Appendix G14

Report: 2014 Wildlife Monitoring Summary Report

AGNICO EAGLE

MEADOWBANK MINE

2014 WILDLIFE MONITORING SUMMARY REPORT

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SECTION 1 • EXECUTIVE SUMMARY

The 2014 Wildlife Monitoring Summary Report represents the ninth of a series of annual Wildlife Monitoring Summary Reports for the Agnico Eagle Mines Ltd. (Agnico Eagle) Meadowbank Mine (the project). Baseline and monitoring programs were first initiated in 1999 and will continue throughout the life of the mine. Details of the wildlife monitoring program for the project are provided in the Terrestrial Ecosystem Management Plan (Cumberland 2006). The 2014 report provides the objectives, methodology, historical and current year results, accuracy of impact predictors, and management recommendations of each monitoring program in standalone sections.

The Meadowbank Gold Mine (the mine), with an expected operational life of eight years, is located approximately 70 km north of the Hamlet of Baker Lake, 300 km inland from the northwest coast of Hudson Bay. Construction of a 106.8 km All Weather Access Road (AWAR) between the Hamlet of Baker Lake, the nearest community, and the mine was completed in March 2008.

Habitat mapping was completed for the 2014 report, comparing as-built drawings to predicted and approved disturbance using an analysis of Ecological Land Classification (ELC) units. Disturbance has increased since the 2012 analysis, but habitat loss is still within threshold levels. Habitat loss associated with the AWAR was considerably lower than predicted.

Four active Peregrine Falcon (*Falco peregrinus*) nests were observed and monitored at quarry sites along the AWAR. Quarries appear to have created suitable raptor nesting habitat, as all of these nests have been active for at least four seasons. No nesting activity was observed at Portage Pit in 2014. Raptor nest management plans were not warranted at any of the active nest sites, and no project-related effects on falcon nesting success were confirmed.

The Government of Nunavut Caribou (*Rangifer tarandus*) collaring program, ongoing for the past six years in the Baker Lake area, continued in 2014 with monitoring of existing collared animals as part of regional efforts to understand Caribou populations. Seasonal Caribou movements within and adjacent to the Meadowbank Regional Study Area (RSA) were tracked and mapped throughout the year. No additional collars were deployed in 2014. In 2014, collared Caribou were present in the RSA during the spring, fall, fall rut, and early winter, but no movements of collared Caribou were recorded across the Meadowbank AWAR.

Although Hunter Harvest Study (HHS) participation rates remained relatively constant in 2014 (46 respondents), the number of participants recording Caribou harvest decreased dramatically (n=27, compared to n=44 last year), as did overall reported number of Caribou harvested in 2014 (n=269, compared to n=420 last year). Based on these results, it is estimated that only 5% of Baker Lake hunters actively participated in the HHS this year. In 2014, 40% of all reported Caribou harvests were within 5 km of the AWAR, comparable to the average of 39% since the study began.

The AWAR was closed as a preventative measure in October and November, as large herds of Caribou were observed nearby, and traffic on the haul road between the Portage and Vault pits was restricted in September. No Caribou fatalities occurred at the mine site or along the AWAR in 2014. Improved food-handling practices and employee awareness programs at the mine site helped ensure no Arctic Fox (*Vulpes lagopus*) or Wolverine (*Gulo gulo*) fatalities.

Each subsequent Wildlife Monitoring Summary Report builds on data presented in the previous year's report. Analyses of data from monitoring programs to date indicate that the programs are appropriate for comparing baseline conditions and reference areas to current conditions at the mine site. Monitoring programs will continue to meet the conditions of the Nunavut Impact Review Board Project Certificate but will evolve throughout the life of the mine, contingent on data quality objectives and the necessity for adaptive management strategy implementation and subsequent effectiveness monitoring. Ongoing collection of data will allow for increasingly robust statistical analyses each year, where warranted, that will build on an understanding of naturally occurring and potential mine-related effects.

SECTION 2 • OVERVIEW

1. BACKGROUND

The Agnico Eagle Mines Ltd. (Agnico Eagle) Meadowbank Mine (the project), located in the Kivalliq Region of Nunavut (**Figure 2.1**), received a Project Certificate from the Nunavut Impact Review Board (NIRB) in 2006. The certificate authorized the construction of a gold mine and ancillary facilities (including an All Weather Access Road [AWAR], barge unloading facilities, lay-down area, and a fuel tank area) in the vicinity of the Hamlet of Baker Lake subject to the terms and conditions as stipulated in the Project Certificate[1].

The 2014 annual report is the ninth of a series of annual Wildlife Monitoring Summary Reports for the project. The purpose of this report is to summarize the 2014 data collected from the various wildlife monitoring programs, and to identify and communicate natural variation and potential mine-related changes in wildlife populations within and adjacent to the Meadowbank Mine (the mine) through the interpretation of accumulative monitoring datasets. The 2014 report provides the objectives, methodology, historical and current year results, accuracy of impact predictors, mitigation activities, and management recommendations based on the 2014 results of each monitoring program.

2.1 PROJECT DESCRIPTION

The project scope encompasses mine construction, operation, maintenance, reclamation, and closure, as well as associated monitoring activities. Gold will be extracted from open pits during the minimum eight-year operational lifespan of the mine. All construction and operating supplies for the project are transported on ocean freight to facilities in the Hamlet of Baker Lake, which include barge unloading facilities, a lay-down area, and fuel tank farm. An AWAR from the Hamlet of Baker Lake to the mine site provides primary mine site access and re-supply, while on-site mine access roads connect open pit areas to ancillary facilities. Mine site facilities currently include a mill, power plant, maintenance facilities, tank farm for fuel storage, water treatment plant, sewage treatment plant, airstrip, and accommodations for approximately 350 people.

Environmental baseline studies were conducted in the project area prior to mine approval and integrated into the current project design according to the Terrestrial Ecosystem Management Plan (TEMP). Valued Ecosystem Components (VECs) were identified in consultation with regulatory agencies and residents of Baker Lake. VECs pertaining to this report include vegetation cover (wildlife habitat), ungulates, predatory mammals, small mammals, raptors, waterbirds, and other breeding birds. Further details on the proposed project can be found in the Final Environmental Impact Statement (FEIS 2005).

In 2008, construction of the AWAR and numerous camp infrastructure upgrades were completed, while in 2009, principal mine site construction commenced. Mine operations commenced in early 2010. Presently, operations are focused on the development of the Portage, Goose, and Vault pits.

[1] Section 54 of the Project Certificate discusses the requirements of the Terrestrial Ecosystem Management Plan (TEMP) for the project, including the methodology and rationale for the numerous monitoring surveys and studies discussed in this report.


Figure 2.1:
Project Location Map
Legend
Capital City
Towns/Villages
Rivers
Water
National Parks
Data Sources:
Natural Resources Canada
Geological Survey of Canada
Caslys Consulting Ltd.
160°W
140°W
120°W
100°W
80°W
60°W
40°W
20°W
80°N
70°N
60°N
Alert
Ellesmere Island Nat. Park
CANADA
Ellesmere Island
Arctic Ocean
Grise Fiord
Polaris
Resolute
Baffin Bay
Nanisivik
Pond Inlet
Arctic Bay
Victoria Island
N U N A V U T
Clyde River
Davis Strait
Qikiqtarjuaq (Broughton Island)
Baffin Island
Auyuittuq Nat. Park
Igloolik
Hall Beach
Kugluktuk (Coppermine)
Cambridge Bay
Taloyoak
Pangnirtung
Umingmaktok
Hope Bay
Kugaaruk (Pelly Bay)
Gjoa Haven
Foxe Basin
Bathurst Inlet
Jericho
George Lake
Repulse Bay
Lupin
Meadowbank Gold Project
IQALUIT
Ekati
Diavik
Cape Dorset
Kimmirut (Lake Harbour)
Coral Harbour
Hudson Strait
Baker Lake
Chesterfield Inlet
Northwest Territories
Rankin Inlet
Whale Cove
Arviat
Quebec
Cullaton Lake/Shear Lake
Alberta
Saskatchewan
Hudson Bay
Manitoba
Churchill
Ontario
0
250
500
Kilometres
Prepared for:
AGNICO EAGLE
By:
CASLYS CONSULTING

2.2 STUDY AREA BOUNDARIES

The mine site Local Study Area (LSA) includes a 5 km radius area centred on the Main Site and a 5 km radius around the Vault Site creating an elliptical shape with a total area of 194 km^2 (**Figure 2.2**). The Regional Study Area (RSA) encompasses an area that includes a 25 km radius area around the Main Site and a 50 km wide corridor centred on the AWAR for a total area of 5,106 km^2 (**Figure 2.2**). The AWAR LSA consists of a 3 km wide corridor centred on the AWAR between Baker Lake and Meadowbank mine site (**Figure 2.2**). Justification for study area size can be found in previous wildlife monitoring summary reports.

2.3 MONITORING APPROACH – LSA AND RSA

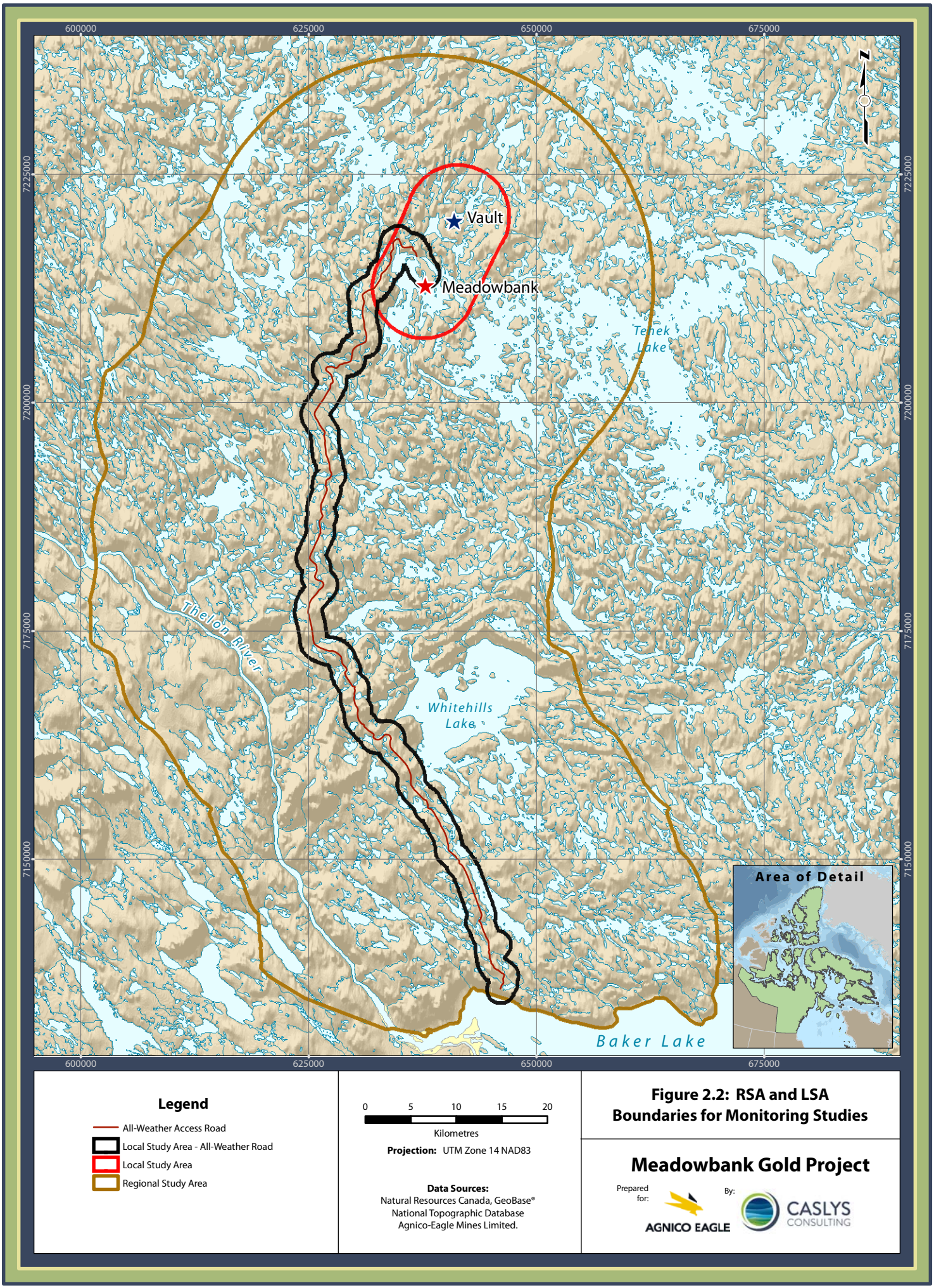
Wildlife monitoring is an essential tool in protecting and maintaining wildlife occurring in the vicinity of the project. Because of uncertainties associated with impact predictions and the effectiveness of mitigation, a comprehensive monitoring strategy has been implemented and, as required, is adapted to meet the objectives of the mitigation strategy set out in the TEMP (Cumberland 2006). Monitoring programs also serve to evaluate the effectiveness of implemented mitigation measures against baseline conditions and mine-related impact predictions (i.e., the annual report uses hypothesis testing to evaluate impact predications). Specific monitoring objectives for wildlife VECs are discussed in the following sections, as outlined in Section 3 of the TEMP.

For all wildlife monitoring programs, there is a certain level of uncertainty or unpredictability. Significant residual effects identified during monitoring may require the implementation of adaptive management strategies, which is anticipated to be an iterative process over the life of the project.

To effectively evaluate the accuracy of impact predictions, a series of quantitative monitoring indicators, which are within the broad categories of habitat distribution, wildlife distribution, wildlife richness, diversity and abundance indices, and environmental health, have been developed for the project. Each of these monitoring indicators has been described in detail in earlier annual reports.

2.4 MONITORING APPROACH – MINE SITE

Agnico Eagle environmental personnel are present at the mine site at all times. Detailed reporting protocols (e.g., in the event of a dangerous animal occurrence at the site) have been established and implemented. During these events there is an open line of communication between Agnico Eagle representatives and the Government of Nunavut (GN) Department of Environment (DoE) Conservation Officer. In addition, environmental personnel continue to monitor wildlife presence in close proximity to mine facilities and along the AWAR on a daily and weekly basis (discussed in detail in **Sections 6** and **7**). Where unacceptable risks to wildlife are observed, mitigation measures are implemented to avert animals from site activities in accordance with the TEMP (Cumberland 2006).


600000
625000
650000
675000
7225000
7200000
7175000
7150000
Vault
Meadowbank
Tehek Lake
Thelon River
Whitehills Lake
Baker Lake
Area of Detail
Legend
All-Weather Access Road
Local Study Area - All-Weather Road
Local Study Area
Regional Study Area
0 5 10 15 20
Kilometres
Projection: UTM Zone 14 NAD83
Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database
Agnico-Eagle Mines Limited.
Figure 2.2: RSA and LSA Boundaries for Monitoring Studies
Meadowbank Gold Project
Prepared for:
AGNICO EAGLE
By:
CASLYS CONSULTING

2.5 OBJECTIVES OF THE SUMMARY REPORT

The primary objectives of the 2014 Wildlife Monitoring Summary Report include:

- Reporting the results of the 2014 wildlife monitoring programs;
- Summarizing the monitoring strategy implemented over the course of the year;
- Evaluating the function and validity of implemented monitoring strategies;
- Evaluating the accuracy of uncertain, weak, and/or significant impact predictions;
- Revising mitigation measures where monitoring activities identify unacceptable project-related impacts to the distribution, abundance, integrity, and health of vegetation communities or wildlife populations;
- Summarizing implemented adaptive management strategies used to further mitigate unforeseen impacts; and
- Providing management recommendations for 2015.

The annual Wildlife Monitoring Summary Report is designed to summarize annual wildlife and terrestrial monitoring data, and allow regulators and other stakeholders to contribute insight, expertise and suggestions for continually improving wildlife management activities within the LSA and RSA.

2.6 INUIT INVOLVEMENT

Since 1999, local Inuit from the Hamlet of Baker Lake have been involved in all wildlife-related baseline and monitoring surveys. A summary of the various programs and the average number of Inuit involved since 1999 is provided in **Table 2.1**.

Table 2.1: Inuit Involvement in Baseline and Monitoring Programs for the Meadowbank Mine

Survey Description	Years Conducted (# of Years)	Average # of Inuit Involved
RSA Aerial Survey	1999, 2002 to 2008 (8) – discontinued	2
LSA Aerial Survey	1999, 2002 to 2008 (8) – discontinued	2
Breeding Bird Plots	2003 to 2012 (10)	2 to 3
Breeding Bird Transects	2005 to 2011 (7) - discontinued	2
Waterfowl Nest Surveys	2004 to 2012 (9) - discontinued	3
Raptor Nest Surveys	2004 to 2007, 2010 to 2014 (9)	4
AWAR Ground Surveys	2004 to 2014 (11)	4
Habitat Mapping	2004 to 2005, 2010, 2012 (4)	1 to 2
Phenology Plots	2003 to 2005 (3) - discontinued	2

Over the survey years, several Baker Lake residents have built up considerable experience in conducting baseline and monitoring surveys, affording them employment opportunities in the project as environmental personnel or in other capacities.

SECTION 3 • HABITAT MAPPING

3.1 MONITORING PROGRAM OVERVIEW

The habitat mapping monitoring program was developed to describe the overall area of different Ecological Land Classification (ELC) units lost due to mine-related activities (i.e., during construction, operation, decommissioning, and post-closure phases) at three primary locations: Main and Vault sites (which together encompass the mine site), and the AWAR.

3.2 MONITORING PROGRAM OBJECTIVE

The primary objective of the habitat mapping monitoring program is to confirm that estimated habitat losses associated with mine site and AWAR construction have not exceeded the threshold limits identified in the TEMP (Cumberland 2006) plus approved extensions. A summary of each monitoring parameter, estimated losses, and thresholds is included in **Table 3.1**.

Table 3.1: Habitat Mapping Monitoring Parameters, Estimated Footprint Losses, and Thresholds

Monitoring Parameter	Mine Site Estimated Loss	AWAR Estimated Loss	Threshold
Terrestrial Habitat	867 ha	281 ha	>5% Predicted
Ungulate – High Suitability Habitat	240 ha (growing season) 191 ha (winter season)	63 ha (growing season) 188 ha (winter season)	>10% Predicted
Small Mammals – High Suitability Habitat	178 ha	156 ha	>10% Predicted
Waterbirds – High Suitability Habitat	518 ha	22 ha	>10% Predicted
Breeding Birds – High Suitability Habitat	322 ha	170 ha	>10% Predicted

3.3 MONITORING PROGRAM DURATION

The total areas of habitat disturbance associated with mine site and ancillary facility construction were mapped following significant construction completion (2010) and were to be mapped annually during the operation phase as detailed in the TEMP (Cumberland 2006). At the end of 2010, a detailed ELC habitat loss analysis found that actual habitat losses to date were substantially lower than predicted and that no habitat loss thresholds for VECs were exceeded (AEM 2011). Given this outcome, another detailed ELC habitat loss analysis was not provided until the 2012 report, which had similar conclusions as those in 2010. Surveys of all mine site changes and ancillary facilities are completed as they are constructed or if any changes are made.

Following decommissioning, vegetation mapping will be conducted in the first two years post-closure and every three years thereafter until Year 11 post-closure to verify that thresholds have been met.

3.4 METHODOLOGY

The calculation of ELC units is based on Agnico Eagle as-built mine and road construction drawings and reports, aerial photographs and satellite imagery, and ground investigations. Newly disturbed areas are delineated using Global Positioning System (GPS) and Geographic Information System (GIS) mapping. Results are compared to baseline conditions (i.e., ELC from supervised classification conducted in 2005; refer to Cumberland 2006) and losses predicted in the 2005 EIS plus approved extensions (**Table 3.1**).

