	0 From 0 to 40
<b>12GA Slug</b>	0 From 0 to 40
<b>Helicopter</b>	0 From 0 to 40
<b>Other</b>	2 From 0 to 40
<b>Specify</b>	Truck horn
<b>End of Environment Call-out</b>	02.07.2025 07:03 MDT
<b>Final Location of Wildlife</b>	
A154 Infield (northwest).	
Closure & Sign-off	1 / 1 (100%)
<b>Wildlife Report Complete</b>	<b>On</b>
<b>Signature</b>	
Jessica Gosselin 06.07.2025 11:08 MDT	

## Media summary



Photo 1



Photo 2



Photo 3



Photo 4

# Wildlife Report - 2025

Grizzly - 2025-07-11 - Pond 5

Complete

<b>Score</b>	5 / 401 (1.25%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Grizzly - 2025-07-11 - Pond 5

**Document No.**

WildlifeReport000439

12.07.2025

**Audit**

5 / 401 (1.25%)

**Type of Wildlife Report**

Deterrent Reporting

Deterrent Report

4 / 400 (1%)

**Enter Initial Time of Wildlife Sighting**

12.07.2025 21:00 MDT

**Department/Individual Who Reported Wildlife:**

Surface ops

**Environment at Call-out Location**

12.07.2025 21:15 MDT

**Animal Type**

Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**

Single blonde grizzly

**Photo (If Possible):**

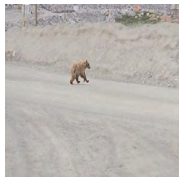


Photo 1

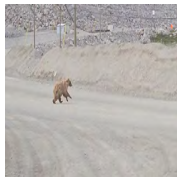


Photo 2

**Chronological Events**

21:00 - Environment (ENV) Received a call grizzly spotted at Pond 5

21:15 - ENV arrives at location. Pit supervisor shows where the bear is located and leaves area.

21:20 - ENV uses GUN ACTION x2, bear starts walking towards South haul road.

21:35 - ENV monitors bear down by the bay, ENV used EXT RANGE 2x in attempt to lure bear further from site, no movement.

21:50 - Bear starts walking back up towards pond 5, then up hill towards PKC.

22:25 - ENV searches areas on PKC for bear, then searched around main camp areas, no sight. ENV notified Pit supervisor last whereabouts and leave scene.

**Movement Map (Import NotePlus Site Map)**



Photo 3

**Deterrent Count**

4 / 400 (1%)

**Truck**

0  
From 0 to 40

<b>Air Horn</b>	0 From 0 to 40
<b>C/F Bear Banger</b>	0 From 0 to 40
<b>C/F Pen Whistle</b>	0 From 0 to 40
<b>12GA Explosive</b>	0 From 0 to 40
<b>12GA B.B. Marker</b>	0 From 0 to 40
<b>12GA Rubber Bullet</b>	2 From 0 to 40
<b>12GA Slug</b>	0 From 0 to 40
<b>Helicopter</b>	0 From 0 to 40
<b>Other</b>	2 From 0 to 40
<b>Specify</b>	Gun action
<b>End of Environment Call-out</b>	12.07.2025 22:30 MDT
<b>Final Location of Wildlife</b>	
PKC	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	
Tina Burke 12.07.2025 10:07 MDT	

## Media summary



Photo 1



Photo 2



Photo 3

# Wildlife Report - 2025

2025-07-23 - Back Fill

Complete

<b>Score</b>	4 / 401 (1%)	<b>Flagged items</b>	0	<b>Actions</b>	0
<b>Audit Title (Animal - yyyy-mm-dd - Location)</b>				2025-07-23 - Back Fill	
<b>Document No.</b>				WildlifeReport000440	
				24.07.2025	

**Audit**

4 / 401 (1%)

**Type of Wildlife Report**

Deterrent Reporting

Deterrent Report

3 / 400 (0.75%)

**Enter Initial Time of Wildlife Sighting**

23.07.2025 08:20 MDT

**Department/Individual Who Reported Wildlife:**

Backfill operator called in bear sighting near backfill, advised them to wait till we get on seen to get eyes on the grizzly.

**Environment at Call-out Location**

23.07.2025 08:25 MDT

**Animal Type**

Grizzly Bear

**Description (eg. number of individuals, colour, age, size, etc.):**

1- female grizzly , 4 years old , light brown, matted fur.

**Photo (If Possible):**



Photo 1

**Chronological Events**

8:20AM- Call to environment & All call was made.

8:25AM- Environment arrived on scene, grizzly was in ditch area of Backfill feeding, was not bothered by the arrival of our truck.

8:30AM- Talked with team on deter plan and where we would like the bear to potentially move. stepped onto top of the berm from behind the bear and started to clap and shout. Bear responded well to deter method, and took off into the pond 1 area, and then she (grizzly) flopped down on the PVC pipe at pond 1 and could barely move.

8:35AM- With grizzly now in pond 1 vegetation area, we discussed how matted/patchy the fur on the animal was, how skinny and droopy the face was, the ribs on the animal were apparent, and the energy of the grizzly being so low. She moved 20-30 meters and appeared to be completely exhausted.

8:50AM- Monitored Grizzly's in pond 1 veg. area and she wasn't moving, left grizzly there.

**Movement Map (Import NotePlus Site Map)**



Photo 2

**Deterrent Count**

3 / 400 (0.75%)

<b>Truck</b>	0 From 0 to 40
<b>Air Horn</b>	0 From 0 to 40
<b>C/F Bear Banger</b>	0 From 0 to 40
<b>C/F Pen Whistle</b>	0 From 0 to 40
<b>12GA Explosive</b>	0 From 0 to 40
<b>12GA B.B. Marker</b>	0 From 0 to 40
<b>12GA Rubber Bullet</b>	0 From 0 to 40
<b>12GA Slug</b>	0 From 0 to 40
<b>Helicopter</b>	0 From 0 to 40
<b>Other</b>	3 From 0 to 40
<b>Specify</b>	Yelling and clapping
<b>End of Environment Call-out</b>	23.07.2025 09:00 MDT
<b>Final Location of Wildlife</b>	
Pond 1 vegetation area.	
<b>Closure &amp; Sign-off</b>	1 / 1 (100%)
<b>Wildlife Report Complete</b>	On
<b>Signature</b>	
Brennan Debassige 24.07.2025 07:27 MDT	

## Media summary



Photo 1



Photo 2

# Wildlife Report - 2025

Wolf - 2025-11-22 - NCRP

Complete

<b>Score</b>	3 / 401 (0.75%)	<b>Flagged items</b>	0	<b>Actions</b>	0
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**Audit Title (Animal - yyyy-mm-dd - Location)**

Wolf - 2025-11-22 - NCRP

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**Document No.**

WildlifeReport000450

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22.11.2025

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**Audit** 3 / 401 (0.75%)

**Type of Wildlife Report** Deterrent Reporting

Deterrent Report 2 / 400 (0.5%)

