



March 26, 2015

DIAVIK DIAMOND MINES (2012) INC.

2014 Wildlife Monitoring Report

Submitted to:

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REPORT



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Executive Summary

As a requirement of the Environmental Agreement, Diavik Diamond Mines (2012) Inc. (DDMI) completes a Wildlife Monitoring Program (WMP). The objective of the WMP is to collect 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 Assessment. The WMP also collects data to determine the effectiveness of site-specific mitigation practices and the need for any modifications. The following report documents results collected for the 2014 WMP for the Diavik Diamond Mine (Mine) located at Lac de Gras, Northwest Territories (NWT). The data were collected according to procedures outlined in Standard Operating Procedures (SOP). Where helpful, comparisons to the information gathered during the previous monitoring (2000 to 2013) and the pre-construction baseline (June 1995 to August 1997) have been included.

General observations in each program are as follows:

Landscape Changes

- In 2014, the Mine footprint increased by 0.03 square kilometres (km²). The total terrestrial landscape loss to date from mining activities (10.15 km²) is below that predicted in the Environmental Effects Report (EER).

Barren-ground Caribou

- The total caribou summer habitat loss to date is 2.6 habitat units, remains below the prediction made in the EER.
- Aerial caribou surveys were not required or completed in 2014.
- Nine ground-based caribou behavioural scanning observations were completed in 2014. Distances of observations ranged from less than 2 kilometres (km) to greater than 30 km from Mine infrastructure, but more than 88% were greater than 30 km from the Mine.
- There were no caribou injuries or mortalities reported in 2014.
- During 2014, the caribou traffic advisory remained at “No Concern” for the entire year, as caribou numbers on East Island did not exceed 100 at any given time.
- There was one action taken to herd caribou away from potential hazards in 2014.

Grizzly Bear

- To date, the total direct grizzly bear habitat loss is 7.62 km², which is below the amount predicted in the EER.
- Grizzly bear hair snagging studies were not undertaken in 2014. The long-term duration and frequency of this program has not been determined.



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- A total of 69 incidental observations of grizzly bears were recorded within and adjacent to the wildlife study area during 2014 from 17 May to 6 September.
- No grizzly bear injuries or mortalities occurred during 2014.

Wolverine

- The snow track survey was completed in 2014.
- The wolverine hair snagging program was completed in 2014. The long-term duration and frequency of this program has not been determined.
- In 2014, a total of seven wolverines were observed on East Island.
- No wolverine injuries or mortalities occurred during 2014.

Falcons

- Pit Wall/Infrastructure surveys were conducted 9 May 2014 to 30 August 2014. There were two active rough-legged hawk nests in the A418 pit, and one active peregrine falcon nest on the high wall behind the site services building.
- No raptor mortalities or injuries occurred at the Mine in 2014.

Waste Management

- At the Waste Transfer Area (WTA), improperly disposed material was found during 12% of inspections. Wildlife observed during WTA inspections included common raven, red fox and unknown gulls.
- At the Landfill, improperly disposed material was found during 57% of inspections. Wildlife observed during landfill inspections included common raven, red fox, rough-legged hawk, wolf and wolverine.
- Throughout 2014, 7,214 units of aluminum containers (\$721.40), 7,450 units of plastic containers (\$745.00) and 64 units of Tetra Pak containers (\$6.40) were recycled and the total monetary value was donated to charity.
- During 2014, 60,982 litres of waste oil was collected and burned in waste oil burning boilers.
- In 2014, the wind farm generated 19,900 megawatt hours (MWh) of power; which represents an estimated diesel savings of 4.9 million litres.



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1.0 INTRODUCTION

1.1 Background

Diavik Diamond Mines (2012) Inc. (DDMI or Diavik) conducted 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); and
- 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), test the effectiveness of mitigation, and provide feedback for adaptive management. The WMP also considers wildlife issues of concern identified by communities and regulatory agencies.

Based on reviews and discussions among DDMI, communities and regulators, the WMP has evolved since the original design 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 impact predictions, community concerns, adaptive management principles and the establishment of regional monitoring programs. Further, community site visits occur annually and allow 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 WMP is completed every three years and submitted as a separate report. The last comprehensive analysis report was completed in 2014 (Golder 2014a). For the intermediate years, the annual reports present findings from that year, and summarize cumulative data collected up to that year. If critical issues become apparent in the shorter term, then a discussion of these issues is presented in annual reports.

1.2 Objectives

The overall objectives of the WMP 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 limit Mine-related effects on wildlife and whether or not these practices and policies require modification; and
- determine if effects are found that were not predicted in the EER.



Objectives specific to valued components are presented in the following sections.

1.3 Study Area

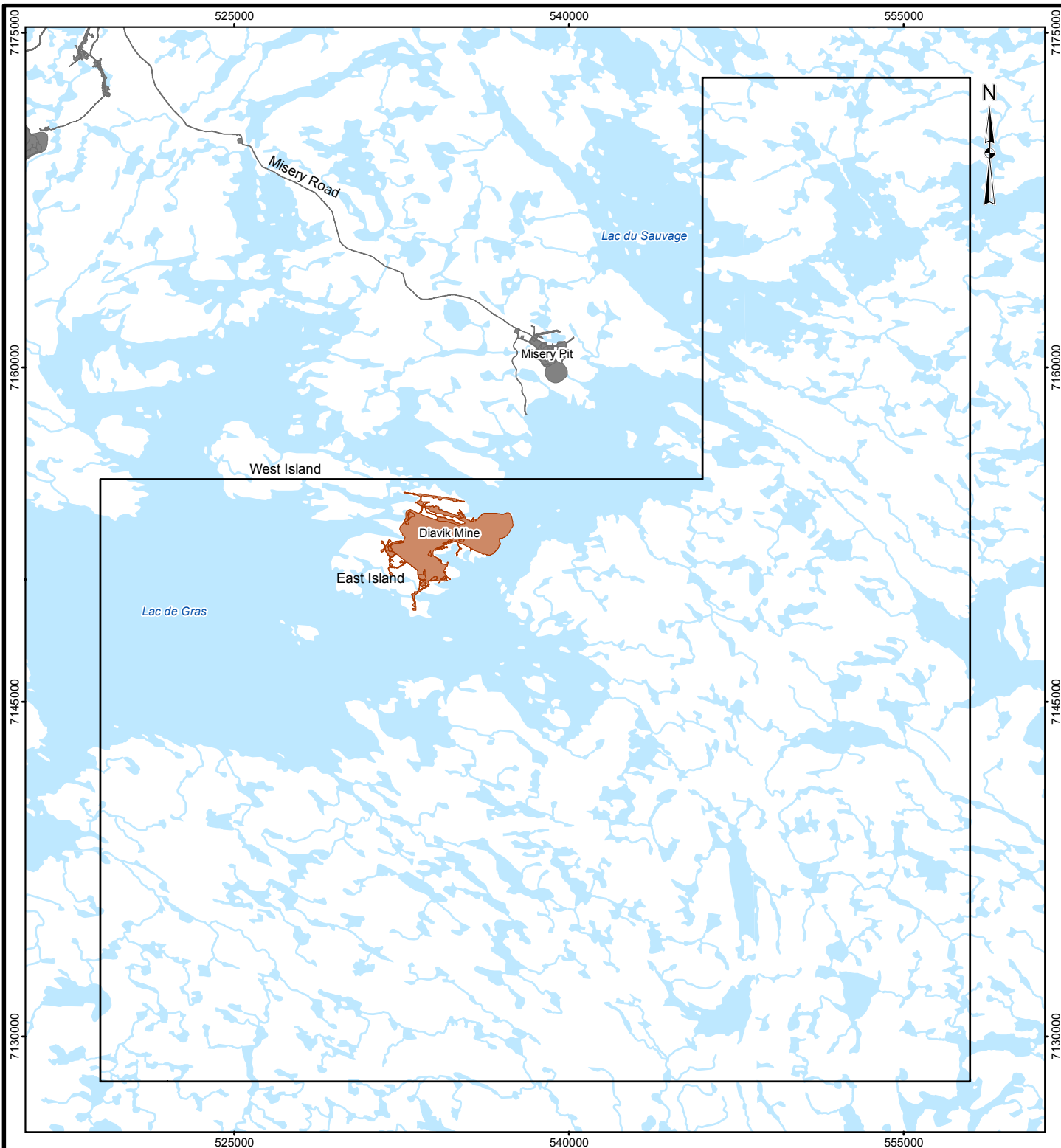
The Mine is located on East Island in Lac de Gras (Figure 1). The wildlife study area includes a 1,200 square kilometres (km²) area including the East and West islands, the aquatic habitats, many smaller islands in the northeast portion of Lac de Gras and the mainland along the southern, eastern and northern shores of Lac de Gras. An extension to the northwest 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 an area of approximately 805 km².

The Mine includes accommodation facilities, operations buildings, haul roads, an airstrip, country rock piles, the A154 and A418 Pit and Dike and all other infrastructure (Figure 2). In 2012 the Mine was expanded to include the wind farm and access roads to the wind farm. All haul roads required for mining activities to date are complete.




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 enhancement to the WMP are presented at the end of each section for consideration, and may be incorporated into the WMP for subsequent years. The WMP is an evolving program that will reflect recommendations during previous years, as well as advances in Mine development. Changes will be captured in annual revisions of the WMP.

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LEGEND

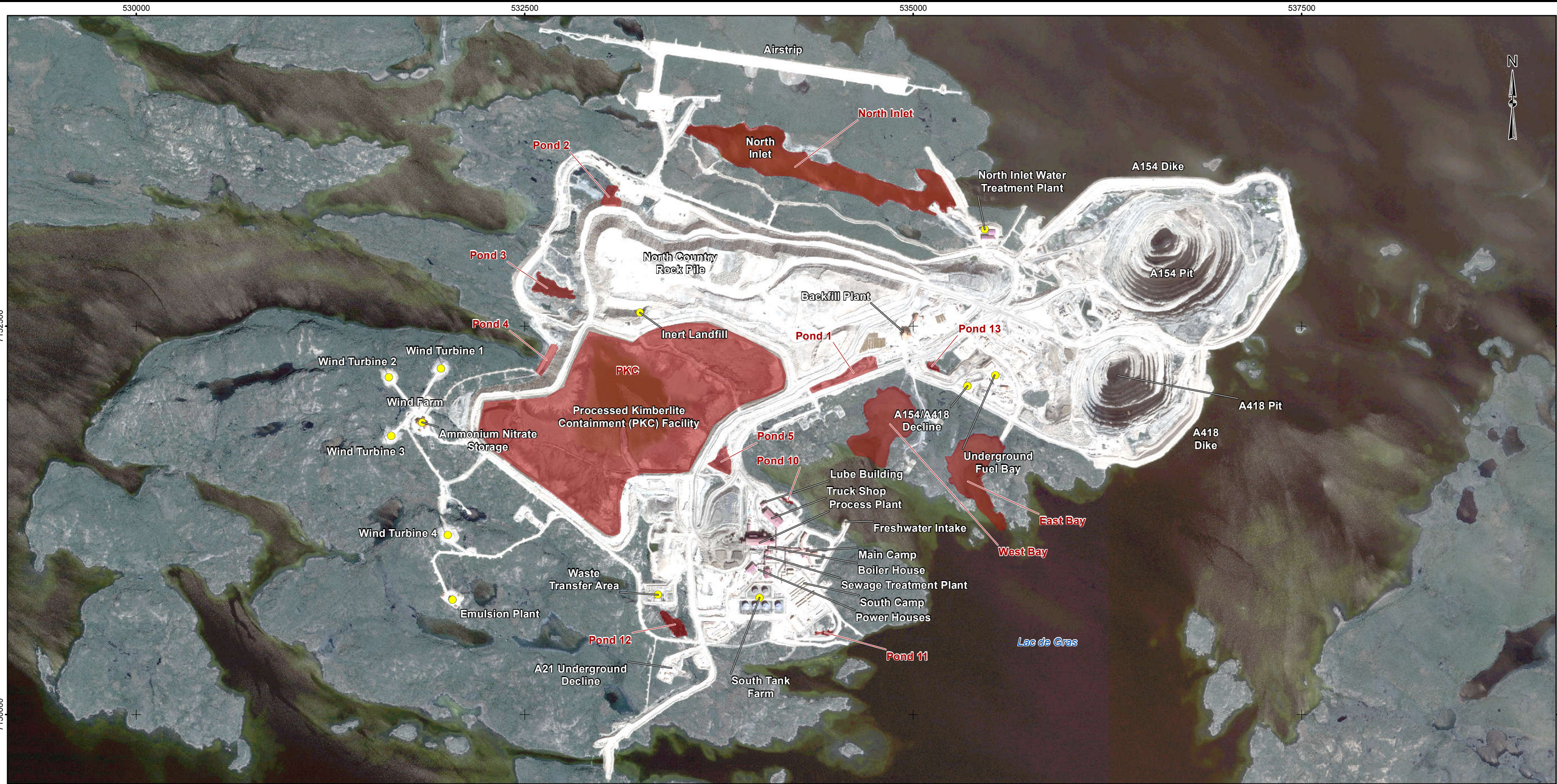
-  DIAVIK WILDLIFE STUDY AREA BOUNDARY
-  DIAVIK FOOTPRINT
-  EKATI FOOTPRINT



REFERENCE

BASE DATA: NTDB 1:250,000. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – CANADA.
 DATUM: NAD83 PROJECTION: UTM ZONE 12

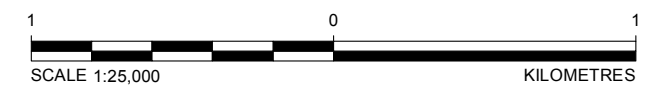
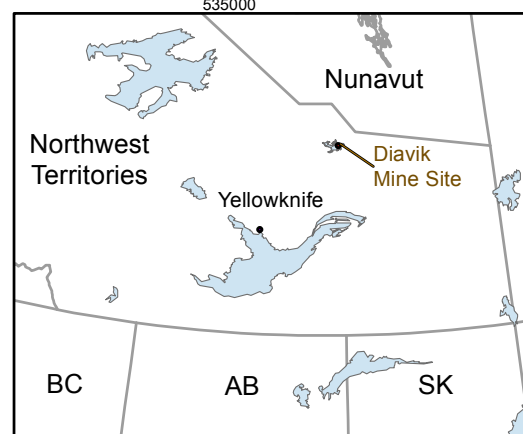
PROJECT		1406208		FILE No.		
		DIAVIK DIAMOND MINES INC.				
TITLE						
DIAVIK WILDLIFE STUDY AREA, 2014						
		DESIGN	TM	03 Feb. 2015	SCALE AS SHOWN	
		GIS	GI	10 Feb. 2015	REV. 0	
		CHECK	DC	20 Mar. 2015	FIGURE: 1	
		REVIEW	JV	20 Mar. 2015		



LEGEND

- INFRASTRUCTURE
- WATERFOWL MONITORING LOCATION

REFERENCE
 2013 WORLDVIEW IMAGE OBTAINED FROM CLIENT.
 PROJECTION: UTM ZONE 12 DATUM: NAD 83



PROJECT		Rio Tinto		DIAVIK DIAMOND MINES INC.	
TITLE					
DIAVIK MINE SITE INFRASTRUCTURE, 2014					
	PROJECT		1406208	FILE No.	
	DESIGN	TM	03 Feb. 2015	SCALE AS SHOWN	REV. 0
	GIS	GI	10 Feb. 2015		
	CHECK	DC	20 Mar. 2015		
REVIEW		JV	20 Mar. 2015	FIGURE: 2	

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2.0 LANDSCAPE CHANGES

2.1 Objectives and Scope

The intent of the landscape change program is to determine if landscape loss is within the extent predicted in the EER (DDMI 1998b). East Island vegetation cover is predominantly characterized by heath tundra, and tussock/hummock landscape classes, but the Mine has also resulted in the loss of shallow and deep water. The main effect of the Mine on the landscape is direct disturbance. This will be a long-term effect as the recovery of vegetation is slow in arctic environments (Burt 1997). The objective of this component of the WMP is:

- To determine if direct vegetation/habitat loss due to the Mine footprint exceeds the prediction of 12.67 km².

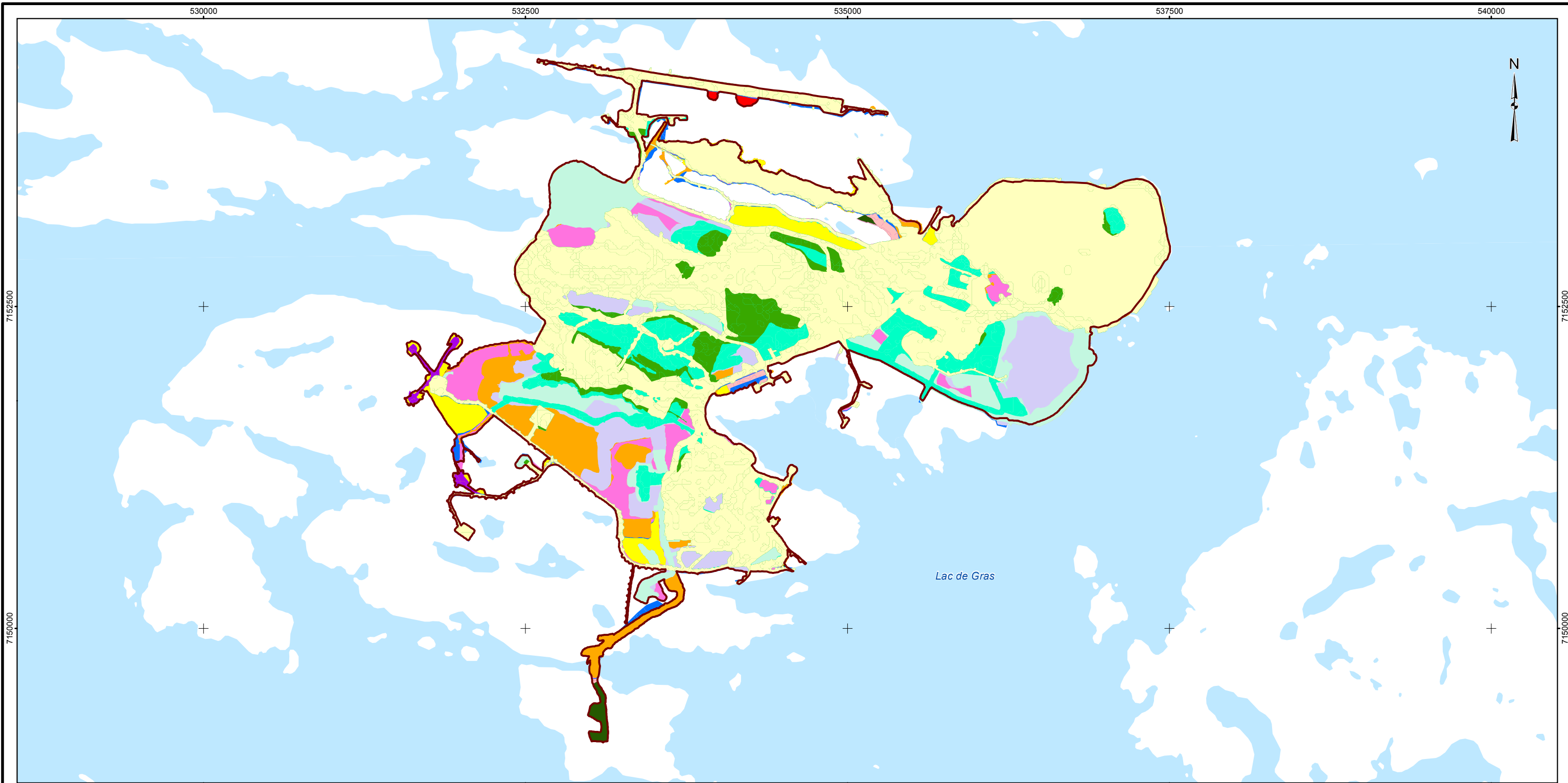
In addition, Diavik conducts ongoing monitoring to determine if dust from the Mine is affecting vegetation communities and lichen chemistry near the Mine site. Permanent vegetation plots are assessed for vegetation species cover, composition and abundance. Metal concentrations are analyzed in lichen and soil samples. Dust fall monitoring data was collected in 2014. Similar to wildlife, a comprehensive vegetation and lichen analysis report is generated every three years; the last analysis was completed in 2014 (Golder 2014b).

2.2 Methods

A satellite image of the Mine area was obtained and used to update the area of the current Mine footprint. This dataset is laid over the Ecological Landscape Classification (ELC) developed by the Department of Environment and Natural Resources, Government of the Northwest Territories (ENR) (Matthews et al. 2001). Each ELC type disturbed by the Mine was selected and area calculations were made to determine the area (km²) of each habitat type replaced by the Mine footprint. Values provided for ELC unit loss are estimates based on the predicted Mine extent (DDMI 1998a), the actual Mine extent and the ELC classification (Matthews et al. 2001).

2.3 Results

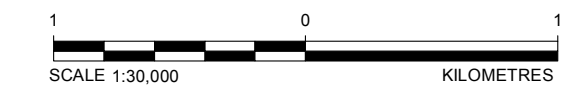
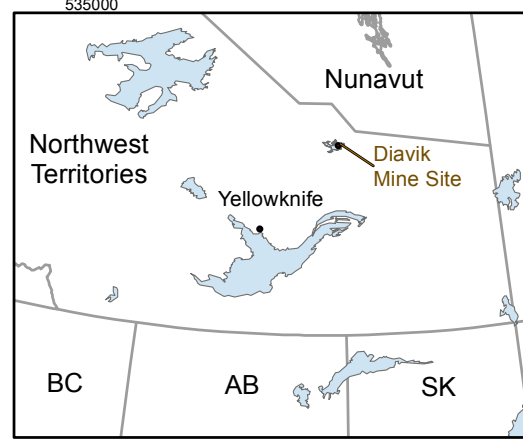
As of December 2014, a total area of 10.15 km² has been altered since Mine construction in 2000. This represents a total loss of 80.1% of the predicted landscape disturbance (DDMI 1998a). Land cover types at or slightly exceeding the predicted loss include riparian shrub, esker complex and bedrock complex (Table 1). In 2014, heath tundra was the only ELC type to have changed, with 0.04 km² of heath tundra lost. The geographic extent of landscape disturbed from the Mine footprint is illustrated in Figure 3.