3.5 HISTORICAL RESULTS

3.5.1 Mine Site

The majority of the Main Site construction was completed in 2010. Construction had not yet begun at the Vault Pit when habitat calculations were done in 2012. Actual habitat loss at the Main Site up to the end of 2010 was 87.2 hectares (ha) less than the predicted habitat loss for the Main Site only (i.e., excluding the Vault Pit area). As-built drawings for 2012 were compared to ELC baseline data available in the TEMP (Cumberland 2006); at this time, Vault Pit operations were under construction. Including the Vault Pit area, the actual habitat loss for the mine site in 2012 was 210.6 ha less than predicted habitat loss; an additional 140.9 ha had been disturbed over the previous two years. Of all the habitat types, only the Heath Tundra habitat had been disturbed to a greater extent than predicted, although overall the threshold had not been exceeded. For the mine site, 2012 ELC values were compared to predicted High suitability habitat losses for ungulates (growing and winter season), waterbirds, other breeding birds and small mammals. In all cases, the actual habitat losses were significantly less than predicted losses. As such, no thresholds (>5 to 10% above predicted losses) were exceeded.

3.5.2 AWAR

The 2010 ELC results for the AWAR were compared to ELC unit losses predicted in the 2005 EIS report. For each ELC unit, actual habitat losses were less than predicted habitat losses for a total net habitat gain of 173.12 ha. Since construction of the AWAR required substantially less area than predicted in the 2005 EIS, ELC habitat loss analyses for the AWAR will not be conducted in subsequent years unless road widening occurs. ELC habitat loss values for the AWAR in 2010 were compared to predicted High suitability habitat losses for ungulates (growing and winter season), waterbirds, other breeding birds and small mammals. In all cases, the actual habitat losses were significantly less than predicted losses and no thresholds (i.e., >5 to 10% above predicted losses) were exceeded. Subsequent analyses will not be conducted unless significant changes to the current road width and alignment occur.

3.6 2014 RESULTS

3.6.1 Mine Site

A habitat loss analysis is included in this 2014 annual report as much of the planned construction and dewatering activities at the Vault Site are now complete. Additional developments since the 2012 habitat loss analysis include the slight extension of the existing airstrip to the south and north into Third Portage Lake in the first quarter of 2013 to accommodate the landing of a Boeing 737 jet at the mine. This extension was completed with approval from the NIRB and the Nunavut Water Board (NWB). All areas being used by Meadowbank Mine have been accepted and approved by regulators and the KIA. Annual reports and updated management plans have been submitted and accepted by these regulatory bodies.

The 2014 ELC results for the mine site footprint were compared to predicted ELC unit losses from the 2005 EIS plus approved extensions (**Table 3.2**), which estimated the total habitat loss for the mine site to be 866.8 ha. Actual habitat loss for the mine site is currently calculated to be 775.7 ha. Differences between predicted and actual habitat losses were greatest in Heath Tundra, Birch and Riparian Shrub, and Lichen ELC units, all of which are High suitability habitat for ungulates during the winter season. This variation between actual and predicted habitat losses is primarily attributable to the as-built layout of the NPAG expansion of the Portage Waste Rock Facility. It should be noted that the material stored in the NPAG expansion area will be utilized during the closure/reclamation phase for capping of the North Cell TSF and will be returned as habitat.

Table 3.2: Mine Site Footprint ELC Unit Totals – 2005 EIS Predictions Plus Approved Extensions, 2014 ELC Results, and Respective Differences

ELC Unit	Estimated ELC Unit Losses (ha) (from 2005 EIS plus Approved Extensions)	Calculated ELC Unit Losses (ha) (from 2014)	Difference
Birch and Riparian Shrub	88.03	104.97	+16.94
Heath Tundra	82.29	93.47	+11.19
Lichen	82.72	87.67	+4.95
Lichen-Rock	25.52	27.12	+1.60
Ridge Crest / Esker / Avens	0.15	0.07	-0.08
Rock and Boulder	70.13	72.99	+2.85
Sedge	151.58	155.54	+3.96
Water	366.42	233.88	-132.55
Total Area	866.84 ha	775.71	-91.13

Mine site ELC values for 2014 were compared to predicted losses of High suitability habitat for ungulates (growing and winter season), small mammals, waterbirds, and other breeding birds (**Table 3.3**). No thresholds (>5 to 10% above predicted losses) have been exceeded for any of the VECs.

Table 3.3: Mine Site Predicted Threshold High Suitability Habitat Losses for Ungulates, Small Mammals, Waterbirds, and Other Breeding Birds

Habitat Loss	Terrestrial Habitat	Ungulate Growing Season	Ungulate Winter Season	Small Mammals	Waterbirds	Breeding Birds
Predicted Loss	867 ha	240 ha	191 ha	178 ha	518 ha	322 ha
2010 Value	352 ha	118 ha	69 ha	67 ha	214 ha	146 ha
2012 Value	493 ha	144 ha	99 ha	95 ha	304 ha	197 ha
2014 Value	776 ha	261 ha	208 ha	194 ha	389 ha	354 ha
% of Predicted Loss	89.5%	108.8%	108.9%	109.0 %	75.1%	109.9%
Allowed Threshold (above Predicted Loss)	5%	10%	10%	10%	10%	10%
Threshold Exceedence	No	No	No	No	No	No

3.6.2 AWAR

The ELC results for the AWAR have not changed since the 2010 analysis. Construction of the AWAR required considerably less area (173 ha) than predicted in the 2005 EIS (281 ha). As well, actual High suitability habitat losses for ungulates (growing and winter season), small mammals, waterbirds and other breeding birds were significantly less than predicted losses, and no thresholds (i.e., >10% above predicted losses) were exceeded.

3.7 ACCURACY OF IMPACT PREDICTIONS

A summary of the impact predictions identified in the TEMP (Cumberland 2006) is provided in **Table 3.4**. The 2014 habitat loss data were compared to the impact prediction thresholds, which includes approved extensions, to evaluate adherence to the impact predictions and the provision of adaptive management, as either a necessary or proactive measure.

Table 3.4: Accuracy of Impact Predictions – Habitat Loss

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Habitat Loss	Terrestrial habitat lost will not exceed the total area of loss predicted (867 ha for mine site and 281 ha for AWAR) in the Final EIS or described on subsequent, approvals or authorizations. Threshold is >5% of predicted losses. Specific habitat loss thresholds are also available for each animal group (provided below).	NO – Mine site NO - AWAR	NO (Although not required, some capping of North Cell may occur in 2015)	Ground Surveys, Mapping and GIS Analyses – ELC Habitat Mapping	4.3.2.1
	Ungulates: >10% of predicted FEIS high suitability habitat loss (Mine – growing – 240 ha; Mine – winter – 191 ha; Access Road – growing – 63 ha; Access Road – winter – 188 ha)	NO – Mine Site, winter season NO – Mine Site, growing season NO – AWAR	NO (NOTE: losses are very close to threshold levels)		4.4.2.1
	Small Mammals: >10% of predicted FEIS high suitability habitat loss (Mine – 178 ha; Access Road – 156 ha)	NO – Mine Site NO - AWAR	NO (NOTE: losses are very close to threshold levels)		4.6.2.1
	Waterbirds: >10% of predicted FEIS high suitability habitat loss (Mine – 518 ha; Access Road – 22 ha)	NO – Mine Site NO – AWAR	NO		4.3.2.1
	Other Breeding Birds: >10% of predicted FEIS high suitability habitat loss (Mine – 322 ha; Access Road – 170 ha)	YES – Mine Site NO - AWAR	NO (NOTE: losses are very close to threshold levels)		4.9.2.1
Habitat Reclamation following Mine Closure	Following mine closure and reclamation activities (with the exception of tailings, waste rock facilities and exposed pit slopes) will see re-vegetation rates of >20% (year 2 post-closure), >40% (year 5), >60% (year 8) and >80% (year 11)	Not Yet Applicable	Not Yet Applicable (NOTE: Some tailings will potentially be capped in 2015 with NPAG rock currently being generated. In addition additional NPAG rock will be removed from the NPAG expansion area during the closure phase of the mine)	Monitoring program to be set up post mine closure	4.3.2.3

Actual habitat loss as result of mine site construction to date was 10.1% lower than the FEIS predicted and approved habitat loss (i.e., 91 ha less than predicted and approved). For the AWAR, actual habitat loss was 38.5% lower than predicted (i.e., 108 ha less than predicted).

3.8 MANAGEMENT RECOMMENDATIONS

Calculated habitat loss for the mine site and AWAR are below estimated and approved habitat loss values, and loss of High suitability habitat, for the winter and growing seasons for ungulates, small mammals, and other breeding birds are close to threshold levels. Because threshold levels of High suitability for some VECs have almost been reached, the NPAG Extension on the north portion of the Waste Rock Storage facility, which was approved by NWB and has taken 17.8 ha of High suitability habitat, will be removed for the capping of the North Cell Tailings Storage Facility during the closure/reclamation phase of the mine. High suitability habitat in this NPAG extension area will again be available for use by ungulates.

Where unnecessary and unplanned habitat degradation has occurred, measures may be taken to reclaim or rejuvenate these areas. Measures may involve removal of contaminated soil, placement of stockpiled native soils, reseeding (e.g., native-grass cultivars and forbs such as nitrogen-fixing legumes), and transplanting of vegetation.

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SECTION 4 • BREEDING BIRD PLOTS

4.1 MONITORING PROGRAM OVERVIEW

The breeding bird plot monitoring program has been designed to evaluate potential project-related changes in breeding bird species abundance, richness, and diversity over time. The program is one component of the larger monitoring strategy to evaluate the success of mitigation measures implemented to minimize the amount of vegetation that is removed or degraded by the project, and whether certain mine activities have resulted in reduced or compromised habitat function or effectiveness (i.e., zone of influence) for breeding birds.

4.2 MONITORING PROGRAM OBJECTIVE

The objective of the breeding bird plot monitoring program is to confirm that a mine-related change of 20% function, determined by an increase or decrease in local breeding bird abundance, richness, and diversity, has not occurred. The program uses the widely accepted Canadian Wildlife Service's (CWS) Program for Regional and International Shorebird Monitoring (PRISM) protocols (CWS 2005). A secondary objective of the monitoring program is to determine more effective ways to prevent disturbance to nesting birds based on feedback from mitigation measures and observations.

4.3 MONITORING PROGRAM DURATION

The breeding bird plot monitoring program is to continue every year during the construction period and for at least the first three full years of mine operation (2010 to 2012) in accordance with the TEMP (Cumberland 2006). The next PRISM plot survey is planned for 2015.

4.4 MANAGEMENT RECOMMENDATIONS

To date, PRISM plot data show that most bird community indices are variable with little difference in the overall trends between mine and control plots. The next set of PRISM plot surveys will be conducted in 2015, following which detailed statistical analyses on all PRISM data collected to date will be conducted to investigate potential project effects.

SECTION 5 • RAPTOR NEST SURVEYS

5.1 MONITORING PROGRAM OVERVIEW

The raptor nest survey monitoring program has been designed to confirm that mine-related activities do not result in inadvertent negative effects on nesting raptors. Raptor surveys along the proposed AWAR alignment in 2005 (i.e., prior to construction) indicated that only low suitability habitat for nesting raptors was available. To construct the AWAR in 2007/2008, excavated and blasted rock materials were used from numerous quarries along the alignment, resulting in the creation of some moderate and high suitability raptor nesting habitat areas characterized by steep walls and overhangs. Established nests within some of these quarries are monitored on an annual basis to evaluate occupancy.

5.2 MONITORING PROGRAM OBJECTIVE

The primary objectives of the raptor nest survey monitoring program are to:

1. Confirm that raptor nest failures will not be caused by mine-related activities. The threshold level is one nest failure per year; and

2. Confirm that no project-related mortality of raptors will occur. The threshold level of mortality is one individual per year.

5.3 MONITORING PROGRAM DURATION

Raptor nest monitoring is to continue annually throughout the operational and decommissioning phases of the mine in accordance with the TEMP (Cumberland 2006).

5.4 METHODOLOGY

Prior to 2010, a dedicated raptor nest survey had not been conducted for the Meadowbank LSA with the exception of a raptor survey completed in 1999. Between 2000 and 2009, raptor observations were periodically recorded during AWAR road surveys, waterbird nest surveys, and aerial surveys and investigated further, as required; however, given the overall low probability of raptor occurrence within the LSA and RSA, a specific raptor survey was not scheduled. In 2009, the observed active Peregrine Falcon nest at Quarry 19 prompted the initiation of a dedicated raptor nest survey in 2010.

Surveys from 2011 through 2014 continued this work, focusing particularly on quarries along the AWAR. Similar to previous years, environmental personnel observed Peregrine Falcons nesting at quarries along the road during AWAR wildlife surveys. Some nesting behavior was also observed in the mine site (Portage Pit) more recently. Non-disruptive monitoring was conducted to ensure any nests were protected and undisturbed by mine operations.

5.5 HISTORICAL RESULTS

Single nesting pairs of Peregrine Falcon were recorded in 1996 and 2005 in the Mine RSA, but nests have only been routinely recorded since 2009 (at which time, dedicated nesting surveys were included in the monitoring program). Six Peregrine Falcon nesting sites have been recorded during this period, five of these were located in quarries along the AWAR (observed since 2009) and one nest was on the Portage Pit wall (observed since 2012) (**Figure 5.1**).

5.6 2014 RESULTS

Cumulative information on Peregrine Falcon nests from 2009 to 2014 is summarized in **Table 5.1** and **Figure 5.1**. Only the presence or absence of active nests was recorded in 2014; no details were collected on nesting success (**Table 5.2**). No nesting behavior was observed at Portage Pit in 2014, possibly attributable to the increased elevation of the pits making raptor observations more difficult. Environmental personnel did perform surveys of the pit area to determine if falcons were nesting. All surveys reported a negative presence.

No new active nest sites were identified in 2014, and raptor nest management plans were not warranted at any of the active nest sites. Some observations are included in **Appendix A**.

Table 5.1: Assessment and Ranking of Peregrine Falcon Nesting Potential along the AWAR and in the LSA

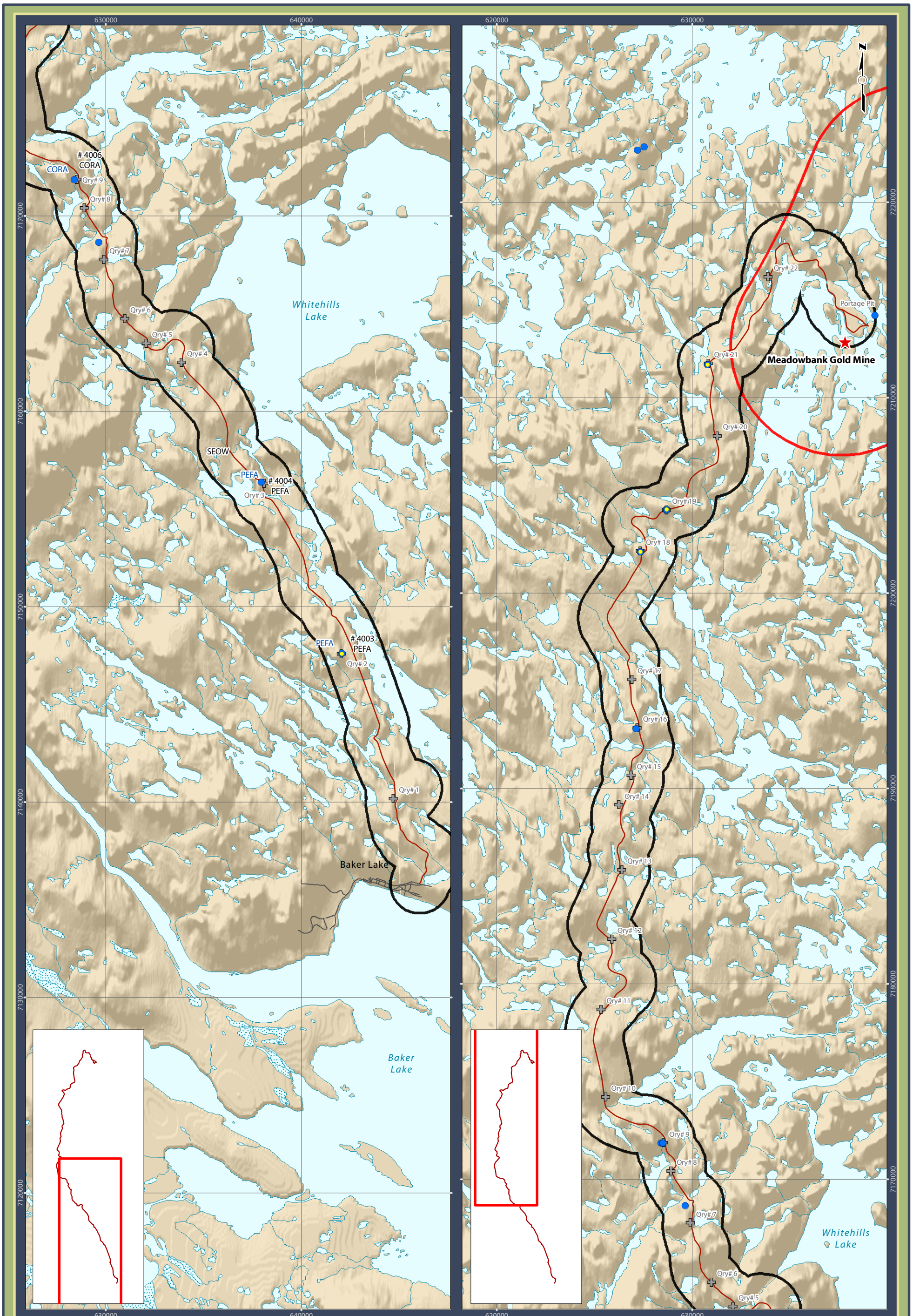
Quarry	Nest in:						Comments
	2009	2010	2011	2012	2013	2014	
1	No	No	No	No	No	No	Shallow quarry.
2	No	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Good cliff faces for nesting.
3	No	**Yes**	**Yes**	**Yes**	**Yes**	No	Nest Management Plan in 2010.
4-6	No	No	No	No	No	No	Shallow quarry and/or flooded.
7	No	No	No	No	No	No	Old Common Raven (*Corvus corax* – CORA) nests. Lots of fractured rock forming cliff faces but limited ledges. No nest observed in 2013.
8	No	No	No	No	No	No	No cliff faces.
9	No	Yes[1]	Yes[1]	No	No	No	CORA stick nest with 3 chicks in 2011. Old CORA nest. Lots of fractured rock forming cliff faces but limited ledges.
10-15	No	No	No	No	No	No	Shallow quarry and/or flooded.
16	No	No	No	No	No	No	Moderate depth with good cliff faces, no ledges. Old fallen stick nest, likely CORA. Old PEFA(?) nest observed in 2011, lots of whitewash in quarry.
17	No	No	No	No	No	No	Very shallow quarry. PEFA present but no nest.
18	No	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Good, high cliff face but no ledges. Nest at top lip.
19	**Yes**	No	**Yes**	**Yes**	**Yes**	**Yes**	Good, vertical cliff face, some suitable ledges. Falcon eggs observed in 2013.
20	No	No	No	No	No	No	Very shallow quarry. Partially filled with snow. Lots of whitewash on north end of quarry, adult observed (2011).
21	No	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Good, high cliff face, no ledges. Nest at top lip in 2010, but close to road in 2011.
22	No	No	No	No	No	No	Good, high cliff face. Currently used as tire/metal dump, may deter nesting.
Portage Pit	No	No	No	**Yes**	**Yes**	**No**	Nesting efforts not deterred following implementation of raptor management and protection plan in 2012

[1] CORA nest

Table 5.2: 2014 Raptor Nests Identified and Monitored at the Mine Site and along the AWAR between Baker Lake and the Meadowbank Mine Site

Date First Observed or Recorded	Species	Location (UTM)	Location	GN Site #[1]	Comments
ND	Peregrine Falcon	14W 0642068 7147616	Quarry 2	4003	No details
ND	Peregrine Falcon	14W 0627351 7202109	Quarry 18	4008	No details
ND	Peregrine Falcon	14W 0628686 7204285	Quarry 19	3901	No details
ND	Peregrine Falcon	14W 0630781 7211705	Quarry 21	4009	No details

[1] Government of Nunavut (GN) Raptor Database site number
ND = No data



Legend

Raptor Nest Location
- 2014
- 1999-2013
- Quarry location

- All-Weather Access Road
- Local Study Area - All-Weather Road
- Local Study Area

0 2 4 6
Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database
Agnico-Eagle Mines Limited
Gebauer & Associates Ltd.