**Enter Initial Time of Wildlife Sighting** 22.11.2025 10:40 MST


**Department/Individual Who Reported Wildlife:**  
Surface


**Environment at Call-out Location** 22.11.2025 10:50 MST

**Animal Type** Wolf

**Description (eg. number of individuals, colour, age, size, etc.):**  
2 large grey wolves

**Photo (If Possible):**


 Photo 1

 Photo 2

**Chronological Events**

10:40 - Environment (ENV) received a call, 2 wolves spotted on top of the North Country Rock Pile (NCRP)  
10:50 - ENV arrives and surface supervisor still had eyes on the wolves, and showed ENV direction  
11:05 - ENV follows at distance behind wolves East on the NCRP  
11:11 - ENV monitors the wolves walking Northwest, shoots 2x C/F bangers as warnings  
11:50 - ENV searches surrounding areas and leaves scene

**Movement Map (Import NotePlus Site Map)**

 Photo 3

**Deterrent Count** 2 / 400 (0.5%)

**Truck** 0  
From 0 to 40

**Air Horn** 0  
From 0 to 40

**C/F Bear Banger** 2  
From 0 to 40

C/F Pen Whistle 0  
From 0 to 40

12GA Explosive 0  
From 0 to 40

12GA B.B. Marker 0  
From 0 to 40

12GA Rubber Bullet 0  
From 0 to 40

12GA Slug 0  
From 0 to 40

Helicopter 0  
From 0 to 40

Other 0  
From 0 to 40

**Specify**

**End of Environment Call-out** 22.11.2025 11:50 MST

**Final Location of Wildlife**

NW away from site

Closure & Sign-off 1 / 1 (100%)

**Wildlife Report Complete** On

**Signature**

Tina Burke  
22.11.2025 17:58 MST



**APPENDIX K**

**Wolverine Snow Track  
Survey Results, 2025**

Date	Transect	UTM Zone 12 W		Days Since		Observation Type	Number of Individuals	Age of Track Since Weather Event	Comments
		Easting	Northing	Last Snow	Last Wind				
26-Mar	WT17	570016	7157838	4	4.5	Tracks	2	After	Crossed multiple times at start of transect, generally heading in NE direction. Male & Female
26-Mar	WT17	523079	7159678	4	4.5	Tracks	1	After	Lot of caribou activity in area. Tracks heading towards herd of 200+ to NE
26-Mar	WT32	523563	7161053	4	4.5	Tracks	1	After	Large male heading to SW
26-Mar	WT16	526907	7155060	4	4.5	Tracks	2	After	Male & female heading N
26-Mar	WT36	526670	7147446	4	4.5	Tracks	1	After	Single male heading SW. Droppings nearby with caribou fur and bone present within.
26-Mar	WT36	527433	7147744	4	4.5	Tracks	2	After	Male & female. Possibly same from earlier in transect. Heading South
27-Mar	WT31	557418	7167819	5	5.5	Tracks	2	After	Male & female. Newer tracks (<1 day) female
27-Mar	WT31	557315	7167180	5	5.5	Tracks	1	After	Female, likely same as earlier in transect
27-Mar	WT07	553482	7166754	5	5.5	Tracks	2	After	2 males both heading South
27-Mar	WT05	546728	7166720	5	5.5	Tracks	1	After	1 male heading Southwest
27-Mar	WT06	548317	7168933	5	5.5	Tracks	1	After	1 female heading Southeast
27-Mar	-	-	-	5	5.5	Animals	1	After	Wolverine spotted while travelling between transects
27-Mar	WT34	542419	7171509	5	5.5	Tracks	1	After	1 female older tracks heading South
27-Mar	WT34	542130	7171184	5	5.5	Tracks	1	After	Very snowed in tracks. EL confirms they are wolverine tracks
28-Mar	WT20	538187	7137531	6	6	Tracks	1	After	Following a small herd, SE
28-Mar	WT20	535715	7137406	6	6	Tracks	2	After	Male & female tracks headed East
28-Mar	WT27	530156	8140086	6	6	Tracks	1	After	Pretty old tracks, hard to determine
29-Mar	WT39	555711	7140813	7	7.5	Tracks	1	After	Large male heading South
29-Mar	WT29	556670	7145881	7	7.5	Tracks	1	After	Average male heading Southwest
29-Mar	WT29	555708	7146305	7	7.5	Tracks	2	After	Male & female heading Southwest
29-Mar	WT21	556240	7143934	7	7.5	Tracks	2	After	Male & female heading Northwest
29-Mar	WT30	545666	7145646	7	7.5	Tracks	1	After	Male heading Southwest
29-Mar	WT30	545771	7145843	7	7.5	Tracks	1	After	Small female, heading Northeast
29-Mar	WT30	547045	7147328	7	7.5	Tracks	1	After	Average male, heading Northwest
29-Mar	WT10	542603	7149155	7	7.5	Tracks	1	After	Male, heading East
29-Mar	WT10	542752	7150014	7	7.5	Tracks	1	After	Large male heading towards Shrubs/trees to East
29-Mar	WT09	539014	7149050	7	7.5	Tracks	2	After	2 males one set fresh, other 2 days old. Heading South
30-Mar	WT22	551523	7151900	8	8.5	Tracks	1	After	Female heading West.
30-Mar	WT22	551969	7152223	8	8.5	Tracks	1	After	Old tracks, likely a week or so heading N
30-Mar	WT22	553109	7153119	8	8.5	Tracks	1	After	Old tracks, likely a female. Many directions across transect
30-Mar	WT08	548847	7156481	8	8.5	Tracks	2	After	Fresh tracks. Average female & large male, heading Northwest

Date	Transect	UTM Zone 12 W		Days Since		Observation Type	Number of Individuals	Age of Track Since Weather Event	Comments
		Easting	Northing	Last Snow	Last Wind				
30-Mar	WT08	548893	7156824	8	8.5	Tracks	1	After	Male heading West
30-Mar	WT08	549442	7159556	8	8.5	Tracks	2	After	Male & female - heading West
30-Mar	WT24	543515	7159186	8	8.5	Tracks	1	After	Average male heading Southeast
30-Mar	WT14	543354	7153954	8	8.5	Tracks	2	After	Male & female, multiple directions
30-Mar	WT14	542065	7153427	8	8.5	Tracks	1	After	Male chasing female, multiple times across transect
30-Mar	WT33	538181	7156901	8	8.5	Tracks	1	After	Average male heading North towards Ekati
30-Mar	WT33	537995	7156923	8	8.5	Tracks	1	After	Small female heading North towards Ekati
31-Mar	WT18	556591	7133310	9	9.5	Tracks	1	After	Medium tracks
31-Mar	WT40	550408	7131786	9	9.5	Tracks	1	After	Medium tracks
31-Mar	WT25	550544	7138329	9	9.5	Tracks	1	After	Medium tracks
31-Mar	WT25	550112	7138441	9	9.5	Tracks	2	After	Medium, small tracks
31-Mar	WT37	548638	7136463	9	9.5	Tracks	1	After	Medium tracks
31-Mar	WT37	546910	7136111	9	9.5	Tracks	2	After	Large tracks
31-Mar	WT37	545898	7135814	9	9.5	Tracks	1	After	Medium tracks
31-Mar	WT38	545756	7139532	9	9.5	Tracks	1	After	Female tracks
31-Mar	WT15	539692	7141610	9	9.5	Tracks	1	After	Large tracks
31-Mar	WT15	539081	7144261	9	9.5	Tracks	1	After	Female wolverine tracks
03-Apr	WT05	548556	7165232	1	10	Tracks	1	Before	-
03-Apr	WT05	547161	7166530	1	10	Tracks	1	After	Medium sized
03-Apr	WT06	552388	7169751	1	10	Tracks	1	After	Small wolverine
05-Apr	WT28	535863	7130518	1	12	Tracks	1	After	Large tracks, west to east
05-Apr	WT28	587345	7160536	1	12	Tracks	2	Before	Male and Female, west to NE
05-Apr	WT19	541572	7134537	1	12	Tracks	1	After	Medium sized
05-Apr	WT20	531154	7139964	1	12	Tracks	1	After	Large male, going Northeast
05-Apr	WT27	531891	7139964	1	12	Animals	1	After	Large male
05-Apr	WT03	527053	7144128	1	12	Tracks	1	After	East to west
08-Apr	WT30	546112	7146217	2	2	Tracks	1	After	Heading S
09-Apr	WT18	555227	7133106	2	2	Tracks	1	After	Heading S
09-Apr	WT37	548743	7136502	2	2	Tracks	1	Before	Heading North, old
09-Apr	WT37	547963	7136275	2	2	Tracks	1	After	Crossing ice road heading Southwest
09-Apr	WT37	546249	7135839	2	2	Tracks	1	Before	Heading SW, old tracks, unsure if wolverine
09-Apr	WT04	535254	7143117	2	2	Tracks	1	After	Heading South