LEGEND

2014 MINE PERIMETER	DISTURBANCE (2002-2014)	2008
	2002	2009
	2003	2010
	2004	2011
	2005	2012
	2006	2013
	2007	2014

REFERENCE
 BASE DATA: CANVEC HYDROLOGY. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – CANADA.
 PROJECTION: UTM ZONE 12 DATUM: NAD 83



PROJECT		Rio Tinto		DIAVIK DIAMOND MINES INC.	
TITLE					
MINE FOOTPRINT EXPANSION BY YEAR, 2002-2014					
	PROJECT		1406208	FILE No.	
	DESIGN	TM	03 Feb. 2015	SCALE AS SHOWN	REV. 0
	GIS	UW	20 Mar. 2015		
	CHECK	DC	20 Mar. 2015		
	REVIEW	JV	20 Mar. 2015		
FIGURE: 3					

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Table 1: Total and Predicted Ecological Landscape Classification Unit Loss, 2000 to 2014

ELC Type	Total Area (km ²) Lost per Year														Predicted ^(c)
	up to 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Heath Tundra	1.45	1.89	2.02	2.38	2.62	2.76	2.93	2.97	3.03	3.00	3.01	3.20	3.20	3.24	3.68
Heath Bedrock (30% to 80%)	0.08	0.34	0.36	0.40	0.45	0.49	0.53	0.58	0.59	0.58	0.59	0.64	0.64	0.64	0.78
Health Boulder (30% to 80%)	0.26	0.64	0.73	0.96	1.07	1.24	1.43	1.49	1.52	1.5	1.53	1.62	1.63	1.63	1.89
Tussock/ Hummock	0.45	0.63	0.79	1.01	1.19	1.27	1.35	1.42	1.44	1.43	1.44	1.46	1.47	1.47	1.64
Sedge Wetland	0.02	0.03	0.04	0.09	0.16	0.16	0.17	0.21	0.21	0.21	0.21	0.22	0.22	0.22	0.26
Riparian Shrub	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Birch Seep & Shrub	0.03	0.05	0.06	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.11
Boulder Complex	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05
Bedrock Complex	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
Esker	0.13	0.14	0.14	0.15	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16
Disturbed ^(b)	0	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Shallow Water	0.11	0.23	0.23	0.26	0.29	0.34	0.35	0.35	0.35	0.34	0.34	0.36	0.36	0.35	0.48
Deep Water	0.15	1.80	1.81	1.82	1.93	2.17	2.19	2.19	2.19	2.12	2.12	2.13	2.13	2.13	3.46
Total^(a)	3.12	5.88	6.32	7.30	8.15	8.86	9.40	9.66	9.78	9.65	9.71	10.1	10.12	10.15	12.67

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

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

(c) From DDMI 1998a.

km² = square kilometres; % = percent.



3.0 BARREN-GROUND CARIBOU

The Mine is within the summer and fall/rut range of the Bathurst caribou herd (Gunn et. al. 2002). Caribou of this herd frequently forage and move through the Lac de Gras area during the summer and fall periods, sometimes following shorelines and onto the West and East Islands.

Barren-ground caribou are not listed as species at risk under the federal *Species at Risk Act* or under the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and are scheduled for assessment by the Northwest Territories Species at Risk Committee (NWT SARC) in December 2016. The current general status rank for barren-ground caribou is sensitive (NWT SAR 2015).

In 1996, the mean population size (\pm 95% confidence interval) of the Bathurst caribou herd was estimated at 349,000 \pm 95,000 (Case et al. 1996; Gunn et al. 1997). The Department of Environment and Natural Resources (ENR) of the Government of the Northwest Territories (GNWT) completed a survey in March 2012 and estimated the number of caribou at 35,000 (ENR 2015). To support the recovery of all barren-ground caribou herds, the 2011 to 2015 NWT barren-ground caribou management strategy was developed (GNWT 2011). The overall goal of the strategy is to maintain numbers of caribou within their natural range of variation. The GNWT has outlined five objectives to obtain this goal:

- to engage co-management partners in monitoring and management of caribou;
- to ensure appropriate, up-to-date information is available for management decisions;
- to manage impacts of key factors affecting caribou that are within control;
- to inform the public about the status of caribou and their role in management; and
- to maximize benefits from caribou for NWT residents.

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 predator of barren-ground caribou and understanding wolf numbers could help understand fluctuations in caribou populations and thus provide information required to support management decisions. In 2014, DDMI provided in-kind support for a study on wolf-caribou dynamics on the summer range of the Bathurst caribou herd (Appendix A).

3.1 Caribou Habitat Loss

Physical alteration of the landscape reduces available caribou forage (DDMI 1998b). Habitat loss on East Island is expressed in habitat units (HUs) for caribou summer habitat. A habitat unit is the product of surface area and suitability of the habitat in that area to supply food for caribou and cover from predators (DDMI 1998b). 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 habitat units available to caribou.



One objective of the caribou component of the WMP is to determine if direct summer habitat loss (in HUs) is greater than predicted. The following section summarizes methods used and results obtained. The impact prediction in the EER (DDMI 1998b) is:

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

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. Either scenario leads to a change in plant community structure; these changes may either attract or deter caribou.

3.1.1 Methods

Using the ELC unit loss (Table 1) the area (km²) of ELC lost was multiplied by its habitat suitability value (DDMI 1998b) to determine habitat units lost.

3.1.2 Results

Direct summer habitat loss to date from the Mine is approximately 2.6 HU (Table 2). As noted above (Table 1), ELC unit loss is at or below the level predicted in the EER. Similarly, total direct losses of summer HU for caribou are currently below that predicted in the EER.

Table 2: Caribou Summer Habitat Unit Loss to 2014

ELC Type	Habitat Suitability Value	ELC Loss to 2014 (km ²)	Habitat Unit Loss to 2014
Heath Tundra	0.37	3.24	1.199
Heath Boulder	0.40	1.63	0.652
Riparian Shrub	0.46	0.03	0.014
Bedrock Complex	0.27	0.07	0.019
Tussock/Hummock	0.30	1.47	0.441
Sedge Wetland	0.28	0.22	0.062
Esker	0.30	0.17	0.051
Birch Seep & Shrub	0.11	0.10	0.011
Boulder Complex	0.21	0.04	0.008
Heath Bedrock	0.23	0.64	0.147
Total	-	7.62	2.604

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



3.2 Changes to Movement

Miller and Gunn (1979) described disturbance in relation to wildlife as “the phenomenon, which resulted from the introduction of unfamiliar stimuli into an animal’s environment brought about by the presence of human activities”. Mining activities have the potential to decrease the use of habitat adjacent to human developments by caribou due to behavioural disturbance (DDMI 1998b; Boulanger et al. 2012).

The current objective for this component of the WMP is to determine if the area around the Mine where caribou distribution is altered (the zone of influence [ZOI]) due to mining activities is greater or less than predicted. The following section summarizes the methods used and results obtained from surveys. The revised impact prediction presented by Handley (2010) is:

- To determine whether the zone of influence changes in relation to Mine activity.

From 2002 through 2009, DDMI completed weekly aerial surveys, weather permitting, within a study area that surrounds the Mine. In 2009, the survey area was aligned with that of Ekati Diamond Mine to improve sampling efficiencies while covering a larger area. In 2012, aerial surveys were conducted in collaboration with the Ekati Diamond Mine. DDMI and the Ekati Diamond Mine requested to omit the ZOI requirements for the caribou monitoring program in 2013; the request was approved by ENR on 2 May 2013. Caribou aerial surveys were not completed in 2014.

3.3 Changes to Behaviour

Ground-based behavioural observations, or scan sampling, are conducted to provide data on changes in caribou behaviour as a function of distance from the Mine. Monitoring is conducted cooperatively with the Ekati Diamond Mine as they regularly have caribou close to the Ekati Diamond Mine infrastructure. Because the primary habitat within 5 km outside the Mine footprint is water, DDMI is focused on collecting scanning observations further from the mines. The revised impact prediction from Handley (2010) is:

- To determine if caribou behaviour changes with distance from the mines.

3.3.1 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. Individual caribou activities were recorded as feeding, bedded, standing, alert, walking, trotting or running. Individuals were classified as feeding when they were actually foraging or searching for food (i.e., walking with head down). The GPS location was recorded, and observations were conducted during the summer and autumn; most of the observations were collected in the fall when more caribou were passing through the area. Group composition was classified, and the number of animals in the group was recorded. Thus, the response variable is caribou behaviour, while the covariates include distance from Mine, season, and group composition. In order to control for the effects of habitat, all observations were performed within one habitat type (tundra with <30% bedrock or boulders). For the scan observations, weather conditions such as wind speed and direction, temperature, and type of precipitation were documented.



Response of caribou to stressors 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 1 to 2 minutes), and would begin scanning observations again.

3.3.2 Results

Few caribou groups were observed in the study area in 2014 (Appendix B). The observations were categorized into distance categories listed in Table 3. Further analysis will be undertaken when sufficient data are collected for caribou within 5 km of mining activities. There was a small sample size of caribou groups (n=9) observed compared to previous years, so behaviour scanning data was not analysed.

Table 3: Number of Caribou Groups Observed by Distance from Mine Infrastructure, 2014

Table with 2 columns: Distance from Mine Infrastructure and Number of Caribou Groups Observed. Rows include distance ranges like <=2 km, 2 to 8 km, 8 to 15 km, 15 to 20 km, 20 to 30 km, and >30 km.

Note: ≤ = less than or equal to, km = kilometres, >= greater than.

3.4 Changes to Distribution

Deflection of caribou movements due to mining activities was predicted (DDMI 1998b). Information collected from aerial surveys and caribou collar locations is used to examine the distribution of caribou within the wildlife study area. These observations are then compared with predicted trends in movement. The impact prediction in the EER (DDMI 1998b) is:

- During the northern (spring) migration, caribou would be deflected west of East Island and during the southern migration (fall), caribou would move around the east side of Lac de Gras.

3.4.1 Methods

Daily data on the geographic location of collared cows was provided courtesy of ENR, and this information was used to illustrate general locations of the Bathurst caribou herd during migration periods. Movements of collared Bathurst caribou during the 2014 northern and southern migrations are included in this report.

The northern migration is defined by the period when Bathurst caribou cows leave the winter range in the forest, and migrate north to the calving grounds, typically in May (Gunn et al. 2002). The southern migration starts with the return from the calving ground in July, to the fall rut ending 31 October of any given year (Gunn et al. 2002).

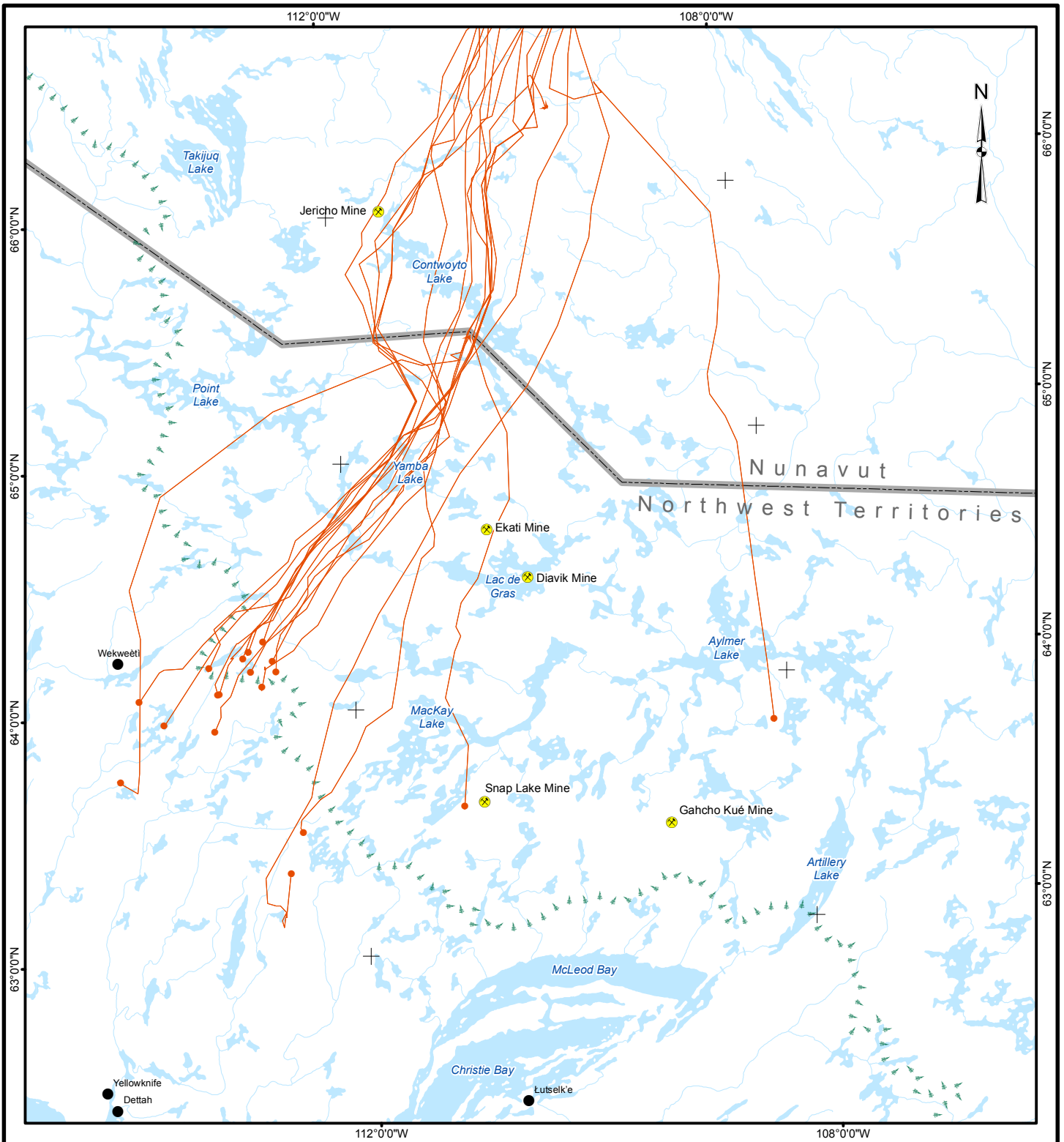


3.4.2 Results

Data from satellite-collared caribou show that all but one of the collared females in the Bathurst herd travelled west of the East Island during the 2014 northern migration, which supports the prediction in the EER (Figure 4). During the southern migration, satellite-collared caribou show that all collared females in the Bathurst herd travelled west around Lac de Gras during 2014, which does not support the prediction in the EER (Figure 5).

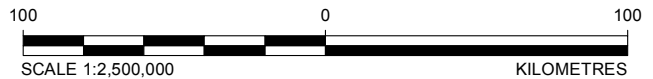
The 2014 comprehensive report (Golder 2014a) showed that from 2009 to 2013, collared caribou females from the Bathurst herd have remained further north than historically and arriving the Lac de Gras area later in the year. The 2011 comprehensive analysis (Golder 2011) showed that from 2002 to 2010 the majority of collared caribou traveled adjacent to or through the southeast corner of the study area, which provides general support for the prediction in the EER.

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LEGEND

- EXISTING MINE
- POPULATED PLACE
- NORTHERN MIGRATION (MAY 1 - MAY 31)
- TERRITORIAL BOUNDARY
- TREELINE
- WATERCOURSE
- WATERBODY

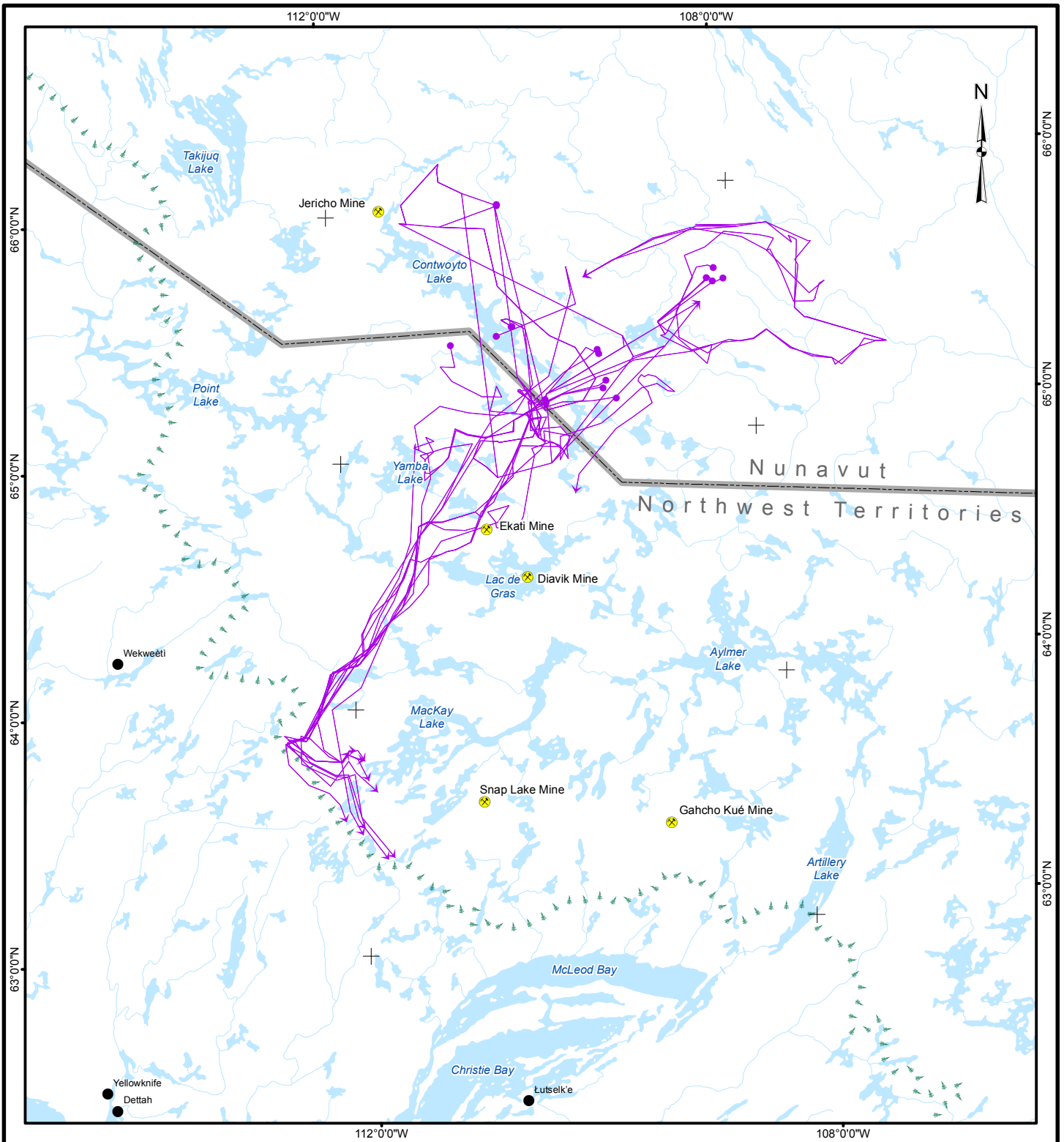


REFERENCE

CARIBOU DATA SUPPLIED BY ENVIRONMENT AND NATURAL RESOURCES, GNWT, 2014.
 1:2 MILLION SCALE BASE DATA FROM THE ATLAS OF CANADA; CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - CANADA.
 DATUM: NAD83 PROJECTION: NWT LAMBERT CONFORMAL CONIC

PROJECT		1406208		FILE No.		
RioTinto		DIAVIK DIAMOND MINES INC.				
TITLE						
NORTHERN MIGRATION OF BATHURST CARIBOU HERD, 2014						
		DESIGN	DP	19 Jan. 2015	SCALE AS SHOWN	
		GIS	UW	20 Mar. 2015	REV. 0	
		CHECK	DC	20 Mar. 2015	FIGURE: 4	
		REVIEW	JV	20 Mar. 2015		

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LEGEND

- ⊗ EXISTING MINE
- POPULATED PLACE
- SOUTHERN MIGRATION (JULY 1 – OCTOBER 31)
- TERRITORIAL BOUNDARY
- ▲ TREELINE
- WATERCOURSE
- WATERBODY

REFERENCE

CARIBOU DATA SUPPLIED BY ENVIRONMENT AND NATURAL RESOURCES, GNWT, 2014.
 1:2 MILLION SCALE BASE DATA FROM THE ATLAS OF CANADA; CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – CANADA.
 DATUM: NAD83 PROJECTION: NWT LAMBERT CONFORMAL CONIC



PROJECT		1406208		FILE No.		
RioTinto		DIAVIK DIAMOND MINES INC.				
TITLE						
SOUTHERN MIGRATION OF BATHURST CARIBOU HERD, 2014						
		DESIGN	DP	19 Jan. 2015	SCALE AS SHOWN	
		GIS	UW	20 Mar. 2015		REV. 0
		CHECK	DC	20 Mar. 2015	FIGURE: 5	
		REVIEW	JV	20 Mar. 2015		



3.5 Mortality

Mineral development in the Bathurst caribou herd range caused concerns about increased mortality, which include vehicle collisions, aircraft collisions, and accidents associated with caribou in hazardous areas around mining activities (DDMI 1998b). Mitigation practices and policies have been implemented to reduce the potential for mortalities such as, 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 program is to determine if the number of caribou deaths or injuries associated with the Mine is greater than predicted. The following section summarizes the methods applied and the results produced from incident reporting and road observations. The impact prediction in the EER (DDMI 1998b) is:

- Mine-related mortality is expected to be low.

3.5.1 Methods

Mine-related caribou mortalities that occur are reported to Environment Department staff through the submission of incident reports. Environment Department staff follows up on any incident and complete the necessary documentation, and contact ENR for mitigation or disposal procedures. The information is tabulated and provided for annual comparisons.

3.5.2 Results

No natural caribou mortalities were officially recorded in 2014. However, on 2 May a small caribou was observed walking near the AN Road, the following day a single white wolf was seen with a caribou leg, and the next day a fox was also seen with a caribou leg. All wildlife mortality incident reports from 2014 are included in Appendix C.

A summary of natural and Mine-related caribou mortalities from baseline through 2014 is provided in Table 4. The only Mine-related caribou mortality reported at the Mine to date occurred in 2004.

Table 4: Caribou Mortalities on East Island, 2000 to 2014

	Baseline ^(a)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Natural Caribou Mortalities on East Island	8	7	1	1	0	2	0	0	1	0	0	0	1	1	1	1
Mine-related Mortalities	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

(a) Includes data from 1995 to 1997.

3.6 Caribou Advisory

The objective of the Caribou Advisory Monitoring program is to make certain that workers are aware of the approximate numbers of caribou on or near East Island. This raises general awareness so that employees are alert to the likelihood that mitigation could be triggered. The number of animals on the island and in specific areas dictates the type of mitigation practices that will be undertaken (e.g., haul road closure, speed reduction).



3.6.1 Methods

Various methods were used to determine whether or not animals were present in the vicinity of East Island, which included reports from pilots and workers, and using the satellite collar locations provided by ENR. If animals were reported in the general area, ground surveys were initiated. Ground-based surveys are completed by Environment personnel travelling in vehicles along the haul roads twice per day during a caribou advisory and documenting approximate caribou numbers. Caribou road surveys and PKC and rock pile monitoring surveys were not done on a scheduled basis in 2014 because they were ineffective at detecting caribou at the Mine that were not already detected and reported to Environment Department staff by Mine site employees, environment staff completing other monitoring programs, and pilots.

3.6.2 Results

During 2014, caribou numbers on the East Island did not exceed 100 at any given time; therefore the caribou traffic advisory remained at “No Concern” for the entire year. There were ten incidental observations of caribou, totalling 58 individuals from March to October (Table 5). One caribou was observed in the PKC on May 10, which two staff members were able to deter on foot. Photos of wildlife taken at the Mine are included in Appendix D.