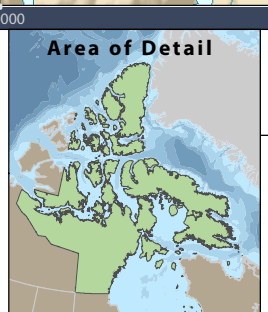


Figure 5.1: Raptor Nest Locations for the AWAR and Mine Site (2009 to 2014)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

5.7 ACCURACY OF IMPACT PREDICTIONS

A summary of the impact predictions identified in the TEMP (Cumberland 2006) is provided in **Table 5.3**. The 2014 raptor monitoring data were compared to the impact prediction thresholds to evaluate adherence to the impact predictions and the provision of adaptive management, as either a necessary or proactive measure.

Table 5.3: Accuracy of Impact Predictions – Healthy Prey Populations (for Raptors) and Disturbance to Nesting Raptors for the AWAR and Mine Site

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Healthy Prey Populations	Healthy raptor prey populations (small mammals and breeding birds) will be maintained at the Meadowbank site by ensuring that the integrity and health of habitats are maintained.	NO	NO	Annual PRISM Plot Surveys ELC Habitat Classification	4.7.2.1
Disturbance to Nesting Raptors	Raptor nest failures will not be caused by mine-related activities. Threshold is one nest failure per year.	NO	NO	AWAR Surveys Dedicated Raptor Nest Surveys Daily / Weekly Systematic Mine Site Ground Surveys	4.7.2.2
Raptor Mortality	One (1) individual	NO	NO	AWAR Surveys Daily / Weekly Systematic Mine Site Ground Surveys	4.7.2.3

5.8 MANAGEMENT RECOMMENDATIONS

Quarry mining activities along the AWAR corridor have created moderate to high suitability raptor nesting habitat. Raptors are expected to continue to use select quarries for the foreseeable future, which may necessitate the implementation of a raptor nest management plan for raptor nests if deemed necessary. Raptor nest surveys must be conducted annually at each of the quarries along the AWAR early in the nesting season (mid- to late June) to confirm the status of previously confirmed raptor nests, assess for the presence of new raptor nests, and determine the need, if any, for development and implementation of raptor nest management plans. Raptor nests should continue to be monitored weekly during the breeding season to confirm nest success or failure.

Ongoing monitoring of the pits and waste rock piles need to be conducted at the mine site to avert nesting attempts by raptors (e.g., Peregrine Falcon). If a nest is established, the general mine site Peregrine Falcon management and protection plan must be followed. If necessary, a raptor nest management plan should be developed to manage activity and mine-related disturbance at the specific nest until the nest is deemed inactive. Agnico Eagle has involved Dr. Alastair Franke from the University of Alberta as a consultant. Dr. Franke has been conducting research on raptors in Nunavut since 2003, has extensive knowledge of falcon behavior, and is recognized by the GN DoE as a raptor expert for the territory. When falcon activity is observed near mine operations, Agnico Eagle will consult with Dr. Franke to discuss site-specific protective measures and, if needed, deterrence recommendations to ensure falcon protection.

Informal raptor and raptor nest monitoring should continue around the mine site LSA and along the AWAR during road surveys, and on a daily and weekly basis at the mine site. Environmental personnel must ensure that accurate records of nesting activity and success are kept for all active nests for the duration of these surveys in order to determine if thresholds are exceeded.

SECTION 6 • MINE SITE GROUND SURVEYS

6.1 MONITORING PROGRAM OVERVIEW

The mine site ground survey monitoring program has been designed to verify that impacts to wildlife in and around the mine site LSA are not occurring. The program has a strong emphasis on monitoring for mortality of various wildlife groups with a potential to utilize habitats in the vicinity of the mine site. In addition, the mine site ground survey monitoring program is an integral component of the monitoring strategy for evaluating sensory disturbance indicators for Caribou (*Rangifer tarandus*).

6.2 MONITORING PROGRAM OBJECTIVES

The primary objectives of the mine site ground surveys are to:

1. Evaluate whether mine-related construction and operations activities preclude Caribou from using suitable habitats beyond 500 m (considered to be an average across various disturbance types) of mine buildings, facilities, and roads. Threshold level within mine facilities is unnatural Caribou use patterns beyond 500 m. The threshold level along the AWAR is unnatural Caribou use patterns beyond 1,000 m (also see **Section 7**);

2. Confirm that Caribou will not be killed through other mine-related mortality such as falling in pits, tailings sludge, or other means. The threshold level of mortality is one individual per year;

3. Verify that measures are in place such that no Grizzly Bears (*Ursus arctos*) or Wolverines (*Gulo gulo*) will need to be destroyed at the mine site. The threshold level of mortality for predatory mammals is one individual per year;

4. Verify that the footprint of the mine facilities (i.e., plant, storage areas, tailings impoundments, waste rock piles, camp sites) is minimized;

5. Verify that main mine facilities are consolidated in one area, and temporary workplaces and material lay-down areas are designated and clearly delineated; and

6. Verify that high value habitats (e.g., sedge meadows) are avoided, and all activities within 100 m of a bird nest site during the latter part of the nest stage (fledgling) are avoided.

6.3 MONITORING PROGRAM DURATION

The mine site ground surveys are to be conducted regularly by Agnico Eagle environmental personnel over the operational and closure phases of the mine to verify that impacts to habitats around the mine site do not cause effects to wildlife and their use of habitat.

6.4 METHODOLOGY

6.4.1 Mine Site Inspections

In 2014, environmental personnel conducted daily mine site inspections focusing on waste management, spills, hazardous waste management, and wildlife monitoring. Formal mine site inspections were carried out at least weekly as part of the broader environmental on-site management. During these inspections, non-conformities were identified. The results of these formal inspections were scored and weighted as part of the mine operations productivity bonus as an incentive program for achieving on-site environment management performance targets.

Weekly inspections included:

- Regular monitoring of Caribou and Muskox (*Ovibus mochatus*) in the vicinity of the facilities. If risks to animal health were perceived, efforts were made to avoid the wildlife and provide them the right of way;
- Regular monitoring of all large mammals on the site;
- Regular monitoring of breeding birds (especially in the spring); and
- Inspections of waste management areas, bins, and hazardous material storage.

During environment department inspections and wildlife ground surveys (which primarily focus on migratory birds, ungulates, Arctic Fox [*Vulpes lagopus]*, Wolves [*Canis lupus]* and Wolverines) or through general employee observations or incidence reports provided to the environment department, technicians record and follow up as needed to ensure the protection of wildlife near the mine site. These observations, along with monitoring and deterring activities are recorded in **Appendix A**.

As well, daily and weekly inspections ensured that mine activity met the following goals:

- The footprint of the mine facilities (i.e., plant, storage areas, tailings impoundments, waste rock piles, camp site infrastructure) is minimized;
- Main mine facilities are consolidated in one area. Temporary workplaces and material lay-down areas to be designated and clearly delineated; and
- High value habitats (e.g., sedge meadows) are avoided. If a nest is identified, all activity within 100 m of a nest site during the latter part of the nest stage (fledgling) is to be avoided.

In 2014, Agnico Eagle continued mining two pits of the Meadowbank site, Portage and Goose. The central portion of the Portage Pit was back-filled with waste material from mining operations. Mining activities at the Vault Pit also began in 2014. The remaining water in Vault Lake was removed in the second and third quarter of the year. Construction of the Central Dike continued in 2014, moving a total of 1.35 million tonnes of material to bring the elevation of the dike to 132 m above sea level. As well, the north portion of the Tailings Storage Facility approached its maximum capacity. In the fourth quarter of 2014, the south cell of the Tailings Storage Facility began operation. There were no other significant mine footprint changes in the Portage or Main Site areas in 2014.

No ancillary construction activity was undertaken without environmental notification and all activities were within the predicted and approved mine footprint as confirmed through environmental inspections, ground surveys, and coordination with engineering and site services on the mine site. All areas being used by Meadowbank Mine have been accepted and approved by regulators and the KIA through submission and acceptance of annual reports and updated management plans.

6.4.2 Incidental Mine Site Wildlife Observations

All mine site personnel, including construction and support staff, were required to document and report wildlife observed within the boundaries of the Meadowbank Mine as well as ancillary areas. The protocol involved filling out a wildlife log form located in a designated area and was intended to ensure that potential problem animals were identified in accordance with Appendix A - Section 2.2.8 (Reporting Wildlife Observations and Incidents) of the TEMP (Cumberland 2006). Completed incidental wildlife log forms were collected from designated areas on a regular basis for review by environmental personnel. Pertinent data from these forms as well as daily and weekly mine site inspection reports were consolidated and entered into a database (**Appendix A**).

6.4.3 Waste Management and Landfill

Operation and management of on-site waste is an important component of wildlife management at Meadowbank. In 2014, on-site waste management and segregation continued from the success of previous years with a greater emphasis on inspections and follow-up by environmental personnel and the specific department supervisors. Following internal audits and external inspections from regulators, no significant changes were made to the system of sorting, segregation, and incineration. In general, the centralized waste management area for segregation of food waste, non-food waste, and hazardous waste prevented access for wildlife. The continued implementation of covered garbage bins for waste designated for the incinerator and prevention of food waste to the landfill, limited access to food waste by animals. Weekly formal inspections and daily inspections of mine facilities were conducted to ensure that garbage was being handled appropriately, aromatic substances were not left in the open, personnel were not feeding animals, and the incinerator was working efficiently. Tool Box meetings were held with operational staff of each department to discuss environment issues, including waste management. Areas of concern were noted and responded to as soon as possible. If any issues were considered non-conforming, the appropriate mine staff were guided on the respective procedures and a follow-up inspection was completed to ensure the issue was appropriately handled.

6.5 2014 RESULTS

6.5.1 Incidental Wildlife Observations

Mine site incidental observations were consolidated from the daily and weekly inspection reports and observations collected by mine personnel. Agnico Eagle environmental personnel are committed to maintaining awareness of wildlife reporting and will continue to convey the importance of managing wildlife through employee education. Observational results are used by environmental personnel to monitor wildlife activity within the camp, mine site and ancillary areas, evaluate the effectiveness of adaptive management, and identify potential problem animals. Mine site incidental observations are included in **Appendix A**.

6.5.2 Breeding Bird Nest Monitoring

One breeding bird (Common Raven [*Corvus corax*]) nest, identified on 12 June during daily and weekly inspections, was located in the mid pit of Portage Pit. Regular inspections of the nest were undertaken by environmental technicians and the presence of young birds was visually confirmed. By 7 July, signs of ravens in the pit area ceased. Another Common Raven nest was observed in Quarry 15 along the AWAR. No mine operations impacted this nest and no work was performed in this quarry in 2014.

A ptarmigan (*Lagopus* spp.) nest with six eggs, found on 20 June, was located beside a sea can situated adjacent to the SO2 plant of the mill. The nest was reported immediately by a mill supervisor to the environment department. The mill supervisor restricted access to the area with 'DANGER NO ENTRY' tape to deter any people from disturbing the nest. No further actions were taken as the nest did not affect any work. An Arctic Fox was reported to have taken the eggs on 24 June (**Appendix A**).

6.5.3 Waterbird Monitoring

To avoid accidental waterbird confinement around the mine site and entrapment in the tailings, regular inspections were completed throughout the migratory period and during weekly or daily inspections, as deemed necessary by the environment coordinator and technicians. Beginning in early May until late June, technicians routinely inspected the Tailings Storage Facility for waterbird activities. Deterrents were used if required, and if safe, technicians boated into the reclaim pond to discourage waterbirds from landing and potentially becoming trapped in the Tailings Storage Facility. Some duck and goose species were observed flying around or near the Tailings Storage Facility in May, requiring the installation and use of deterrent cannons (**Appendix A**).

Observations and deterrence activities are recorded in **Appendix A**. Some waterbird observations included geese reported near the assay lab seepage, and sandpipers near the fueling station.

6.5.4 Raptor Monitoring

Raptor monitoring was conducted as part of regular mine site inspections and AWAR surveys. Similar to previous years, environmental personnel observed Peregrine Falcons nesting at Quarry 2, 18, 19, and 21 (also discussed in **Section 5**). Non-disruptive monitoring was conducted throughout the season to ensure nests were protected and undisturbed by mine operations. The operations near these quarries and others where active nests have been observed in the past will continue to be carefully monitored in the future.

Raptor monitoring was also conducted as part of routine mine site inspections of the pit and other areas to ensure adequate bird protection and management. In 2014, there was no observed Peregrine Falcon nesting in the Portage Pit. This change could be attributed to the depth of the pits in 2014. The pits were mined to a much deeper elevation than in previous years which would make the presence of raptors less obvious to personnel working inside the pit. Environmental personnel did perform surveys of the pit area to try and determine if any raptors were nesting. All surveys reported a negative presence; however, on 20 August, a falcon was observed flying in the vicinity of the Rock Storage Facility (RSF). The RSF is located less than one half kilometre from the area where falcons were seen nesting in 2012 and 2013 (**Appendix A**).

Prior to development, very little raptor activity was recorded near the Meadowbank mine site during baseline data collection.

6.5.5 Caribou Protection

On 27 September, the environment department received a report that several Caribou were infringing on the haul road between the Portage and Vault pits. Technicians proceeded to close the road to haul truck traffic and only allow pick-ups without flashing beacons to pass. The herd was made up of approximately 250 Caribou, and was continuously monitored throughout the day due to their close proximity to the mine site. At dusk, the herd drew back from the road out onto the tundra and the road was reopened for night shift traffic. Mid-morning on 28 September, the Caribou herd returned to the fringe of the haul road, so the road was again closed to haul truck traffic. By mid-afternoon the herd had moved on and was clear of the Meadowbank site. Additional Caribou protection measures were taken along the AWAR (discussed in **Section 7**).

6.5.6 Predatory Mammal Deterrence and Protection

Arctic Fox continued to be found denning near and around the mine site. Fox activity stayed relatively similar to 2013. Improved practices for waste segregation and incineration, the use of enclosed food waste facilities, and skirting around buildings seem to have improved Arctic Fox protection and decreased fox-human interactions. Weekly inspections by environmental personnel provided monitoring data that indicated re-occurrence of Arctic Fox on-site, but no trapping was required in 2014 (**Appendix A**).

Throughout January to April and again from late October to December 2014, environmental personnel confirmed numerous reports from employees of Wolverines near office buildings, camp, and mine operations. Environmental personnel actively deterred Wolverines following the Bear Wise deterrence training; however, the kitchen, sludge dump (an area within the Tailings Storage Facility where sewage sludge is deposited) and, less frequently, the landfill dump (an area within the waste rock storage facility) commonly attracted Wolverines. No Wolverine fatalities were reported in 2014 despite the abundance of sightings that occurred around the Meadowbank site.

Fewer Wolves were observed in 2014 compared to previous years and many were successfully deterred from the mine site. Similar to 2012 and 2013, the sludge dump and, less frequently, the landfill were the most common attractants for Wolves. **Appendix A** presents the incident reports, observations, deterrence activities, and environmental personnel responses to Wolf sightings throughout 2014. One Wolf fatality was reported in 2014 following a number of sightings and efforts at deterrence (see **Section 6.5.7**).

More Grizzly Bear activity in the vicinity of the mine site was reported in 2014 than in previous years. A Grizzly Bear was sighted at Km 96 of the AWAR on 6 June, approximately 10 km by road from the mine site but only 5 km from the mine site overland. A wildlife memo was sent to all Agnico Eagle employees (**Appendix B**). On 16 June, two Grizzly Bears were observed passing quickly through the mine site near the emulsion camp at Km 101 on the AWAR. All on-site personnel were made aware. A family of Grizzly Bears was observed on 22 September on the AWAR close to Km 85.

6.5.7 Wildlife Mortality – Mine Site

A summary of recorded wildlife fatalities near the mine site in 2014 is provided in **Table 6.1**, and a summary of fatalities to date from historical data is provided in **Table 6.2**. Copies of mortality incident reports are provided in **Appendix C**. All AWAR-related fatalities are tabulated and discussed in **Section 7.6**.

Table 6.1: 2014 Mine Site Wildlife Fatality Log

Date	Species	Count	Location	Comments
6 Jan 2014	Wolf	1	Mine Site	Dispatched after multiple interactions
20 June 2014	Unidentified duck	1	Leach pad	May have fallen into leach tank

Table 6.2: Summary of Mine Site Wildlife Fatality Records for Caribou and Predatory Mammals (2007 to 2014)

Year	Caribou	Grizzly Bear	Wolverine	Wolf
2007	0	0	0	0
2008	0	0	0	2
2009	0	0	0	4
2010	0	0	0	1
2011	0	0	1	4
2012	0	0	0	1
2013	0	0	1	0
2014	0	0	0	1

6.5.7.1 Caribou

No Caribou mortalities were reported related to activities at the mine site in 2014. All incident reports, observations, deterrence activities, and environment team responses to Caribou sightings are included in **Appendix A**. Caribou mortalities along the AWAR are discussed in **Section 7.6**.

6.5.7.2 Predatory Mammals

Wolverine

Despite numerous sightings and the implementation of deterrence actions, no Wolverine mortalities were reported related to activities at the mine site in 2014. All incident reports, observations, deterrence activities, and environment team responses to Wolverine sightings are included in **Appendix A**.

Wolf

One Wolf fatality was reported in 2014. A Wolf had been sighted on several occasions in the middle of the Meadowbank camp area. Most sightings were during mornings and evenings in the same area. Environmental personnel responded to the calls several times, using deterrents to scare the wolf away from the site. On the morning of 6 January, the Wolf was reported near the Sewage Treatment Plant. Environmental technicians responded to the call and found the Wolf curled up underneath the walkway by the sewage treatment plant. Several pyrotechnic deterrents were deployed to deter the Wolf with very limited success. The Wolf was moving slowly and staggering, and was subsequently dispatched. This mortality was immediately reported to the GN Conservation Officer in Baker Lake, and the carcass taken to the GN office in Baker Lake (**Appendix C**).

Grizzly Bear

No Grizzly Bear fatalities were reported for the mine site in 2014.

Arctic Fox

No Arctic Fox had to be euthanized in 2014.

6.5.7.3 Other Wildlife

One waterbird mortality occurred on the Meadowbank site. On 20 June, the environment department received an e-mail from a mill worker stating that there was a dead duck in the leach pad. The secondary containment was dry, and the duck was lying at the base of the leach tank. It appeared that the duck had perhaps flown into the tank (**Appendix C**).

On 19 October, the environment department received a call from the mine department regarding an injured bird lying in the pit. The environmental technician went to the site and found an injured Common Loon (*Gavia immer*) on the ground. The bird was still alive but barely moving. The technicians used a winter jacket to carefully cover the loon, picked it up, and brought it back to the office where the bird was transferred into a fox cage with the winter jacket to prevent the animal from getting cold. After investigation, environmental personnel were told that the loon was injured by a Peregrine Falcon during the evening. One technician left the mine site the same day and brought the loon with him to give it to the GN Conservation Officer in Baker Lake (**Appendix C**).

6.6 ACCURACY OF IMPACT PREDICTIONS

Table 6.3 provides a summary of the impact predictions identified in the TEMP (Cumberland 2006) that are evaluated, in part, by the mine site ground surveys. Specifically, the 2014 mine site ground survey monitoring data were compared to the impact prediction thresholds to evaluate adherence to the impact predictions and the provision of adaptive management, as either a necessary or proactive measure.

6.7 MANAGEMENT RECOMMENDATIONS

The following are specific management recommendations for the 2015 mine site ground survey monitoring program:

- Continue to conduct informal daily and weekly mine surveys to verify that impacts to wildlife are not occurring as a result of mine-related activities;
- Continue raptor nest monitoring around the mine site LSA and along the AWAR. Environmental personnel must ensure that accurate records of nesting activity and success are kept for all active nests to determine if thresholds are exceeded;
- Continue to apply the Wildlife Protection and Response Plan (AEM 2014, and reviewed by GN DoE), which includes waste and garbage provisions, training, incident reporting, and protocols for problem wildlife;
- Continue training and re-education to ensure that incidental wildlife reporting is completed by all mine site personnel such that environmental personnel can remained informed of pertinent wildlife-related activity in the vicinity of the mine site; and
- Monitor tailings ponds daily during the waterbird migration period. Increase the frequency of deterrent use if required.