**APPENDIX L**

**Wolverine Incidental  
Observations Summary, 2025**

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Date	Number of Animals	Characteristics of Animals	Location
2025-12-01	1	Single wolverine, no description given	North Haul Road
2025-12-27	1	Running across ice in distance, looked OK	LDG Ice/ wind tower 2

**APPENDIX M**

**Pit Wall – Mine Infrastructure  
Raptor Survey Results, 2025**

Date	Area	Method Used (D/L) <sup>(a)</sup>	Bird Species <sup>(b)</sup>	Species at Risk Migratory Bird <sup>(c,d)</sup>	Number of Observed	Confirmed Active Nest (Y/N) <sup>(c)</sup>	Potential Nesting (Y/N) <sup>(c)</sup>	Young / Fledglings (Y#/N/U) <sup>(c)</sup>	Comments
2025-05-17	A154 Lookout #1	L	PEFA	N	2	N	N	N	-
2025-05-17	A154 Lookout #2	L	-	N	-	N	N	N	-
2025-05-17	A418 Lookout #1	L	ROHA	N	2	N	N	N	-
2025-05-17	A418 Lookout #2	L	PEFA/ROHA	N	3	N	N	N	unable to identify how many of each
2025-05-17	South Tank Farm	L	CORA	N	1	Y	Y	N	-
2025-05-17	Process Plant	L	PEFA	N	1	N	N	N	-
2025-05-17	Powerhouse #1	D	-	N	-	N	N	N	-
2025-05-17	Powerhouse #2	D	-	N	-	N	N	N	-
2025-05-17	Boiler House	L	-	N	-	N	N	N	-
2025-05-17	Site Services Lineup	D	PEFA	N	1	N	N	N	see note from process plant
2025-05-17	Backfill Plant	L	-	N	-	N	N	N	-
2025-05-17	A21 North Wall	L	PEFA	N	2	N	N	N	-
2025-05-17	A21 East Wall	L	-	N	-	N	N	N	-
2025-05-17	A21 South Wall	L	-	N	-	N	N	N	-
2025-05-17	A21 S Ramp	L	-	N	-	N	N	N	-
2025-05-24	A154 Lookout #1	-	-	N	-	-	-	-	-
2025-05-24	A154 Lookout #2	-	-	N	-	-	-	-	-
2025-05-24	A418 Lookout #1	L	PEFA	N	2				
2025-05-24	A418 Lookout #2	L	UNK	N	1				
2025-05-24	South Tank Farm	D	CORA	N	1	Y	Y	Y3	
2025-05-24	Process Plant	L	PEFA	N	1				
2025-05-24	Powerhouse #1	D		N					
2025-05-24	Powerhouse #2	D		N					
2025-05-24	Boiler House	D		N					
2025-05-24	Site Services Lineup	L		N					
2025-05-24	Backfill Plant	D		N					
2025-05-24	A21 North Wall	L	-	N	-	-	-	-	-
2025-05-24	A21 East Wall	L	-	N	-	-	-	-	-
2025-05-24	A21 South Wall	L	-	N	-	-	-	-	-
2025-05-24	A21 S Ramp	L	-	N	-	-	-	-	-
2025-06-07	A154 Lookout #1	L	-	N	-	-	-	-	-
2025-06-07	A154 Lookout #2	L	-	N	-	-	-	-	-
2025-06-07	A418 Lookout #1	L	-	N	-	-	-	-	-
2025-06-07	A418 Lookout #2	L	-	N	-	-	-	-	-
2025-06-07	South Tank Farm	L	CORA	N	2	Y	N	Y?	
2025-06-07	Process Plant	L	-	N	-	-	-	-	-
2025-06-07	Powerhouse #1	L	-	N	-	-	-	-	-
2025-06-07	Powerhouse #2	L	-	N	-	-	-	-	-
2025-06-07	Boiler House	L	-	N	-	-	-	-	-
2025-06-07	Site Services Lineup	L	-	N	-	-	-	-	-
2025-06-07	Backfill Plant	D	-	N	-	-	-	-	-
2025-06-07	A21 North Wall	L	-	N	-	-	-	-	-
2025-06-07	A21 East Wall	L	-	N	-	-	-	-	-
2025-06-07	A21 South Wall	L	-	N	-	-	-	-	-
2025-06-07	A21 S Ramp	L	-	N	-	-	-	-	-
2025-06-15	A154 Lookout #1	L	UNK	N	1	N	N	N	Raptor far to ID
2025-06-15	A154 Lookout #2	L	-	N	-	-	-	-	-
2025-06-15	A418 Lookout #1	L	RLHA	N	1	N	N	N	-