Table 5: Caribou Incidental Observations on East Island, 2014

Date	Number	Location	Comments
March 17, 2014	1	Just off Airport Road	
April 29, 2014	18	Next to MF3-4	
May 2, 2014	1	Near AN Road	
May 10, 2014	1	PKC by the Barge	Single female caribou
May 12, 2014	1	NI between Airport & NI 100m N of road	Likely same as above
May 12, 2014	1	South side of road heading out to WE/AN	
May 14, 2014	1	Western explosives/AN	One young caribou
May 15, 2014	1	AN Road	
May 18, 2014	1	Near AN Road	
May 30, 2014	30	Emulsion Plant	
October 10, 2014	2	Caribou between runway and NIWTP	Two female caribou feeding

3.7 Caribou Herding

When caribou are present on East Island their movements are monitored so that Mine site 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 SOP for caribou herding.



3.7.1 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.

3.7.2 Results

Herding was implemented on a single location to deter a lone caribou in the PKC on 10 May, 2014.

3.8 Recommendations

In 2014, ENR led a Zone of Influence Task Group to discuss conditions under which aerial surveys should be resumed. DDMI is waiting for the results and recommendations from the Task Group. DDMI will continue to explore opportunities that support the GNWT Barren-ground Caribou Management Strategy (GNWT 2011) or other caribou range or herd programs completed by ENR.

DDMI will focus monitoring of caribou activity budgets that describe changes to behaviour at distances between 2 and 30 km of the Mine and the Ekati Mine. DDMI would also consider implementing and monitoring insect trap stations in the study area, with assistance from ENR. This information could be linked with behavioural observations to better understand the influence of human and natural factors on changes in caribou energy balance.



4.0 GRIZZLY BEAR

The barren-ground grizzly bear (*Ursus arctos*) ranges throughout most of the NWT. COSEWIC considers the grizzly bear as *Special Concern* as of 2012; however, they currently have no status under NWT or Federal species at risk legislation (NWT SAR 2015). Grizzly bear are scheduled for assessment by the NWT SARC in December 2016 (NWT SAR 2015).

Grizzly bears have low population densities, low reproductive rates and are sensitive to human activity (DDMI 1998b). While some grizzly bears may avoid mineral developments, others may be attracted to human activity through odours associated with development (Gau and Case 1999; Johnson et al. 2005).

Impacts to grizzly bears from mining may occur through direct mortality, habitat suitability reduction and direct habitat loss. The focus of the monitoring program is to estimate direct habitat loss, monitor grizzly bear presence and distribution, and report Mine-related mortalities.

4.1 Grizzly Bear Habitat Loss

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

- At full development, direct terrestrial habitat loss for grizzly bear from the project is predicted to be 8.67 km².

4.1.1 Methods

Methods used to determine grizzly bear habitat loss are similar to that described in Section 2.2; grizzly bear habitat is assumed to include all terrestrial habitats (i.e., all landscape types in Table 1 except for deep water, shallow water and disturbed area).

4.1.2 Results

Cumulative direct grizzly bear habitat loss resulting from the Mine in 2014 was 7.61 km², which is below that predicted in the EER.

4.2 Presence and Distribution

Mining activities can impact the presence of grizzly bears due to disturbance and habitat loss (DDMI 1998b). Vegetation loss and changes to caribou distribution from mining activities may also impact the presence and distribution of grizzly bears (Gau and Case 1999; Johnson et al. 2005).



Monitoring is completed to determine if mining activities influence the presence of grizzly bears in the study area. The predicted effect is:

- Mine development is not predicted to influence the presence of grizzly bears in the area.

The revised monitoring objective in Handley (2010) is:

- To determine if Mine-related activities influence the relative abundance and distribution of grizzly bears in the study area over time.

In 2010, a pilot study using a hair-snagging technique was initiated to assess its effectiveness in determining grizzly bear abundance in the DDMI wildlife study area. In April 2012, a request was made on behalf of DDMI, BHP Billiton Canada and De Beers Canada Inc. to undertake a joint grizzly bear hair-snagging program that encompassed Ekati, Diavik, Snap Lake and Gahcho Kué (Rescan 2013a). Following discussions and clarification of methods (Rescan 2013b), the program was initiated in June 2012 using a standard set of sampling protocols. At the March 2013 Wildlife Monitoring Workshop hosted by the GNWT, the monitoring objective for grizzly bear was revised to be (GNWT 2013a):

- To provide estimates of grizzly bear abundance and distribution in the study area over time.

4.2.1 Methods

Ekati, Snap Lake, Gahcho Kué and Diavik mines jointly completed the regional grizzly bear hair snagging program. The study area consisted of a northern section, sampled by the Ekati and Diavik mines (ERM Rescan 2014), and a southern section, sampled by Snap Lake and Gahcho Kué (Jessen et al. 2014). The northern section was sampled in 2012 and 2013, and included 113 stations, arranged in a grid pattern spaced at approximately 12 km by 12 km (ERM Rescan 2014). A wooden tripod with a fixed base and the legs wrapped in barbed wire was used to collect grizzly bear hair for DNA analysis. Site location for the wooden tripod was placed in high quality grizzly bear habitat (e.g., esker, riparian area, upland meadow, wetland meadow) to increase the likelihood of capturing grizzly bear hair. Non-reward lures (e.g., cured cows blood, fish oil, seal oil and sweeter scented oils) were used to attract the bears to the tripods. The lures were poured on the top of the posts and down the legs, and in the centre of the ground to encourage a bear to squeeze between the legs. The posts were not relocated between each sampling period, but a novel scent combination was used each session to prevent habituation.

At the end of each session, all grizzly bear hair was removed from the tripod and placed in a paper envelope. Each grouping of hair was stored separately, and supporting information such as the tripod identification, date, and location on tripod were recorded. The hair samples were sent to Wildlife Genetics International for DNA fingerprinting.

Incidental observations of grizzly bears are also recorded. Incidental observations are typically made by Mine staff and reported to Environment Department staff. Typically, each independent grizzly bear observation is recorded, because it is usually not known if it is the same bear. As the number of incidental observations are related to the number of people on site, the number of incidental observations of grizzly bears was compared to the camp population.



4.2.2 Results

4.2.2.1 Grizzly Bear Hair Snagging Program

Results of the 2012 and 2013 hair snagging program are provided in ERM Rescan (2014). The hair snagging program was not undertaken in 2014.

4.2.2.2 Incidental Observations

Incidental observations of grizzly bear on East Island from 17 May to 6 September included 69 sightings over 112 days, three of which included observations of a sow with two cubs (Table 6) (Appendix E). These are not indicative of 69 independent observations, since different sightings may have been multiple observations of the same bear. In 2014, there was an average of 484 people at the Mine. The number of incidental observations of grizzly bears does not appear to be influenced by the number of people on site (Table 6).

Table 6: Average Camp Population and Number of Incidental Grizzly Bear Observations, 2002-2014

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Average Camp Population	1100	470	397	646	716	747	979	562	579	630	629	537	484
Grizzly Bear Observations on East Island	5	19	24	43	21	41	5	22	44	56	97	67	69

4.3 Mortality

Although there is some interaction between the Mine and grizzly bears, every effort is made to immediately report any animals that come 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 unwanted interactions. Despite mitigation, Mine activities may lead to grizzly bear mortalities, injuries or relocations from year to year. The specific impact prediction in the EER (DDMI 1998b) is:

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

4.3.1 Methods

Mine-related incidents and mortalities are reported to the Environment Department for documentation in a detailed incident investigation and report. Environment Department staff follow-up on any incident and complete the necessary documentation. ENR is consulted for mitigation or disposal procedures.

4.3.2 Results

There were no grizzly bear mortalities or relocation efforts in 2014, and there were 39 deterrent events (Table 7).



Table 7: Grizzly Bear Deterrent Actions, Incidents and Mortalities, 2000 to 2014

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Days with Bear Visitations on East Island	15	14	5	15	24	34	20	34	5	22	44	41	77	47	59 ^(a)
Days Deterrent Actions were Utilized	10	8	2	6	20	23	8	20	3	18	40	31	65	52	39
Relocations	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0
Mortalities	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

(a) On 59 separate days, 69 grizzly bear observations were recorded.

Deterrents used to encourage bears to move away from infrastructure include trucks, bear bangers, rubber bullets, cracker shells, screamers, whistlers, air horns, and helicopter. The helicopter is used to deter bears that are frequenting the island for extended periods of time or is used when other deterrent actions are not effective. In 2014, there were 15 occasions when a helicopter was used for deterrent action.

Construction began at the Mine in the year 2000. The calculated Mine mortality rate over the 15 year monitoring period is 0.07 bears per year, which is below the range predicted during the environmental assessment.

4.4 Recommendations

DDMI participated in regional grizzly bear monitoring in collaboration with Dominion Diamond Ekati Corporation and De Beers Canada Inc. in 2012 and 2013. The long-term duration and frequency of this program will be determined through review and discussion of program objectives and results at a wildlife monitoring workshop hosted by ENR and proposed for November 2015.



5.0 WOLVERINE

5.1 Objectives and Scope

Wolverine (*Gulo gulo*) is annual residents in the Lac de Gras region (DDMI 1998b). The western population of wolverines was considered as *Special Concern* in 2003 by COSEWIC and wolverines are currently under consideration for Federal species at risk legislation. Wolverine were assessed by the NWT SARC in December 2014 and found to be not at risk (NWT SAR 2015).

Wolverine home ranges have been estimated at 126 km² for adult females and 404 km² 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. This potential has been demonstrated during baseline, construction, and operations in the Lac de Gras area, when wolverine have on occasion become attracted and habituated to developments.

5.2 Presence and Distribution

The objective of this component of the WMP is to determine if mining activities are influencing the presence of wolverines in the study area, and 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 is currently participating in a joint research program coordinated among Dominion Diamond Ekati Corporation and the GNWT. This program involves hair sampling for DNA fingerprinting to estimate abundance of wolverine in the Lac de Gras region.

5.2.1 Methods

Wolverine presence around the Mine was monitored in three ways including:

- snow track surveys;
- hair-snagging; and
- incidental observations at site.

5.2.1.1 Wolverine Snow Track Surveys

The snow track surveys began in 2003, and have been conducted 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 (IQ) to locate transects and record wolverine snow tracks. This included surveys of 23 transects of variable length and distance from the Mine within a 1,270 km² area for wolverine tracks. In 2008, DDMI revised the previous 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 or heath



boulder habitat. The final locations of snow track survey 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 IQ), including heath tundra and heath tundra boulder habitats. Each route is driven once by snowmobile in March or April and all wolverine tracks and other sign (e.g., digs and dens) are recorded.

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 by determining the number of days from the survey date since the mean hourly wind speed had reached 7.7 metres per second (m/s). The threshold wind speed of 7.7 m/s is sufficient to move dry snow along the ground (Li and Pomeroy 1997). Track counts were adjusted for weather by using the minimum number of days prior to reaching the most recent snowfall or threshold wind speed. 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.

5.2.1.2 *Wolverine Hair-Snagging*

The wolverine hair-snagging is a regional research program conducted in partnership with ENR and Dominion Diamond Ekati Corporation. This program is also conducted with the assistance of community members. The survey is carried out in March and April by snowmobile. A total of 134 posts constructed of 4"x 4" lumber in 5 foot lengths are erected across the DDMI study area in a 3 km by 3 km grid. Each post is spiral-wrapped in barbed wire, intended to snag hair from wolverine, and baited with a small portion of local meat and two types of commercially prepared lures. (GNWT 2013b) Posts were surveyed in the order they were deployed and were removed after the second visit by observers. Hair samples are submitted to Wildlife Genetics International for DNA analysis to determine the sex and number of individuals in the study area.

Additional analyses of movements for the 2014 program were completed using the locations of different posts where individuals were detected during the first and second surveys. Convex hull polygons were determined for each wolverine with at least three post detections in each survey. The convex hull polygon represents the maximum area in which individuals were detected. Measures of polygon area, overlap and distance between polygon centroids were used to describe movements within the study area between the first and second surveys by individual wolverines.

In addition to the 2014 results, the annual population sizes of wolverines identified by the 2005 to 2014 DDMI hair snagging programs were estimated using the combined Pradel-Huggins robust design model in program MARK (White and Burnham 1999). The estimates were derived from a similar model structure as used by Boulanger and Mulders (2013), which included pooling sexes and constant parameter constraints. The resulting estimates were then visually compared to annual estimates of probability of snow track occurrence obtained from snow track surveys to determine whether the results of the two different types of monitoring exhibit similar patterns. Annual estimates of snow track occurrence were based on mixed-model logistic regression and accounted for the effect of weather.



5.2.2 Results

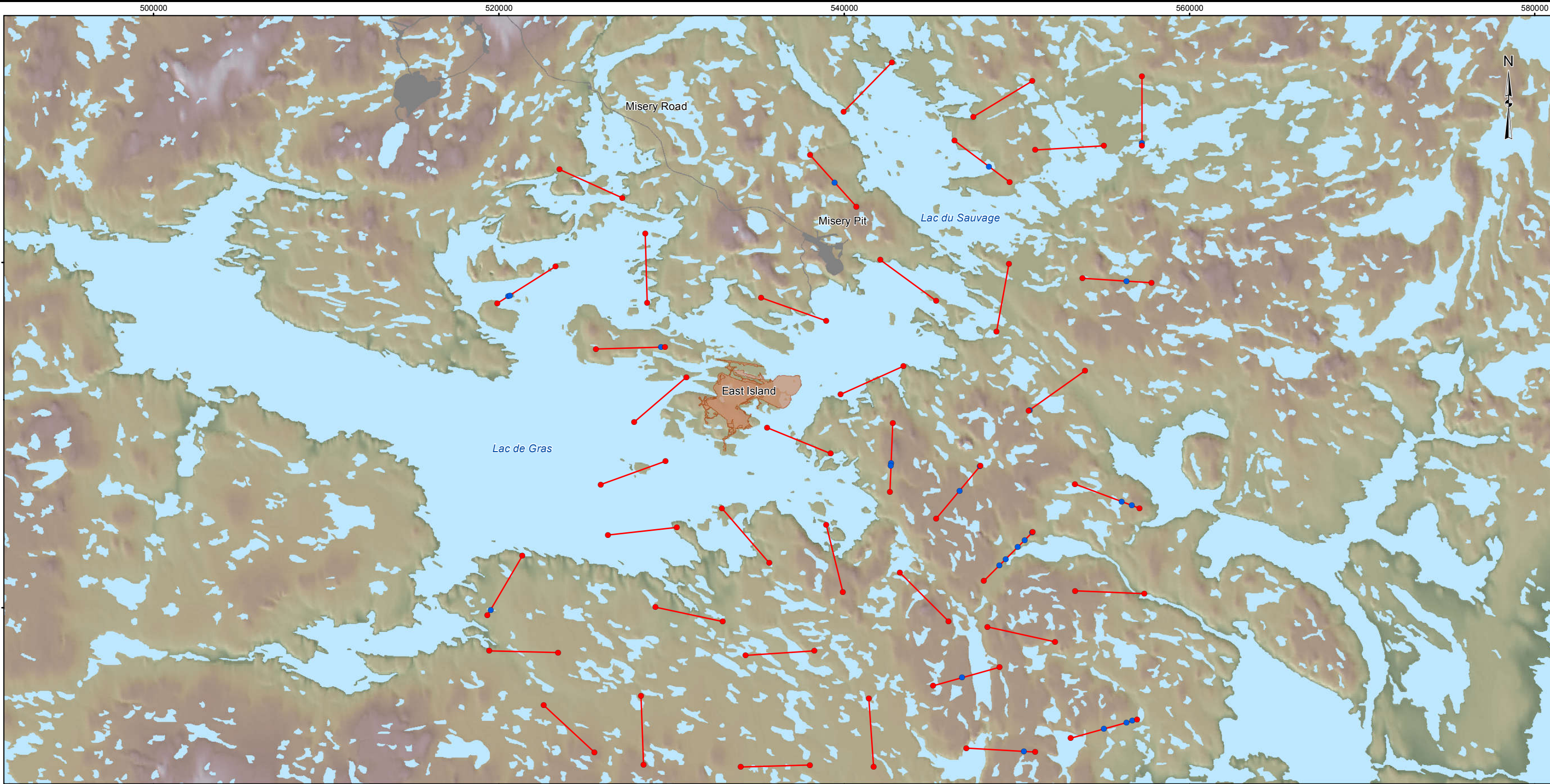
5.2.2.1 Wolverine Snow Track Surveys

During 2014, a total of 25 wolverine tracks were recorded during surveys from March 23rd to March 26th (Figure 6). This resulted in a track index of 0.13 tracks per kilometre and a mean (± 2SE) track density index (TDI) of 0.156 ± 0.082 wolverine tracks per kilometre per days since last weather threshold (Table 8; Appendix F). No other wolverine sign was observed during the snow track survey. Caribou tracks were observed along with wolverine tracks at two locations, and one of these had both wolf and caribou tracks.

Table 8: Wolverine Track Index and Mean days Since Snow Fall, 2003-2014

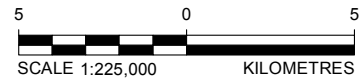
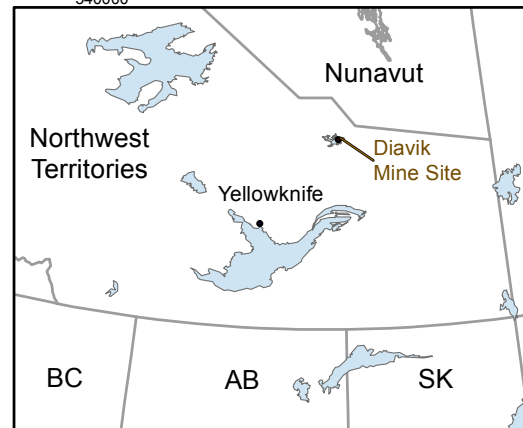
Table with 8 columns: Year, Survey Period, Number of Tracks, Distance Surveyed (km), Mean Days Since Snowfall (a), Mean Days Since Threshold Wind Speed (a), Track Index (Tracks/km), Mean Track Density Index (± 2SE) (b). Rows include years from 2003 to 2014 with various survey periods and track counts.

- (a) Presented as a summary of the data used to calculate track densities. Wind threshold speed = 7.7 metres per second.
(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 ± 2 standard errors (Appendix F).
(c) The new survey technique was introduced in 2008.
(d) Survey was not completed in 2010 due to community assistant not being available to participate in survey.
km = kilometres; tracks/km = tracks per kilometre; SE = standard error.



- LEGEND**
- WOLVERINE TRACK
 - TRANSECT
 - DIAVIK FOOTPRINT
 - EKATI FOOTPRINT
 - WATERBODY

REFERENCE
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 HYDROLOGY OBTAINED FROM CLIENT.
 DATUM: NAD83 PROJECTION: UTM ZONE 12



PROJECT		Rio Tinto		DIAVIK DIAMOND MINES INC.	
TITLE					
WOLVERINE SNOW TRACK SURVEY, 2014					
	PROJECT		1406208		FILE No.
	DESIGN	TM	03 Feb. 2015	SCALE AS SHOWN	
	GIS	UW	20 Mar. 2015	REV. 0	
	CHECK	DC	20 Mar. 2015	FIGURE: 6	
	REVIEW	JV	20 Mar. 2015		

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5.2.2.2 Wolverine Hair-Snagging

Hair snagging posts around the Mine were deployed and surveyed twice: once from April 6 to 16, 2014 and again from April 16 to 27, 2014. Hair samples were collected at 73 of 134 stations during the first hair snagging post visit and at 63 of 134 stations during the second post visit (Figure 7).

Results from DNA analysis of hair samples collected in the study area identified 16 individuals (nine male and seven female). Based on the detection histories of these individuals and using the small sample corrected population estimator of Chapman (1951), the estimated number (95% confidence limit [CI]) of wolverines was 17 (14 to 20) in the study area. Two individuals detected in 2014 were also detected in the Snap Lake study area in 2014. One wolverine was detected in Daring Lake study area in 2013. Seven of the wolverines detected in 2014 were previously detected in the Diavik study area

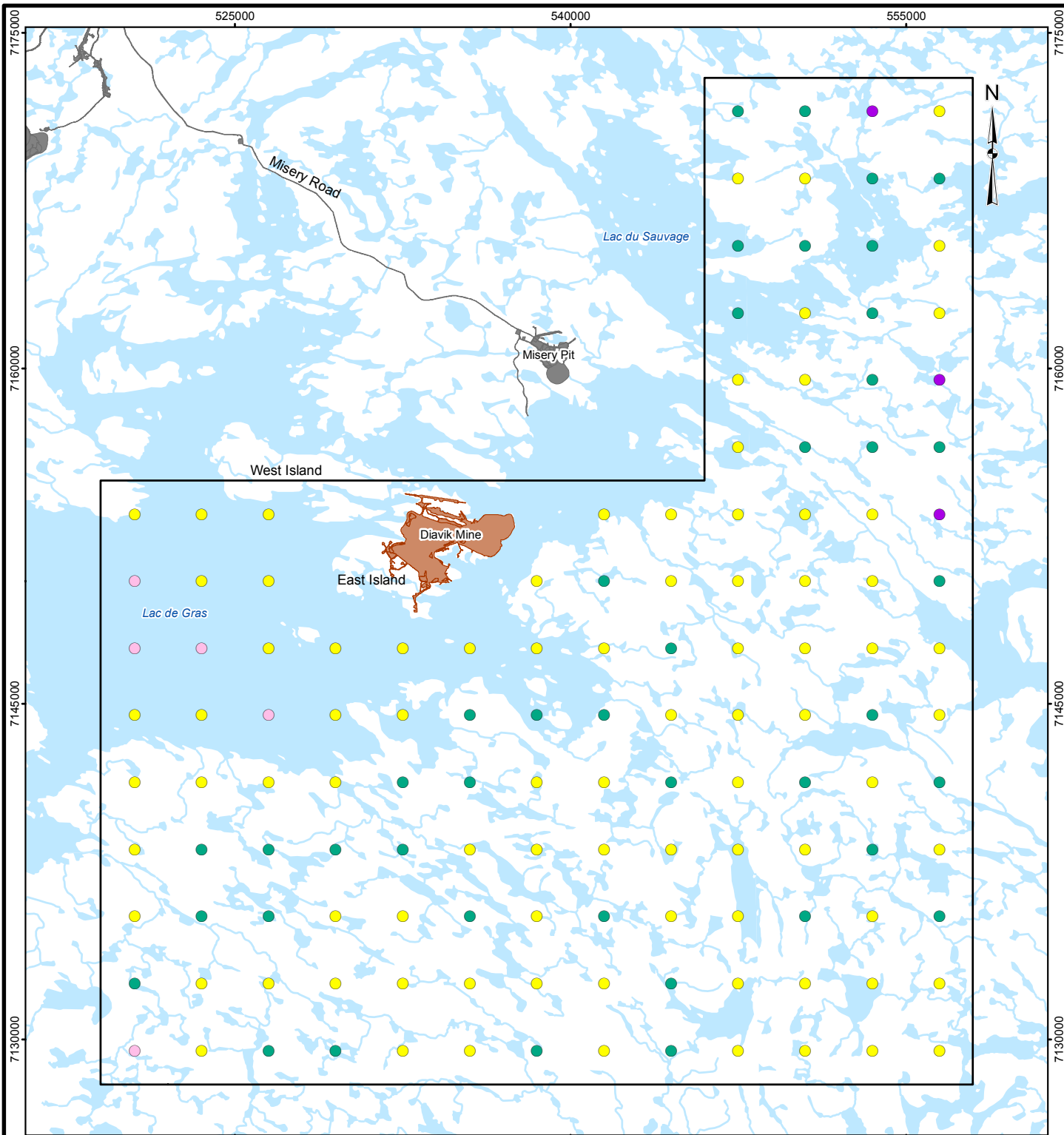
Five wolverines met the minimum three post criteria for movement analysis (Table 9). While the number of wolverines with measures is low, the results confirm that barren-ground wolverines are a mobile species and there is overlap in wolverine movement between the first and second surveys (Figure 8).