Table 6.3: Accuracy of Impact Predictions – Mine Site Wildlife Disturbances

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Sensory Disturbance	Mine-related construction and operations activities will not preclude Caribou and Muskoxen from using suitable habitats beyond 500 m of mine buildings, facilities and roads.	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys Incidental Wildlife Reporting Satellite-collaring Data	4.4.2.2
Disturbance to Nesting Raptors	Raptor nest failures will not be caused by mine-related activities. Threshold is one nest failure per year.	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys Incidental Wildlife Reporting Dedicated Raptor Nest Surveys AWAR Surveys	4.7.2.2

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Healthy Prey Populations	Maintenance of healthy prey populations to ensure integrity and health of raptor habitats. Thresholds are qualitative, and can be achieved through management and maintenance of vegetation and healthy prey communities.	NO	NO	Annual PRISM Plot surveys ELC Habitat Mapping	4.7.2.1
Disturbance of Nesting, Roosting or Moulting Waterfowl	Mine facilities and activities will not impact the breeding success of waterbirds occurring in the area or disturb large concentrations of roosting or moulting waterbirds. Threshold level is one nest failure per year.	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys Waterbird Nest Surveys	4.8.2.2
Project-related Mortality	Destruction of one problem Grizzly Bear or Wolverine at Meadowbank Site per year.	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys	4.5.2.1
Project-related Mortality	One Caribou or Muskoxen mortality per year as a result of mine-related activities (e.g., falling into pits, tailing, sludge or other means)	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys	4.4.2.3
Project-related Mortality	Waterbirds will not be killed at the mine site. Threshold is one individual per year.	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys	4.8.2.4
Project-related Mortality	Breeding birds will not be killed at the mine site. Threshold is 50 individuals per year.	NO	NO	Daily / Weekly Systematic Mine Site Ground Surveys	4.9.2.2

SECTION 7 • ALL-WEATHER ACCESS ROAD GROUND SURVEYS

7.1 MONITORING PROGRAM OVERVIEW

The AWAR systematic ground survey monitoring program has been designed to evaluate sensory disturbance for wildlife, particularly Caribou and Muskoxen, utilizing habitats adjacent to the road. The program also emphasizes monitoring for mortality of species with a potential to utilize habitats in the vicinity of the AWAR.

7.2 MONITORING PROGRAM OBJECTIVES

The primary objectives of the AWAR ground survey monitoring program are to:

1. Document wildlife utilization along the AWAR corridor systematically;

2. Evaluate wildlife trends along the AWAR corridor, including areas where higher densities of wildlife are observed. Evaluate whether AWAR-related operations preclude Caribou from using suitable habitats beyond 1,000 m. The threshold level along the AWAR is unnatural Caribou use patterns beyond 1,000 m;

3. Assess the need for adaptive mitigation, such as temporary road closures during peak Caribou migration periods; and

4. Assess for wildlife mortality. Confirm that Caribou will not be killed through AWAR-related mortality. The threshold level of mortality for ungulates and predatory mammals is one individual per year.

7.3 MONITORING PROGRAM DURATION

The AWAR systematic ground surveys are to be conducted a minimum of once per week throughout the year, and twice per week during Caribou migration (contingent on road access and personnel availability) over the operational phase of the mine. Monitoring of vehicle collisions and mortality is continual.

7.4 METHODOLOGY

The terrain on both sides of the road (to a maximum horizontal distance of approximately 1 km perpendicular from the road edge) is surveyed as the vehicle progresses at a maximum speed of 30 km per hour. The survey team typically includes one driver and one observer. For each sighting, the vehicle is safely parked in a road pullout and UTM coordinates are recorded along with the estimated distance of the animal(s) from the road. AWAR Systematic ground surveys are ongoing at an average frequency of more than one survey per week, contingent on weather conditions. Beginning in 2010, a specific survey schedule was developed by Agnico Eagle personnel and distributed to the survey team to standardize monitoring effort across years. The Vault Road was surveyed only occasionally as part of this program.

Where animals are sighted in close proximity to roads and a risk of collision with vehicles is possible, the environmental monitor will report the number of animals, location, and direction of travel to the mine radio dispatcher who will inform all vehicle operators. In addition, all vehicle operators are required to report Caribou or Muskoxen seen in close proximity to roads to the mine radio dispatcher.

7.5 HISTORICAL RESULTS

Ground surveys commenced shortly following the onset of AWAR construction (2007). Sampling intensity has been uniform along the entire length of the AWAR since 2009; surveys along the Vault Road have been irregular since its completion. Over the past seven years, surveys have been completed along the AWAR every 3.9 to 6.1 days. Survey details are provided in **Table 7.1**.

Table 7.1: Details of AWAR Surveys from 2007 to 2014

Season	Number of AWAR Surveys							
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Spring (April to May)	13	15	15	9	10	14	9*	11
Summer (June to July)	24	7	10	9	9	13	13	7
Fall (August to September)	8	15	8	12	11	12	10	11
Winter (Jan to Mar, Oct to Dec)	33	57	25	36	33	38	31*	38
Year End Total	**78**	**94**	**58**	**66**	**63**	**77**	**63**	**67**
Duration	1-Mar to 31-Dec	2-Jan to 29-Dec	9-Jan to 16-Dec	21-Jan to 17-Dec	10-Jan to 30-Dec	4-Jan to 29-Dec	2-Feb to 27-Dec	12-Jan to 30-Dec
Average Frequency of Surveys (over duration)**	4.1 days	3.9 days	6.1 days	5.6 days	6.0 days	4.7 days	6.0 days	5.5 days

* No surveys completed in January or April 2013 due to personnel availability and weather conditions
** Frequency refers to the number of days between surveys, on average over the year

7.6 2014 RESULTS

7.6.1 AWAR Surveys

The number of AWAR surveys completed each season in 2014 is provided in **Table 7.1**. The AWAR surveys completed in 2014 (n=67) are comparable to previous years with a survey conducted on average every 5½ days over the course of the year. Survey frequency was highest during months where Caribou movements are known to increase (i.e., seven surveys in May, eight surveys in October and November, and 12 surveys in December). Raptor nesting areas were occasionally monitored at quarries along the AWAR (discussed in **Sections 5** and **6.5.4**).

Mammal species identified and observed during AWAR surveys in 2014 included Arctic Fox, Arctic Ground Squirrel (*Spermophilus parryi*), Arctic Hare (*Lepus arcticus*), Caribou, Muskox, Wolf, and Wolverine, while bird species included Bald Eagle, Canada Goose, Common Raven, Greater White-fronted Goose (*Anser albifrons*), Long-tailed Jaeger (*Stercorarius longicaudus*), Parasitic Jaeger (*Stercorarius parasiticus*), Peregrine Falcon, Rock Ptarmigan (*Lagopus muta*), Rough-legged Hawk,

Sandhill Crane (*Grus canadensis*), Short-eared Owl (*Asio flammeus*), Snow Bunting (*Plectrophenax nivalis*), Snow Goose (*Anser caerulescens*), Snowy Owl, and Tundra Swan (*Cygnus columbianus*).

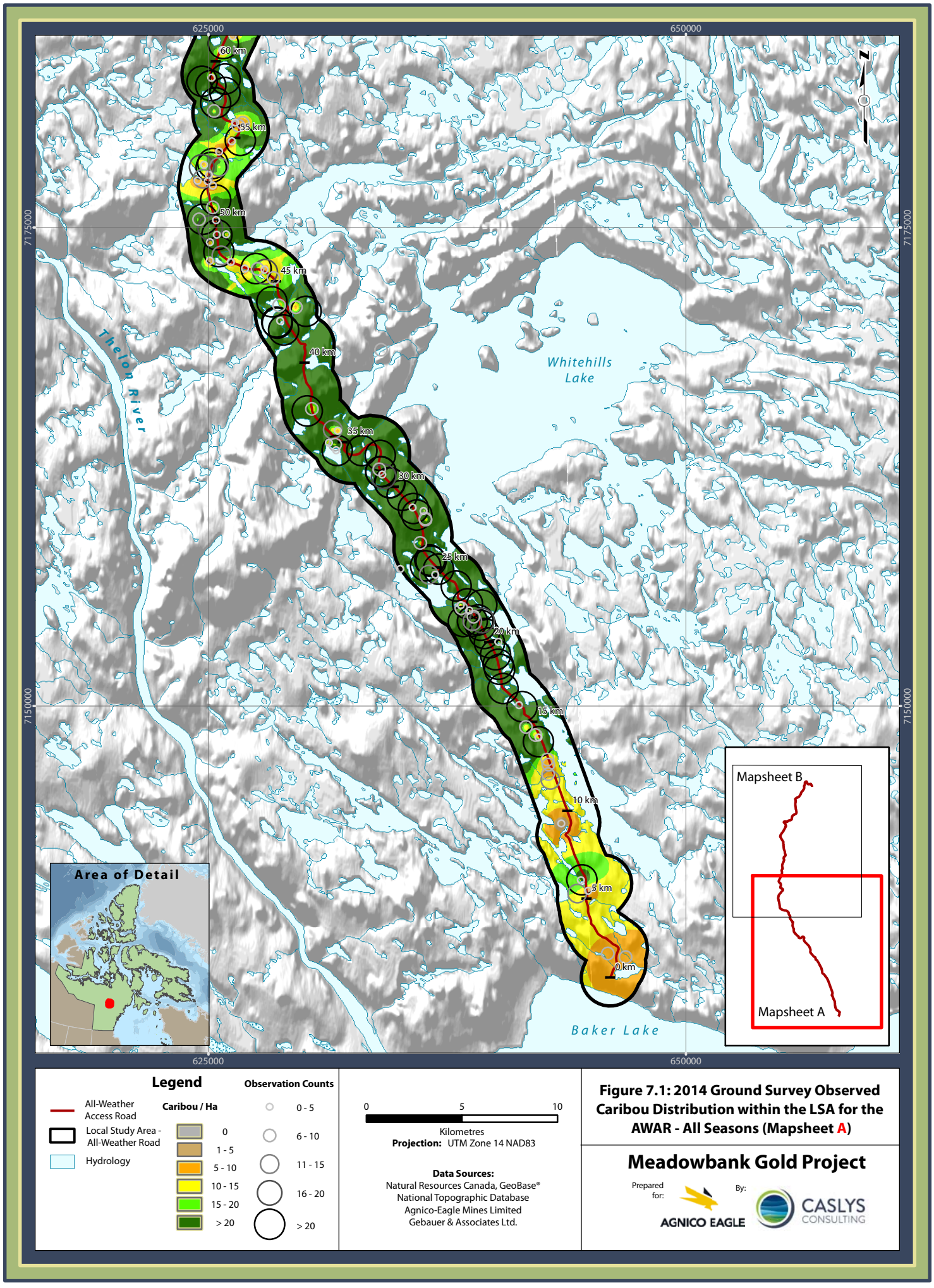
Cumulative Caribou density along the AWAR for 2014 (all seasons) is provided in **Figure 7.1**. The highest densities observed in 2014 were sporadically located from south of Whitehills Lake (Km 13) to west of Tehek Lake (Km 75). Higher densities were recorded at the north end of the AWAR LSA, in the vicinity of the Vault Pit area in 2014. This difference from previous years was a result of a large herd observed in September along the Vault Road, which is not routinely included in the AWAR survey.

The 2014 Caribou occurrence data were added to the 2008 to 2013 datasets with the resulting cumulative Caribou numbers presented in **Figure 7.2**, which illustrates that over the last seven years of surveys the highest cumulative Caribou abundances along the AWAR continue to be in areas closest to the Hamlet of Baker Lake between Km 0 to 5 and Km 5 to 10, and south of Whitehills Lake between Km 25 to 30 (> 1,500 Caribou/km of AWAR). High Caribou abundances are also observed between 40 to 45, and 70 to 75 (> 900 Caribou/km of AWAR).

7.6.2 Road-related Mitigation

As in previous years, the security department assisted the environment department in preventing wildlife incidences along the AWAR by dispatching regular wildlife warnings. The AWAR supervisors and operators also ensured protection of wildlife by assisting in surveillance and were involved in shutting down the road as needed. Notices reminding operators of the AWAR speed limit were made frequently (see examples in **Appendix B**). During caribou peak migration along the AWAR, notices were sent to all road occupants, wildlife consultants were notified, and AWAR wildlife survey efforts were increased to at least two times per week.

Larger herds of Caribou were observed along the AWAR in October and November 2014. As in the past, in mid-October and early November, notices were sent to all employees reminding all those travelling along the AWAR to be aware of the Caribou migration. On 23 October, many Caribou were observed and at this time a notice was distributed to all road operators, security, and the DoE (see **Appendix B**). Hundreds of Caribou were observed migrating across the AWAR between 23 and 27 October, prompting the environment department and road operations team to close the road to all activity until all of the Caribou completed their migration. The road was also closed on 25 and 26 November as large numbers of Caribou were again seen close to the AWAR.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Mapsheet A
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Local Study Area - All-Weather Road
Hydrology
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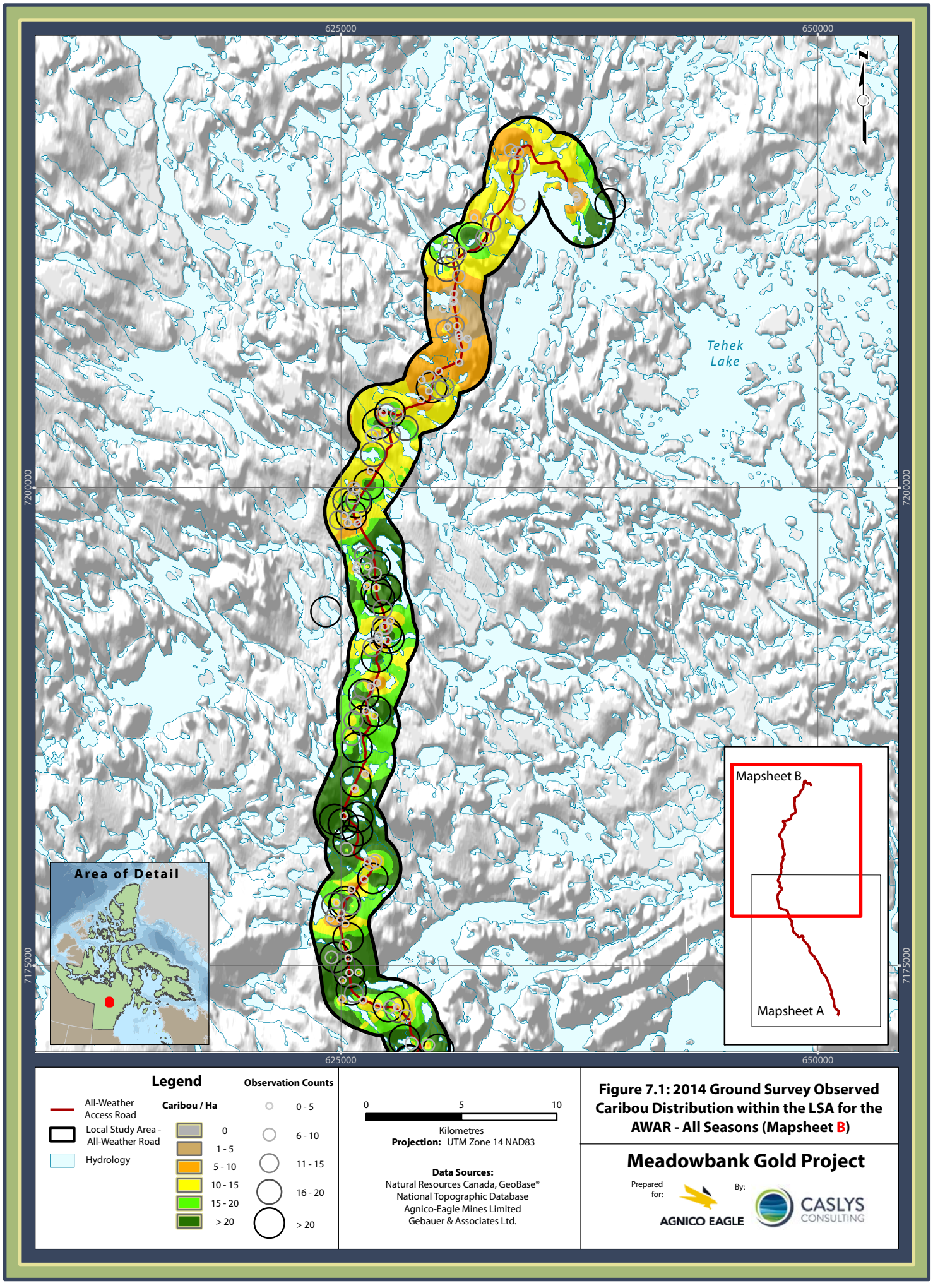
Kilometres
Projection: UTM Zone 14 NAD83
Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database
Agnico-Eagle Mines Limited
Gebauer & Associates Ltd.
Figure 7.1: 2014 Ground Survey Observed Caribou Distribution within the LSA for the AWAR - All Seasons (Mapsheet A)
Meadowbank Gold Project
Prepared for:
AGNICO EAGLE
By:
CASLYS CONSULTING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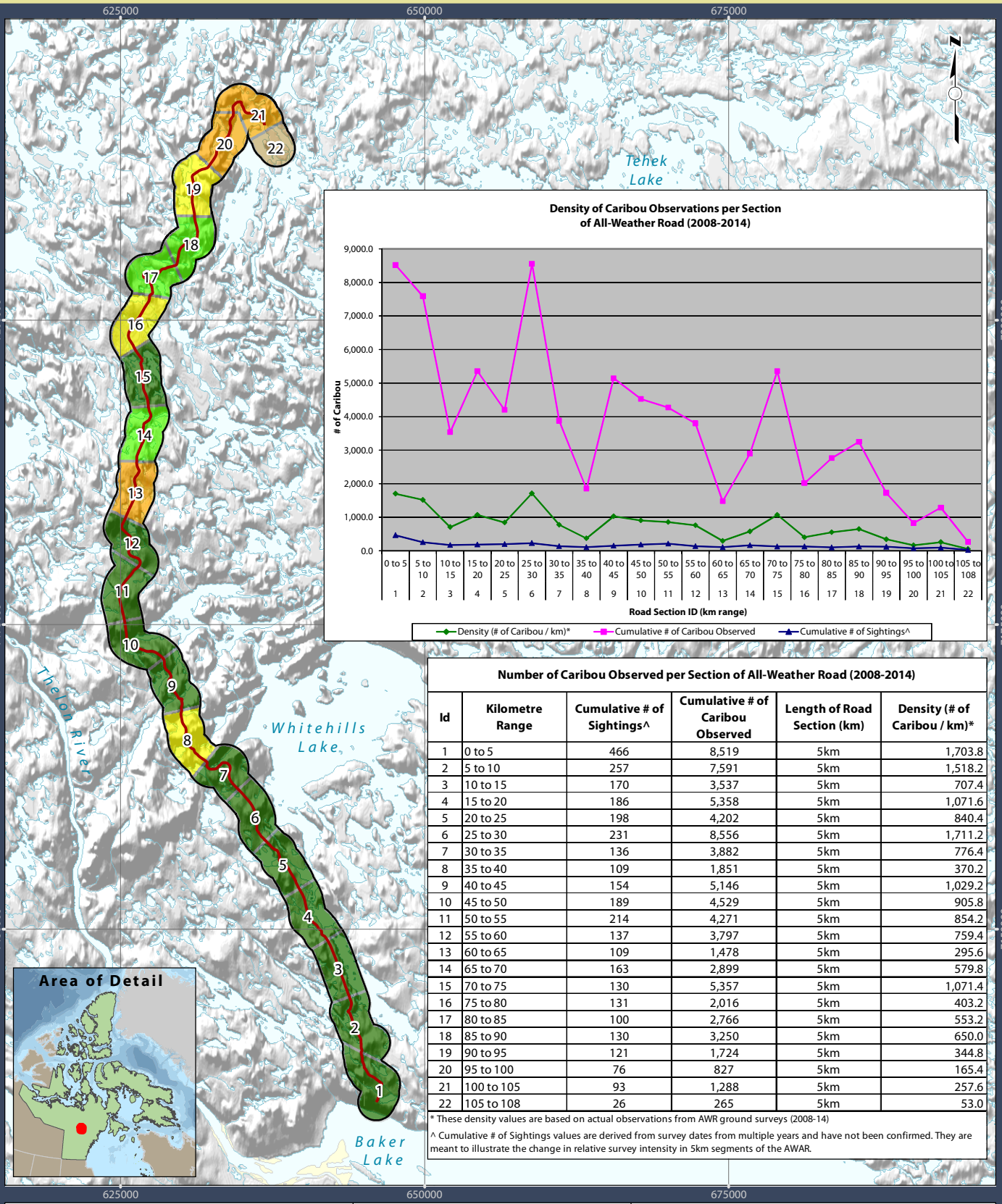
Kilometres
Projection: UTM Zone 14 NAD83
Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database
Agnico-Eagle Mines Limited
Gebauer & Associates Ltd.
Figure 7.1: 2014 Ground Survey Observed Caribou Distribution within the LSA for the AWAR - All Seasons (Mapsheet B)
Meadowbank Gold Project
Prepared for:
AGNICO EAGLE
By:
CASLYS CONSULTING



Number of Caribou Observed per Section of All-Weather Road (2008-2014)

Id	Kilometre Range	Cumulative # of Sightings^	Cumulative # of Caribou Observed	Length of Road Section (km)	Density (# of Caribou / km)*
1	0 to 5	466	8,519	5km	1,703.8
2	5 to 10	257	7,591	5km	1,518.2
3	10 to 15	170	3,537	5km	707.4
4	15 to 20	186	5,358	5km	1,071.6
5	20 to 25	198	4,202	5km	840.4
6	25 to 30	231	8,556	5km	1,711.2
7	30 to 35	136	3,882	5km	776.4
8	35 to 40	109	1,851	5km	370.2
9	40 to 45	154	5,146	5km	1,029.2
10	45 to 50	189	4,529	5km	905.8
11	50 to 55	214	4,271	5km	854.2
12	55 to 60	137	3,797	5km	759.4
13	60 to 65	109	1,478	5km	295.6
14	65 to 70	163	2,899	5km	579.8
15	70 to 75	130	5,357	5km	1,071.4
16	75 to 80	131	2,016	5km	403.2
17	80 to 85	100	2,766	5km	553.2
18	85 to 90	130	3,250	5km	650.0
19	90 to 95	121	1,724	5km	344.8
20	95 to 100	76	827	5km	165.4
21	100 to 105	93	1,288	5km	257.6
22	105 to 108	26	265	5km	53.0

* These density values are based on actual observations from AWR ground surveys (2008-14)

^ Cumulative # of Sightings values are derived from survey dates from multiple years and have not been confirmed. They are meant to illustrate the change in relative survey intensity in 5km segments of the AWAR.