Date	Area	Method Used (D/L) <sup>(a)</sup>	Bird Species <sup>(b)</sup>	Species at Risk Migratory Bird <sup>(c,d)</sup>	Number of Observed	Confirmed Active Nest (Y/N) <sup>(c)</sup>	Potential Nesting (Y/N) <sup>(c)</sup>	Young / Fledglings (Y#/N/U) <sup>(c)</sup>	Comments
2025-06-15	A418 Lookout #2	L	RLHA	N	1	N	N	N	Same hawk from lookout #1
2025-06-15	South Tank Farm	L	CORA	N	5	N	N	N	2 adults, 3 young successfully fledged
2025-06-15	Process Plant	D	-	N	-	-	-	-	-
2025-06-15	Powerhouse #1	D	-	N	-	-	-	-	-
2025-06-15	Powerhouse #2	D	-	N	-	-	-	-	-
2025-06-15	Boiler House	D	-	N	-	-	-	-	-
2025-06-15	Site Services Lineup	L	PEFA	N	1	N	Y	N	
2025-06-15	Backfill Plant	D	-	N	-	-	-	-	-
2025-06-15	A21 North Wall	L	-	N	-	-	-	-	-
2025-06-15	A21 East Wall	L	-	N	-	-	-	-	-
2025-06-15	A21 South Wall	L	-	N	-	-	-	-	-
2025-06-15	A21 S Ramp	L	-	N	-	-	-	-	-
2025-06-21	A154 Lookout #1	L	-	N	0	-	-	-	-
2025-06-21	A154 Lookout #2	L	-	N	0	-	-	-	-
2025-06-21	A418 Lookout #1	L	-	N	0	-	-	-	-
2025-06-21	A418 Lookout #2	L	-	N	0	-	-	-	-
2025-06-21	South Tank Farm	D	-	N	0	-	-	-	-
2025-06-21	Process Plant	L	-	N	0	-	-	-	-
2025-06-21	Powerhouse #1	D	-	N	0	-	-	-	-
2025-06-21	Powerhouse #2	D	-	N	0	-	-	-	-
2025-06-21	Boiler House	D	-	N	0	-	-	-	-
2025-06-21	Site Services Lineup	D	-	N	0	-	Y	-	-
2025-06-21	Backfill Plant	D	-	N	0	-	-	-	-
2025-06-21	A21 North Wall	L	-	N	0	-	-	-	-
2025-06-21	A21 East Wall	L	-	N	0	-	-	-	-
2025-06-21	A21 South Wall	L	-	N	0	-	-	-	-
2025-06-21	A21 S Ramp	L	-	N	0	-	-	-	-
2025-06-30	A154 Lookout #1	L	-	N	0	-	-	-	-
2025-06-30	A154 Lookout #2	L	-	N	0	-	-	-	-
2025-06-30	A418 Lookout #1	L	-	N	0	-	-	-	Survey at 1st thermistors, loader working in the infield.
2025-06-30	A418 Lookout #2	L	RLHA	N	1	N	N	-	-
2025-06-30	South Tank Farm	D	-	N	0	-	-	-	-
2025-06-30	Process Plant	L	PEFA	N	1	N	N	-	-
2025-06-30	Powerhouse #1	D	-	N	0	-	-	-	-
2025-06-30	Powerhouse #2	D	-	N	0	-	-	-	-
2025-06-30	Boiler House	D	-	N	0	-	-	-	-
2025-06-30	Site Services Lineup	L	PEFA	N	2	Y	-	N	1 perched, 1 nesting.
2025-06-30	Backfill Plant	D	-	N	0	-	-	-	-
2025-06-30	A21 North Wall	L	-	N	0	-	-	-	-
2025-06-30	A21 East Wall	L	-	N	0	-	-	-	-
2025-06-30	A21 South Wall	L	-	N	0	-	-	-	-
2025-06-30	A21 S Ramp	L	-	N	0	-	-	-	-
2025-07-12	A154 Lookout #1	L	-	N	0	-	-	-	-
2025-07-12	A154 Lookout #2	L	-	N	0	-	-	-	-
2025-07-12	A418 Lookout #1	L	-	N	0	-	-	-	-
2025-07-12	A418 Lookout #2	L	-	N	0	-	-	-	-
2025-07-12	South Tank Farm	D	-	N	0	-	-	-	Successful fledging - removed the nest from the stairs on July 13, 2025 by TB RH
2025-07-12	Process Plant	L	-	N	0	-	-	-	-

Date	Area	Method Used (D/L) <sup>(a)</sup>	Bird Species <sup>(b)</sup>	Species at Risk Migratory Bird <sup>(c,d)</sup>	Number of Observed	Confirmed Active Nest (Y/N) <sup>(c)</sup>	Potential Nesting (Y/N) <sup>(c)</sup>	Young / Fledglings (Y#/N/U) <sup>(c)</sup>	Comments
2025-07-12	Powerhouse #1	D	-	N	0	-	-	-	-
2025-07-12	Powerhouse #2	D	-	N	0	-	-	-	-
2025-07-12	Boiler House	D	-	N	0	-	-	-	-
2025-07-12	Backfill Plant	D	-	N	0	-	-	-	-
2025-07-12	Comms Shack	-	ROBIN	N	0	N	-	-	Abandoned egg, removed the nest.
2025-07-19	A154 Lookout #1	L	-	N	0	-	-	-	-
2025-07-19	A154 Lookout #2	L	-	N	0	-	-	-	-
2025-07-19	A418 Lookout #1	L	-	N	0	-	-	-	-
2025-07-19	A418 Lookout #2	L	-	N	0	-	-	-	-
2025-07-19	South Tank Farm	D	-	N	0	-	-	-	-
2025-07-19	Process Plant	D	-	N	0	-	-	-	-
2025-07-19	Powerhouse #1	D	-	N	0	-	-	-	-
2025-07-19	Powerhouse #2	D	-	N	0	-	-	-	-
2025-07-19	Boiler House	D	-	N	0	-	-	-	-
2025-07-19	Site Services Lineup	D	-	N	0	-	-	-	Old nest(from last year) is gone - not active, second nest not active
2025-07-19	Backfill Plant	D	-	N	0	-	-	-	-
2025-07-19	A21 North Wall	L	UNK	N	1	-	-	-	Raptor too far to ID
2025-07-19	A21 East Wall	L	-	N	0	-	-	-	-
2025-07-19	A21 South Wall	L	-	N	0	-	-	-	-
2025-07-19	A21 S Ramp	L	-	N	0	-	-	-	-
2025-07-26	A154 Lookout #1	L	-	N	0	-	-	-	-
2025-07-26	A154 Lookout #2	L	-	N	0	-	-	-	-
2025-07-26	A418 Lookout #1	L	-	N	0	-	-	-	-
2025-07-26	A418 Lookout #2	L	PEFA	N	1	N	N	-	-
2025-07-26	South Tank Farm	D	-	N	0	-	-	-	-
2025-07-26	Process Plant	D	-	N	0	-	-	-	-
2025-07-26	Powerhouse #1	D	-	N	0	-	-	-	-
2025-07-26	Powerhouse #2	D	-	N	0	-	-	-	-
2025-07-26	Boiler House	D	-	N	0	-	-	-	-
2025-07-26	Site Services Lineup	D	-	N	0	-	-	-	Nest inactive. No PEFA observed in the area.
2025-07-26	Backfill Plant	D	-	N	0	-	-	-	-
2025-07-26	A21 North Wall	L	-	N	0	-	-	-	-
2025-07-26	A21 East Wall	L	-	N	0	-	-	-	-
2025-07-26	A21 South Wall	L	PEFA	N	1	N	N	-	-
2025-08-02	A21 S Ramp	L	PEFA	N	1	N	N	-	-
2025-08-02	A154 Lookout #1	L	-	N	-	-	-	-	-
2025-08-02	A154 Lookout #2	L	-	N	-	-	-	-	-
2025-08-02	A418 Lookout #1	L	-	N	-	-	-	-	-
2025-08-02	A418 Lookout #2	L	-	N	-	-	-	-	-
2025-08-02	South Tank Farm	D	-	N	-	-	-	-	-
2025-08-02	Process Plant	L	-	N	-	-	-	-	-
2025-08-02	Powerhouse #1	D	-	N	-	-	-	-	-
2025-08-02	Powerhouse #2	D	-	N	-	-	-	-	-
2025-08-02	Boiler House	D	-	N	-	-	-	-	-
2025-08-02	Site Services Lineup	L	-	N	-	-	-	-	-
2025-08-02	Backfill Plant	D	-	N	-	-	-	-	-
2025-08-02	A21 North Wall	L	-	N	-	-	-	-	-
2025-08-02	A21 East Wall	L	-	N	-	-	-	-	-