Table 9: Convex Hull Polygon (CHP) Measurements for Wolverines Detected in 2014.

Table with 6 columns: Wolverine ID, Sex, Survey, CHP Area (ha), CHP Overlap (ha), Distance between CHP Centroids (km). Rows include data for individuals A332601, E242401, E312801, G301002, and K14a35251 across two surveys.

The visual comparison of annual results from the hair snagging and snow track programs is presented in Figure 9. The population size results of annual hair snagging of wolverines indicate a declining trend in the Diavik study area since the program began in 2005. The results of the snow track monitoring program also show a decline in the probability of snow track occurrence since 2008, when the study design was altered to increase statistical power by increasing sampling effort through stratified random sampling methods. Thus, there is general correspondence in the interpretation of trends in annual population size and the probability of snow track occurrence estimates generated by the current snow track monitoring program.

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LEGEND

WOLVERINE HAIR SNAGGING LOCATION

- 0 SAMPLES
- 1-7 SAMPLES
- 8-14 SAMPLES
- 15-22 SAMPLES
- DIAVIK WILDLIFE STUDY AREA BOUNDARY
- DIAVIK FOOTPRINT
- EKATI FOOTPRINT

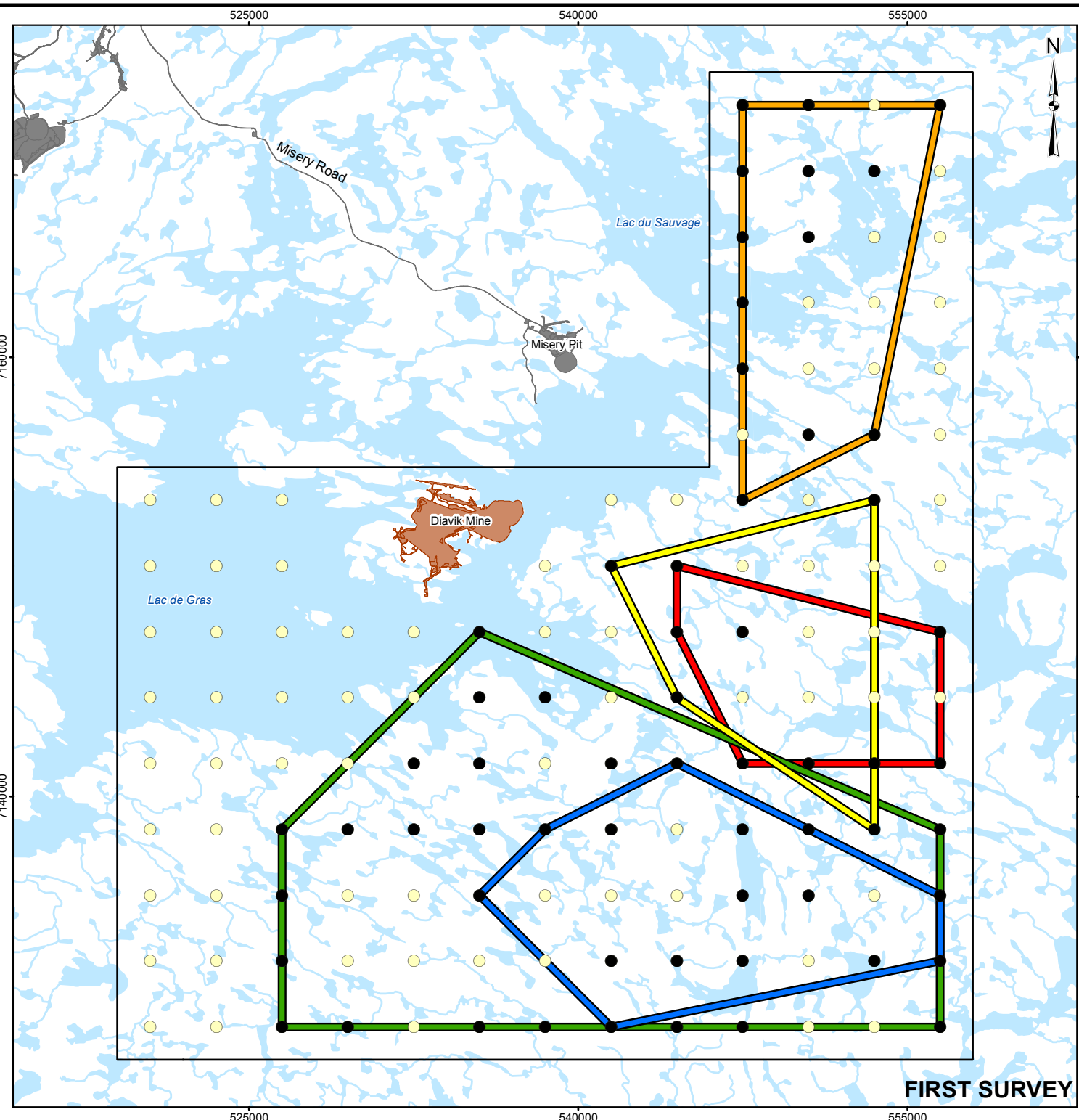


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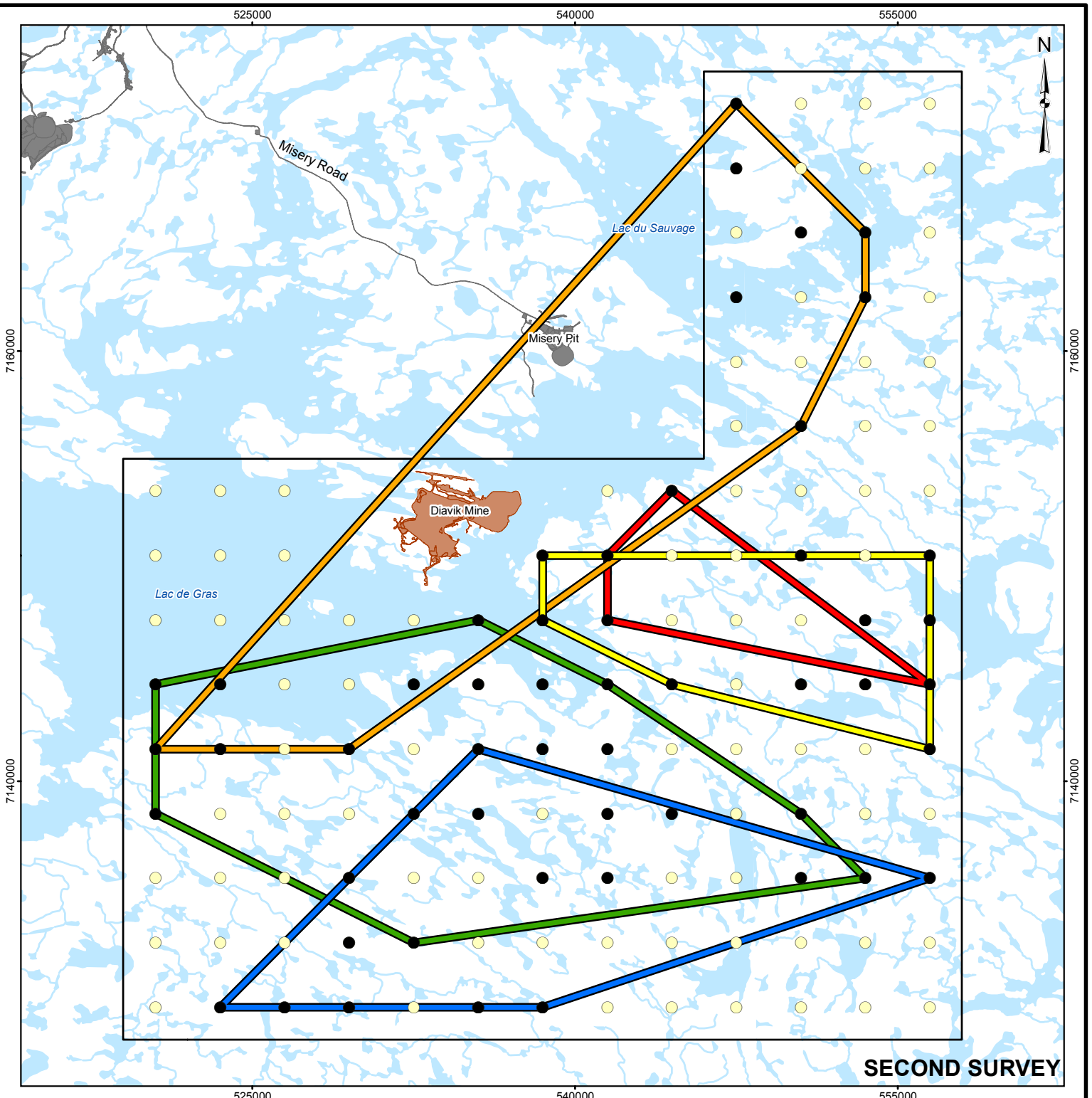
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 DATUM: NAD83 PROJECTION: UTM ZONE 12

PROJECT		1406208		FILE No.		
RioTinto		DIAVIK DIAMOND MINES INC.				
TITLE						
LOCATION OF WOLVERINE HAIR SNAGGING POSTS AND OCCURRENCE OF HAIR, 2014						
		DESIGN	TM	03 Feb. 2015	SCALE AS SHOWN	
		GIS	UW	20 Mar. 2015	REV. 0	
		CHECK	DC	20 Mar. 2015	FIGURE: 7	
		REVIEW	JV	20 Mar. 2015		

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FIRST SURVEY



SECOND SURVEY

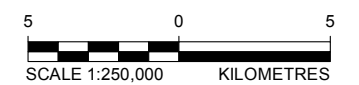
LEGEND

- WOLVERINE HAIR SNAGGING LOCATION
- WOLVERINE HAIR SNAGGING DETECTION LOCATION
- DIAVIK WILDLIFE STUDY AREA BOUNDARY
- DIAVIK FOOTPRINT
- EKATI FOOTPRINT

WOLVERINE HAIR SNAGGING RANGES

- A332601 (FEMALE)
- E242401 (MALE)
- E312801 (FEMALE)
- G301002 (MALE)
- K14a35251 (MALE)

REFERENCE
 BASE DATA: NTDB 1:250,000. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – CANADA.
 DATUM: NAD83 PROJECTION: UTM ZONE 12



PROJECT	Rio Tinto		DIAVIK DIAMOND MINES INC.
TITLE	CONVEX HULL POLYGONS FROM DETECTION OF WOLVERINES IN THE FIRST AND SECOND SURVEYS, 2014		
	PROJECT	1406208	FILE No.
	DESIGN	DC	23 Feb. 2015
	GIS	UW	20 Mar. 2015
	CHECK	DC	20 Mar. 2015
REVIEW	JV	20 Mar. 2015	FIGURE: 8

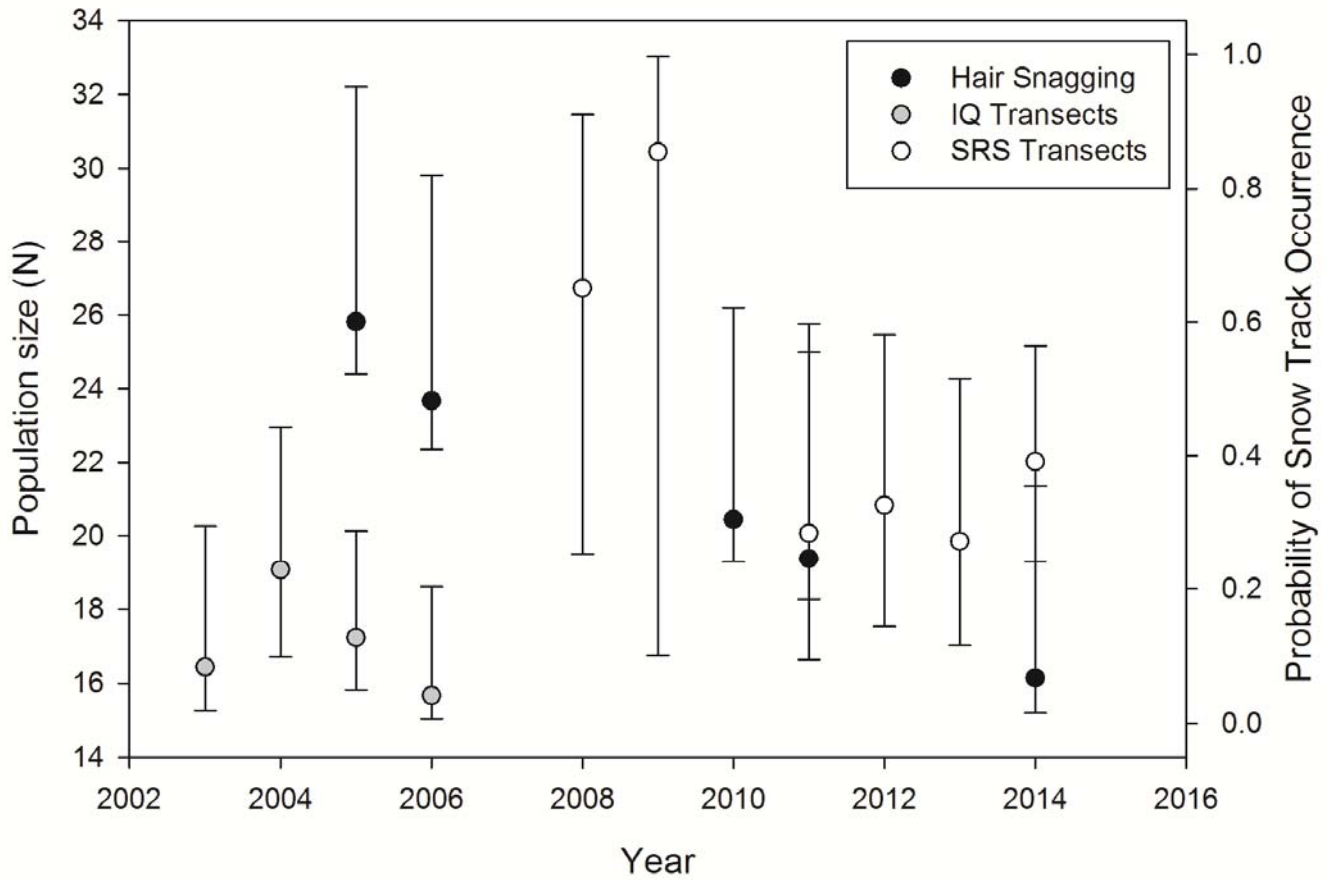


Figure 9: Annual Estimates of Wolverine Population Size (95% CI) from Mark-recapture and Probabilities of Snow Track Occurrence

Note: IQ transects refers to "Inuit Qaujimatjuqangit" and SRS transects refers to Stratified Random Sampling Monitoring Designs.



5.3 Incidents and Mortalities

Mortalities can occur if wolverines become habituated to mining activities resulting from efforts to locate food or shelter (DDMI 1998b). Diligent waste management, strictly enforced speed limits, and immediate reporting of wildlife sightings on East Island have limited the mortality of wolverine during the operational period of the Mine. The prediction made in the EER was:

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

To date, efforts have been focused on limiting Mine-related mortalities and associated changes to wolverine population parameters.

5.3.1 Methods

Mine-related incidents that may occur are reported to the Environment Department through incident reports submitted by Mine staff. Environment Department staff follows up on any incident and complete the necessary documentation, and ENR is consulted for mitigation or disposal procedures. This information is tabulated and provided for annual comparisons.

5.3.2 Results

Since 2000, two wolverines have been relocated and four mortalities have occurred at the Mine. There were no mortalities at the Mine during 2014. A total of seven wolverine sightings occurred on East Island in 2014 but deterrent efforts were not required (Table 10).



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Table 10: Wolverine Incidental Observations on East Island, 2014

Date	Animals	Location	Advisory Issued	Attractant Present	Action Taken (Deterrents Used)	Comments
January 3, 2014	1	Outside main camp windows	no	none	none	
May 6, 2014	1	Landfill	no	yes	none	Observed during a landfill inspection along with a wolf. Misplaced food packaging was found during that inspection.
2October 28, 2014	1	Ring Road heading towards West end of island	no	yes	none	Tracks led to an apple the wolverine was chewing on.
November 16, 2014	1	South haul road intersection	no	none	none	
November 23, 2014	1	Backfill Plant Area	no	none	none	
November 28, 2014	1	Outside main camp	no	none	none	
December 23, 2014	1	Com shack and Metcon Lay Down	no	none	none	

There has been a decline in days with wolverine visitation on East Island since 2011, and there have been few deterrent actions since 2009 (Table 11).

Table 11: Wolverine Observations, Deterrents, Relocations and Mortalities, Baseline to 2014

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Days with Wolverine Visitations on East Island	25	36	4	38	14	43	31	19	46	21	28	4	11	3	6
Days Deterrent Actions were Utilized	9	10	0	1	1	5	2	1	17	1	0	0	1	0	0
Relocations	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Mortalities	0	1	0	0	0	0	0	0	1	0	0	0	2 ^(a)	0	0

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



5.4 Recommendations

In years when snow track surveys are completed for wolverine, DDMI will complete surveys twice, from mid-March to April.



6.0 FALCONS

6.1 Objectives and Scope

Falcons are monitored because they nest regularly in the Lac de Gras area (DDMI 1998b). COSEWIC and the Federal Species at Risk Act (SARA) considers the peregrine falcon (*Falco peregrinus tundrius*) as *Special Concern*; however, they currently have no status under NWT species at risk legislation (NWT SAR 2015). Peregrine falcon is scheduled for assessment by NWT SARC in December 2020 (NWT SAR 2015).

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

- disturbance from the Mine and the associated zone of influence is not predicted to result in measurable impacts to the distribution of raptors in the study area; and
- the Mine is not predicted to cause a measurable change in raptor presence in the study area.

The revised impact predictions presented in Handley (2010) are:

- to determine nest site occupancy and productivity of historic peregrine falcon nest sites in the study area to contribute to the Canadian Peregrine Falcon Survey (CPFS), which monitors recovery of species and long-term population trends;
- 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 that may be employed for nest relocations; and
- to document and determine the cause of direct Mine-related mortalities of raptors.

Raptors present in the study area include peregrine falcons, gyrfalcons, rough-legged hawks, snowy owls, and short-eared owls.

6.2 Nest Site Occupancy

6.2.1 Methods

Contribution of nest monitoring to the Canadian Peregrine Falcon Survey (CPFS) is completed every five years with the next CPFS scheduled for 2015. The monitoring will include visits to known nest sites in early and late summer to determine use and the presence of hatchlings. The monitoring approach includes a helicopter survey using fly-by techniques to minimize disturbance to nesting birds.



WILDLIFE MONITORING PROGRAM

Falcons have been known to nest on Mine infrastructure and within the vertical rock faces of open pits at both the Mine and the Ekati Mine. Pit wall/infrastructure inspections at the Mine are conducted twice weekly during the nesting season. Pit walls and other infrastructure are inspected for nests or falcon nesting behaviour. If nests are found, the species occupying the nest is determined along with the presence of eggs and/or chicks. Deterrent actions are considered in consultation with ENR if the nest is in an area hazardous to the birds.

Pit wall/infrastructure inspections are completed at eight locations on the Mine site: A154 Pit area (Lookout #1 and #2), A418 Pit area (Lookout #1 and #2), South Tank Farm, Process Plant, Powerhouse (Lookout #1 and #2), Site Services Building, Boiler House and Backfill Plant. The survey is conducted by stopping at a clear vantage point and thoroughly scanning the area for any potential nesting locations.

6.2.2 Results

A total of 31 Pit Wall/infrastructure inspections were completed from 9 May until 30 August to determine use by raptors (Appendix G). During the inspections, nesting sites were confirmed at the A418 Lookout #1 and #2, A154 Lookout #1 and #2, the boiler house and the site services building (Table 12). Nests were considered active if they were observed to have eggs or fledglings. Once a nest was confirmed to no longer be active, no further inspections were undertaken.

Table 12: Nests Observed on Mine Infrastructure and Open Pits in 2014

Area	Species	Date	Active Nest	Observations
A154 Lookout #1	rough-legged hawk	May 15	No	300 m southeast of South wall of pit, rough legged hawk nest also observed May 30 and June 1, nest no longer occupied June 4 onwards.
A154 Lookout #2	peregrine falcon	May 15	No	Peregrine falcon nest observed on May 15, birds were present again on May 26, no longer occupied on May 30.
A418 Lookout #1	rough-legged hawk	June 1	Yes	Nest observed on June 1, one fledgling observed in nest on June 7 and 10, no activity June 14 or later.
A418 Lookout #2	rough-legged hawk	May 23	Yes	Rough-legged hawk nest observed May 23, rough legged hawk observed May 30, fledgling observed June 16, no known activity after June 19.
Boiler House	common raven	June 1	No	Nest observed on June 1, nest no longer occupied July 25.
Site Services Building	peregrine falcon	June 1	Yes	Nest observed on June 1, one fledgling observed on June 25, and July 7 and 10; 3 fledglings observed July 13; 2 observed on July 20; 3 observed on July 22 and 25; 1 fledgling on July 31; 3 fledglings on August 3; nest was no longer occupied on August 13.



6.3 Mortality

6.3.1 Methods

Mine-related incidents that occur are reported to Environment Department staff through incident reports submitted by Mine staff. Environment Department staff follows up on any incident and completes the necessary documentation. ENR is consulted for mitigation or disposal procedures. This information is tabulated and provided for annual comparisons.

6.3.2 Results

There were no falcon or bird mortalities reported at the Mine in 2014.

6.4 Recommendations

DDMI will continue Pit Wall/infrastructure monitoring for nesting raptors. DDMI will provide data on nest surveys of the study area to ENR. The next CPFS is scheduled to occur in 2015.



7.0 WASTE MANAGEMENT

DDMI is committed to taking the necessary steps to collect, store, transport, and dispose of all waste generated by the Mine. These procedures are being conducted 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; and
- 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, on-site disposal and monitoring. In addition to these mitigation practices, DDMI has implemented recycling and renewable energy initiatives.