Legend

- All-Weather Access Road
- Local Study Area - All-Weather Road
- Hydrology

Caribou Density (per km of AWAR)

- 21.0 - 137.8
- 137.9 - 304.0
- 304.1 - 480.8
- 480.9 - 679.6
- 679.7 - 1720.0

0 5 10 15

Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database
Agnico-Eagle Mines Limited.

Figure 7.2: Caribou Density along the AWAR (2008 to 2014)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

7.6.3 Wildlife Mortality – AWAR

No wildlife mortalities associated with the AWAR were reported in 2014. Cumulative road kill data along the AWAR are provided in **Table 7.2**.

Table 7.2: Summary of AWAR-related Wildlife Fatality Records (2007 to 2014)

Year	Caribou	Grizzly Bear	Wolverine	Wolf	Fox	Small Mammals	Birds
2007	3[1]	0	0	0	0	3	3
2008	10[2]	0	0	2	13	7	17
2009	1[3]	0	0	0	1	6	2
2010	1	0	0	0	2	6	2
2011	2[3]	0	0	1	0	5	4
2012	2[4]	0	1	0	0	3	1
2013	5	0	0	0	1	1	1
2014	0	0	0	0	0	0	0

[1] Two confirmed roadkill cases
[2] Two apparent roadkill cases
[3] Cause of death unconfirmed
[4] One cause of death unknown

7.7 ACCURACY OF IMPACT PREDICTIONS

Table 7.3 provides a summary of the impact predictions identified in the TEMP (Cumberland 2006). The 2014 AWAR survey data were compared to the impact prediction thresholds to evaluate adherence to the impact predictions and the provision of adaptive management, as either a necessary or proactive measure.

Table 7.3: Accuracy of Impact Predictions – Sensory Disturbance and Mortality along the AWAR

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Sensory Disturbance	Mine-related construction and operations activities will not preclude Caribou and Muskoxen from using suitable habitats beyond 1,000 m of the AWAR.	NO	NO	AWAR Road Surveys Satellite-collaring Data	4.4.2.2
Project-related Mortality	Caribou or Muskoxen will not be killed or injured by vehicle collisions. Threshold level of mortality is one individual per year.	NO	YES (speed limits, notices, road closures)	AWAR Road Surveys Security Surveys	4.4.2.3
Project-related Mortality	Predatory mammals will not be killed or injured by vehicle collisions. Threshold level of mortality is one individual per year.	NO	NO	AWAR Road Surveys Security Surveys	4.4.2.3
Project-related Mortality	Small mammals are susceptible to collisions with vehicles, and some mortality is unavoidable. The threshold level of mortality beyond which adaptive management will be required is 100 small mammals per year.	NO	NO	AWAR Road Surveys	4.6.2.2
Project-related Mortality	Raptors will not be killed along the access road. Threshold is one individual as a result of vehicle collision per year.	NO	NO	AWAR Road Surveys	4.7.2.3
Project-related Mortality	Waterbirds will not be killed along the access road. Threshold is one individual as a result of vehicle collision per year.	NO	NO	AWAR Road Surveys	4.8.2.4
Project-related Mortality	Songbirds and other birds are susceptible to collisions with vehicles and windows, and some mortality may occur. The thresholds level of mortality beyond which adaptive management will be required is 50 birds per year.	NO	NO	AWAR Road Surveys	4.9.2.2

7.8 MANAGEMENT RECOMMENDATIONS

The AWAR survey data are useful for documenting time periods in which the area near the road is utilized by various wildlife species and is important for evaluating the need, if any, for the implementation of adaptive management (e.g., temporary road closures and radio announcements). Moreover, Caribou density can continue to be compared graphically across years, which can be used to track changes in density and preferential migration corridors. The sections of AWAR with higher use are prioritized for temporary road closures, speed reductions or additional adaptive management strategies. The AWAR data are used in conjunction with satellite-collaring and mortality data to successfully manage road operations during heavy wildlife use periods. For the 2015 AWAR systematic ground survey monitoring program, continue to apply the Wildlife Protection and Response Plan (AEM 2014), which outlines wildlife and vehicle interaction protocols and incident reporting.

SECTION 8 • HUNTER HARVEST STUDY

8.1 MONITORING PROGRAM OVERVIEW

In March 2007, the Baker Lake Hunter Harvest Study (HHS) was initiated by Agnico Eagle in association with the Baker Lake Hunters and Trappers Organization (HTO) to monitor and document the spatial distribution, seasonal patterns, and harvest rates of hunter kills and angler catches both before and after construction of the Meadowbank AWAR.

The study was strategically revised at the end of 2007 as a result of the generally low participation rates. Participation increased steadily during the following years as a result of HTO participation, word-of-mouth, building rapport with local hunters, and an increased check-in frequency. Both Inuit and non-Inuit residents of Baker Lake, at least 16 years of age, are eligible to participate in the harvest survey.

8.2 MONITORING PROGRAM OBJECTIVES

The primary objectives of the Meadowbank Harvest Study are to:

1. Gather information on Caribou, Muskox, and Wolverine harvest (i.e., animals retrieved) rates and Inuit-use patterns in the Baker Lake area;

2. Support creel surveys by gathering information on Arctic Char (*Salvelinus alpinus*), Lake Trout (*Salvelinus namaycush*), Lake Whitefish (*Coregonus clupeaformis*) and Arctic Grayling (*Thymallus arcticus*) catch rates and Inuit-use patterns in the Baker Lake area;

3. Understand regional distribution of hunting and fishing activity;

4. Investigate seasonal timing of hunting and fishing activity;

5. Determine whether increased harvest and catch rates are associated with the AWAR;

6. Assess overall impacts of project-related facilities on Caribou, Muskox, Wolverine, and fish populations; and

7. Help make informed decisions regarding fish and wildlife management in the Baker Lake area to verify that the key species are adequately protected.

Note that all information related to fishing and creel study results are provided under separate cover.

8.3 METHODOLOGY

Detailed survey methods, survey timing, and promotional strategies are available in previous annual monitoring reports. Briefly, the harvest study administrator currently visits with hunter harvest study participants on a quarterly basis, documenting harvests (which are written on the provided annual hunter harvest calendar), and discussing general hunting trends and observations. The HHS administrator also conducts radio addresses and posts promotional material around the Hamlet of Baker Lake during the quarterly visits. Participation increased steadily from 2007 to 2012, and the

dataset has become more robust with increasing participation. Participation reached a plateau since 2012, and may be decreasing as time goes on.

8.4 HISTORICAL RESULTS

The Baker Lake HTO member list (provided by Ms. Joan Scottie [HTO Board Member] in 2008) consisted of 683 local area hunters/trappers/fishermen (collectively termed 'hunter' for the remainder of this memo), a number that has likely changed since then. The 2008 member count is anticipated to be a highly conservative (i.e., high) estimate of the number of individuals that hunt, trap or fish in the community as the list typically includes entire families. If just the heads of each household are counted, there were 389 potential hunters within the Baker Lake community in 2008. Although this value is still likely conservative (given that many of these individuals do not actively hunt or fish), the number is more comparable to the comprehensive 5-year Nunavut Wildlife Harvest Study (NWMB 2005) in which 336 Baker Lake hunters were contacted / interviewed.

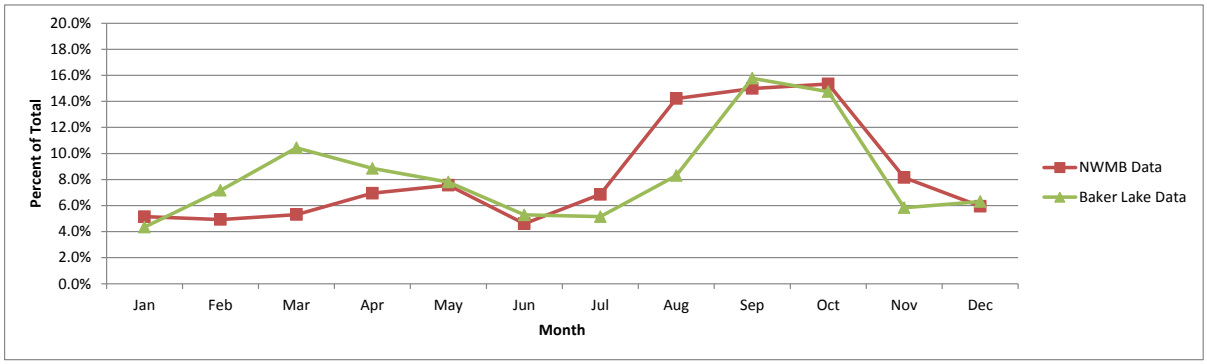
In 2008, 296 Caribou were reported as being harvested by Baker Lake HHS study participants. Harvest numbers steadily increased to 685 in 2011, and then decreased to 420 in 2013, the lowest reported harvest in four years. Assuming that approximately 10% of all Baker Lake hunters are actively participating in the study (refer to **Section 8.5** for rationale), extrapolation of historical HHS values suggests approximately 3,000 to 6,000 Caribou are harvested each year in the Hamlet of Baker Lake. These estimates are in general agreement with historical harvest studies. Specifically, using the upper limit of the standard error in the Nunavut Wildlife Harvest Study, between 2,230 and 3,116 Caribou were harvested each year between 1996 and 2001 (NWMB 2005). Similarly, the Interdisciplinary Systems (IDS) report (IDS 1978) estimated an annual Caribou harvest in Baker Lake of 4,100 during the 1970s. Based on the results of these other studies, the annual HHS results are anticipated to be a suitable predictor of total Caribou harvested each year.

The average number of participants (recording harvests) per month has generally increased from the start of the study (n=7.1 in 2008) to a maximum in 2010 (n=17), but has decreased in more recent datasets (n=11.3 in 2013, the lowest reported monthly participation in four years). Participant records should reflect improving reporting practices (as a result of regular visits and instruction) and increasing participation rates. The average Caribou harvested per month appears to be fairly constant over all seven years of data up to the end of 2013 (n=3.0 to 3.5).

Between 1996 and 2001, 18% of Caribou harvests were estimated to be within 5 km of the AWAR (prior to construction) (NWMB 2005). In the first year of the HHS study (2007), prior to completion of the AWAR, 34% of harvests were reported within 5 km of the AWAR alignment. The HHS data (2007 to 2013) fluctuate between 34% and 43% of reported harvest within 5 km of the AWAR. The percentage of harvested Caribou adjacent to the road relative to the total Caribou harvested each year is an accurate indicator of annual variability (as compared to total kill counts along the road), as its value is assumed to be independent of the number of study participants (i.e., continuous random sampling of the total population). Of note, although local area residents are being hired by mining companies, many continue to hunt during their time off (as discussed during interviews).

Based on the NWMB (2005) and HHS results (2007 to 2013), highest Caribou harvests have occurred in September and October, with a second smaller peak in spring (**Figure 8.1; Table 8.1**). The similar pattern between the studies indicates that seasonal hunting preferences have not changed markedly in the last decade.

Figure 8.1: Percent of Annual Caribou Harvest for the NWMB (2005) and Baker Lake HHS (2007 to 2014)



8.5 2014 RESULTS

At the end of 2014, hunting data had been collected from 46 participants interviewed, which is a continued decrease from a peak in 2012 when 62 were participants interviewed (the highest number of participants in a single study year). The total number of participants recording Caribou harvest during the course of each study year has remained fairly constant (ranging between 35 and 45 hunters each year); however, in 2014, only 27 participants recorded Caribou harvests with an average of 6.3 participants recording harvest each month. Lower reported harvest numbers may be a reflection of participant fatigue and declining response rate, given the length of time the study has been ongoing. Based on 2014 results, it is estimated that only 5% of Baker Lake hunters are actively participating in the HHS. In previous years, the estimated rate of participation was 10% of Baker Lake hunters participating, based on the 2008 HTO member list.

The hunters participating in the HHS appear to be representative of the hunting population in Baker Lake, consisting of male, female, casual, regular, and intensive hunters. Estimates from HHS data to-date suggest that the 10% of hunters participating in the HHS (until 2014, as noted above) account for 10 to 15% of total Caribou harvests in the Hamlet of Baker Lake, assuming that the participating hunters are likely those that are more actively involved in hunting. The 2005 NWMB study reported a decreasing number of Caribou harvests over time (refer to **Table 8.1**), which was attributed to a decline in the number of hunters interviewed and a declining response rate (i.e., 81% in 1996/97 to 55% in 2000/01). For the Baker Lake HHS, the overall number of participants, the number of interviews conducted, and the response rates appear to be following this pattern and decreasing over time. Quarterly visits to study participants' residences, building a rapport with prospective and current study participants, and awarding prizes at the end of each year have likely contributed to the study's overall success.

Table 8.1: Hunter Caribou Harvest Statistics from the NWMB (2005) Study and Baker Lake HHS (2007 to 2014)

Baker Lake Wildlife Harvest Study – Agnico Eagle Mines Ltd. and AREVA Canada Resources Inc.

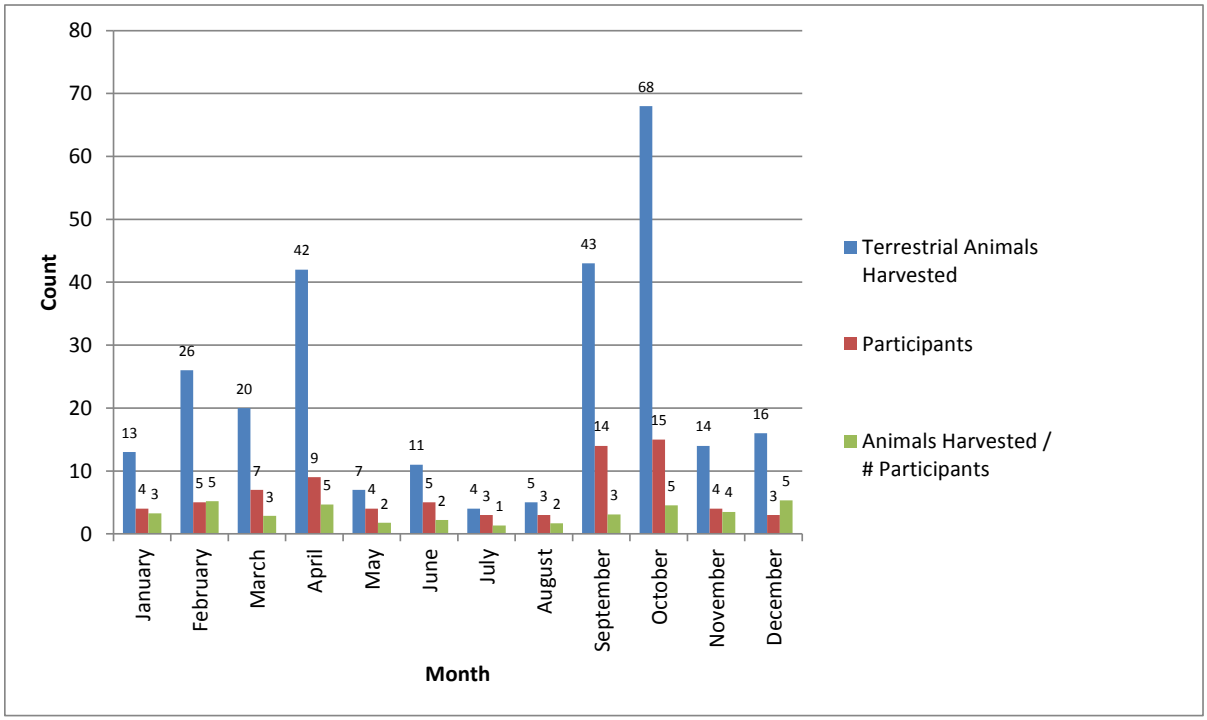
Year	January	February	March	April	May	June	July	August	September	October	November	December	Yearly Total
2007		7	89	22	44	6	6	6	37	14	5	2	238
2008	13	15	14	10	19	14	25	34	56	47	24	25	296
2009	42	52	41	28	28	18	30	88	114	102	11	33	587
2010	27	35	34	66	47	41	46	67	82	117	48	18	628
2011	14	47	64	53	78	39	42	35	123	108	2	75	680
2012	43	30	60	71	41	44	13	19	39	37	72	27	496
2013	5	47	55	28	18	18	20	46	76	40	35	32	420
2014	13	26	20	42	7	11	4	5	43	68	14	16	269
Total #	157	259	377	320	282	191	186	300	570	533	211	228	3,614
Average	22.4	32.3	47.1	40.0	35.3	23.9	23.3	37.5	71.3	66.6	26.4	28.5	451.8
% of Total	4.3%	7.2%	10.4%	8.9%	7.8%	5.3%	5.1%	8.3%	15.8%	14.7%	5.8%	6.3%	100.0%

Nunavut Wildlife Harvest Study - Nunavut Wildlife Management Board (NWMB)

Year	January	February	March	April	May	June	July	August	September	October	November	December	Yearly Total
1996						141	190	490	428	435	202	178	2,064
1997	118	144	146	167	217	159	162	354	322	553	295	196	2,833
1998	137	124	192	193	159	85	163	153	272	407	254	135	2,274
1999	137	131	99	211	222	111	148	433	528	409	74	66	2,569
2000	96	86	75	135	213	76	187	333	309	98	186	163	1,957
2001	150	126	146	156	127								705
Total #	638	611	658	862	938	572	850	1,763	1,859	1,902	1,011	738	12,402
Average	127.6	122.2	131.6	172.4	187.6	114.4	170	352.6	371.8	380.4	202.2	147.6	2,067
% of Total	5.1%	4.9%	5.3%	7.0%	7.6%	4.6%	6.9%	14.2%	15.0%	15.3%	8.2%	6.0%	100.0%

A similar pattern was observed as in previous years, with peak harvest in the spring and fall of 2014. Peak months were in March and September/October, similar to other years (**Figure 8.2**). The average number of participants (recording harvests) per month was much less in 2014 (n=6.3), the lowest since the first year of the HHS. In total, 273 animals were reported harvested in 2014, consisting of 269 Caribou, three Wolverines and one Muskox. Total recorded harvest numbers are the lowest recorded since the first year of the study, and much less than half of the harvest recorded in 2011 (n=695).