Date	Area	Method Used (D/L) <sup>(a)</sup>	Bird Species <sup>(b)</sup>	Species at Risk Migratory Bird <sup>(c,d)</sup>	Number of Observed	Confirmed Active Nest (Y/N) <sup>(c)</sup>	Potential Nesting (Y/N) <sup>(c)</sup>	Young / Fledglings (Y#/N/U) <sup>(c)</sup>	Comments
2025-08-02	A21 South Wall	L	-	N	-	-	-	-	-
2025-08-02	A21 S Ramp	L	-	N	-	-	-	-	-
2025-08-16	A154 Lookout #1	L	-	N	-	-	-	-	-
2025-08-16	A154 Lookout #2	L	-	N	-	-	-	-	-
2025-08-16	A418 Lookout #1	L	-	N	-	-	-	-	-
2025-08-16	A418 Lookout #2	L	-	N	-	-	-	-	-
2025-08-16	South Tank Farm	D	-	N	-	-	-	-	-
2025-08-16	Process Plant	D	-	N	-	-	-	-	-
2025-08-16	Powerhouse #1	D	-	N	-	-	-	-	-
2025-08-16	Powerhouse #2	D	-	N	-	-	-	-	-
2025-08-16	Boiler House	D	-	N	-	-	-	-	-
2025-08-16	Site Services Lineup	D	-	N	-	-	-	-	-
2025-08-16	Backfill Plant	D	-	N	-	-	-	-	-
2025-08-16	A21 North Wall	L	-	N	-	-	-	-	-
2025-08-16	A21 East Wall	L	-	N	-	-	-	-	-
2025-08-16	A21 South Wall	L	-	N	-	-	-	-	-
2025-08-16	A21 S Ramp	D	-	N	-	-	-	-	-

(a) "D" refers to an observation made from within a vehicle ("Driving") and "L" refers to ground observation made outside of a vehicle ("Looking").

(b) RLHA = Rough-legged hawk (*Buteo lagopus*); CORA = Common Raven (*Corvus corax*); GYRF = gyrfalcon (*Falco rusticolus*); and PEFA = peregrine falcon (*Falco peregrinus anatum/tundrius*).

(c) "Y" = Yes; "N" = No; and U = unknown.

(d) Government of the Northwest Territories. 2023. Our Species at Risk. <https://www.nwtspeciesatrisk.ca/en/our-species-risk>. Accessed March 31, 2025.

**APPENDIX N**

**Camp Population, 2025**

Month	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
January	-	-	-	389	429	443	534	593	866	692	495	603	627	542	489	510	542	565	578	562	583	550	529	600	517	516
February	-	-	-	424	408	512	671	682	973	702	545	661	647	574	524	557	573	615	627	579	617	571	577	620	532	532
March	63	402	576	413	453	585	748	729	1010	712	552	672	617	559	508	556	572	635	620	580	578	584	591	623	570	524
April	-	-	-	318	570	678	743	755	1001	679	548	648	595	553	495	543	580	684	590	570	546	567	570	616	570	499
May	-	-	-	333	470	682	871	854	1021	645	610	634	618	561	509	552	642	718	614	594	616	581	582	605	564	489
June	189	523	751	326	392	746	821	873	1,028	600	612	641	611	552	500	561	694	698	587	606	606	574	564	591	545	481
July	-	-	-	443	396	736	819	857	600	378	589	588	607	524	465	554	701	692	574	583	606	545	540	560	516	444
August	-	-	-	425	399	745	768	868	990	335	623	607	625	524	442	562	703	651	562	584	597	546	532	512	508	441
September	211	681	879	432	408	755	708	943	993	526	639	648	608	547	466	586	704	670	561	609	585	563	545	550	542	449
October	-	-	-	457	390	726	714	950	1,042	524	620	646	577	546	481	564	664	649	563	589	565	550	557	575	549	446
November	-	-	-	379	425	670	704	984	1,043	536	608	648	579	515	498	550	627	618	562	604	569	566	567	588	541	436
December	287	881	766	-	386	611	524	696	1,030	453	510	546	464	452	460	498	490	518	518	545	551	505	533	564	490	391
<b>Maximum</b>	<b>211</b>	<b>681</b>	<b>879</b>	<b>433</b>	<b>408</b>	<b>755</b>	<b>821</b>	<b>943</b>	<b>1,028</b>	<b>600</b>	<b>639</b>	<b>672</b>	<b>647</b>	<b>574</b>	<b>500</b>	<b>562</b>	<b>703</b>	<b>698</b>	<b>587</b>	<b>609</b>	<b>606</b>	<b>584</b>	<b>591</b>	<b>646</b>	<b>642</b>	<b>532</b>

**APPENDIX O**

**Waste Inspections Summary, 2025**

Date	Location	Attractants				Wildlife				Wildlife Sign			
		Attractants Present?	Items	Number of Items Present	Comments	Wildlife Present?	Species	# of Individuals Observed	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2025-01-02	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-08	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-15	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-22	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-29	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-05	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-12	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-19	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-26	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-05	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-13	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-19	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-26	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-03	A21	Yes	Aerosol Cans	2	-	No	-	-	-	No	-	-	-
2025-04-09	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-23	A21	Yes	Drink Containers Recyclable	1	-	No	-	-	-	No	-	-	-
2025-04-30	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-07	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-15	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-28	A21	Yes	Gloves	1	-	No	-	-	-	No	-	-	-
2025-06-04	A21	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-06-11	A21	No	-	0	-	Yes	Species not identified	1	small bird - pale yellow, grey	No	-	-	-
2025-06-19	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-25	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-03	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-09	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-16	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-23	A21	Yes	Cigarette Butts, Other	101	In non-burn bin. Electronic card.	No	-	-	-	No	-	-	-
2025-07-30	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-06	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-28	A21	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-09-03	A21	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-09-10	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-17	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-25	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-01	A21	No	-	0	-	No	-	-	-	No	-	-	-

Date	Location	Attractants				Wildlife				Wildlife Sign			
		Attractants Present?	Items	Number of Items Present	Comments	Wildlife Present?	Species	# of Individuals Observed	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2025-10-09	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-15	A21	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-10-23	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-29	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-05	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-12	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-20	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-27	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-04	A21	Yes	Gloves	1	Fire extinguisher and PPE glove in non-burn bin	No	-	-	-	No	-	-	-
2025-12-11	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-17	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-24	A21	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-02	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-04	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-08	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-11	Landfill	Yes	Gloves	3	-	No	-	-	-	No	-	-	-
2025-01-15	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-18	Landfill	Yes	Food Packaging	10	-	No	-	-	-	No	-	-	-
2025-01-22	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Gloves	7	-	No	-	-	-	No	-	-	-
2025-01-25	Landfill	No	-	0	Fresh snowfall, no new waste since Wednesday	No	-	-	-	No	-	-	-
2025-01-29	Landfill	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-02-01	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-05	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-08	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-12	Landfill	Yes	Food Packaging, Gloves	12	-	No	-	-	-	No	-	-	-
2025-02-16	Landfill	Yes	Gloves	3	-	No	-	-	-	No	-	-	-
2025-02-19	Landfill	Yes	Drink Containers	1	-	No	-	-	-	No	-	-	-
2025-02-22	Landfill	Yes	Drink Containers Recyclable, Food, Food Packaging, Gloves	44	5+ lunch bags filled with food and food contact waste	No	-	-	-	No	-	-	-
2025-02-26	Landfill	Yes	Drink Containers Recyclable, Food Packaging, Gloves	27	-	No	-	-	-	No	-	-	-