7.1 Waste Inspections

The DDMI Waste Management Plan outlines practices for waste disposal and mitigation practices. The 2014 Waste Management Plan was submitted on January 16, 2015 to the Wek'èezhii Land and Water Board (WLWB) as part of the water license renewal under water license numbers W22007L2-0003 (WLWB 2015). The Mobile Maintenance and Support Services Department 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 back hauling and requirements for any modifications to the system. In addition, Environment Department staff conducts waste inspections at the Waste Transfer Area (WTA) and Landfill twice per week during the winter and once per week during the summer. A site-wide compliance inspection is completed on a weekly basis.

Waste Management staff identifies 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 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, 3 m 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 non-toxic/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. Two water scrubbed incinerators were installed and operational in October 2012 and are located within the incinerator building. The majority of waste is inventoried and stored at the WTA while awaiting backhaul on the winter ice road.



The current landfill was established in 2008 and is located within the rock pile. On-site disposal of non-burnable wastes such as steel (ground support for underground mining), vent tubing, plastics, and glass currently occurs at the inert Landfill located within the Type 3 waste rock pile. Waste is pushed into a large depression and a gate was installed in an effort to limit uncontrolled dumping in this area. The location of the Landfill within the rock pile and traffic in the area will continue to discourage wildlife access to the Landfill, thereby limiting the availability of food and food packaging to animals.

7.1.1 Methods

Inspections of the WTA and the Landfill are conducted twice per week during the winter and once per week during the summer to confirm that all waste segregation, storage and disposal procedures set out in the Waste Management Plan are being followed. Inspections consist of Environment Department staff walking the area of the WTA and Landfill, where safe to do so, and documenting the type and number of misdirected waste items, as well as wildlife species or fresh sign 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. All misdirected waste items found during waste 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.

7.1.2 Results

Development of the underground Mine at the A154 and A418 in 2014 yielded 292,299 tonnes of waste and 2,276,976 tonnes of ore by year end. The average monthly population at the Mine in 2014 was 484 people, with a range from 357 to 579 people. During 2014, a total of 225 inspections took place at a frequency of twice per week from 2 January until 29 December at the WTA and Landfill (Appendix H). A total of 52 misdirected waste items were found during WTA inspections and 625 items during Landfill inspections (Table 13). In the WTA, the most common misdirected waste item was food packaging (23 items found), followed by oil contaminated waste (19 items), and food and aerosol cans (two items of each found). In the Landfill, the most common misdirected waste item was oil contaminated waste (292 items found), followed by food packaging (104 items found) and aerosol cans (42 items found). Considering the total amount of waste disposed (125,734 kg incinerated and 5,164 tonnes landfilled), the amount of misdirected waste is considered negligible.

Table 13: Misdirected Waste at the Waste Transfer Area and the Landfill, 2014

Table with 5 columns: Misdirected Waste Type, Waste Transfer Area (Number Found, Percent of Inspections), and Landfill (Number Found, Percent of Inspections). Rows include Aerosol Cans, Batteries, Food, Food Packaging, Oil Contaminated Waste, Oil Products & Containers, Other, and Total.



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Improperly disposed items at the WTA and Landfill were reported to Waste Management staff for immediate rectification.

During 225 inspections of the WTA and Landfill, wildlife sign was observed on 44.2% of inspections and 17% of inspections, respectively. At the WTA, wildlife sign observed included red fox tracks in 46 inspections. At the Landfill, wildlife sign observed included 15 red fox tracks and chews, one arctic fox track, wolf and wolverine tracks and one common raven track. Wildlife was observed on 34.5% of inspections of the WTA and on 6.3% of inspections of the Landfill (Table 14). The most common wildlife species observed during inspections was red fox. Other species observed included common raven, rough-legged hawk, unknown gulls, arctic fox, wolf and wolverine.

Table 14: Wildlife and Wildlife Sign in the Waste Transfer Area and Landfill by Species

Species	Waste Transfer Area (n=113)			Landfill (n=112)		
	Number of Inspections with Wildlife Observation	Total Number of Individuals Observed	Number of Inspections with Wildlife Sign	Number of Inspections with Wildlife Observation	Total Number of Individuals Observed	Number of Inspections with Wildlife Sign
Common Raven	10	14	0	4	4	1
Rough-legged Hawk	0	0	0	1	3	0
Red Fox	29	38	46	4	4	15
Unknown Gull	1	2	0	0	0	0
Wolf	0	0	0	1	1	2
Wolverine	0	0	0	1	1	2
Arctic Fox	0	0	0	0	0	1
Unspecified	4	4	4	0	0	2
Total	39	58	50	8	13	19

7.2 Recycling Initiatives

During 2008, DDMI implemented an employee-driven recycling program for plastic bottles and aluminium cans generated on site. Proceeds from this program are donated to the Stanton Territorial Breast Cancer Foundation and benefits people from all communities.

Throughout 2014, 7,214 units of aluminum containers (\$721.40), 7,450 units of plastic containers (\$745.00) and 64 units of Tetra pak containers (\$6.40) were recycled and the total monetary value was donated to charity. To date, the total proceeds since the inception of the employee-driven recycling program has generated \$20,713.80.

Over 20,000 pounds of copper and 2,000 pounds of aluminum were stripped from scrap cable over 2,000 hours by volunteers. The copper and aluminum were shipped to Hay River via backhaul donated by Tlicho Landtran. The secure yard was donated by Scotts Electric. The monetary value of the recycled copper totaled approximately \$55,000. The money was donated to the Hay River 'Lights On' Program. The program uses the schools to provide a safe place for young kids to go on Saturday nights. They have upwards of 40 kids showing



up for sports activities, but there is also education offered about the harmful effects of drugs and alcohol. The recycled aluminum has yet to be sold; however, the proceeds from the aluminum will be donated to the DDMI soup kitchen charity.

During 2014, approximately 60,982 litres of waste oil was collected to be used in the waste oil boiler that was commissioned in the second quarter of 2014. This allows waste oil to be burned to create heat rather than being shipped offsite.

In addition, a number of waste materials generated on site are also shipped to Alberta using winter road backhauls each year. DDMI is committed to maximizing recycling opportunities for wastes generated from Mine operations that cannot be disposed of on site. Items shipped for recycling 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; and
- fluorescent tubes.

DDMI will continue to increase recycling opportunities, and reduce waste streams generated at the Mine site.

7.3 Renewable Energy

The wind farm became operational on 28 September 2012 and it was predicted that it would reduce Mine diesel consumption by 10%, as well as greenhouse-gas emissions by 12,000 tonnes of carbon dioxide annually. During the first year of operation, the wind farm generated 15,893 megawatt hours (MWh) of power; which represents 8.4% of the total power generated in 2013 (Figure 10). In 2014, 10.5% of total power use was wind power, and the peak amount of total power used made up of wind power was 55%. The wind farm offset an estimated 14,068 tonnes of carbon dioxide emissions in 2014. From 2005 through 2014, the annual diesel fuel consumption at the Mine has ranged from 55,573,000 litres to 73,449,006 litres; the average annual fuel consumption is 65,431,004 litres.

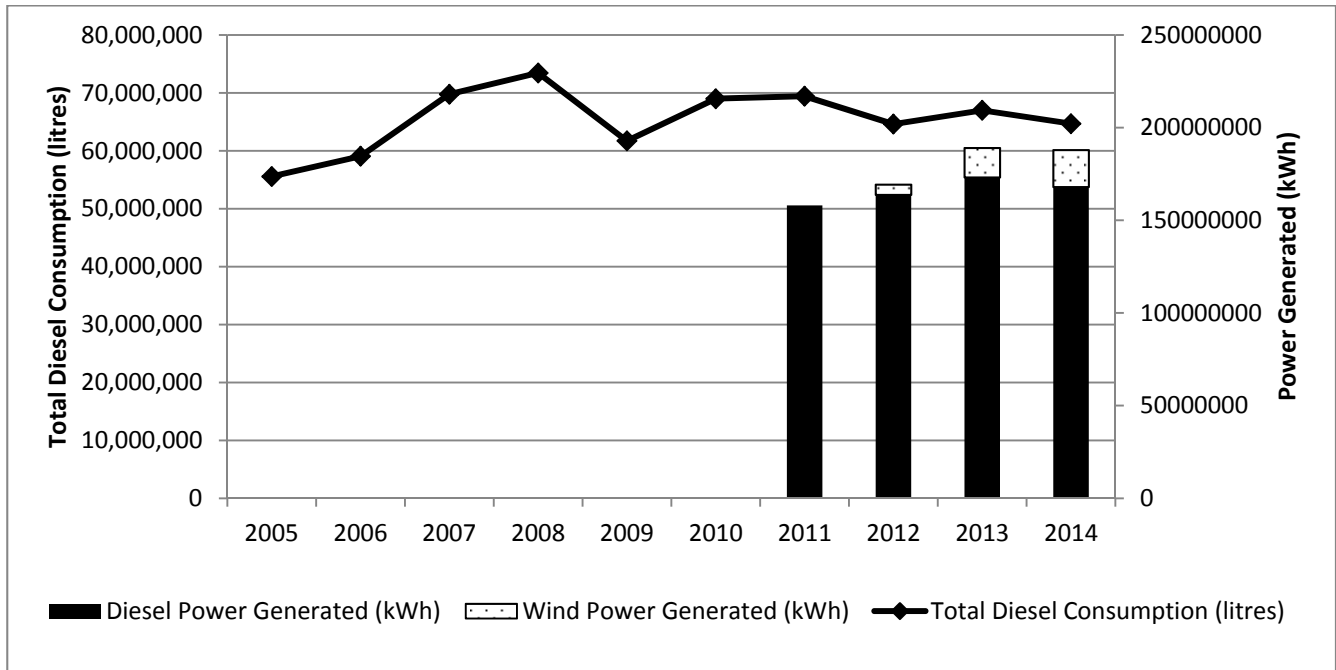


Figure 10: Diavik Power Generation and Diesel Consumption

7.4 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 gulls appear to be frequenting the WTA and Landfill, these animals are natural scavengers and will continue to be present throughout the Mine's life. DDMI will continue to monitor at the frequency of twice per week during the winter and once per week during the summer.

DDMI remains committed to carrying out employee education programs related to waste handling.



8.0 CLOSURE

We trust the above meets your present requirements. If you have any questions or requirements, please contact the undersigned.

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APPENDIX A

NWT Wolf Project, 2014



CONTACT INFORMATION

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INTRODUCTION

Since 1996, the Department of Environment and Natural Resources (ENR) has used aerial surveys to monitor den occupancy to gain an understanding of population trends of wolves within the summer range of the Bathurst caribou herd. When compared over time, these data serve as an index of relative abundance for tundra wolves. Existing den survey techniques are cost-effective and currently include a 17-year time series of wolf abundance on the Bathurst range. Survey data now suggest that wolf dens from the spring are abandoned by late August when a pup recruitment survey is normally conducted. This behaviour was not typical in the late 1990s and early 2000s when caribou were abundant (Frame et al. 2008).

We investigated wolf-caribou dynamics on the summer range of the Bathurst caribou herd. Wolf productivity may be limited by changes in the abundance or spatial distribution of caribou, where low caribou densities result in food shortages and high pup mortality (Heard and Calef 1986, Heard and Williams 1992). For wolves, newborn pups make up the largest age class in the pack, thus fecundity and pup survivorship are important components in determining trends in wolf abundance (Fuller et al. 2003). A positive relationship between pup recruitment and the distribution and abundance of caribou would suggest a numerical response, where changes in the number of wolves on the Bathurst range is a function of the density of barren-ground caribou.



Methods

Study Area

We conducted our research within the summer range of the Bathurst caribou herd, an area encompassing approximately 54,000 km² (Figure 1) in the Northwest Territories and Nunavut, Canada. As part of ongoing monitoring of the herd, satellite and GPS collars have been used to track the movements of Bathurst caribou since 1996 (Gunn et al. 2002). Our study area was delineated based on the movement patterns of Bathurst collared caribou between 1996-2008 (Adamczewski et al. 2009).

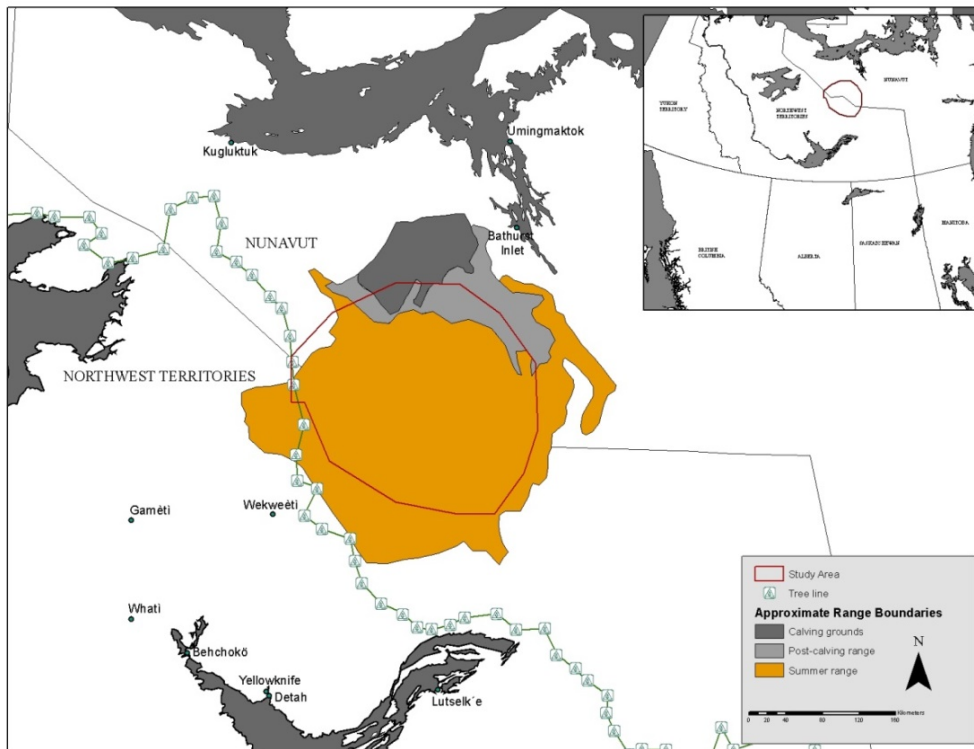


Figure 1: Location of wolf study area on the summer range of the Bathurst barren-ground caribou herd. Boundaries were delineated based on movements of the satellite collar caribou from 1996-2008.

Repeated Surveys

Without the ability to track individuals, aerial surveys cannot distinguish between 1) total litter loss or 2) site relocation as the reason behind low pup recruitment and high abandonment of den sites observed on the Bathurst range in recent years. To help interpret these data, we conducted repeated aerial and ground based surveys of tracked individuals with GPS radio collars; our objective was to document changes in pup recruitment and pack movement characteristics over 2013 and 2014 denning periods; over a period of low caribou abundance. The breeding female was targeted for capture because of her role in pack dynamics and caring for pups throughout the denning period. Wolves were captured by helicopter net-gunning and chemically immobilized with an intramuscular injection of Telazol®; a blood sample was taken from each wolf to test for disease presence. Communities were consulted as part of the wildlife research permit application process and



permits from both the Government of the Northwest Territories and Government of Nunavut were issued. The NWT Wildlife Care Committee approved the wolf capture procedure (NWTWCC 2013-005). The GPS collars were programmed to obtain a location every 1.5 hours (16 locations per day) and were expected to function for 2 1/4 years (3 summers and 2 winters).

RESULTS

From 21—24 June, 2013, we captured 16 female wolves representing individual packs, 15 were breeding (lactating) females and 1 was a subadult (non-lactating) female. Wolf 433, the subadult female, dispersed out of the study area soon after capture and was excluded from the analyses. Over the 2013 and 2014 denning periods we monitored 27 wolf packs (17 and 10 respectively), 15 of which were monitored via a GPS collared adult female (N collared wolves= 16 and 4 in 2013 and 2014 denning periods respectively). We conducted 5 field sessions, approximately 10 field days each (3 and 2 sessions in 2013 and 2014 respectively); during this time we conducted over 204 aerial checks to track wolf packs by visiting known den sites, radio-tracking, or by visiting clusters of GPS locations that may have represented a relocated den or rendezvous site. We spent >111 hours observing wolf dens/rendezvous sites on the ground over 66 separate field visits.

During the 2013 denning period, five of the GPS monitored packs lost their pups by the end of July and 1 pack lost their pups by the end of August (Table 1; Figure 3). Wolf 421 died inside of her den around the 20th of July, we believe she starved and assumed that pack lost their pups. As a result, only 9 packs with a GPS collared female were observed with pups during our final survey in September (Table 1). We opportunistically observed 2 more packs during survey flights in August and September, and recorded pack size and composition. The mean number of pups/pack declined throughout the denning period from 2.9 (\pm 0.31 SE) in July, 2.0 (\pm 0.40 SE) in August, and 1.7 (\pm 0.37 SE) in early September (Table 1).

Table 1: Summary Results from Repeated Wolf Den Surveys during the 2013 and 2014 Denning Periods on the Summer Range of the Bathurst herd, Northwest Territories and Nunavut, Canada

Year	# Packs Monitored (# Packs with GPS collared adult female)	Mean Adults/Pack (SE)	Mean Pups/Pack (SE)			
			Early Summer	N	Late Summer	N
2013	17 (15)	2.5 (0.12)	2.9 (0.31)	13	1.7 (0.37)	17
2014	10 (4)	2.8 (0.39)	2.5 (0.80)	6	1.8 (0.69)	8
Pooled	27	2.6 (0.16)	2.8 (0.33)	19	1.8 (0.33)	25

Only 3 packs remained at their respective whelping den throughout the denning period (early September); thus litter loss accounted for 50% of observed den abandonment. The median date of den abandoned due to litter loss was 21 July. We recorded a total of 32 homesites (den or rendezvous site) used by 15 packs during the denning period. The median date for pack relocation from the original whelping den was 23 July.



From December 2013 to January 2014, 7 of the remaining 15 monitored wolves lost their GPS collar due to a malfunction in the collar release mechanism which caused a premature release. An additional 3 monitored wolves died over the winter. Thus, in 2014 we monitored 4 wolf packs via GPS collar, however, an additional 4 packs were located by revisiting previously used den sites from 2013 while 2 packs were located by checking den sites used in previous years (prior to 2013). We conducted field surveys in early July and late August. We observed only 8 active den sites with pups during the 2014 denning period and attained pup counts for 6 packs. Two wolf packs that had pups in July, abandoned their dens before the August surveys; these packs did not have a GPS collared adult, as such, we were unable to assess whether litter loss or relocation was the causal factor and thus censored these data from the recruitment estimate. However, we did observe 1 really weak pup one of these den sites (den ID: 076D-071) in early July that was unable to move and remained lying on the side of the den groaning during the survey; it is reasonable to assume this pup did not survive the denning period. Only two of the four GPS-collared females bred in 2014, however, one pack (W432) likely lost her pups early July, just prior to field surveys. The mean number of pups/den declined throughout the denning period from 2.6 (± 0.6 SE) in early July to 1.8 (± 0.7 SE) in late August (Table 1). Similar to 2013, only 50% of monitored packs remained at their whelping den throughout the denning period.

DISCUSSION

Our results corroborate previous research findings on wolf populations in both Alaska (Boertje and Stephenson 1992) and elsewhere in North America (Keith 1983, Fuller 1989, Fuller et al. 2003) that suggest wolf populations are limited by decreases in ungulate biomass. Long-term data sets collected on wolves on the Bathurst range over a period where the Bathurst herd experienced a drastic reduction in population size allowed us to investigate the numerical response of the wolf population. Repeated surveys of wolf packs over the 2013 and 2014 denning periods provided greater insight wolf population data during a period of low caribou abundance.

Results from repeated surveys during the 2013 and 2014 denning periods were consistent with observations recorded during late summer aerial surveys from 2006--2012. We observed high rates of den abandonment and low pup recruitment relative to the late 1990s and early 2000s when the abundance of caribou on the Bathurst range was significantly higher. Our results suggest that both pup mortality (litter loss) and pup relocation to a new den or rendezvous site have contributed den abandonment. Low pup recruitment (< 2 pups/pack) suggests that young-of-the-year are not replacing adults wolves in the population in a given year. In 2014, we observed only 8 packs with pups compared to 15 packs in 2013.



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APPENDIX B

Caribou Behavioural Observations Summary, 2014



APPENDIX B

Caribou Behavioural Observations Summary, 2014

Date	Time	Location	Easting	Northing	Group Size	Composition ^(a)
2014-Sep-13	10:00	93 km north of Diavik	553353	7243539	36	F/M/C
2014-Sep-13	11:20	98 km north of Diavik	553898	7248171	77	F/M/C
2014-Sep-13	11:52	1 km from coordinates (98 km north of Diavik)	553898	7248171	46	F/M/C
2014-Sep-13	14:10	98 km north of Diavik	548880	7248980	52	F/M/C
2014-Sep-13	14:15	98 km north of Diavik	548880	7248980	60	F/M/C
2014-Sep-14	10:27	88.4 km north of Diavik	550173	7240832	90	F/M/C
2014-Sep-14	12:38	84.1 km from Diavik	551355	7236127	77	F/M/C
2014-Sep-14	13:19	84.1 km from Diavik	551355	7236127	38	M/F
2014-Oct-10	16:33	Behind NIWTP	534425	7150973	2	F

a) M = male, F = female, C = calf.
km = kilometre.