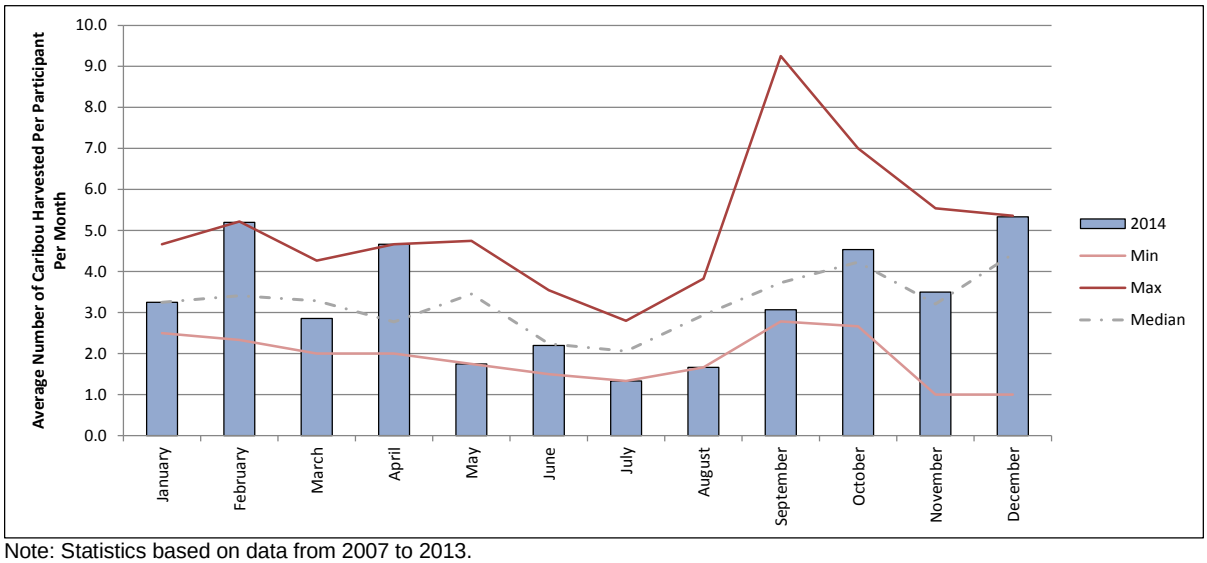
Figure 8.2: Terrestrial Animals Harvested per Month and by Participant in 2014



Note: Results are rounded to the nearest whole number.

In 2014, monthly Caribou harvest per participant was generally at or slightly below the median (based on statistics for 2007 to 2014), but showed above average rates in February, April, and December (**Figure 8.3**). The average number of Caribou harvested per month per participant in 2014 (n=3.3) has remained fairly constant through the HHS, ranging from n=3.0 to n=3.5 in previous years. The number of participants recording a harvest each month (n=6.3) in 2014 was much lower compared to all years except the first year of the study. The average monthly participation rate was highest in 2010 (n=17 participants per month recording harvest).

Figure 8.3: Average Number of Caribou Harvested per Month, per Participant (2007 to 2014)



Note: Statistics based on data from 2007 to 2013.

Caribou harvests within the study area are illustrated in **Figure 8.4**. Annual variation in harvest location and intensity is attributable to numerous factors. For instance, many hunters have stated during informal discussions that they have a 'favorite' hunting area that they frequent each year. Some hunters have stated that they prefer hunting in 'convenient' locations, whereas other hunters prefer remote locations well away from frequented areas. A percentage of hunters also enjoyed partaking in long distance hunting trips over multiple days.

In 2014, the total number of Caribou harvested within 5 km of the AWAR (108 animals) was the lowest recorded since the first year of the HHS; however, this number still represents 40% of all harvests recorded by participants and is similar to the average of 39% since the study began in 2007, suggesting that overall distribution of harvest has stabilized (**Table 8.2**). In the historical NWMB study, Caribou harvests within 5 km of the road were estimated to be 18% of total harvest year round (**Table 8.2**).

The participation rate near the road has been consistently higher than reported in the first year of the HHS, when only 49% of participating hunters reported harvest within 5 km of the AWAR. The HHS average participation rate within 5 km of the road is 77% of all hunters reporting harvest. Total harvests per participant within 5 km of the AWAR have also increased since 2007, with an average of 6.3 Caribou per participant overall compared to 4.8 Caribou per participant in the first year of the HHS (**Table 8.2** and **Figure 8.5**).

The total number of Caribou harvested along the AWAR increased during the first few years of the HHS, but has been lower over the past three years of data, likely related to an overall decrease in total harvest. A similar pattern was observed for the growing season, but a slight continual increase in total harvest numbers has been observed along the road in the winter season (**Figure 8.5**). The percentage of winter season harvest within 5 km of the AWAR was higher in 2014 than in previous years (**Table 8.2**). The road appeared to be used more often by hunters in the winter season, despite relatively unrestricted access to unroaded areas in the Baker Lake area. On average during the HHS, the percentage of harvest within 5 km of the AWAR was higher during the growing season (43% of the harvest during growing season compared to 34% during winter season). The percentage of

harvests within 5 km of the AWAR by season has fluctuated over the course of the HHS with no strong discernible trend, indicating that relative use by hunters has remained fairly constant (**Table 8.2**).

It is not clear how the decline in number of participants in the HHS is affecting these results. For example, a few, very successful hunters along the AWAR who report all harvests could skew the results on an RSA-wide basis, as could the increased success of hunters related to a large Caribou herd. Although the subset of hunters participating in the HHS is thought to be generally representative of Baker Lake hunters, considerable bias could occur; therefore, conclusions on changes in hunting distribution or success must be made with caution.

Reported counts for Muskox and Wolverine remained low, precluding any interpretation of potential mine-related effects. Low densities of these species and their general aversion to humans require hunters to hunt well away from the AWAR; therefore, the presence of the AWAR is thought to have little effect on Muskox and Wolverine hunting patterns. Wolverine harvest reports have decreased from a maximum of 15 animals in 2010. Only three Wolverines were reported harvested in 2014.

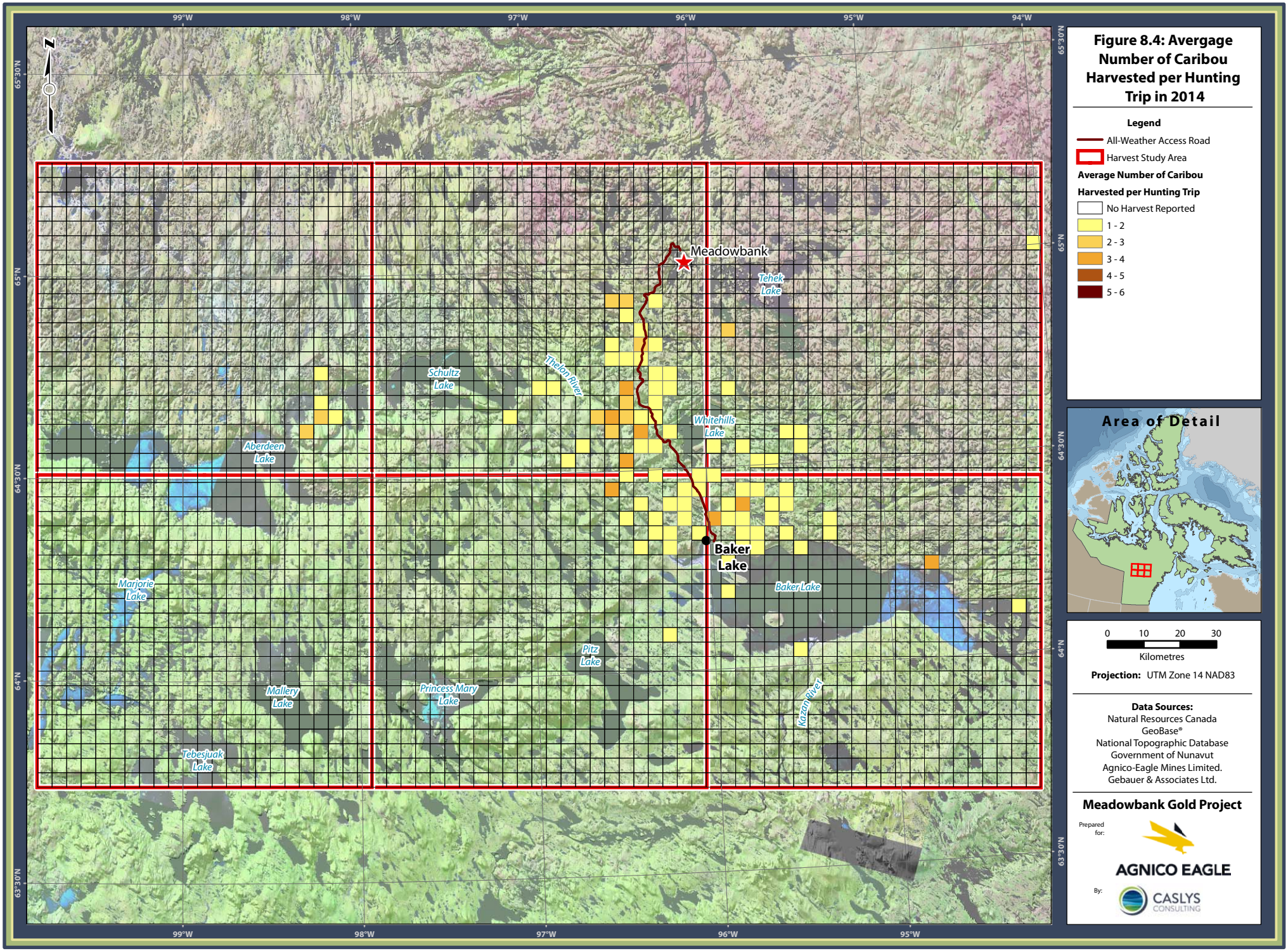


Figure 8.4: Avergage Number of Caribou Harvested per Hunting Trip in 2014

Legend

- All-Weather Access Road
- Harvest Study Area

Average Number of Caribou Harvested per Hunting Trip

- No Harvest Reported
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6

Area of Detail

0 10 20 30

Kilometres

Projection: UTM Zone 14 NAD83

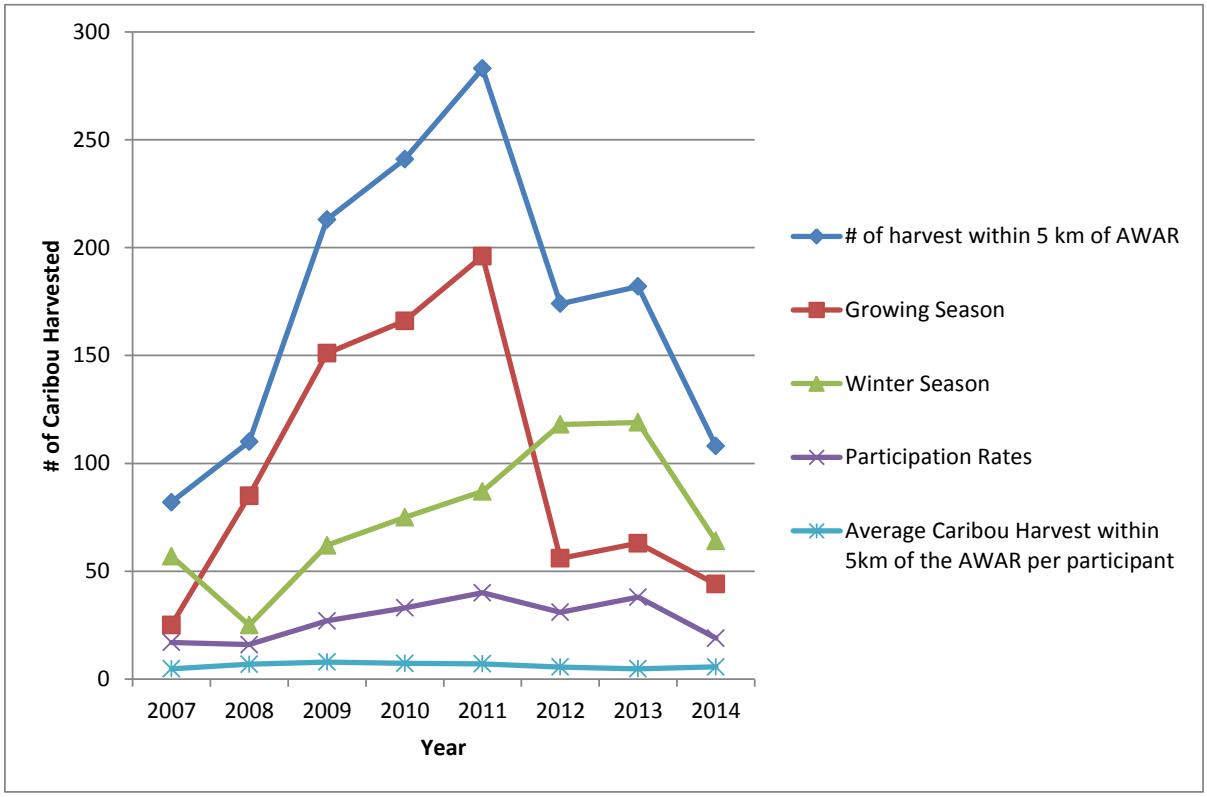
Data Sources:
Natural Resources Canada
GeoBase®
National Topographic Database
Government of Nunavut
Agnico-Eagle Mines Limited.
Gebauer & Associates Ltd.

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

Figure 8.5: Caribou Harvests (Total Harvest and Average by Participant) Along the AWAR (2007 to 2014).



Note: Sharp decreases in 2012 data points reflect lower overall harvest totals

Table 8.2: Caribou Harvest Distribution along the AWAR and within the Meadowbank LSA and RSA (1996 to 2001, and 2007 to 2014)

Study	Participation Rate within 5 km of AWAR	Average Caribou Harvest within 5 km of AWAR per participant	% of annual harvest within 5 km of AWAR	% of growing season harvest within 5km of AWAR	% of winter season harvest within 5km of AWAR	% of harvest within Meadowbank LSA	% of harvest within Meadowbank RSA
NWMB 1996 to 2001	n/a	n/a	18%	18%	17%	7%	67%
Baker Lake HHS 2007	17 (49%)	4.8	34%	47%	28%	12%	79%
Baker Lake HHS 2008	16 (94%)	6.9	37%	33%	35%	28%	73%
Baker Lake HHS 2009	27 (75%)	7.9	36%	48%	21%	20%	78%
Baker Lake HHS 2010	33 (89%)	7.3	38%	42%	27%	22%	73%
Baker Lake HHS 2011	40 (85%)	7.1	42%	45%	29%	25%	74%
Baker Lake HHS 2012	31 (67%)	5.6	35%	55%	27%	20%	80%
Baker Lake HHS 2013	38 (86%)	4.8	43%	34%	36%	27%	85%
Baker Lake HHS 2014	19 (70%)	5.7	40%	32%	54%	28%	83%
Average for HHS (2007-2014)	28 (77%)	6.3	39%	43%	34%	23%	77%

n/a = not available
Participation rate includes total number of participants recording harvest within 5 km of AWAR, and the percentage of total number of participants that this represents.

8.6 ACCURACY OF IMPACT PREDICTIONS

Table 8.3 provides a summary of the impact predictions identified in the TEMP (Cumberland 2006). The 2014 HHS data were compared to the impact prediction thresholds to evaluate adherence to the impact predictions and the provision of adaptive management, as either a necessary or proactive measure.

Table 8.3: Accuracy of Impact Predictions – Baker Lake Hunter Harvest Study

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Hunting by Baker Lake Residents	The AWAR will not result in significant changes in the spatial distribution, seasonal pattern, or harvest levels of caribou kills by Baker Lake hunters. Changes will not exceed 20% of current harvest activities correlated to use by the road.	YES	Discuss this increase with HTO and ensure hunters are reminded of no shooting zone around the AWAR.	Hunter Harvest Study	4.4.2.3
Hunting by Baker Lake Residents	Caribou herds will not be significantly affected by year-round access to the RSA.	NO	YES; AWAR Access Protocols	Satellite-collaring Data Hunter Harvest Study	n/a

8.7 MANAGEMENT RECOMMENDATIONS

As stated in the TEMP (Cumberland 2006), the HHS was established to monitor the spatial distribution, seasonal patterns, and harvest rates prior to and following construction of the AWAR. As has been documented in **Table 8.2**, harvest rates along the AWAR have exceeded thresholds set by the EIA; however, the rate of harvest along the road appears to have stabilized. Hunting along the road is anticipated to remain relatively constant in future years given the current trends in data and the access and hunting arrangements between Agnico Eagle, the HTO, GN, and NIRB. In addition to monitoring, ongoing communication with the HTO and GN will be required to confirm this assumption and to evaluate management and mitigation decisions over time.

SECTION 9 • CARIBOU SATELLITE-COLLARING PROGRAM

9.1 MONITORING PROGRAM OVERVIEW

Agnico Eagle is participating in the GN DoE-led Caribou satellite-collaring program that includes data collected within the Meadowbank RSA. Information pertaining to the identification and location of various herds that use the RSA at different times of the year are important components of ongoing monitoring and management efforts at the mine site and along the AWAR.

9.2 MONITORING PROGRAM OBJECTIVE

The joint satellite-collaring program was developed to provide information on the distribution of Caribou occurring within the Meadowbank RSA and contribute data to other ongoing satellite-collaring programs for the Beverly, Qamanirjuaq, and other herds. The satellite-collaring program has become increasingly important as both a monitoring and management tool in recent years. The satellite-collaring program, along with GN DoE regional data, is also serving to provide a regional perspective on Caribou activity near mine operations and natural changes in Caribou populations in the region.

9.3 MONITORING PROGRAM DURATION

The satellite-collaring program was initially designed to continue for five consecutive years in accordance with the TEMP (Cumberland 2006), but collar monitoring has continued beyond this period. Caribou in the Baker Lake area were collared in May 2008, November 2009, April 2011, and April 2013. An additional 10 collars are planned to be deployed in mid-April in the Baker Lake area, and monitoring of existing and new collars will continue in 2015 (i.e., 8th year of collar monitoring).

9.4 MONITORING PROGRAM METHODOLOGY

Prior to each satellite-collaring deployment event, except for the 2013 deployment, an aerial reconnaissance survey of the RSA was conducted to document the location of Caribou herds, which are recorded as UTM waypoints on the onboard GPS. For the 2013 deployment, Caribou were located without the support of an aerial survey. The UTM waypoints are forwarded to the satellite-collaring crew, which mobilized once Caribou presence had been confirmed. Caribou are carefully netted by the satellite-collaring crew via helicopter and were fitted with an Advanced Research and Global Observation Satellite (ARGOS) GPS Type IV radio-collar. Collar data are regularly[2] retrieved electronically via satellite and distributed to GN DoE and Nunavut Environmental personnel by CLS America, the data-management company.

Collars deployed for this program in the Baker Lake area have been assigned to one of the five major sub-populations that reside in the area: Ahiak, Beverly, Lorillard, Qamanirjuaq, and Wager Bay. The collars that were deployed up to the end of 2012 were included in a population distribution analysis completed for the GN (Nagy et al. 2011). The clustering and movements of each collar were examined and assigned to the sub-population that best fit that collar's movement characteristics. The

[2] Data are often retrieved on a daily basis, but may vary depending on signal strength and weather conditions.

collars that were deployed in 2013 were examined spatially and assigned to a sub-population based on similarity between other collars of the sub-populations and where the calving locations were if available, and have been confirmed for use in the GN Barren-ground Caribou map atlas.

9.5 HISTORICAL RESULTS

An initial commitment of 15 collars was made by Agnico Eagle in 2007, followed by an additional commitment of 10 more collars to replace the indefinite suspension of RSA and LSA aerial surveys. In 2009, AREVA Canada joined the collaring effort and committed to the deployment of 15 collars. Collar deployments in April 2011 (n=13) and April 2013 (n=15) were supported by Agnico Eagle, AREVA, and Cameco, which joined the joint monitoring program with a commitment of three collars in 2011.