Date	Location	Attractants				Wildlife				Wildlife Sign			
		Attractants Present?	Items	Number of Items Present	Comments	Wildlife Present?	Species	# of Individuals Observed	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2025-03-01	Landfill	Yes	Drink Containers Recyclable, Food, Food Packaging, Gloves	26	-	No	-	-	-	No	-	-	-
2025-03-05	Landfill	No	-	0	Wildlife tracks	No	-	-	-	Yes	Red Fox	Tracks	-
2025-03-08	Landfill	No	-	0	Red Fox tracks	No	-	-	-	Yes	Red Fox	Tracks	-
2025-03-13	Landfill	Yes	Food Packaging, Other	3	-	No	-	-	-	No	-	-	-
2025-03-15	Landfill	Yes	Drink Containers Recyclable, Food Packaging	2	-	No	-	-	-	No	-	-	-
2025-03-19	Landfill	Yes	Aerosol Cans	1	-	No	-	-	-	No	-	-	-
2025-03-23	Landfill	Yes	Cigarette Butts, Drink Containers Recyclable, Other	6	-	No	-	-	-	No	-	-	-
2025-03-26	Landfill	Yes	Aerosol Cans, Gloves	3	-	No	-	-	-	No	-	-	-
2025-03-29	Landfill	Yes	Batteries, Gloves, Oil Contaminated Waste, Oily Rags, Other	24	Other (1) vape	No	-	-	-	No	-	-	-
2025-04-02	Landfill	Yes	Drink Containers Recyclable	2	-	No	-	-	-	No	-	-	-
2025-04-05	Landfill	Yes	Gloves	4	-	No	-	-	-	No	-	-	-
2025-04-09	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-12	Landfill	Yes	Batteries, Cigarette Packaging, Drink Containers Recyclable, Gloves, Oily Rags	22	-	No	-	-	-	No	-	-	-
2025-04-19	Landfill	Yes	Other	1	fire extinguisher(1)	No	-	-	-	No	-	-	-
2025-04-23	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-26	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-30	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Oil Products and Containers	5	-	No	-	-	-	No	-	-	-
2025-05-03	Landfill	Yes	Batteries, Cigarette Packaging, Other	3	Electronic card	No	-	-	-	No	-	-	-
2025-05-07	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-10	Landfill	Yes	Food Packaging, Gloves, Oily Rags, Other	9	Electronic cards x3	No	-	-	-	No	-	-	-
2025-05-15	Landfill	Yes	Aerosol Cans, Food Packaging, Gloves	4	-	No	-	-	-	No	-	-	-
2025-05-24	Landfill	Yes	Drink Containers Recyclable, Gloves	5	11 hardhats, Windex bottle, PPE vest, safety glasses	No	-	-	-	No	-	-	-

Date	Location	Attractants				Wildlife				Wildlife Sign			
		Attractants Present?	Items	Number of Items Present	Comments	Wildlife Present?	Species	# of Individuals Observed	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2025-05-28	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-31	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-04	Landfill	Yes	Gloves, Oily Rags, Other	22	-	No	-	-	-	No	-	-	-
2025-06-07	Landfill	Yes	Aerosol Cans, Cigarette Packaging	2	-	No	-	-	-	No	-	-	-
2025-06-11	Landfill	Yes	Gloves, Oil Contaminated Waste, Oily Rags, Other	16	PPE glasses, face masks x2, hard hat x6, PPE vest,	No	-	-	-	No	-	-	-
2025-06-14	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-19	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-21	Landfill	Yes	Food Packaging, Other	2	1 PPE vest	No	-	-	-	No	-	-	-
2025-06-25	Landfill	Yes	Aerosol Cans, Cigarette Packaging, Food Packaging, Gloves, Oil Products and Containers, Other	33	-	No	-	-	-	No	-	-	-
2025-06-28	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-03	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-06	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-09	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Food Packaging, Gloves, Other	11	-	No	-	-	-	No	-	-	-
2025-07-12	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Food Packaging, Gloves, Other	11	No new piles, same mis-segregated waste as found on July 9 inspection.	No	-	-	-	No	-	-	-
2025-07-16	Landfill	Yes	Aerosol Cans, Cigarette Packaging, Drink Containers Recyclable, Food, Food Packaging, Gloves	30	-	No	-	-	-	No	-	-	-
2025-07-19	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-23	Landfill	Yes	Aerosol Cans, Batteries, Cigarette Packaging, Drink Containers Recyclable, Food Packaging, Oil Contaminated Waste, Oil Products and Containers	14	-	No	-	-	-	No	-	-	-

Date	Location	Attractants				Wildlife				Wildlife Sign			
		Attractants Present?	Items	Number of Items Present	Comments	Wildlife Present?	Species	# of Individuals Observed	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2025-07-26	Landfill	Yes	Aerosol Cans, Cigarette Butts, Cigarette Packaging, Drink Containers Recyclable, Food Packaging, Gloves, Oil Products and Containers	421	-	No	-	-	-	No	-	-	-
2025-07-30	Landfill	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-08-02	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Food	3	-	No	-	-	-	No	-	-	-
2025-08-06	Landfill	Yes	Aerosol Cans, Batteries, Cigarette Packaging, Drink Containers Recyclable, Food Packaging, Gloves, Oily Rags, Other	72	Full bag of aerosol cans , PPE boots (4)	No	-	-	-	No	-	-	-
2025-08-16	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Food Packaging, Gloves, Other	54	Jacket(1)	No	-	-	-	No	-	-	-
2025-08-23	Landfill	Yes	Cigarette Butts, Drink Containers Recyclable, Food Packaging, Oil Products and Containers	79	-	No	-	-	-	No	-	-	-
2025-08-28	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-03	Landfill	Yes	Drink Containers Recyclable, Food Packaging, Gloves	3	-	No	-	-	-	No	-	-	-
2025-09-06	Landfill	Yes	Drink Containers Recyclable	1	-	No	-	-	-	No	-	-	-
2025-09-10	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-13	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-17	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-20	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-25	Landfill	Yes	Aerosol Cans, Drink Containers Recyclable, Oil Contaminated Waste, Other	7	Earplugs	No	-	-	-	No	-	-	-
2025-09-27	Landfill	Yes	Gloves, Other	3	Earplugs.	No	-	-	-	No	-	-	-