APPENDIX C

Wildlife Mortality Incident Reports

Detailed Incident Report

Incident Details

Reference ID	117244	SI? No	SPI? No
Work Area	Rio Tinto > DDMI > Site > Waste Mangement		
Org Unit	Rio Tinto > Diamonds & Minerals Product Group > DDMI > DDMI Operations > HSE > Environment		
Incident Locked?	No		
Related Action Status	Open		
Incident Date	4/24/2014		
Time of Incident	04:30		
Date Actions Completed			
Impacts	Environment		
Contractor incident	No		
Short Description	FOx Mortality Reported at Waste Transfer Area		
Description	<p>At 10am a fox was reported in front of the Incinerator building doors, the fox was described in poor condition. Environment investigated the area and found the fox curled up in front of the bay door at the incinerator. The fox did not respond to human presence in the area. Environment set a live trap to attempt to remove the fox from the Waste Transfer Area. At 16:30 the fox was reported to be deceased. Environment returned to the scene and found the fox deceased in front of the incinerator building. The carcass was collected and removed from the scene awaiting direction from Environment and Natural Resources.</p>		
Work Activity Type	Waste Handling Operations		
Location/Site Type	Mine - Underground		
Did the incident involve a vehicle?	No		
BR&R Programme Triggered?	No		
Reportable external to RT	No		

Initial Injury and Illness Observations

Was there a fatality? No	Was there an injury? No	Was there an illness? No
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Actual Injury and Illness Statistics

Environment Impact Details

Actual Consequence 1-Minor **Max Reasonable Consequence** 1-Minor
Max Reasonable Likelihood C-Possible
Max Reasonable Outcome Low

Did this incident result in a non-compliance or non-conformance? No

Sub Types: Not otherwise specified

Investigation

Investigation Details

Lessons Learnt

Root Cause Conducted No

Prosecution Status

Actions

Action #	1		
Required Action	Contact ENR and determine if the carcass should be maintained for Necropsy or Incinerated.		
Status	Open		
Required Completion Date	5/2/2014	Revised Completion Date	
Date Closed			
Responsible Person	Dwight Grabke		
Checker	David Wells		

Involved People

<u>Role</u>	<u>Person</u>
Uninjured Involved Person	Clayton Rogers

Administration

<u>Role</u>	<u>User</u>
Reporter	Dwight Grabke
Supervisor	
Superintendent	David Wells
Manager	Stephen Bourn
General Manager	
HSE Advisor	Nathan Pitre
Notify By Email	
Notify By Email	

Attachments

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Sign Off

Name (please print)

Signature

Date

_____	_____	_____
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Detailed Incident Report

Incident Details

Reference ID	113037	SI? No	SPI? No
Work Area	Rio Tinto > DDMI > Site > Waste Mangement		
Org Unit	Rio Tinto > Diamonds & Minerals Product Group > DDMI > DDMI Operations > HSE > Environment		
Incident Locked?	No		
Related Action Status	Open		
Incident Date	3/2/2014		
Time of Incident	12:45		
Date Actions Completed			
Impacts	Environment, Community		
Contractor incident	No		
Short Description	Red Fox Mortality		
Description	The Carcass of a Red Fox was identified within the Waste Transfer Area Burn pit.		
Work Activity Type	Waste Handling Operations		
Location/Site Type	Mine - Underground		
Did the incident involve a vehicle?	No		
BR&R Programme Triggered?	No		
Reportable external to RT	No		

Initial Injury and Illness Observations

Was there a fatality? No **Was there an injury?** No **Was there an illness?** No

Actual Injury and Illness Statistics

Environment Impact Details

Actual Consequence	2-Medium	Max Reasonable Consequence	2-Medium
		Max Reasonable Likelihood	D-Unlikely
		Max Reasonable Outcome	Low

Did this incident result in a non-compliance or non-conformance? No

Sub Types: Waste disposal

Community Impact Details

Actual Consequence	2-Medium	Max Reasonable Consequence	2-Medium
		Max Reasonable Likelihood	D-Unlikely
		Max Reasonable Outcome	Low

Did this incident result in a non-compliance or non-conformance? No

Sub Types: Mitigation Procedures

Investigation

Investigation Details Spoke with operators present in the waste transfer area, This fox was seen yesterday after the burn pit had been ignited. The animal was scavenging the debris. The operator stated at one point a stack of pallets collapsed quickly expanding the footprint of the fire. His view was obstructed by the smoke, but noticed the fox laying down along the edge of the burn pit later on. When they returned today the fox had not moved. They called Environment to investigate, Fox was found frozen with burns covering the majority of the carcass at approximate 14:00hrs.

Lessons Learnt Reiterates importance of proper waste segregation to minimize the wildlife attraction potential.

Root Cause Conducted No

Prosecution Status

Actions

Action #	1	
Required Action	Review open burning policy and practices to minimize the potential for wildlife attraction prior to and during burning events. Determine/consider if washed cans or other items presently being openly burned attract wildlife to the burn pit and explore alternatives.	
Status	Open	
Required Completion Date	3/31/2014	Revised Completion Date
Date Closed		
Responsible Person	Laurence Hamilton	
Checker	Brenda Neether	
<hr/>		
Action #	2	
Required Action	Inform ERN Wildlife of the Mortality and provide Incident Report.	
Status	Open	
Required Completion Date	3/7/2014	Revised Completion Date
Date Closed		
Responsible Person	Dwight Grabke	
Checker	David Wells	
<hr/>		
Action #	3	
Required Action	Determine if ERN wants Carcass for Necropsy, if so provide. If not have carcass incinerated.	
Status	Open	
Required Completion Date	3/7/2014	Revised Completion Date
Date Closed		
Responsible Person	Dwight Grabke	
Checker	David Wells	

Involved People

Administration

<u>Role</u>	<u>User</u>
Reporter	Dwight Grabke
Supervisor	Dwight Grabke
Superintendent	David Wells
Manager	Stephen Bourn
General Manager	
HSE Advisor	Nathan Pitre
Notify By Email	Laurence Hamilton
Notify By Email	Brenda Neether

Attachments

Attachment: [Fox1.JPG](#)



Attachment: [P3020063.JPG](#)



Attachment: [P3020064.JPG](#)



Sign Off

Name (please print)

Signature

Date

Detailed Incident Report

Incident Details

Reference ID	118513	SI? No	SPI? No
Work Area	Rio Tinto > DDMI > Site > UG Surface Infrastructure		
Org Unit	Rio Tinto > Diamonds & Minerals Product Group > DDMI > DDMI Operations > HSE > Environment		
Incident Locked?	Yes		
Related Action Status	Completed		
Incident Date	5/12/2014		
Time of Incident	19:45		
Date Actions Completed	5/24/2014		
Impacts	Environment		
Contractor incident	No		
Short Description	Fox carcas found between two buildings at underground surface shop.		
Description	19:45 call came in from underground miner, saying that the fox had been found dead between the two buildings. I went out to retrieve the fox, it was frozen in the ice. Looks like it had been there for a while. Most likely they are seeing it now due to snow melt. Carcas was removed is now placed in our freezer on site and will be shipped to ENR when requested.		
Work Activity Type	Underground operations		
Location/Site Type	Mine - Surface		
Did the incident involve a vehicle?	No		
BR&R Programme Triggered?	No		
Reportable external to RT	No		

Initial Injury and Illness Observations

Was there a fatality?	No	Was there an injury?	No	Was there an illness?	No
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Actual Injury and Illness Statistics

Environment Impact Details

Actual Consequence	1-Minor	Max Reasonable Consequence	1-Minor
		Max Reasonable Likelihood	C-Possible
		Max Reasonable Outcome	Low

Did this incident result in a non-compliance or non-conformance? No

Sub Types: Not otherwise specified

Investigation

Investigation Details When hearing about the fox found at underground, Environment went over to collect the carcass and monitor the site. The area will be check as snow melts to assure no other wildlife is there and that there are no attractants present. The Carcas is now in our freezer and will be sent to ENR for necropsy.

Lessons Learnt

Root Cause Conducted No

Prosecution Status

Actions

Action #	1			
Required Action	Contact ENR to determine if the carcass should be maintained for Necropsy or Incinerated.			
Status	Completed			
Required Completion Date	5/13/2014	Revised Completion Date		
Date Closed	5/24/2014			
Responsible Person	Darcy Bourassa			
Checker	David Wells			
Action progress:				
Date	Comment	Status	Completion Date	User
24/May/2014	action complete			Justin Grandjambe
24/May/2014	Action complete	Action Completed and Ready for Checking	24/May/2014	Justin Grandjambe
24/May/2014	Done	Action Closed		Justin Grandjambe

Involved People

<u>Role</u>	<u>Person</u>
Eye Witness	Shea Stevens

Administration

<u>Role</u>	<u>User</u>
Reporter	Tom Jeffery
Supervisor	Darcy Bourassa
Superintendent	David Wells
Manager	Stephen Bourn
General Manager	
HSE Advisor	
Notify By Email	
Notify By Email	

Attachments

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Attachment: [P5130319.JPG](#)



Attachment: [P5130320.JPG](#)



Sign Off

Name (please print)

Signature

Date

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Detailed Incident Report

Incident Details

Reference ID	128739	SI? No	SPI? No
Work Area	Rio Tinto > DDMI > Site > A154 Underground		
Org Unit	Rio Tinto > Diamonds & Minerals Product Group > DDMI > DDMI Operations > Underground Operations		
Incident Locked?	No		
Related Action Status	Open		
Incident Date	9/16/2014		
Time of Incident	10:30		
Date Actions Completed			
Impacts	Environment		
Contractor incident	No		
Short Description	Muskrat carcass found on A-ramp underground		
Description	While driving down A-ramp (9185 bench) an employee spotted a muskrat carcass on the side of the ramp and reported it to Environment. An Environment Tech. was taken to the incident area to retrieve the carcass. The cause of the incident is unknown.		
Work Activity Type	Driving (on site)		
Location/Site Type	Mine - Underground		
Did the incident involve a vehicle?	No		
BR&R Programme Triggered?	No		
Reportable external to RT	No		

Initial Injury and Illness Observations

Was there a fatality?	No	Was there an injury?	No	Was there an illness?	No
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Actual Injury and Illness Statistics

Environment Impact Details

Actual Consequence	1-Minor	Max Reasonable Consequence	1-Minor
		Max Reasonable Likelihood	E-Rare
		Max Reasonable Outcome	Low

Did this incident result in a non-compliance or non-conformance? No

Sub Types: Not otherwise specified

Investigation

Investigation Details Environment Tech was sent to retrieve the Muskrat carcass and take pictures of the incident area. The cause of the muskrat fatality is unknown

Lessons Learnt Continue to be look out for wildlife in area.

Root Cause Conducted No

Prosecution Status

Actions

Action #	1			
Required Action	Take pictures of the incident area and retrieve the Muskrat carcass.			
Status	Ready for Checking			
Required Completion Date	9/16/2014	Revised Completion Date		
Date Closed				
Responsible Person	Justin Grandjambe			
Checker	Kristin Moore			
Action progress:				
Date	Comment	Status	Completion Date	User
16/Sep/2014	Went Underground took pictures of the area and collected the carcass	Action Completed and Ready for Checking	16/Sep/2014	Justin Grandjambe
Action #	2			
Required Action	Report incident to ENR in Yellowknife			
Status	Open			
Required Completion Date	9/17/2014	Revised Completion Date		
Date Closed				
Responsible Person	Justin Grandjambe			
Checker	Kristin Moore			

Involved People

<u>Role</u>	<u>Person</u>
Incident Reporter	Ken Davies

Administration

<u>Role</u>	<u>User</u>
Reporter	Justin Grandjambe
Supervisor	Kristin Moore
Superintendent	David Wells
Manager	Stephen Bourn
General Manager	
HSE Advisor	
Notify By Email	
Notify By Email	

Attachments

Attachment: [1.JPG](#)



Attachment: [2.JPG](#)



Attachment: [3.JPG](#)



Attachment: [4.JPG](#)



Attachment: [5.JPG](#)



Sign Off

Name (please print)

Signature

Date

Detailed Incident Report

Incident Details

Reference ID	129149	SI? No	SPI? No
Work Area	Rio Tinto > DDMI > Site > UG Surface Infrastructure		
Org Unit	Rio Tinto > Diamonds & Minerals Product Group > DDMI > DDMI Operations > Underground Operations		
Incident Locked?	No		
Related Action Status	Open		
Incident Date	9/20/2014		
Time of Incident	10:00		
Date Actions Completed			
Impacts	Environment		
Contractor incident	No		
Short Description	A fox carcass was found by the North Mine Dry		
Description	An Underground employee found a fox carcass next to the Red Rooster building in the North Mine dry area and contacted Environment.		
Work Activity Type	Driving (on site)		
Location/Site Type	Mine - Surface		
Did the incident involve a vehicle?	No		
BR&R Programme Triggered?	No		
Reportable external to RT	No		

Initial Injury and Illness Observations

Was there a fatality? No	Was there an injury? No	Was there an illness? No
---------------------------------	--------------------------------	---------------------------------

Actual Injury and Illness Statistics

Environment Impact Details

Actual Consequence 1-Minor	Max Reasonable Consequence 1-Minor
	Max Reasonable Likelihood E-Rare
	Max Reasonable Outcome Low

Did this incident result in a non-compliance or non-conformance? No

Sub Types: Not otherwise specified

Investigation

Investigation Details

It appears the fox carcass has been in this area for awhile as it is badly decomposed. It also appears to have been scavenged by another animal as there is a lot of missing tissue on the rear legs and back end. Cause of incident is unknown.

Lessons Learnt Continue to report findings

Root Cause Conducted No

Prosecution Status

Actions

Action #	1			
Required Action	Environment to investigate area, take pictures and coordinates. Remove carcass.			
Status	Ready for Checking			
Required Completion Date	9/21/2014	Revised Completion Date		
Date Closed				
Responsible Person	Justin Grandjambe			
Checker	Kristin Moore			
Action progress:				
Date	Comment	Status	Completion Date	User
20/Sep/2014	Checked area took pictures, coordinates and removed the carcass. Coordinates are 0535476, 7152199	Action Completed and Ready for Checking	20/Sep/2014	Justin Grandjambe
Action #	2			
Required Action	Environment to send report to ENR			
Status	Open			
Required Completion Date	9/21/2014	Revised Completion Date		
Date Closed				
Responsible Person	Justin Grandjambe			
Checker	Kristin Moore			

Involved People

<u>Role</u>	<u>Person</u>
Lead Investigator	Justin Grandjambe

Administration

Role

Reporter
Supervisor
Superintendent
Manager
General Manager
HSE Advisor
Notify By Email
Notify By Email

User

Justin Grandjambe
Kristin Moore
David Wells
Stephen Bourn

Attachments

Attachment: [P9200573.JPG](#)



Attachment: [P9200574.JPG](#)



Attachment: [P9200580.JPG](#)



Attachment: [P9200575.JPG](#)



Sign Off

Name (please print)

Signature

Date

_____	_____	_____
_____	_____	_____



APPENDIX D

Site Photos



APPENDIX D
Diavik Site Photos



Plate 1: *Wolverine on Hair Snagging Post*



Plate 2: *Peregrine Falcon Fledglings*



APPENDIX D
Diavik Site Photos



Plate 3: Caribou near Site



Plate 4: Grizzly Bear



APPENDIX E

Grizzly Bear Incidental Observations, 2014



APPENDIX E
Grizzly Bear Incidental Observations, 2014

Date	Number of Animals	Characteristics of Animals	Location	Advisory Issued	Attractant Present	Action Taken (Deterrents Used)	Deterrent Used?	Relocation?	Mortality?	Helicopter as Deterrent?	Comments
2014-May-17	3	Sow with 2 cubs (Young of the year)	A154 Fish Habitat- East of Runway	no	no	no	no	no	no	no	
2014-May-19	3	Sow with 2 cubs (Young of the year)	North Inlet	no	no	truck/horn	yes	no	no	no	
2014-May-21	1	Male, dark legs, large with blond colouring, dark eye.	Airport Area	no	no	truck/horn	yes	no	no	no	
2014-May-30	1	Young about 2 years old, blonde in colour	West Island	no	no	helicopter	yes	no	no	yes	Off-site during Deterrent Training
2014-Jun-01	2		Heading to site	no	no	helicopter	yes	no	no	yes	Headed off before getting to site.
2014-Jun-05	1	Single Grizzly, blonde with dark legs about 3 or 4 years old	Hanging Tree into 154 Fish Habitat	no	no	helicopter	yes	no	no	yes	Moved bear to the island N of the airstrip
2014-Jun-09	1	Blonde bear w/ brown legs and dark right shoulder. ~3-4 year old	DPS 6 at the A418 pit	no	no	truck/horn, screamers	yes	no	no	no	Bear was last seen on main land just by the CBM camp
2014-Jun-10	1	Blonde bear with darker legs. Looks approx 2-3 yrs old.	DPS 1 at the A154 pit	no	no	truck/horn, helicopter.	yes	no	no	yes	Bear was last seen on the ice east of the runway heading north towards mainland.
2014-Jun-11	1	Adult Grizzly	Grizzly spotted during Safety Inspections with Helicopter	no	no	helicopter	yes	no	no	yes	
2014-Jun-12	1	Blonde Grizzly	Grizzly spotted on ice	no	no	no	no	no	no	no	
2014-Jun-12	1	Blonde Grizzly	Grizzly spotted near diffuser line next to hanging tree.	no	no	truck/horn, helicopter.	yes	no	no	no	
2014-Jun-12	1	Blonde Grizzly	Blonde Grizzly spotted between 154 and 418 pit	no	no	truck/horn, bear bangers, screamers, helicopter.	yes	no	no	yes	
2014-Jun-14	1	Large male grizzly with black legs and blonde back and shoulders	A154/418 pit and dike areas	no	no	truck/horn, helicopter.	yes	no	no	yes	
2014-Jun-14	1	Blondish, probably about 2 years old.	154 Pit area	no	no	truck/horn, bear bangers	yes	no	no	no	
2014-Jun-16	1	Blonde with dark legs	154 Pit area	no	no	truck/horn, helicopter.	yes	no	no	yes	
2014-Jun-16	1	Blonde shoulders with darker legs	Blondish Grizzly with darker legs	no	no	truck/horn, helicopter.	yes	no	no	yes	
2014-Jun-18	1	Blonde shoulders with darker legs	Bear in A154 Fish Habitat	no	no	truck/horn, bear bangers	yes	no	no	no	
2014-Jun-19	1	Blonde 2 year old	A418 on ice walking towards shore	no	no	truck/horn, bear bangers, screamers.	yes	no	no	no	
2014-Jun-19	1	Blonde 2 year old	North Construction Area	no	no	truck/horn, bear bangers, screamers.	yes	no	no	no	
2014-Jun-26	1	~2-3 years old, very golden with darker brown legs and rear.	Near North inlet dyke	no	no	truck/horn, bear bangers, screamers, helicopter.	yes	no	no	yes	
2014-Jul-01	1	Large Grizzly	North Inlet	no	no	helicopter	yes	no	no	yes	
2014-Jul-02	1	~2-3 years old, very golden with darker brown legs	North Inlet	no	no	helicopter	yes	no	no	yes	
2014-Jul-04	3	Sow with 2 cubs (Young of the year)	West Island	no	no	helicopter	yes	no	no	yes	Spotted when doing a wildlife scan prior to commencing work
2014-Jul-17	1	Brown with light blonde markings, larger than average grizzly	North Construction Area, Last seen in North Inlet Area	no	no	truck/horn, bear bangers, rubber bullets, screamers.	yes	no	no	no	
2014-Jul-19	1	Brown with light blonde markings, larger than average grizzly.	East of Helipad to North Inlet	no	no	truck/horn, bear bangers, screamers.	yes	no	no	no	
2014-Jul-21	1	Blonde with dark legs and dark circles around eyes, 3-4 yr old	Pond 5 Red Zone	no	no	air horn, bear bangers, rubber bullets.	yes	no	no	no	
2014-Jul-21	1	Large Brown/Blonde with Darker strip down center of hump	UG - C Portal	no	no	rubber bullets	yes	no	no	no	
2014-Jul-22	1	Brown with light blonde markings	Off south haul road in front of North Construction office	no	no	truck/horn	yes	no	no	no	
2014-Jul-22	1	Small blonde bear	By hanging tree heading towards North Inlet	no	no	truck/horn	yes	no	no	no	
2014-Jul-22	1	Young adolescent, blonde with darker legs and eyes	NIWTP	no	no	no	no	no	no	no	
2014-Jul-23	1	Young adolescent, blonde with darker legs and eyes	at N17 laydown by airport	no	no	truck/horn, bear bangers, screamers.	yes	no	no	no	
2014-Jul-23	1	Young adolescent, blonde with darker legs and eyes	Winter road parking area	no	no	no	no	no	no	no	
2014-Jul-23	1	Small blonde bear with dark feet and eyes	By hanging tree heading towards North Inlet	no	no	truck/horn	yes	no	no	no	
2014-Jul-24	1		Winter road parking area	no	no	truck/horn, bear bangers, screamers.	yes	no	no	no	
2014-Jul-25	1	Bigger, light coloured grizzly with dark legs. Dark rings around its eyes.	Between the old LDG maintenance shop and south haul road	no	no	truck/horn, bear bangers, rubber bullets, helicopter	yes	no	no	yes	



APPENDIX E
Grizzly Bear Incidental Observations, 2014

Date	Number of Animals	Characteristics of Animals	Location	Advisory Issued	Attractant Present	Action Taken (Deterrents Used)	Deterrent Used?	Relocation?	Mortality?	Helicopter as Deterrent?	Comments
2014-Jul-29	1	Young adolescent, blonde with darker legs and eyes.	Near West Bay (Bedded Down)	no	no	truck/horn, bear bangers, screamers.	yes	no	no	no	
2014-Jul-30	1	Young adolescent, blonde with darker legs and eyes	Near West Bay and A418 Pit (Swimming SE off island)	no	no	truck/horn	yes	no	no	no	
2014-Aug-03	1	Young adolescent, blonde with darker legs and eyes	Near AN heading NW	no	no	no	no	no	no	no	
2014-Aug-10	1	Young adolescent, blonde with darker legs and eyes	Airport by Helipad	no	no	no	no	no	no	no	
2014-Aug-11	1	Small, light coloured bear with dark spots.	Pond 5	no	no	truck/horn, bear bangers	yes	no	no	no	
2014-Aug-12	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	North Inlet	no	no	no	no	no	no	no	
2014-Aug-16	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	NIWTP	no	no	no	no	no	no	no	
2014-Aug-17	1	Young adolescent, blonde with darker legs and eyes	DPS well 6 in the A418 dike	no	no	truck/horn	yes	no	no	no	
2014-Aug-18	3	Sow, blonde in colour, cubs about 4 months old, dark in colour.	Hanging Tree	no	no	truck/horn, air horn, bear bangers	yes	no	no	no	
2014-Aug-20	1	Young adolescent, blonde with darker legs and eyes	North PKC Damn	no	no	truck/horn, bear bangers, cocking gun.	yes	no	no	no	
2014-Aug-23	2	Sow with 1 cub	A154	no	no	truck/horn, bear bangers, rubber bullets, screamers.	yes	no	no	no	
2014-Aug-24	1	Single grizzly	Out front Dining Room	no	no	truck/horn, bear bangers, rubber bullets	yes	no	no	no	
2014-Aug-24	1	Sow light coloured coat that is shedding	AN Road	no	no	truck/horn, rubber bullets	yes	no	no	no	
2014-Aug-27	1	Large blonde with dark brown legs, head and rump.	UG North Mine Dry	no	no	truck/horn, bear bangers, rubber bullets	yes	no	no	no	Reported as 2 grizzlies, but only got visual on one
2014-Aug-27	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	Pond 1	no	no	truck/horn	yes	no	no	no	
2014-Aug-28	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	AN Area to W of Pond 12A	no	no	no	no	no	no	no	Monitored bear for about 50 minutes, it was feeding but staying in same general area.
2014-Aug-30	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	Main Accommodations by Dining Area	no	no	truck/horn, bear bangers, cracker shells.	yes	no	no	no	
2014-Aug-31	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	Main Accommodations by Dining Area	no	no	truck/horn	no	no	no	no	
2014-Aug-31	1	Large blonde with dark brown legs, head and rump		no	no		no	no	no	no	
2014-Aug-31	1	Large blonde with dark brown legs, head and rump	Main Accommodations by Dining Area moving to Pond 10	no	no	truck/horn, bear bangers, rubber bullets	yes	no	no	no	
2014-Sep-01	1	Large blonde with dark brown legs, head and rump	Rose Garden	no	no	truck/horn, bear bangers, rubber bullets	yes	no	no	no	
2014-Sep-02	1	Blonde with dark legs and dark circles around eyes, 3-4 year old	A154 Pit half way to Ore Storage Pad	no	no	truck/horn	yes	no	no	no	
2014-Sep-04	1	Large blonde with dark brown legs, head and rump.	AN Road by Pond 12A	no	no	truck/horn, rubber bullets	yes	no	no	no	
2014-Sep-06	1	Large blonde with dark brown legs, head and rump.	Shallow Bay by Fox Dens	no	no	truck/horn, air horn, bear bangers	yes	no	no	no	



APPENDIX F

Wolverine Snow Track Survey Results, 2014



APPENDIX F Wolverine Snow Track Survey Results, 2014

Date	UTM Easting	UTM Northing	Snow Cover	Snow Condition	Days Since		Observation Type	Number of Individuals	Age of Sign	Comments
					Last Snow	Last Wind				
2014-Mar-23	548369	7165538	100	Packed	5	1	Tracks	1	Older	
2014-Mar-23	539441	7164644	100	Packed	5	1	Tracks	1	Older	
2014-Mar-23	557398	7166942	100	Packed	5	1	Tracks	2	Older	2 wolverine
2014-Mar-24	542752	7148386	100	Packed	6	1	Tracks	1	Weeks	Female, following caribou tracks
2014-Mar-24	542713	7148216	100	Packed	6	1	Tracks	1	Weeks	Female, following caribou tracks
2014-Mar-24	550891	7144359	100	Packed	6	1	Tracks	1	Days	Male, caribou and wolf tracks present
2014-Mar-24	550432	7143974	100	Packed	6	1	Tracks	1	Days	Female
2014-Mar-24	549999	7143598	100	Packed	6	1	Tracks	1	Weeks	Female
2014-Mar-24	549298	7142912	100	Packed	6	1	Tracks	1	Days	Male
2014-Mar-24	548895	7142553	100	Packed	6	1	Tracks	1	Days	Male
2014-Mar-24	550762	7151457	100	Packed	6	1	Tracks	1	Older	
2014-Mar-24	546621	7146821	100	Packed	6	1	Tracks	1	Days	Male
2014-Mar-24	547862	7148206	100	Packed	6	1	Tracks	1	Weeks	Male
2014-Mar-24	556355	7158944	100	Packed	6	1	Tracks	1	Weeks	
2014-Mar-25	519534	7139884	100	Packed	7	1	Tracks	1	Weeks	Male
2014-Mar-25	556696	7133409	100	Packed	7	1	Tracks	1	Older	
2014-Mar-25	556340	7133371	100	Packed	7	1	Tracks	1	Weeks	
2014-Mar-25	555018	7133086	100	Packed	7	1	Tracks	1	Older	
2014-Mar-25	556050	7146053	100	Packed	7	1	Tracks	1	Older	
2014-Mar-25	556651	7145869	100	Packed	7	1	Tracks	1	Older	
2014-Mar-25	550404	7131643	100	Packed	7	1	Tracks	1	Weeks	
2014-Mar-26	529388	7155201	100	Packed	8	1	Tracks	1	older	
2014-Mar-26	520497	7158145	100	Packed	8	1	Tracks	1	Weeks	Male
2014-Mar-26	520585	7158220	100	Packed	8	1	Tracks	1	Weeks	Male
2014-Mar-26	546821	7136006	100	Packed	8	1	Tracks	1	Weeks	

UTM = Universal Transverse Mercator.