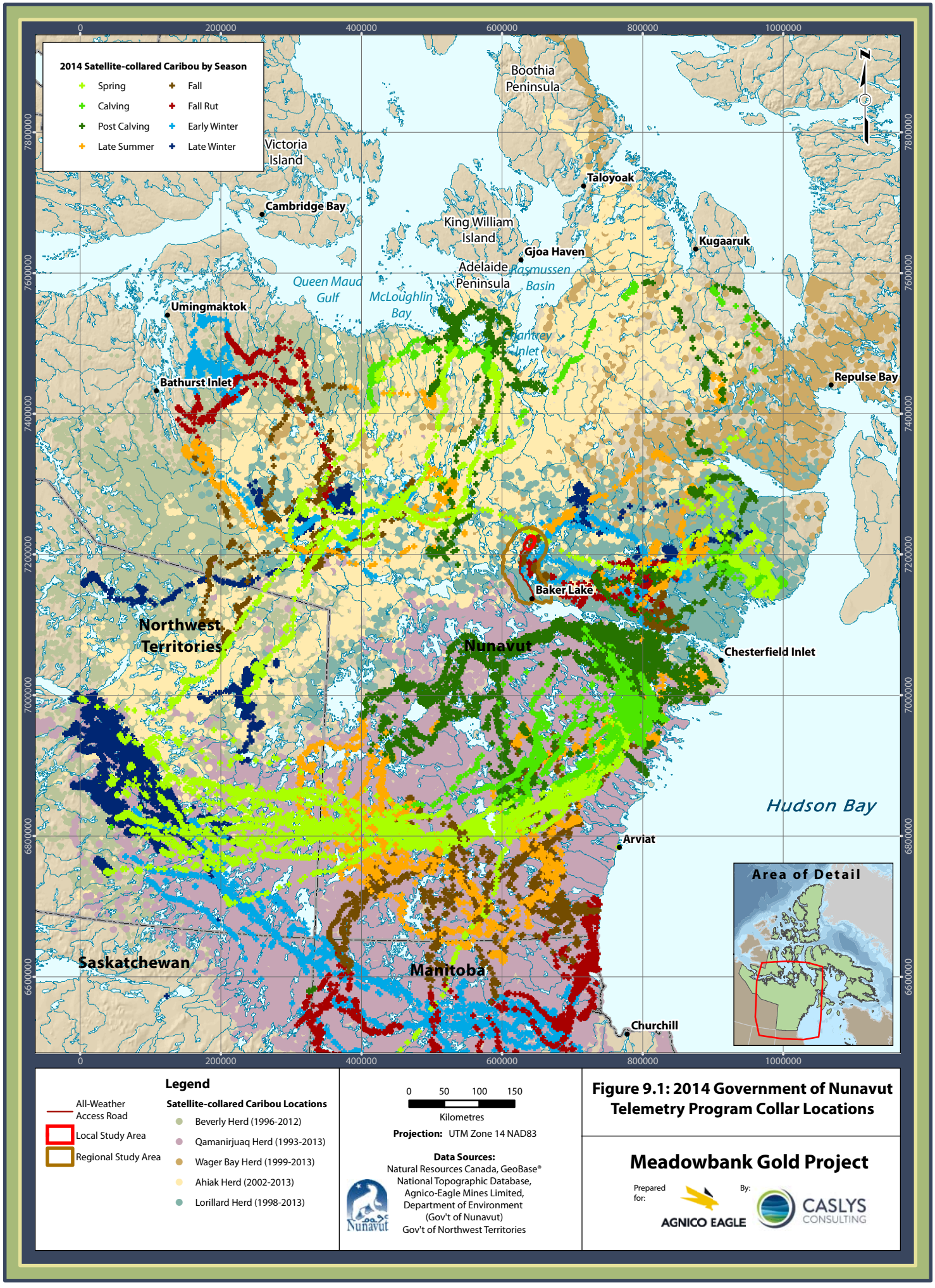
Collaring was originally scheduled to commence in 2007, but was postponed for one year due to logistical constraints. Four deployments have been completed in the area around Baker Lake since Agnico Eagle became involved in the collaring program, with the following number of collars successfully deployed:

- 9 collars (Agnico Eagle) in May 2008 (one collar had a deficiency);
- 21 collars (6 Agnico Eagle, 15 AREVA) in November 2009;
- 13 collars (10 Agnico Eagle, 3 Cameco) in April 2011; and
- 15 collars (shared by Agnico Eagle and AREVA) in April 2013.

GN DoE regional historical data for satellite-collared Caribou, which includes animals collared around Baker Lake through this GN-industry collaboration, are included as a backdrop in all **Section 9** figures to provide context. Historical collar data have all been assigned to one of the five major sub-populations, as discussed above. Also included in **Section 9** figures are collared Caribou from the Qamanirjuaq herd, which are collared as part of a separate GN program. These telemetry data are included because of the proximity of animals in this herd to the Meadowbank RSA.

9.6 2014 RESULTS

As of December 2014, eight collars originally deployed in the Baker Lake area as part of the GN and industry collaring program were active and transmitting signals (i.e., none from the 2008, 2009, and 2011 deployments). Three final collars from the 2011 program all became inactive on 15 September, presumably when the drop-off feature of the collars was activated (i.e., after 3 ½ years). Collars are removed from the program due to collar malfunction or deactivation, or Caribou mortality. A summary of 2014 locations and movement patterns for animals collared around Baker Lake is provided below and summarized in **Figure 9.1**. Movements for Qamanirjuaq herd collared animals, a program also supported by Agnico Eagle, are provided for context. Movements of collared Caribou in close proximity to the Meadowbank RSA and LSA are shown in **Figure 9.2** for all of 2014. Seasonal movements are discussed below.



Legend

All-Weather Access Road

Local Study Area

Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2013)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

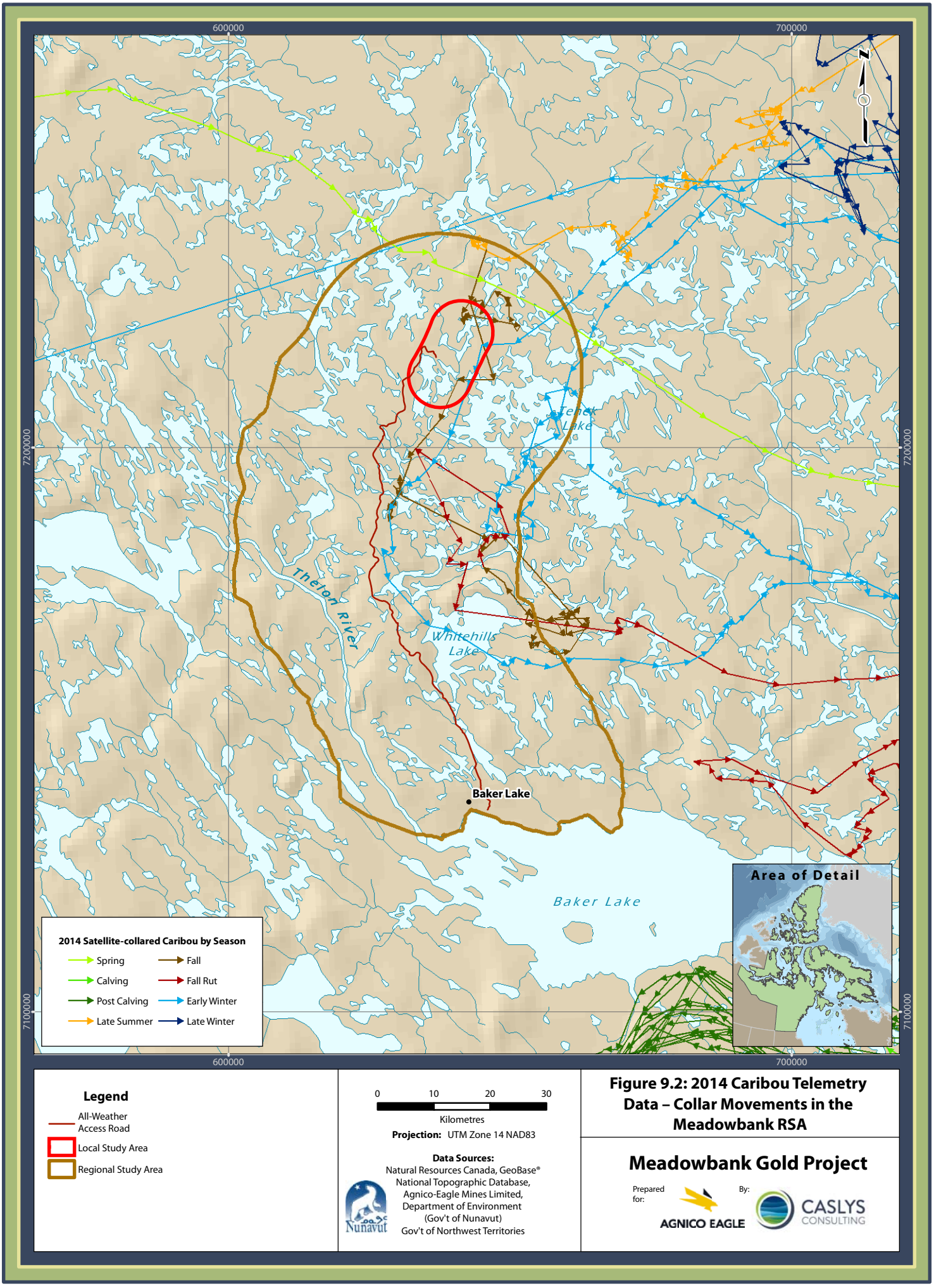
Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database,
Agnico-Eagle Mines Limited,
Department of Environment
(Gov't of Nunavut)
Gov't of Northwest Territories

Figure 9.1: 2014 Government of Nunavut Telemetry Program Collar Locations

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING



Legend

- All-Weather Access Road
- Local Study Area
- Regional Study Area

0 10 20 30

Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database,
Agnico-Eagle Mines Limited,
Department of Environment
(Gov't of Nunavut)
Gov't of Northwest Territories

Figure 9.2: 2014 Caribou Telemetry Data – Collar Movements in the Meadowbank RSA

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

Late Winter (January 1 to March 31)

In late winter, three collared Caribou were located northeast of the Meadowbank Mine, between Tehek Lake and Wager Bay, and exhibited primarily localized movement patterns (**Figure 9.3)**. Several animals were also located well to the west of the mine site. Both areas show historical data for wintering collared Caribou from the Ahiak, Lorillard, and Wager Bay Ahiak herds (**Figure 9.3**). Most collared animals from the Qamanirjuaq herd were in the northeastern Northwest Territories, presumably within the treeline. To date, no Caribou collared in the Baker Lake area have been present within the Meadowbank LSA or RSA during the late winter season; however, historical data for other satellite-collared animals have shown wintering Caribou from the Lorillard, Wager Bay, and Qamanirjuaq herds as occurring within the Meadowbank RSA.

Spring (April 1 to May 25)

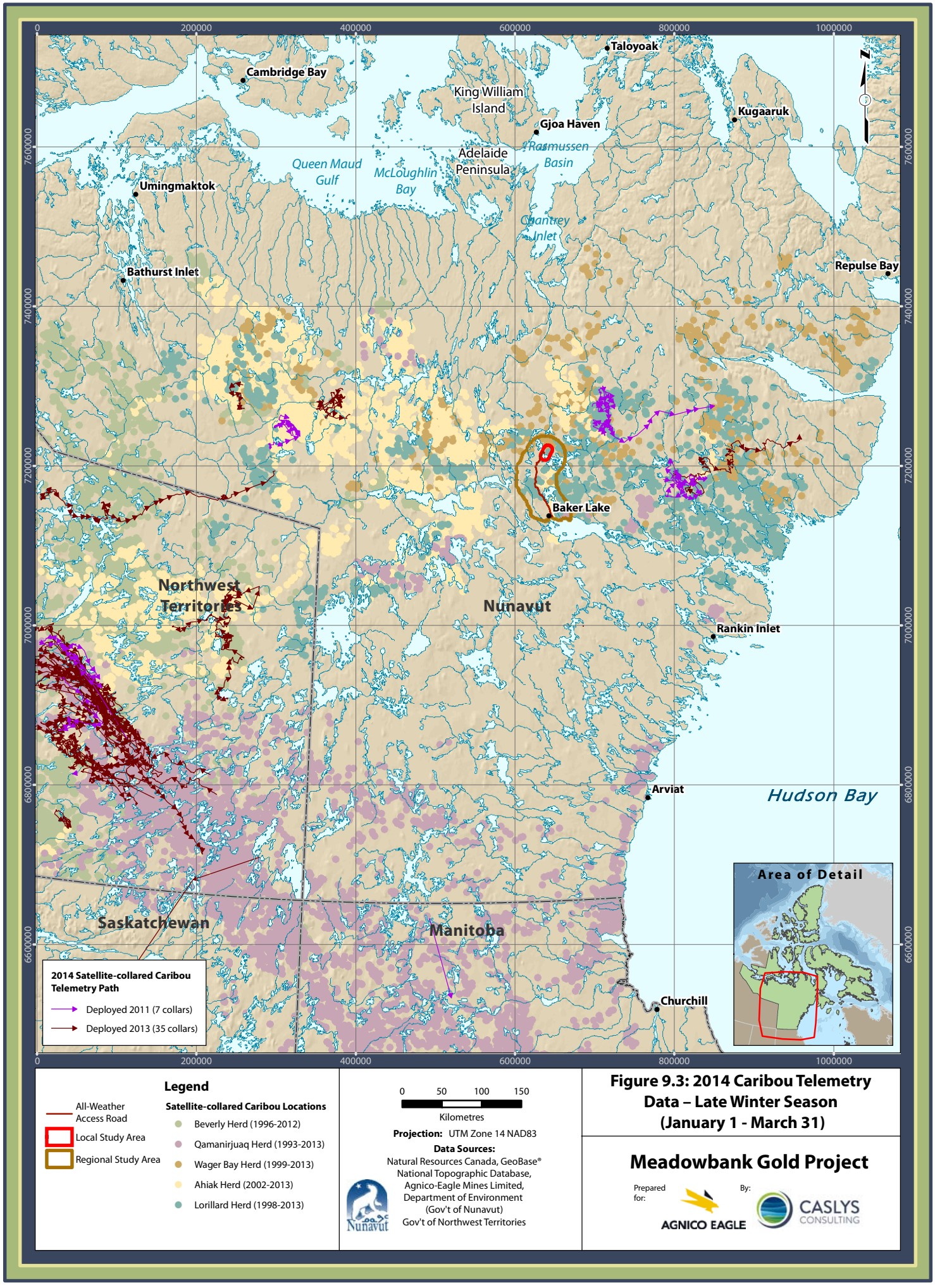
Only one Caribou migrated through the Meadowbank RSA during the spring period (**Figure 9.2**). This individual, which was from the 2013 deployment, underwent an extensive migration from wintering grounds well west of the Meadowbank RSA to the Lorillard calving grounds between Chesterfield Inlet and Wager Bay (**Figure 9.4**). Five collared Caribou migrated north towards Adelaide Peninsula and the Ahiak calving grounds, and the two of the three collared individuals wintering east of the RSA moved to the Lorillard calving grounds. The other Caribou that had wintered east of the RSA moved north across Wager Bay (**Figure 9.4**). Qamanirjuaq collared animals underwent an extensive migration from wintering areas in the Northwest Territories to calving grounds between Rankin Inlet and Arviat. Most Caribou collared in the Baker Lake area in 2013 remained within areas frequented historically by Ahiak, Wager Bay, and Lorillard herds.

Calving (May 26 to June 25)

Four collared Caribou spent the calving season tracking to the vicinity of the Adelaide Peninsula and Chantrey Inlet where animals collared in the Baker Lake area have been found in previous years (Ahiak herd) (**Figure 9.5**). Two animals from the Ahiak herd (one from the 2011 deployment, one from 2013) migrated north towards the Boothia Peninsula and the community of Kugaaruk. Three animals remained within the Lorillard calving grounds (**Figure 9.5**). No collared animals occurred within the Meadowbank RSA during the 2014 calving season (**Figure 9.5**). Many of the collared Caribou from the Qamanirjuaq herd remained near their traditional Qamanirjuaq calving grounds west of Rankin Inlet.

Post-Calving (June 25 to July 31)

The four collared Caribou near Chantrey Inlet moved up into the Adelaide Peninsula and then moving considerable distances south toward Aberdeen Lake, west of the Meadowbank RSA (**Figure 9.6**). The two animals near Kugaaruk at the beginning of the post-calving season migrated south toward the north end of Wager Bay, while collared animals from the Lorillard herd remained between Wager Bay and Chesterfield Inlet (**Figure 9.6**). Most collared animals from the Qamanirjuaq herd moved east along Baker Lake before heading south (**Figure 9.6**). No collared Caribou from the 2011 and 2013 deployments were situated within the Meadowbank LSA or RSA during the post-calving season.



Legend

All-Weather Access Road

Local Study Area

Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2013)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

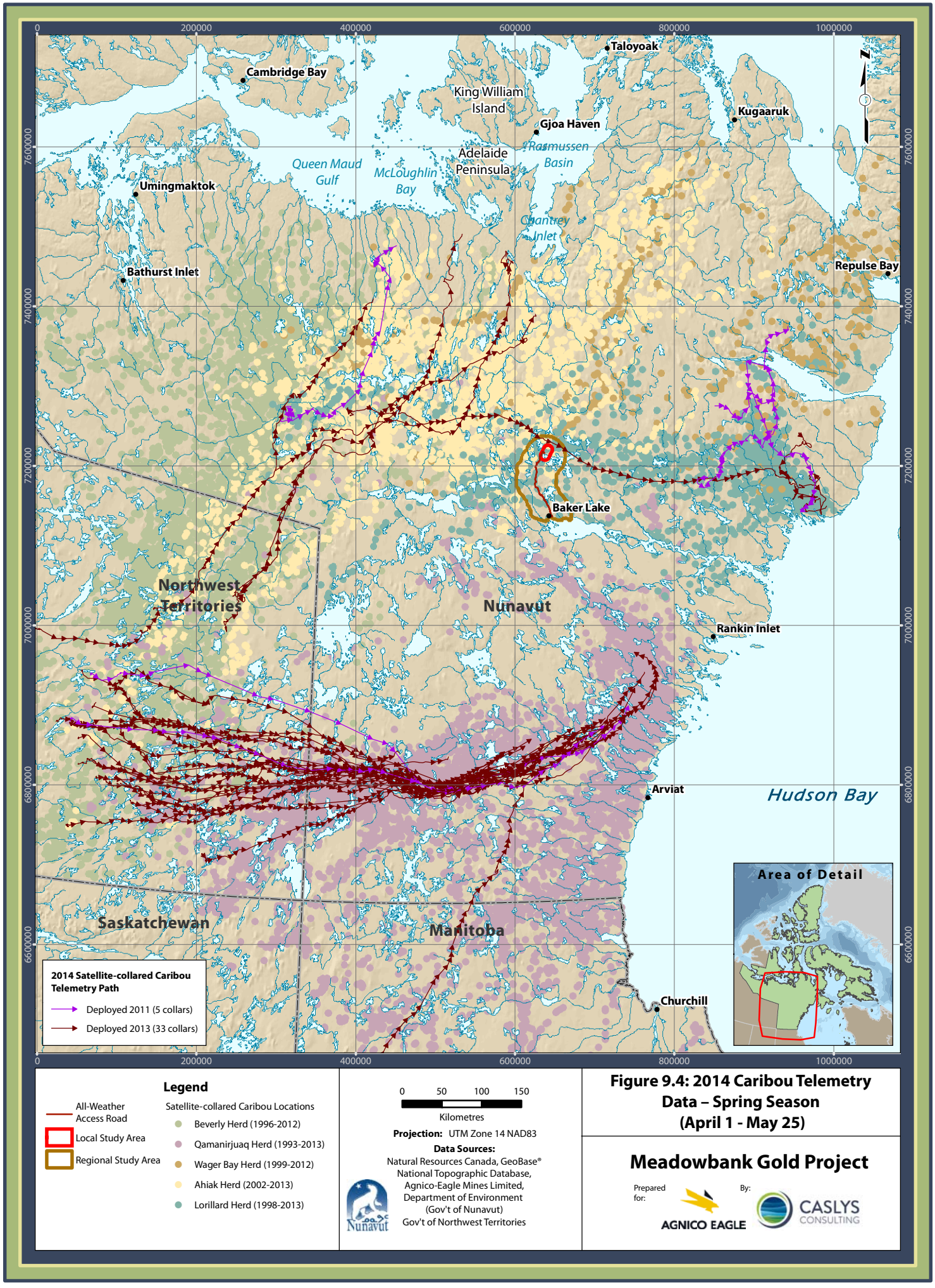
Data Sources:
Natural Resources Canada, GeoBase® National Topographic Database, Agnico-Eagle Mines Limited, Department of Environment (Gov't of Nunavut) Gov't of Northwest Territories