Date	Location	Attractants				Wildlife				Wildlife Sign			
		Attractants Present?	Items	Number of Items Present	Comments	Wildlife Present?	Species	# of Individuals Observed	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2025-10-01	Landfill	Yes	Drink Containers Recyclable, Food Packaging, Gloves	6	-	No	-	-	-	No	-	-	-
2025-10-04	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-09	Landfill	Yes	Food Packaging, Oily Rags	5	-	No	-	-	-	No	-	-	-
2025-10-11	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-15	Landfill	Yes	Gloves, Other	6	PPE vest, clean fabric x3	No	-	-	-	No	-	-	-
2025-10-18	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-23	Landfill	Yes	Oil Products and Containers, Other	2	Fresh fox scat. Other waste: e-waste.	No	-	-	-	Yes	Red Fox	Scat	-
2025-10-25	Landfill	Yes	Aerosol Cans, Gloves, Other	10	-	No	-	-	-	No	-	-	-
2025-10-29	Landfill	Yes	Aerosol Cans	1	-	No	-	-	-	No	-	-	-
2025-11-01	Landfill	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-11-05	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-08	Landfill	No	-	0	1x set of fox tracks	No	-	-	-	Yes	Red Fox	Tracks	-
2025-11-12	Landfill	Yes	Drink Containers Recyclable, Gloves, Other	4	Fresh snow over last 48 hrs. Coffee machine present	No	-	-	-	No	-	-	-
2025-11-15	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-20	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-22	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-26	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-29	Landfill	No	-	0	1x fresh fox tracks	No	-	-	-	Yes	Red Fox	Tracks	Fresh
2025-12-03	Landfill	No	-	0	Recently plowed	No	-	-	-	No	-	-	-
2025-12-06	Landfill	No	-	0	Multiple fox tracks	No	-	-	-	Yes	Red Fox	Tracks	-
2025-12-11	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-13	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-17	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-24	Landfill	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-20	Landfill	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-12-28	Landfill	Yes	Drink Containers Recyclable, Food Packaging, Gloves	25	-	No	-	-	-	No	-	-	-
2025-01-02	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-04	Underground	Yes	Gloves, Oily Rags	4	2x oily rags, 2x nitrile gloves in non-burn	No	-	-	-	No	-	-	-
2025-01-08	Underground	Yes	Other	2	2 broken pallets in non-burn bin.	No	-	-	-	No	-	-	-
2025-01-11	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-15	Underground	No	-	0	-	No	-	-	-	No	-	-	-

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2025-01-18	Underground	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-01-22	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-25	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-29	Underground	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-02-01	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-05	Underground	Yes	Food, Food Packaging, Gloves	14	-	Yes	Common Raven	2	-	No	-	-	-
2025-02-08	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-12	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-16	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-19	Underground	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-02-22	Underground	No	-	0	Bins emptied recently	No	-	-	-	No	-	-	-
2025-02-26	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-01	Underground	Yes	Aerosol Cans, Food	2	-	No	-	-	-	No	-	-	-
2025-03-05	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-08	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-13	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-15	Underground	Yes	Aerosol Cans	3	-	No	-	-	-	No	-	-	-
2025-03-20	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-23	Underground	Yes	Other	5	-	No	-	-	-	No	-	-	-
2025-03-26	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-29	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-02	Underground	No	-	0	-	Yes	Common Raven	1	-	No	-	-	-
2025-04-05	Underground	Yes	Food Packaging, Gloves, Oily Rags	12	-	No	-	-	-	No	-	-	-
2025-04-09	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-12	Underground	Yes	Drink Containers Recyclable, Gloves, Oily Rags	12	-	No	-	-	-	No	-	-	-
2025-04-19	Underground	No	-	0	-	Yes	Common Raven	1	-	No	-	-	-
2025-04-23	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-26	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-30	Underground	Yes	Cigarette Packaging, Gloves, Oily Rags	5	-	No	-	-	-	No	-	-	-
2025-05-03	Underground	No	-	0	Need general housekeeping.	No	-	-	-	No	-	-	-
2025-05-07	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-10	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-15	Underground	No	-	0	-	No	-	-	-	No	-	-	-

Date	Location	Attractants				Wildlife				Wildlife Sign			
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2025-05-24	Underground	Yes	Food Packaging, Gloves, Oily Rags	9	Coveralls x2, PPE boot	No	-	-	-	No	-	-	-
2025-05-28	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-31	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-04	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-07	Underground	Yes	Oil Products and Containers	2	-	No	-	-	-	No	-	-	-
2025-06-11	Underground	Yes	Other	4	PPE - boots, coveralls	No	-	-	-	No	-	-	-
2025-06-14	Underground	Yes	Oily Rags, Other	4	Cardboard cracker box in non-burn,	No	-	-	-	Yes	Common Raven	Feathers	Raven feathers in bin
2025-06-19	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-21	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-25	Underground	No	-	0	Scat on burn bin.	No	-	-	-	Yes	unknown	scat	-
2025-06-28	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-03	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-06	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-09	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-16	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-19	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-23	Underground	Yes	Drink Containers Recyclable, Gloves	2	Beside the bins.	No	-	-	-	No	-	-	-
2025-07-26	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-30	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-02	Underground	Yes	Cigarette Packaging, Drink Containers Recyclable, Gloves	3	-	No	-	-	-	No	-	-	-
2025-08-06	Underground	Yes	Gloves	1	-	No	-	-	-	No	-	-	-
2025-08-16	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-23	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-28	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-03	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-06	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-10	Underground	Yes	Other	4	Plastic in burn bin	No	-	-	-	No	-	-	-
2025-09-13	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-17	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-20	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-25	Underground	No	-	0	Bins almost empty.	No	-	-	-	No	-	-	-
2025-09-27	Underground	Yes	Food	1	On burn bin. Non-burn bin empty.	No	-	-	-	No	-	-	-
2025-10-01	Underground	No	-	0	-	No	-	-	-	No	-	-	-

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2025-10-04	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-09	Underground	Yes	Drink Containers Recyclable	1	1 drink in burn bin	Yes	Common Raven	1	-	No	-	-	-
2025-10-11	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-15	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-18	Underground	Yes	Oil Products and Containers	3	Grease tubes.	No	-	-	-	No	-	-	-
2025-10-23	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-25	Underground	Yes	Other	1	-	No	-	-	-	No	-	-	-
2025-10-29	Underground	No	-	0	Hare tracks.	No	-	-	-	Yes	Arctic Hare	Tracks	-
2025-11-01	Underground	Yes	Oil Products and Containers	1	-	No	-	-	-	No	-	-	-
2025-11-05	Underground	Yes	Cigarette Packaging , Drink Containers Recyclable, Food, Food Packaging	30	-	No	-	-	-	No	-	-	-
2025-11-08	Underground	Yes	Drink Containers Recyclable, Food Packaging	13	Food contact waste on ground surrounding burnable waste bin. Lots of fox and raven tracks	No	-	-	-	Yes	Red Fox and Common Raven	Tracks	-
2025-11-12	Underground	Yes	Food Packaging, Gloves	2	Food container and PPE glove on ground between waste bins	No	-	-	-	No	-	-	-
2025-11-15	Underground	Yes	Gloves	2	-	No	-	-	-	No	-	-	-
2025-11-20	Underground	No	-	0	Non burn not in area	No	-	-	-	No	-	-	-
2025-11-22	Underground	Yes	Cigarette Packaging	3	-	Yes	Common Raven	1	-	No	-	-	-
2025-11-26	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-29	Underground	Yes	Drink Containers Recyclable, Food Packaging	3	Food contact waste on ground near non-burn bin. Nitrile gloves and drink container in non-burn bin	No	-	-	-	No	-	-	-
2025-12-03	Underground	Yes	Drink Containers Recyclable, Food Packaging	3	Food containers on ground beside burnable bin	No	-	-	-	No	-	-	-
2025-12-06	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-11	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-13	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-17	Underground	No	-	0	-	Yes	Common Raven	1	-	No	-	-	-
2025-12-24	Underground	Yes	Drink Containers Recyclable	4	-	Yes	Common Raven	1	-	No	-	-	-
2025-12-20	Underground	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-28	Underground	Yes	Cigarette Packaging, Drink Containers, Food Packaging	3	-	No	-	-	-	No	-	-	-