APPENDIX G

Pit Wall/ Mine Infrastructure Raptor Survey, 2014



APPENDIX G

Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-May-09	A154 Lookout #1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	A154 Lookout #2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	A418 Lookout #1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	A418 Lookout #2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-09	Site Services Building	D	N/A	0	N	N	N	N/A	N/A	N/A	possible GYRF observed near ROM building after survey took place @ ~18:35
2014-May-09	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	A154 Lookout #1	D	2	4	N	Y	N	500m (NE)	536401	7153240	2 RLHA, 2PEFA
2014-May-11	A154 Lookout #2	L	2	3	N	Y	N	350m (SE)	536401	7153240	2 CORA 1 RLHA
2014-May-11	A418 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	A418 Lookout #2	L	1	1	N	Y	N	1,300m (SW)	536672	7152376	
2014-May-11	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	Site Services Building	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-11	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-15	A154 Lookout #1	L	CORA/RLHA/PEFA	1,2,1	Y	Y	N	N/A	N/A	N/A	300m SE of Southwall of pit
2014-May-15	A154 Lookout #2	L	PEFA	1	Y	Y	N	N/A	N/A	N/A	
2014-May-15	A418 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-15	A418 Lookout #2	L	CORA	1	N	N	N	N/A	N/A	N/A	40m left of lookout point
2014-May-15	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-15	Process Plant	D	N/A	1	N	N	N	N/A	N/A	N/A	
2014-May-15	Powerhouse 1	D	N/A	2	N	N	N	N/A	N/A	N/A	
2014-May-15	Powerhouse 2	D	N/A	3	N	N	N	N/A	N/A	N/A	
2014-May-15	Boiler House	D	N/A	4	N	N	N	N/A	N/A	N/A	



APPENDIX G

Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/ Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-May-15	Site Services Building	D	N/A	5	N	N	N	N/A	N/A	N/A	
2014-May-15	Backfill Plant	D	N/A	6	N	N	N	N/A	N/A	N/A	
2014-May-18	A154 Lookout #1	D/L	Unknown	5	N	N	N	N/A	N/A	N/A	Flying: (3 RLHA & 1 CORA)
2014-May-18	A154 Lookout #2	D/L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	A418 Lookout #1	D/L	CORA/RLHA/ PEFA	2,2,2	N	N(Y for PEFA)	N	North	N/A	N/A	Flying & Fighting: (2 RLHA, 2 CORA, 2 PEFA)
2014-May-18	A418 Lookout #2	D/L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	Site Services Building	D	PEFA	1	N	N	N	NW	N/A	N/A	Flying
2014-May-18	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-18	Other	D	RLHA	1	N	N	N	North 300m	N/A	N/A	Flying
2014-May-21	A154 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	A154 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	A418 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	A418 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-21	Site Services Building	D	PEFA	1	N	N	N	40m	N/A	N/A	Eating
2014-May-21	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	A154 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	A154 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	A418 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	A418 Lookout #2	L	RLHA(1) CORA (2)	3	Y	Y	N	N/A	N/A	N/A	RLHA: Nesting? CORA: Flying
2014-May-23	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	



APPENDIX G

Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-May-23	Process Plant	D	PEFA	1	N	Y	N	N/A	N/A	N/A	Sitting on building
2014-May-23	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	Site Services Building	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-23	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	A154 Lookout #1	L	CORA, RLHA, PEFA	1, 1, 2	Y	Y	N	300m SE	N/A	N/A	South wall of pit
2014-May-26	A154 Lookout #2	L	PEFA	1	Y	Y	N	150m	N/A	N/A	
2014-May-26	A418 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	A418 Lookout #2	L	CORA	1	N	N	N	40m	N/A	N/A	Left of lookout point
2014-May-26	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	Site Services Building	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-26	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	A154 Lookout #1	L	RLHA	0	Y	Y	U	N/A	N/A	N/A	
2014-May-30	A154 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	A418 Lookout #1	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	A418 Lookout #2	L	RLHA	1	Y	Y	U	N/A	N/A	N/A	1 RLHA F/O
2014-May-30	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	Boiler House	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	Site Services Building	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-May-30	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	A154 Lookout #1	L	N/A	0	Y	Y	U	N/A	N/A	N/A	RLHA Nest
2014-Jun-01	A154 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	A418 Lookout #1	L	N/A	0	Y	Y	U	N/A	N/A	N/A	RLHA Nest



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Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/ Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jun-01	A418 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-01	Boiler House	D	N/A	0	U	Y	U	N/A	N/A	N/A	CORA Nest
2014-Jun-01	Site Services Building	D	PEFA	2	Y	Y	U	N/A	N/A	N/A	On wall behind line up. Stall VBL 408
2014-Jun-01	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-04	A154 Lookout #1	D/L	CORA	2	N	Y	U	500 E	536366	7153182	
2014-Jun-04	A154 Lookout #2	D/L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-04	A418 Lookout #1	D/L	N/A	0	N	Y	U	N/A	N/A	N/A	
2014-Jun-04	A418 Lookout #2	D/L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-04	South Tank Farm	D/L	N/A	N	N	N	N	N/A	N/A	N/A	
2014-Jun-04	Process Plant	D/L	N/A	N	N	N	N	N/A	N/A	N/A	
2014-Jun-04	Powerhouse 1	D/L	N/A	N	N	N	N	N/A	N/A	N/A	
2014-Jun-04	Powerhouse 2	D/L	N/A	N	N	N	N	N/A	N/A	N/A	
2014-Jun-04	Boiler House	D/L	N/A	N	N	N	N	N/A	N/A	N/A	
2014-Jun-04	Site Services Building	D/L	PEFA	1	Y	Y	U	20 W	533926	7151315	PEFA in old nest site
2014-Jun-04	Backfill Plant	D/L	N/A	N	N	N	N	N/A	N/A	N/A	
2014-Jun-07	A154 Lookout #1	L	N/A	0	N	Y	U	450 S	536929	7153300	Known nest, but not active today
2014-Jun-07	A154 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-07	A418 Lookout #1	L	RLHA	0	Y	Y	Y	250 NE	536310	7151838	1 RLHA fledgling in nest
2014-Jun-07	A418 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-07	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-07	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-07	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-07	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-07	Boiler House	L	CORA	2	Y	Y	N	10 above	534141	7151222	1 on nest, 1 flying - same nesting spot as last year.
2014-Jun-07	Site Services Building	L	PEFA	1	Y	Y	N	20 W	533926	7151315	1 on nest - same nesting spot as last year.
2014-Jun-07	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-10	A154 Lookout #1	L	N/A	0	N	Y	U	450 S	536929	7153300	Known Nest, no activity



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Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/ Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jun-10	A154 Lookout #2	L	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-10	A418 Lookout #1	L	RLHA	0	Y	Y	Y	250 NE	536310	7151838	Known Nest, 2 RLHA, documented at other lookout
2014-Jun-10	A418 Lookout #2	L	RLHA	2	N	Y	N	400 SE	536659	7252350	Soaring above pit
2014-Jun-10	South Tank Farm	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-10	Process Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-10	Powerhouse 1	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-10	Powerhouse 2	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-10	Boiler House	D	CORA	2	Y	Y	U	10 above	534141	7151222	Known Nest, 2 at nest site
2014-Jun-10	Site Services Building	D	PEFA	1	Y	Y	U	30 W	533950	7151326	Known Nest, 1 at nest site
2014-Jun-10	Backfill Plant	D	N/A	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	A154 Lookout #1	L	N/A	0	N	N	N	N/A	536929	7153300	
2014-Jun-14	A154 Lookout #2	L	Unknown	1	N	N	N	?	N/A	N/A	
2014-Jun-14	A418 Lookout #1	L	0	0	N	N	N	N/A	536310	7151838	
2014-Jun-14	A418 Lookout #2	L	Unknown	1	Y	Y	N	?	536659	7252350	
2014-Jun-14	South Tank Farm	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	Process Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	Powerhouse 1	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	Powerhouse 2	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	Boiler House	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	Site Services Building	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-14	Backfill Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-16	A154 Lookout #1	L	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-16	A154 Lookout #2	L	RLHA /CORA	2	N	Y	N	?	536401	7153240	
2014-Jun-16	A418 Lookout #1	L	0	0	N	Y	N	N/A	N/A	N/A	
2014-Jun-16	A418 Lookout #2	L	RLHA	1	Y	Y	Y	300m S	536659	7252350	
2014-Jun-16	South Tank Farm	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-16	Process Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-16	Powerhouse 1	D	N/A	N/A	N/A	N/A	N	N/A	N/A	N/A	
2014-Jun-16	Powerhouse 2	D	CORA	1	N	Y	N	60m	N/A	N/A	
2014-Jun-16	Boiler House	D	CORA	1	Y	Y	N	20m	534141	7151222	ravens nesting



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Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jun-16	Site Service	D	PEFA	2	Y	Y	N	20m	533950	7151326	hanging out on the truck shop, nest behind main camp arctic corridor connection.
2014-Jun-16	Backfill Plant	D	0	0	N	N	N	N/A	N/A	N/A	N/A
2014-Jun-19	A154 Lookout #1	L	0	0	N	N	N	N/A	N/A	N/A	RHLA nest on pit wall. Do not know if it's active
2014-Jun-19	A154 Lookout #2	L	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-19	A418 Lookout #1	L	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-19	A418 Lookout #2	L	0	0	N	N	N	N/A	N/A	N/A	RHLA nest on pit wall. Do not know if it's active
2014-Jun-19	South Tank Farm	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-19	Process Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-19	Powerhouse 1	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-19	Powerhouse 2	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-19	Boiler House	D	CORA	2	Y	Y	N	20M	N/A	N/A	
2014-Jun-19	Site Services Building	D	PEFA	1	Y	Y	N	?	N/A	N/A	1 Adult sitting in nest
2014-Jun-19	Backfill Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	A154 Lookout #1	L	RLHA	0	N	N	N	N/A	N/A	N/A	RHLA nest on pit wall. Don't know if it is active
2014-Jun-25	A154 Lookout #2	L	PEFA	2	N	N	N	N/A	N/A	N/A	F/O
2014-Jun-25	A418 Lookout #1	L	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	A418 Lookout #2	L	RLHA	0	N	N	N	N/A	N/A	N/A	RLHA nest on pit wall. Don't know if it's active
2014-Jun-25	South Tank Farm	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	Process Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	Powerhouse 1	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	Powerhouse 2	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	Boiler House	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-25	Site Services Building	D	PEFA	1	Y	Y	Y	N	N/A	N/A	only see one adult in the nest
2014-Jun-25	Backfill Plant	D	0	0	N	N	N	N	N/A	N/A	
2014-Jun-28	A154 Lookout #1	L	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	A154 Lookout #2	L	RLHA	1	N	N	N	?	N/A	N/A	
2014-Jun-28	A418 Lookout #1	L	RLHA	2	N	N	N	300m N	N/A	N/A	One riding thermals and other flew over dyke, no activity in the nest



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Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/ Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jun-28	A418 Lookout #2	L	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	South Tank Farm	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	Process Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	Powerhouse 1	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	Powerhouse 2	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	Boiler House	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	Site Services Building	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jun-28	Backfill Plant	D	0	0	N	N	N	N/A	N/A	N/A	
2014-Jul-04	A154 Lookout #1	L	0	0	N	Y	U	450 S	536929	7153300	Known Nest, No Activity
2014-Jul-04	A154 Lookout #2	L	RLHA	1	N	Y	N	100 W	533906	7151530	Soaring on the thermals
2014-Jul-04	A418 Lookout #1	L	0	0	N	N	U	250 NE	536310	7151838	Known Nest, No Activity
2014-Jul-04	A418 Lookout #2	L	0	0	N	N	N	0	N/A	N/A	
2014-Jul-04	South Tank Farm	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-04	Process Plant	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-04	Powerhouse 1	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-04	Powerhouse 2	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-04	Boiler House	D	CORA	1	Y	Y	U	10 Above	534141	7151222	Known Nest, CORA on nest
2014-Jul-04	Site Services Building	D	PEFA	1	Y	Y	U	20 W	533926	7151315	Known Nest, PERA on nest
2014-Jul-04	Backfill Plant	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-07	A154 Lookout #1	L	0	0	N	Y	U	450 S	536929	7153300	Known Nest, No Activity
2014-Jul-07	A154 Lookout #2	L	RLHA PEFA	1 2	N	Y	N	300 E 200 NE	536380	7153209	Soaring on the thermals
2014-Jul-07	A418 Lookout #1	L	0	0	N	N	U	250 NE	536310	7151838	Known Nest, No Activity
2014-Jul-07	A418 Lookout #2	L	0	0	N	N	N	0	N/A	N/A	
2014-Jul-07	South Tank Farm	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-07	Process Plant	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-07	Powerhouse 1	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-07	Powerhouse 2	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-07	Boiler House	D	CORA	1	Y	Y	U	10 Above	534141	7151222	Known Nest, CORA on nest
2014-Jul-07	Site Services Building	D	PEFA	1	Y	Y	Y 1	20 W	533926	7151315	Known Nest, PERA on nest
2014-Jul-07	Backfill Plant	D	0	0	N	N	N	0	N/A	N/A	
2014-Jul-10	A154 Lookout #1	L	N/A	0	N	Y	U	450 S	536929	7153300	Known Nest, No Activity



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Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jul-10	A154 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-10	A418 Lookout #1	L	N/A	0	Y	Y	U	250 NE	536310	7151838	Known Nest, No Activity
2014-Jul-10	A418 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-10	South Tank Farm	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-10	Process Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-10	Powerhouse 1	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-10	Powerhouse 2	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-10	Boiler House	D	N/A	0	Y	Y	U	10 Above	534141	7151222	Known Nest
2014-Jul-10	Site Services Building	D	PEFA	1	Y	Y	1	20 W	533926	7151315	
2014-Jul-10	Backfill Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	A154 Lookout #1	L	N/A	0	N	Y	U	450 S	536929	7153300	Known Nest, No Activity
2014-Jul-13	A154 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	A418 Lookout #1	L	N/A	0	Y	Y	U	250 NE	536310	7151838	Known Nest, No Activity
2014-Jul-13	A418 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	South Tank Farm	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	Process Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	Powerhouse 1	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	Powerhouse 2	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-13	Boiler House	D	N/A	0	Y	Y	U	10 Above	534141	7151222	Known Nest
2014-Jul-13	Site Services Building	D	PEFA	0	Y	Y	3	20 W	533926	7151315	Saw 3 fledglings in the nest today
2014-Jul-13	Backfill Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-20	A154 Lookout #1	L	N/A	0	N	Y	U	450 S	536929	7153300	Known Nest, No Activity
2014-Jul-20	A154 Lookout #2	L	RLHA	1	N	N	N	100 W	N/A	N/A	Soaring on the thermals
2014-Jul-20	A418 Lookout #1	L	N/A	0	Y	Y	U	250 NE	536310	7151838	Known Nest, No Activity
2014-Jul-20	A418 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-20	South Tank Farm	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-20	Process Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-20	Powerhouse 1	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-20	Powerhouse 2	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-20	Boiler House	D	N/A	0	Y	Y	U	10 Above	534141	7151222	Known Nest, no Activity
2014-Jul-20	Site Services Building	D	PEFA	0	Y	Y	2	20 W	533926	7151315	Only saw 2 young



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Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jul-20	Backfill Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-22	A154 Lookout #1	L	N/A	0	N	Y	U		N/A	N/A	
2014-Jul-22	A154 Lookout #2	L	N/A	0	N	N	N		N/A	N/A	
2014-Jul-22	A418 Lookout #1	L	N/A	0	Y	Y	U		N/A	N/A	No activity in nest
2014-Jul-22	A418 Lookout #2	L	RLHA	1	N	N	N	400 E	N/A	N/A	Soaring
2014-Jul-22	South Tank Farm	D	N/A	0	N	N	N		N/A	N/A	
2014-Jul-22	Process Plant	D	N/A	0	N	N	N		N/A	N/A	
2014-Jul-22	Powerhouse 1	D	N/A	0	N	N	N		N/A	N/A	
2014-Jul-22	Powerhouse 2	D	N/A	0	N	N	N		N/A	N/A	
2014-Jul-22	Boiler House	D	CORA	0	Y	Y	U		N/A	N/A	No activity in nest
2014-Jul-22	Site Services Building	D	PEFA	3	Y	Y	3		N/A	N/A	
2014-Jul-22	Backfill Plant	D	N/A	0	N	N	N		N/A	N/A	
2014-Jul-25	A154 Lookout #1	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	A154 Lookout #2	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	A418 Lookout #1	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	A418 Lookout #2	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	South Tank Farm	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	Process Plant	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	Powerhouse 1	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	Powerhouse 2	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	Boiler House	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Jul-25	Site Services Building	D	PEFA	3	Y	Y	Y	20 W	533926	7151315	3 Fledglings
2014-Jul-25	Backfill Plant	D									
2014-Jul-28	A154 Lookout #1	L	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	A154 Lookout #2	L	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	A418 Lookout #1	L	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	A418 Lookout #2	L	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	South Tank Farm	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	Process Plant	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	Powerhouse 1	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	Powerhouse 2	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	Boiler House	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	



APPENDIX G

Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Jul-28	Site Services Building	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-28	Backfill Plant	D	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2014-Jul-31	A154 Lookout #1	L	N/A	0	N	Y	U	0	N/A	N/A	Known Nest, No Activity
2014-Jul-31	A154 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-31	A418 Lookout #1	L	N/A	0	Y	Y	U	0	N/A	N/A	Known Nest, No Activity
2014-Jul-31	A418 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-31	South Tank Farm	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-31	Process Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-31	Powerhouse 1	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-31	Powerhouse 2	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Jul-31	Boiler House	D	N/A	0	Y	Y	U	0	N/A	N/A	Known Nest, no Activity
2014-Jul-31	Site Services Building	D	PEFA	0	Y	Y	2	20 W	533926	7151315	Only saw 1 young
2014-Jul-31	Backfill Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-03	A154 Lookout #1	L	N/A	0	N	Y	U	0	N/A	N/A	Known Nest, No activity
2014-Aug-03	A154 Lookout #2	L	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-03	A418 Lookout #1	L	N/A	0	N	Y	U	0	N/A	N/A	Known Nest, No activity
2014-Aug-03	A418 Lookout #2	L	N/A	0	Y	N	N	0	N/A	N/A	
2014-Aug-03	South Tank Farm	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-03	Process Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-03	Powerhouse 1	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-03	Powerhouse 2	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-03	Boiler House	D	N/A	0	Y	Y	N	0	N/A	N/A	Known Nest, no Activity
2014-Aug-03	Site Services Building	D	PEFA	3	Y	Y	3	20 W	533926	7151315	Saw 3 fledglings
2014-Aug-03	Backfill Plant	D	N/A	0	N	N	N	0	N/A	N/A	
2014-Aug-13	A154 Lookout #1	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	A154 Lookout #2	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	A418 Lookout #1	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	A418 Lookout #2	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	South Tank Farm	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	Process Plant	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	Powerhouse 1	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	



APPENDIX G
Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Aug-13	Powerhouse 2	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	Boiler House	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-13	Site Services Building	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fledglings have left the nest
2014-Aug-13	Backfill Plant	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	A154 Lookout #1	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	A154 Lookout #2	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	A418 Lookout #1	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	A418 Lookout #2	L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	South Tank Farm	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	Process Plant	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	Powerhouse 1	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	Powerhouse 2	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	Boiler House	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-15	Site Services Building	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fledglings have left the nest
2014-Aug-15	Backfill Plant	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	A154 Lookout #1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	A154 Lookout #2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	A418 Lookout #1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	A418 Lookout #2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	South Tank Farm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	Process Plant	D/L	PEFA	3	N/A	N/A	Y	150	N/A	N/A	Perched on vents of Process Plant
2014-Aug-27	Powerhouse 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	Powerhouse 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	Boiler House	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	Site Services Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-27	Backfill Plant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	A154 Lookout #1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	A154 Lookout #2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	A418 Lookout #1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	A418 Lookout #2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	South Tank Farm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	



APPENDIX G Pit Wall/Mine Infrastructure Raptor Survey, 2014

Date	Area	Method Used	Bird Species	Number Observed	Confirm Active Nest (Y/N)	Potential Nesting (Y/N)	Young/Fledglings (Y/N)	Distance (m) Direction	UTM-E	UTM-N	Comments
2014-Aug-30	Process Plant	D/L	PEFA	1	N/A	N/A	Y	150	N/A	N/A	Perched on door of Recovery Rejects
2014-Aug-30	Powerhouse 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	Powerhouse 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	Boiler House	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	Site Services Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2014-Aug-30	Backfill Plant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

D = diving; L = lookout; N/A = not applicable; NC = not completed; m = metre; Y/N = yes or no; UTM-E = Universal Transverse Mercator - Easting, UTM-N = Universal Transverse Mercator - Northing; CORA = common raven; RLHA = rough-legged hawk; PEFA = peregrine falcon.



APPENDIX H

Waste Inspections, 2014



APPENDIX H
Waste Inspections, 2014

Date	Waste Transfer Area Attractants				Wildlife				Wildlife Sign			
	Attractants Present?	Items	Levels	Comments	Wildlife Present?	Species	# of Species	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2014-Jan-02 16:12	FALSE	-	-	-	TRUE	REFO	1	In burn pit	TRUE	REFO	Tracks	-
2014-Jan-04 15:17	FALSE	-	-	-	TRUE	1 REFO, 1 CORA	-	In burn pit	TRUE	REFO	Tracks	-
2014-Jan-06 11:24	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	By old incinerators
2014-Jan-08 18:00	FALSE	-	-	-	TRUE	REFO	3	in burn pit	TRUE	REFO	Tracks	-
2014-Jan-10 14:58	FALSE	-	-	-	TRUE	REFO	2	bedded on berm of burn pit	FALSE	-	-	-
2014-Jan-12 10:42	FALSE	-	-	-	TRUE	REFO	1	bedded by a sea can	TRUE	REFO	Tracks	-
2014-Jan-14 3:53	FALSE	-	-	-	TRUE	REFO	2	in burn pit	TRUE	REFO	Tracks	-
2014-Jan-17 13:52	FALSE	-	-	-	TRUE	REFO	1	injured back leg and a little burned up tail. Really dark fur.	TRUE	REFO	Tracks	-
2014-Jan-18 11:21	TRUE	Food packaging	>15	large empty food cans	TRUE	CORA	3	-	TRUE	unspecified	-	-
2014-Jan-18 11:21	TRUE	Oil contaminated waste	>10	concentrated oily rags in burn pit area	-	REFO	3	1 fox with poor coat and injured hind leg	TRUE	unspecified	-	-
2014-Jan-20 13:09	FALSE	-	-	-	TRUE	REFO	1	with limp	TRUE	REFO	Tracks	-
2014-Jan-22 14:10	TRUE	-	-	Gloves, one plastic pail	TRUE	2 REFO and 1 CORA	-	-	TRUE	REFO	Tracks	-
2014-Jan-24 11:54	TRUE	Oil contaminated waste	5-10	7 bags with rags in them for burning. Contacted coordinator	FALSE	-	-	-	TRUE	REFO	Tracks	2 gloves, one had chew marks
2014-Jan-26 15:25	FALSE	-	-	-	TRUE	2 REFO, 1 in yard area 1 in burn pit. 2 common raven perched on burnable waste	-	-	TRUE	REFO	Tracks	2 sets of tracks
2014-Jan-28 11:46	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	-
2014-Jan-30 16:17	FALSE	-	-	-	TRUE	CORA	2	fly over	FALSE	-	-	-
2014-Feb-01 11:47	FALSE	-	-	-	TRUE	1 REFO, 1 CORA	-	Red fox bedded in burn pit. 1 Common raven fly over	TRUE	REFO	Tracks	-
2014-Feb-03 14:40	FALSE	-	-	-	TRUE	REFO	1	bedded in area	TRUE	REFO	Tracks	-
2014-Feb-05 11:19	FALSE	-	-	-	TRUE	REFO	1	bedded in area	TRUE	REFO	Tracks	-
2014-Feb-07 16:04	FALSE	-	-	-	TRUE	REFO	1	bedded in area	TRUE	REFO	Tracks	-
2014-Feb-09 17:08	FALSE	-	-	-	TRUE	CORA	1	perched in area	FALSE	-	-	-
2014-Feb-13 17:14	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	-
2014-Feb-15 11:38	FALSE	-	-	-	TRUE	REFO	1	In burn pit area	TRUE	REFO	Tracks	in burn pit area
2014-Feb-17 11:31	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-19 16:02	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	-
2014-Feb-21 9:54	FALSE	-	-	-	TRUE	REFO	1	In burn pit	TRUE	REFO	Tracks	-
2014-Feb-23 15:20	FALSE	-	-	-	TRUE	REFO	2	On berm of burn pit, 1 fox looks like it's fur has been burned.	TRUE	REFO	Tracks	2 sets of tracks
2014-Feb-26 17:46	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Mar-01 15:45	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	1 fox in burn pit, lots of fox tracks
2014-Mar-03 18:20	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	Fresh fox tracks
2014-Mar-06 11:31	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	-
2014-Mar-11 9:48	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Mar-13 13:58	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-15 14:47	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-17 8:13	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	Fresh fox tracks
2014-Mar-19 16:51	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Mar-23 12:58	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	-



APPENDIX H
Waste Inspections, 2014

Date	Waste Transfer Area Attractants				Wildlife				Wildlife Sign			
	Attractants Present?	Items	Levels	Comments	Wildlife Present?	Species	# of Species	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2014-Mar-25 10:31	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-31 10:34	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	lots of fresh tracks
2014-Apr-06 17:26	FALSE	-	-	-	FALSE	-	-	-	TRUE	unspecified	-	-
2014-Apr-10 16:00	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-14 14:18	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-18 18:05	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-20 11:48	FALSE	-	-	Rags in burn pit need to be burned	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-24 16:30	FALSE	-	-	Dead fox in front of incinerator building	TRUE	REFO	1	Dead fox in front of incinerator building.	FALSE	-	-	-
2014-Apr-28 10:37	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-02 12:01	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-May-05 9:30	FALSE	-	-	Steel pipe in burn pit	FALSE	-	-	-	FALSE	-	-	-
2014-May-06 15:18	FALSE	-	-	-	TRUE	unspecified	-	-	TRUE	REFO	Tracks	-
2014-May-08 13:16	FALSE	-	-	-	TRUE	unspecified	-	-	TRUE	REFO	Tracks	-
2014-May-10 12:42	FALSE	-	-	-	FALSE	-	-	-	TRUE	unspecified	-	-
2014-May-12 18:15	FALSE	-	-	-	TRUE	REFO	1	Red fox seen trying to get into sea can. Door would not close due to ice. Site services supervisor should be contacted.	TRUE	unspecified	-	-
2014-May-14 14:26	FALSE	-	-	Sea can doors at west end still open due to surrounding ice.	FALSE	-	-	-	FALSE	-	-	-
2014-May-16 17:00	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-18 14:15	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-20 8:33	TRUE	other	-	Sea can doors remain open at west end. 4/5 Barrels with Absorbent rags no lids. Waste oil barrels no lid..	FALSE	-	-	-	FALSE	-	-	-
2014-May-22 8:28	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-24 15:38	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-26 11:15	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-28 15:24	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-30 17:25	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-01 15:58	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-04 17:40	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-05 11:20	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-07 18:07	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-09 18:05	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-11 11:29	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-14 6:53	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-15 15:39	TRUE	Food packaging	1-5	-	TRUE	REFO	1	-	TRUE	REFO	Tracks	-
2014-Jun-17 17:12	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-19 14:56	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-21 9:18	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-23 15:00	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-25 17:55	TRUE	-	1-5	1 water bottle and 2 candy wrappers in burn pit	TRUE	Unknown gulls	2	In burn pit.	FALSE	-	-	-
2014-Jun-28 17:50	TRUE	Food packaging	1-5	Food containers	TRUE	CORA	1	-	FALSE	-	-	-
2014-Jun-29 11:15	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-



APPENDIX H
Waste Inspections, 2014

Date	Waste Transfer Area Attractants				Wildlife				Wildlife Sign			
	Attractants Present?	Items	Levels	Comments	Wildlife Present?	Species	# of Species	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2014-Jul-01 15:33	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-03 17:53	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-05 17:22	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-20 12:37	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-27 15:57	TRUE	Aerosol cans	1-5	2 aerosol cans in burn pit	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-04 11:43	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-10 13:45	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-17 10:33	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-24 14:33	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-31 16:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-07 17:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-14 18:25	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-21 10:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-28 15:18	TRUE	Food packaging	1-5	-	FALSE	-	-	-	FALSE	-	-	-
2014-Oct-05 13:21	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Oct-12 10:30	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	Fox tracks near the incinerator doors.
2014-Oct-19 10:10	FALSE	-	-	-	TRUE	REFO	1	sleeping near burn pit	TRUE	REFO	Tracks	-
2014-Oct-22 11:45	FALSE	-	-	-	TRUE	unspecified	-	-	TRUE	REFO	Tracks	-
2014-Oct-23 8:35	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Oct-26 17:37	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	2 sets of tracks
2014-Oct-30 14:45	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	Took dead fox to incinerator.
2014-Nov-02 10:06	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-06 15:28	FALSE	-	-	-	TRUE	CORA	1	-	TRUE	REFO	Tracks	Old fox tracks
2014-Nov-10 14:45	TRUE	other	1-5	-	FALSE	-	-	-	TRUE	REFO	Tracks	3 sets of tracks
2014-Nov-14 16:22	FALSE	-	-	-	TRUE	CORA	1	-	FALSE	-	-	-
2014-Nov-16 16:46	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-20 17:17	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-23 11:38	TRUE	food	1-5	1 coffee cup	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Nov-28 17:21	TRUE	food	1-5	carrots, fox eating carrots in burn pit.	TRUE	REFO	1	Fox eating carrots in the burn pit	TRUE	REFO	Tracks	-
2014-Nov-30 15:07	FALSE	-	-	Tipper bin full of rags, waiting on wind to die down before lighting fire.	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-04 17:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-07 15:55	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Dec-12 14:34	FALSE	-	-	Actively dumping in burn pit, did quick visual.	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-14 15:47	TRUE	Oil contaminated waste, other	1-5	Cigarette pack, 2 oily buckets, 1 cardboard box	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Dec-18 15:25	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-21 15:09	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Dec-25 13:37	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-29 21:56	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Jan-04 15:07	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-06 11:14	TRUE	Oil contaminated waste	1-5	Some oily rags removed.	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-08 17:54	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-10 14:51	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-12 10:27	TRUE	Aerosol cans, oil contaminated waste, other.	6-10	Some oily rags, burnable filters, 2 aerosol cans	TRUE	CORA	1	-	TRUE	REFO	Tracks	-



APPENDIX H
Waste Inspections, 2014

Date	Waste Transfer Area Attractants				Wildlife				Wildlife Sign			
	Attractants Present?	Items	Levels	Comments	Wildlife Present?	Species	# of Species	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2014-Jan-14 13:46	FALSE	-	-	Area newly pushed, no piles were present.	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-17 13:46	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-18 11:40	TRUE	Oil products and containers, other	1-5	Demolition waste that includes wood has been dumped with the approval of DDMI Environment. Two empty oil containers present, one glove.	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-20 7:38	TRUE	Other	1-5	Wood present from the gutting of site services building, mixed with other material.	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-22 14:07	TRUE	Other	1-5	One nitrile glove.	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Jan-24 11:44	TRUE	Oil-contaminated waste, other.	6-10	2 gloves, one had chew marks. 8 loads with wood, gyprock, building materials from demolition somewhere	FALSE	-	-	-	TRUE	-	Tracks, scat & chews	1 animal, gloves with chew marks
2014-Jan-26 15:12	TRUE	Food packaging, oil contaminated waste, oil products and containers.	6-10	1 empty chip bag, 4 gloves, 2 rags, 1 tube of chalking (silicone).	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-28 11:34	TRUE	Other	1-5	Nitrile gloves. Card board and wood	FALSE	-	-	-	FALSE	-	-	-
2014-Jan-30 16:09	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-01 11:37	TRUE	other	1-5	Some cardboard boxes (1-5 pieces)	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-03 14:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-07 15:54	TRUE	other	1-5	2 empty cigarette packs, 1 box of air filters (burnable), removed all	FALSE	-	-	-	TRUE	REFO	Tracks	1 set of tracks
2014-Feb-09 17:01	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-13 17:11	TRUE	Food, food packaging, oil contaminated waste, aerosol cans, other.	>15	Orange peels, plastic bag with food remnants, 8 gloves, 4 oily rags, 2 cigarette packages.	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-15 11:15	TRUE	Oil-contaminated waste	1-5	3 oily rags, 2 gloves.	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-17 11:13	TRUE	Oil-contaminated waste	1-5	2 pairs of oily gloves found, approximately 1 day since last turn over.	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-19 15:11	TRUE	Oil-contaminated waste	1-5	4 oily gloves	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-21 9:45	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Feb-23 14:43	TRUE	Aerosol cans, batteries, oil-contaminated waste, oil products and containers, other.	-	35 gloves, 5 rags, 15 C cell batteries, 2 cigarette packages, grease tube	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Feb-26 17:42	FALSE	-	-	Package present not even opened. Called V ring.	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-01 15:26	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-03 18:19	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-06 11:19	TRUE	Other	1-5	1 pop can	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-09 14:23	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-11 9:20	TRUE	Aerosol cans, batteries.	1-5	3 aerosol cans, 1 battery	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-13 13:57	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-15 15:09	TRUE	Food, food packaging, oil contaminated waste.	-	2 banana peels, 6 lunch bags, 6 coffee packages, 4 creamer packages, 3 baggies, 1 glove	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-17 7:50	TRUE	Oil-contaminated waste	6-10	6 gloves, 4 rags	FALSE	-	-	-	FALSE	-	-	-



APPENDIX H
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Date	Waste Transfer Area Attractants				Wildlife				Wildlife Sign			
	Attractants Present?	Items	Levels	Comments	Wildlife Present?	Species	# of Species	Wildlife Comments	Wildlife Sign Observed?	Wildlife Sign Observed Species	Wildlife Sign Type	Wildlife Sign Observed Comments
2014-Mar-19 16:41	TRUE	Other	1-5	3 paint cans	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-21 9:56	TRUE	Aerosol cans	1-5	1 can	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-23 12:42	TRUE	Other	1-5	Burned items from Lac de Gras ice road camp.	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-25 10:18	TRUE	Aerosol cans, food, other.	6-10	4 aerosol cans, 2 food items, 2 pop cans	FALSE	-	-	-	FALSE	-	-	-
2014-Mar-31 10:35	TRUE	Other	1-5	can of oil lubricant.	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Apr-06 17:23	TRUE	Food packaging, aerosol cans, oil products and containers.	1-5	Food packaging includes chips bags, and personal beverage recyclables.	FALSE	-	-	-	TRUE	REFO	Tracks	fresh tracks
2014-Apr-10 15:25	TRUE	Oil-contaminated waste	6-10	3 rags, 4 gloves.	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-14 14:18	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-18 17:56	TRUE	Food packaging, oil products and containers, other.	-	7 rags, 6 gloves, 1 juice bottle, 1 cigarette package.	FALSE	-	-	-	TRUE	Arctic Fox	Tracks	-
2014-Apr-20 11:47	FALSE	-	-	No new loads	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-24 17:50	TRUE	Aerosol cans, food packaging, other.	10-15	11 water bottles, 2 paint cans, 4 gloves, 2 cracker packages. All from UG bin	FALSE	-	-	-	FALSE	-	-	-
2014-Apr-28 9:58	TRUE	Food, food packaging	-	Cigarette packages, bottles of water and plastic gloves.	FALSE	-	-	-	FALSE	-	-	-
2014-May-02 11:39	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-05 9:56	TRUE	Aerosol cans, batteries, oil-contaminated waste.	10-15	1 bag of spill pads. Pail containing batteries.	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-May-06 15:17	TRUE	Food packaging	1-5	-	TRUE	Wolf, red fox and wolverine	-	-	TRUE	Wolf, REFO, wolverine	Tracks	-
2014-May-08 13:15	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	Wolf, wolverine	Tracks	-
2014-May-10 18:26	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-12 18:14	FALSE	-	-	-	TRUE	RLHA	3	-	FALSE	-	-	-
2014-May-14 14:25	TRUE	Aerosol cans, food packaging.	1-5	2 cans of pop and one aerosol	FALSE	-	-	-	FALSE	-	-	-
2014-May-16 16:30	TRUE	Aerosol cans	1-5	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-18 13:44	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-20 9:58	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-22 17:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-24 15:30	TRUE	Batteries	6-10	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-26 11:06	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-May-28 15:11	TRUE	Oil-contaminated waste, other.	1-5	Bag of spill pads, bag of coveralls, 2 cups, 1 water bottle	FALSE	-	-	-	FALSE	-	-	-
2014-May-30 17:18	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-01 15:29	TRUE	Oil-contaminated waste	1-5	1 pile of used hydraulic lines	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-03 16:00	TRUE	Aerosol cans, food, food packaging, oil-contaminated waste.	-	2 spray paint canisters, 1 Banana peel, 5 cigarette pkgs, 4 snuff cans, 1 lunch bag 3 gum pkgs, 1 tums container, 40 gloves and 36 oily rags	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-05 11:05	FALSE	-	-	Just pushed	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-07 17:50	FALSE	-	-	South camp deconstruction material in landfill	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-09 17:50	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-11 11:00	TRUE	Oil-contaminated waste, other.	1-5	Cardboard boxes filled with unused metal material left in landfill & silt screen. 1: 2 gloves 1 oily rag	FALSE	-	-	-	FALSE	-	-	-



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2014-Jun-14 6:52	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-15 16:38	TRUE	Food packaging	6-10	Jars with residual food waste	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-17 15:00	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-19 10:30	TRUE	Food packaging, other.	-	2 pop cans, 4 boxes with air filters	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-21 9:17	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-23 11:00	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-25 17:42	TRUE	Aerosol cans, food packaging, oil-contaminated waste, other.	6-10	1 snuff can, 1 pop can, 1 glove, 2 oily rags.	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-28 18:00	TRUE	Oil-contaminated waste, other.	-	1 snuff container	FALSE	-	-	-	FALSE	-	-	-
2014-Jun-29 14:41	TRUE	Oil-contaminated waste, other.	10-15	3 rags, 4 gloves, 2 boots , 2 overalls	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-01 15:31	TRUE	Aerosol cans, food.	6-10	All aerosol cans were punctured.	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-03 17:34	TRUE	Oil-contaminated waste, other.	10-15	6 oily rags, 2 overalls, 5 spill pads, 2 cigarette pkgs.	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-05 17:10	TRUE	Aerosol cans, oil contaminated waste, other.	>15	4 gloves, 1 coveralls, 6 oily rags, 4 pkgs of cigarettes	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-20 12:01	TRUE	Food packaging, oil-contaminated waste	10-15	Gatorade bottles x8	FALSE	-	-	-	FALSE	-	-	-
2014-Jul-27 15:34	TRUE	Other	1-5	Old north construction office buildings (deconstructed) waste	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-04 9:24	TRUE	Oil products and containers, other	1-5	Wd40 can not empty, 1 cigarette pack, 1 glove	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-10 13:45	TRUE	Food packaging	1-5	-	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-24 15:27	TRUE	Aerosol cans, other	1-5	3 pop cans removed. 1 aerosol can removed	FALSE	-	-	-	FALSE	-	-	-
2014-Aug-31 16:30	TRUE	Aerosol cans, batteries, food, food packaging, oil-contaminated waste, oil products and containers, other.	>15	30 gloves, 45 oily rags, 2 cigarette packs, 8 oily buckets	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-07 17:00	TRUE	Aerosol cans, food packaging, oil-contaminated waste, other.	>15	8 gloves	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-14 18:20	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-21 17:39	TRUE	Food packaging	1-5	1 pop can, 1 paper cup, 1 energy drink bottle	FALSE	-	-	-	FALSE	-	-	-
2014-Sep-28 14:26	TRUE	Food packaging, oil-contaminated waste, oil products and containers	10-15	12 oil rags/pads	FALSE	-	-	-	FALSE	-	-	-
2014-Oct-05 13:20	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Oct-12 11:05	TRUE	Food packaging	1-5	-	FALSE	-	-	-	FALSE	-	-	-
2014-Oct-16 10:12	FALSE	-	-	-	FALSE	-	-	-	TRUE	REFO	Tracks	at waste pile
2014-Oct-19 10:37	FALSE	-	-	Demolished double decker Scamp dorms in landfill	TRUE	1 REFO, 1 CORA	-	-	TRUE	REFO	Tracks	-
2014-Oct-23 8:20	FALSE	-	-	Waste from South Camp Demob	FALSE	-	-	-	FALSE	-	-	-
2014-Oct-26 15:55	TRUE	Food	1-5	Package with gum in it	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Oct-30 15:00	FALSE	-	-	Just pushed into the ground, no new garbage dumped	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-02 9:32	FALSE	-	-	Looks good	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-06 14:36	TRUE	Batteries	1-5	-	FALSE	-	-	-	TRUE	REFO, CORA	Tracks	-
2014-Nov-10 15:39	FALSE	-	-	-	TRUE	REFO	1	-	TRUE	unspecified	Tracks	7 sets of tracks



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2014-Nov-14 15:29	FALSE	-	-	-	TRUE	CORA	1	fly over	FALSE	-	-	-
2014-Nov-16 15:29	TRUE	Aerosol cans, other	1-5	Gloves	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-20 17:00	TRUE	Oil-contaminated waste, other.	10-15	3 rags, 7 gloves	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-23 11:30	TRUE	Oil-contaminated waste, other.	1-5	1 glove / 1 cigarette pack	FALSE	-	-	-	TRUE	REFO	Tracks	-
2014-Nov-28 17:11	TRUE	Oil-contaminated waste	1-5	3 rags	FALSE	-	-	-	FALSE	-	-	-
2014-Nov-30 15:30	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-04 17:06	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-07 15:29	FALSE	-	-	Area looked good. Lots of old piping material being disposed of.	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-12 14:32	TRUE	Batteries, other	1-5	1 wood pallet stuck in snow	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-14 15:46	FALSE	-	-	-	TRUE	CORA	1	fly over	TRUE	REFO	Tracks	-
2014-Dec-18 15:10	TRUE	Oil-contaminated waste	6-10	4 rags, 2 gloves	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-21 16:36	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-25 14:24	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-
2014-Dec-29 10:10	FALSE	-	-	-	FALSE	-	-	-	FALSE	-	-	-

- = none; > = greater than; # = number; pkg = package; REFO = red fox; CORA = common raven; RLHA = rough-legged hawk.

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