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2025-01-02	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-04	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-08	Waste Transfer	Yes	Food Packaging, Gloves	4	-	No	-	-	-	No	-	-	-
2025-01-11	Waste Transfer	Yes	Gloves	1	-	No	-	-	-	No	-	-	-
2025-01-15	Waste Transfer	No	-	0	-	Yes	Common Raven	1	-	Yes	Common Raven	Tracks	-
2025-01-18	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-22	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-25	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-01-29	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-01	Waste Transfer	Yes	Cigarette Packaging, Food Packaging, Gloves	6	-	No	-	-	-	No	-	-	-
2025-02-05	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-08	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-12	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-16	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-19	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-02-22	Waste Transfer	Yes	Cigarette Packaging, Food Packaging	2	Cigarette packaging and cereal box in burn pit	No	-	-	-	No	-	-	-
2025-02-26	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-01	Waste Transfer	Yes	Food Packaging, Gloves	3	-	No	-	-	-	No	-	-	-
2025-03-05	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-08	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-13	Waste Transfer	Yes	Food Packaging	5	-	No	-	-	-	No	-	-	-
2025-03-15	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-19	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-23	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-03-26	Waste Transfer	Yes	Cigarette Packaging, Food Packaging	8	-	Yes	Common Raven	1	-	No	-	-	-
2025-03-29	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-03	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-05	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-09	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-12	Waste Transfer	Yes	Gloves, Oily Rags	2	-	No	-	-	-	No	-	-	-
2025-04-19	Waste Transfer	Yes	Cigarette Packaging	1	-	No	-	-	-	No	-	-	-
2025-04-23	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-26	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-04-30	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-

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2025-05-03	Waste Transfer	Yes	Drink Containers Recyclable	1	-	No	-	-	-	No	-	-	-
2025-05-07	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-10	Waste Transfer	Yes	Drink Containers Recyclable, Food, Food Packaging	12	Tracks: raven and fox	No	-	-	-	Yes	Common Raven and Red Fox	Tracks	-
2025-05-15	Waste Transfer	Yes	Drink Containers Recyclable	1	-	No	-	-	-	No	-	-	-
2025-05-28	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-05-31	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-04	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-07	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-06-11	Waste Transfer	Yes	Drink Containers Recyclable, Food, Food Packaging	18	Holes pecked in paper bowl	No	-	-	-	Yes	Common Raven	Scavenging	-
2025-06-14	Waste Transfer	Yes	Food Packaging	1	PPE Jacket in burn pit	Yes	White Crowned Sparrow	1	-	No	-	-	-
2025-06-19	Waste Transfer	Yes	Other	1	-	No	-	-	-	No	-	-	-
2025-06-21	Waste Transfer	Yes	Cigarette Packaging, Drink Containers Recyclable, Food Packaging, Other	13	-	No	-	-	-	No	-	-	-
2025-06-25	Waste Transfer	No	-	0	Burn pit recently burned	No	-	-	-	No	-	-	-
2025-06-28	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-03	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-06	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-09	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-16	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-19	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-23	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-07-26	Waste Transfer	Yes	Drink Containers Recyclable, Food, Food Packaging	16	-	No	-	-	-	No	-	-	-
2025-07-30	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-02	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-06	Waste Transfer	Yes	Food Packaging	4	-	No	-	-	-	No	-	-	-
2025-08-16	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-08-23	Waste Transfer	Yes	Food Packaging, Gloves, Other	4	Non-burn items: cans and disinfecting wipes	No	-	-	-	No	-	-	-
2025-08-28	Waste Transfer	Yes	Food Packaging	3	-	No	-	-	-	No	-	-	-
2025-09-03	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-06	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-

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2025-09-10	Waste Transfer	Yes	Drink Containers Recyclable	30	-	No	-	-	-	No	-	-	-
2025-09-13	Waste Transfer	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-09-17	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-20	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-09-25	Waste Transfer	Yes	Cigarette Packaging, Drink Containers Recyclable, Food Packaging	9	-	No	-	-	-	No	-	-	-
2025-09-27	Waste Transfer	Yes	Cigarette Packaging, Drink Containers Recyclable, Food Packaging, Gloves	8	-	No	-	-	-	No	-	-	-
2025-10-01	Waste Transfer	Yes	Food Packaging	17	In burn pit.	No	-	-	-	No	-	-	-
2025-10-04	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-09	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-11	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-15	Waste Transfer	Yes	Food Packaging	1	-	No	-	-	-	No	-	-	-
2025-10-18	Waste Transfer	No	-	0	Active burn in burn pit.	No	-	-	-	No	-	-	-
2025-10-23	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-10-25	Waste Transfer	Yes	Aerosol Cans	1	-	No	-	-	-	No	-	-	-
2025-10-29	Waste Transfer	Yes	Food Packaging	25	Raven tracks. Mis-segregated waste in burn pit.	No	-	-	-	Yes	Common Raven	Tracks	-
2025-11-01	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-05	Waste Transfer	Yes	Cigarette Packaging, Drink Containers Recyclable, Food Packaging	11	Talked to waste transfer coordinator, the garbage last came from underground bin	No	-	-	-	No	-	-	-
2025-11-08	Waste Transfer	No	-	0	2x fox, raven tracks in burn pit	Yes	Red Fox	2	-	Yes	Red Fox and Common Raven	Tracks	-
2025-11-12	Waste Transfer	No	-	0	Red Fox tracks in burn pit	No	-	-	-	Yes	Red Fox	Tracks	-
2025-11-15	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-20	Waste Transfer	Yes	Cigarette Packaging, Food, Food Packaging	3	-	No	-	-	-	No	-	-	-
2025-11-22	Waste Transfer	Yes	Drink Containers Recyclable	1	-	No	-	-	-	No	-	-	-
2025-11-27	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-11-29	Waste Transfer	Yes	Food Packaging	1	Nitrile gloves and food packaging in burn pit. Fox tracks near non-burn bin	No	-	-	-	Yes	Red Fox	Tracks	-
2025-12-04	Waste Transfer	No	-	0	-	Yes	Common Raven	1	-	No	-	-	-

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2025-12-06	Waste Transfer	No	-	0	Burn pit was lit at time of inspection	No	-	-	-	No	-	-	-
2025-12-11	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-13	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-17	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-24	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-
2025-12-20	Waste Transfer	No	-	0	-	Yes	Common Raven	1	-	No	-	-	-
2025-12-28	Waste Transfer	No	-	0	-	No	-	-	-	No	-	-	-

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