Figure 9.3: 2014 Caribou Telemetry Data – Late Winter Season (January 1 - March 31)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING



Legend

- All-Weather Access Road
- Local Study Area
- Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2012)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

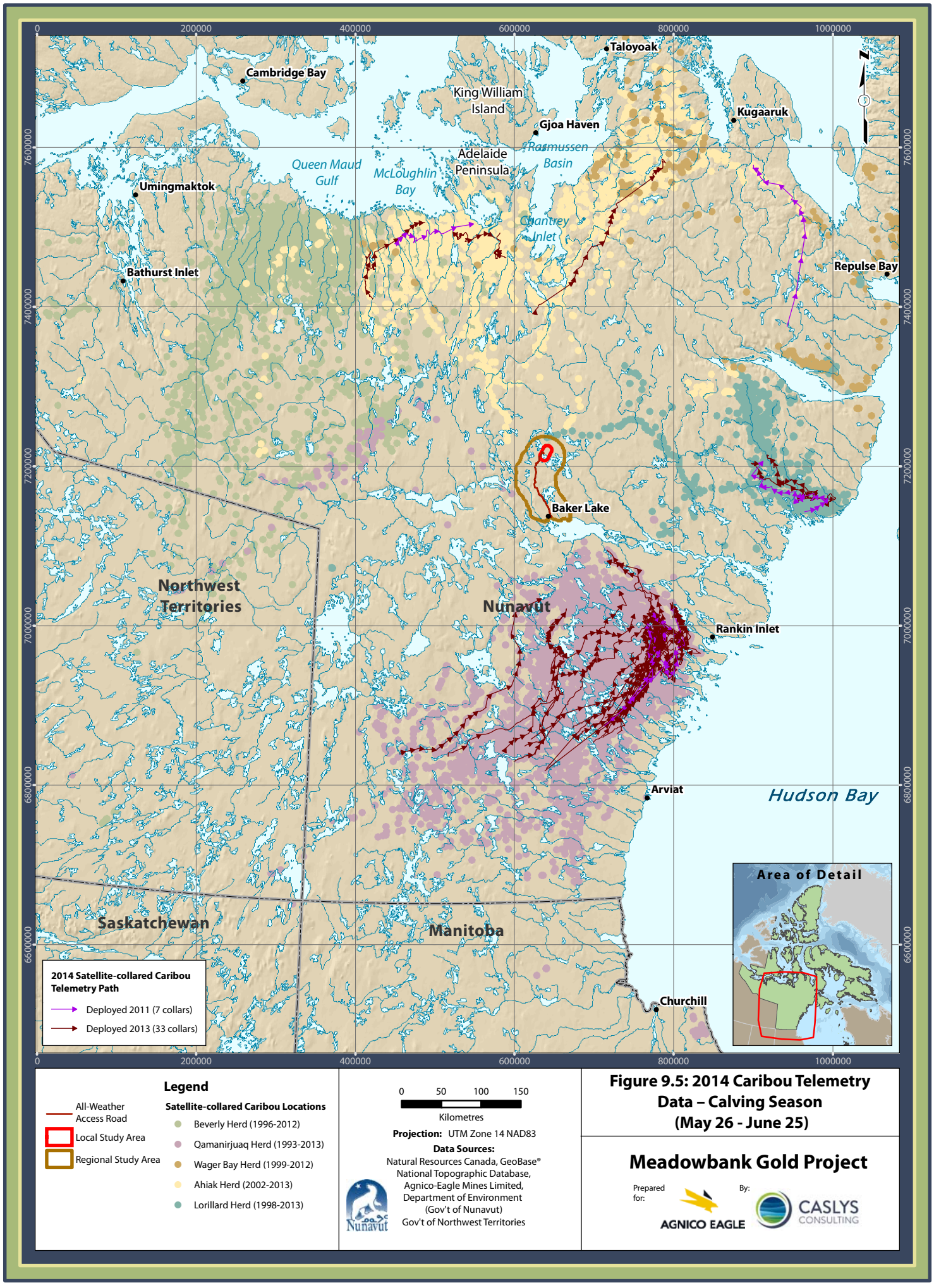
Data Sources:
Natural Resources Canada, GeoBase® National Topographic Database, Agnico-Eagle Mines Limited, Department of Environment (Gov't of Nunavut) Gov't of Northwest Territories

Figure 9.4: 2014 Caribou Telemetry Data – Spring Season (April 1 - May 25)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING



Legend

- All-Weather Access Road
- Local Study Area
- Regional Study Area

Satellite-collared Caribou Locations

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- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2012)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

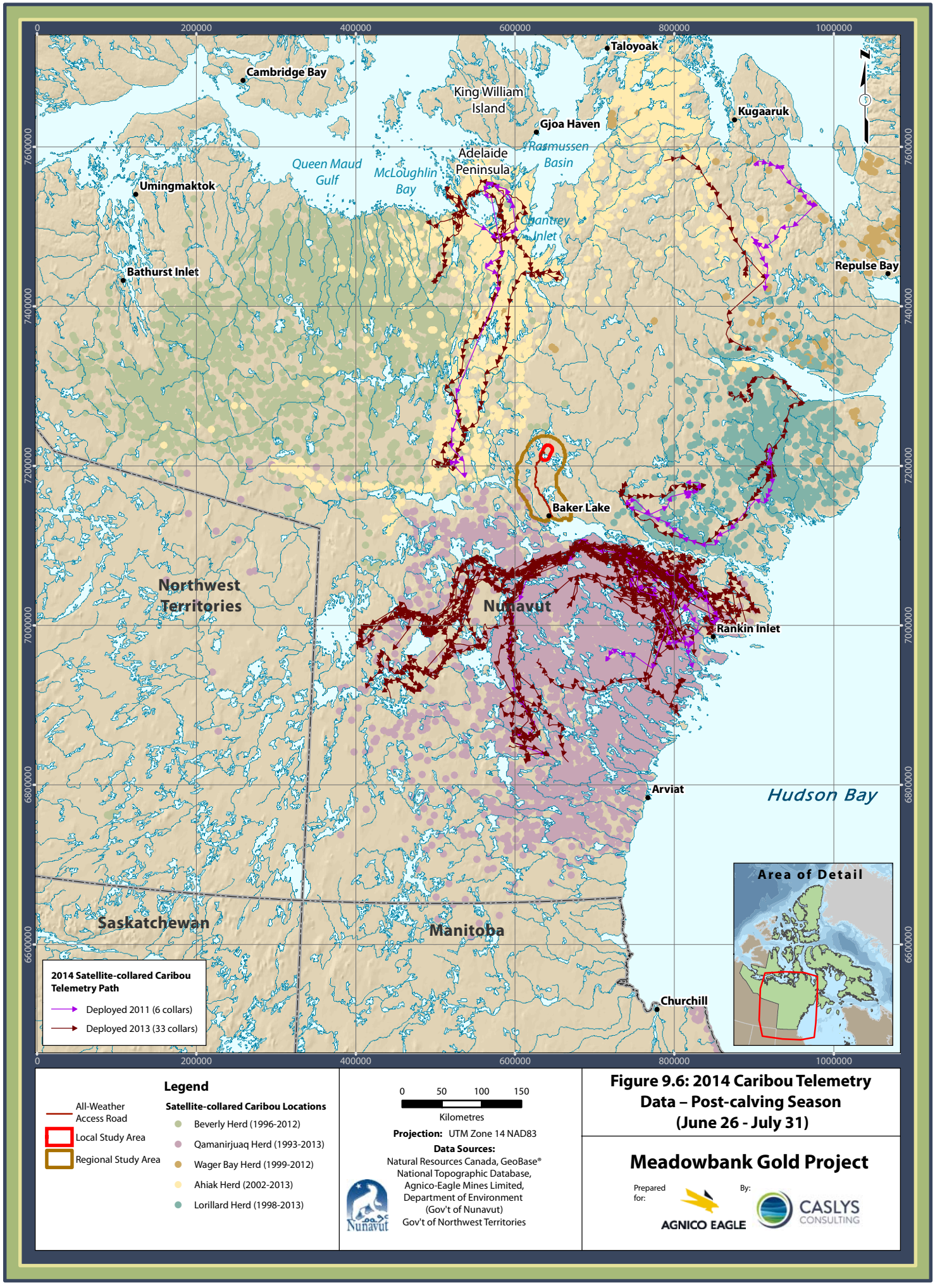
Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database,
Agnico-Eagle Mines Limited,
Department of Environment
(Gov't of Nunavut)
Gov't of Northwest Territories

Figure 9.5: 2014 Caribou Telemetry Data – Calving Season (May 26 - June 25)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING



Legend

All-Weather Access Road

Local Study Area

Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2012)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase® National Topographic Database, Agnico-Eagle Mines Limited, Department of Environment (Gov't of Nunavut) Gov't of Northwest Territories

Figure 9.6: 2014 Caribou Telemetry Data – Post-calving Season (June 26 - July 31)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

Late Summer (August 1 to September 15)

One of the collared animals that had spent the calving period on Ahiak calving grounds near Adelaide Peninsula and had moved south during the post-calving period, moved a considerable distance west and northwest across Beverly migration corridors to just south of Bathurst Inlet during the late summer period (**Figure 9.7**). The other three individuals from the Adelaide Peninsula area remained north of Aberdeen Lake and the Thelon River system (**Figure 9.7**). One collared individual remained north of Wager Bay, while the other from the Wager Bay area moved in a southwest direction into the north end of the Meadowbank RSA (see **Figures 9.2** and **9.7**). Three individuals from the Lorillard herd remained between Chesterfield Inlet and Wager Bay, while Qamanirjuaq collared animals were present in two distinct areas; closer to Hudson Bay west of Rankin Inlet and Arviat, and in the southwestern corner of Nunavut (**Figure 9.7**). Two of the Qamanirjuq collared animals moved into northern Manitoba (**Figure 9.7**).

Fall (September 16 to October 14)

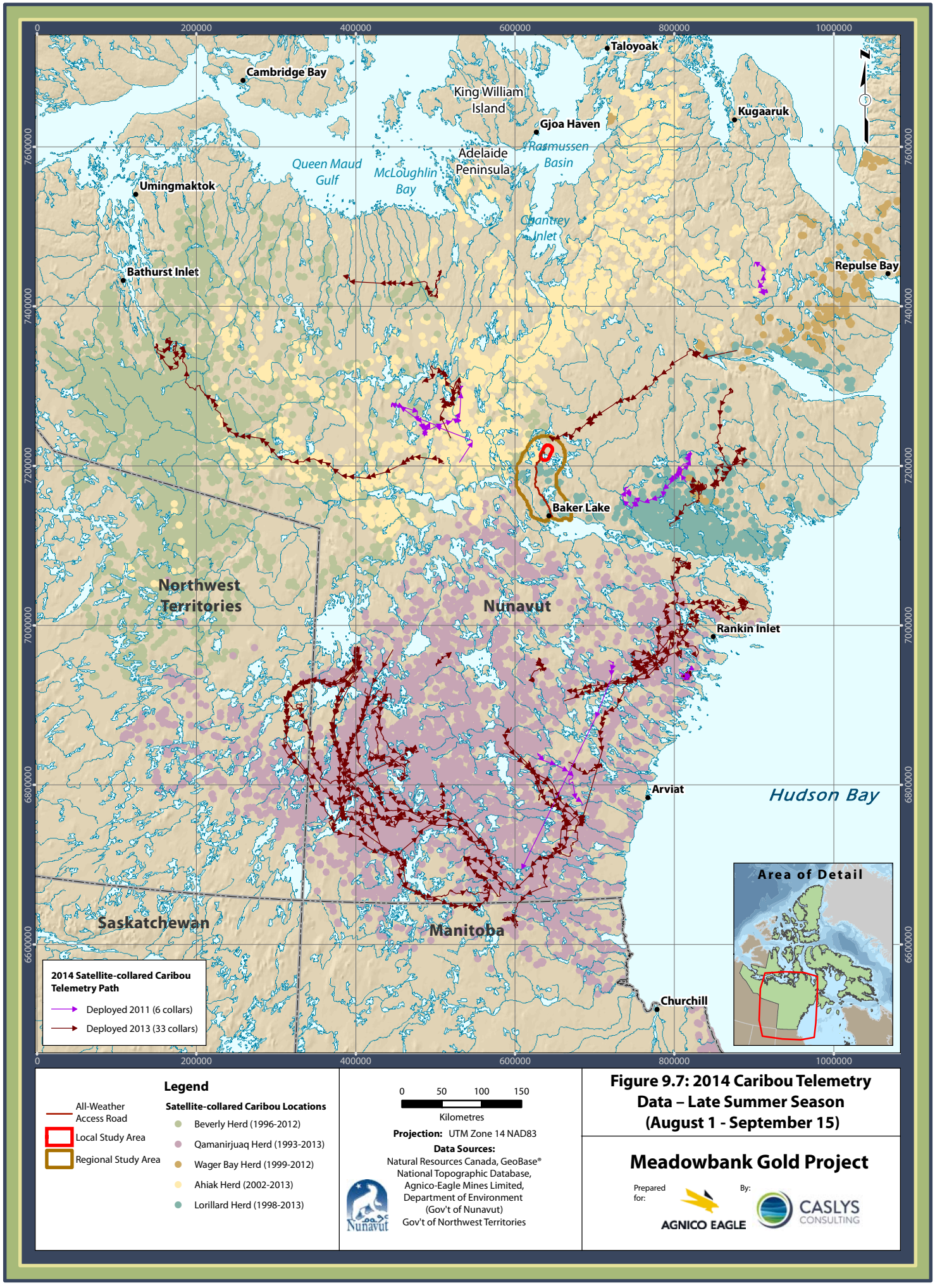
By the fall season, collars of the three remaining collared Caribou from the 2011 deployment became inactive (i.e., 15 September), presumably because the 'drop-off' feature was initiated (i.e., after 3 ½ years). Of the collars deployed in 2013, eight of the Baker Lake collared animals and 22 of the Qamanirjuaq collared animals were still active. Two collared Caribou from the Lorillard herd remained north of Chesterfield Inlet while the animal that had moved into the RSA during the late summer period moved south through the RSA (**Figures 9.2** and **9.8**). Collared Caribou from the Ahiak herd moved considerable distances during this period within an area generally between Aberdeen Lake and Bathurst Inlet (**Figure 9.8**). Qamanirjuaq-collared animals continued to move south though Nunavut with more individuals entering Manitoba (**Figure 9.8**).

Fall Rut (October 15 to November 7)

In the fall rut season, individuals were generally distributed in three discrete areas: 1) east of Baker Lake north of Chesterfield Inlet (Lorillard herd), including at least one animal within the Meadowbank RSA north of Whitehills Lake; 2) south and southeast of Bathurst Inlet (Ahiak herd); and 3) in northern Manitoba, including coastal areas north of Churchill (Qamanirjuaq herd) (**Figure 9.9**).

Early Winter (November 8 to December 31)

In early winter, three collared individuals moved through the RSA: 1) one individual moving rapidly in a westerly direction to an area south of Garry Lake; 2) one individual moving south between Third Portage and Tehek lakes in a direction generally paralleling the road before heading across Whitehills Lake to the east; and 3) one individual apparently moving amongst islands on Tehek Lake before heading east out of the RSA (**Figures 9.2** and **9.10**). The latter two individuals ended up north of Chesterfield Inlet part way between Baker Lake and Hudson Bay. At least one individual from the Ahiak herd spent the early winter well west of Baker Lake and the Thelon Rive system, while at least two individuals remained in a relatively small areas east of Bathurst Inlet between the communities of Bathurst Inlet and Umingmaktok (**Figure 9.10**). Most collared Caribou from the Qamanirjuaq herd moved in an easterly direction from northern Manitoba through northeastern Saskatchewan and southwestern Nunavut and the southeastern corner of the Northwest Territories (**Figure 9.10**).



Legend

- All-Weather Access Road
- Local Study Area
- Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2012)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

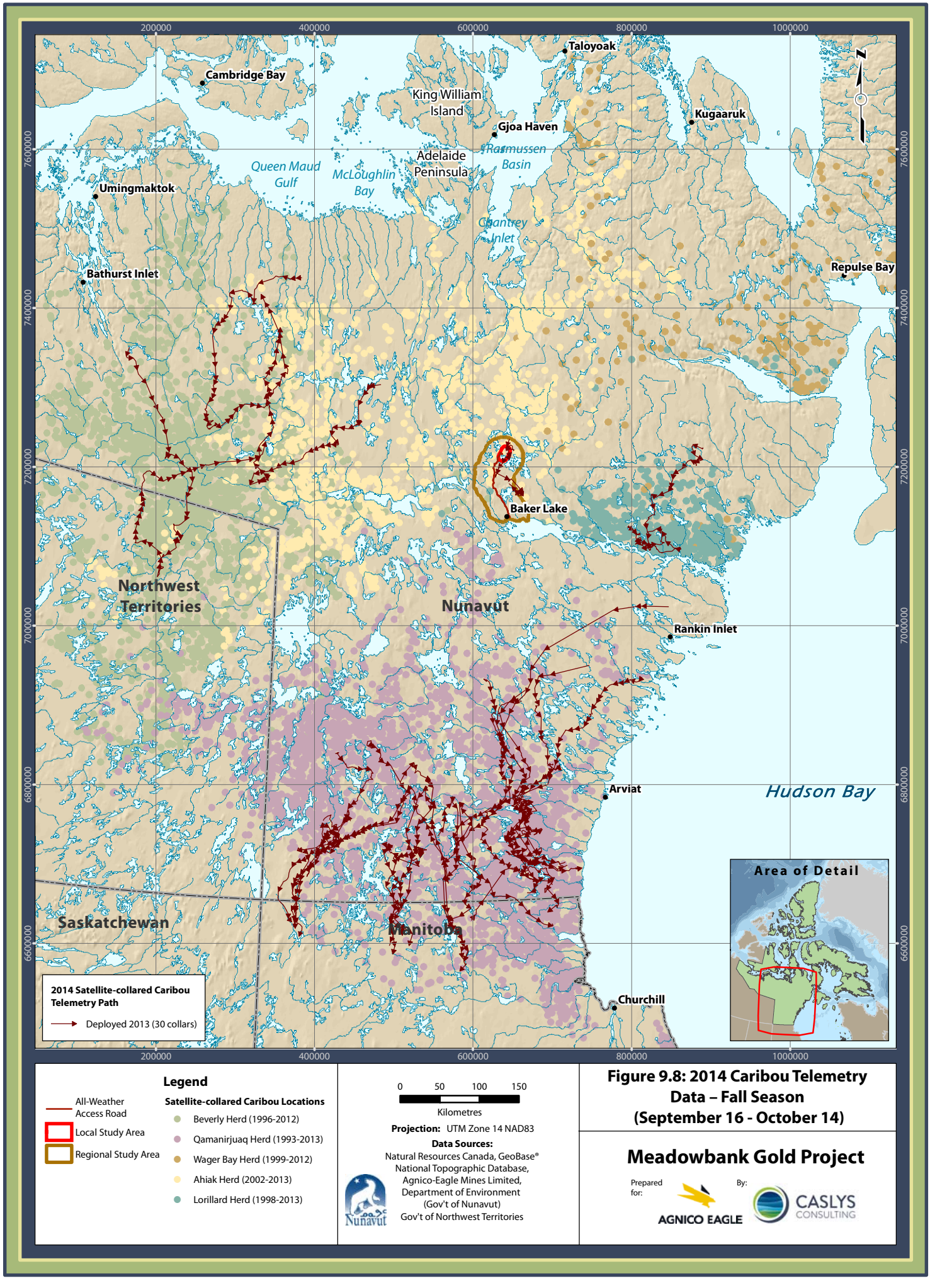
Data Sources:
Natural Resources Canada, GeoBase®
National Topographic Database,
Agnico-Eagle Mines Limited,
Department of Environment
(Gov't of Nunavut)
Gov't of Northwest Territories

Figure 9.7: 2014 Caribou Telemetry Data – Late Summer Season (August 1 - September 15)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING



Legend

All-Weather Access Road

Local Study Area

Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2012)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

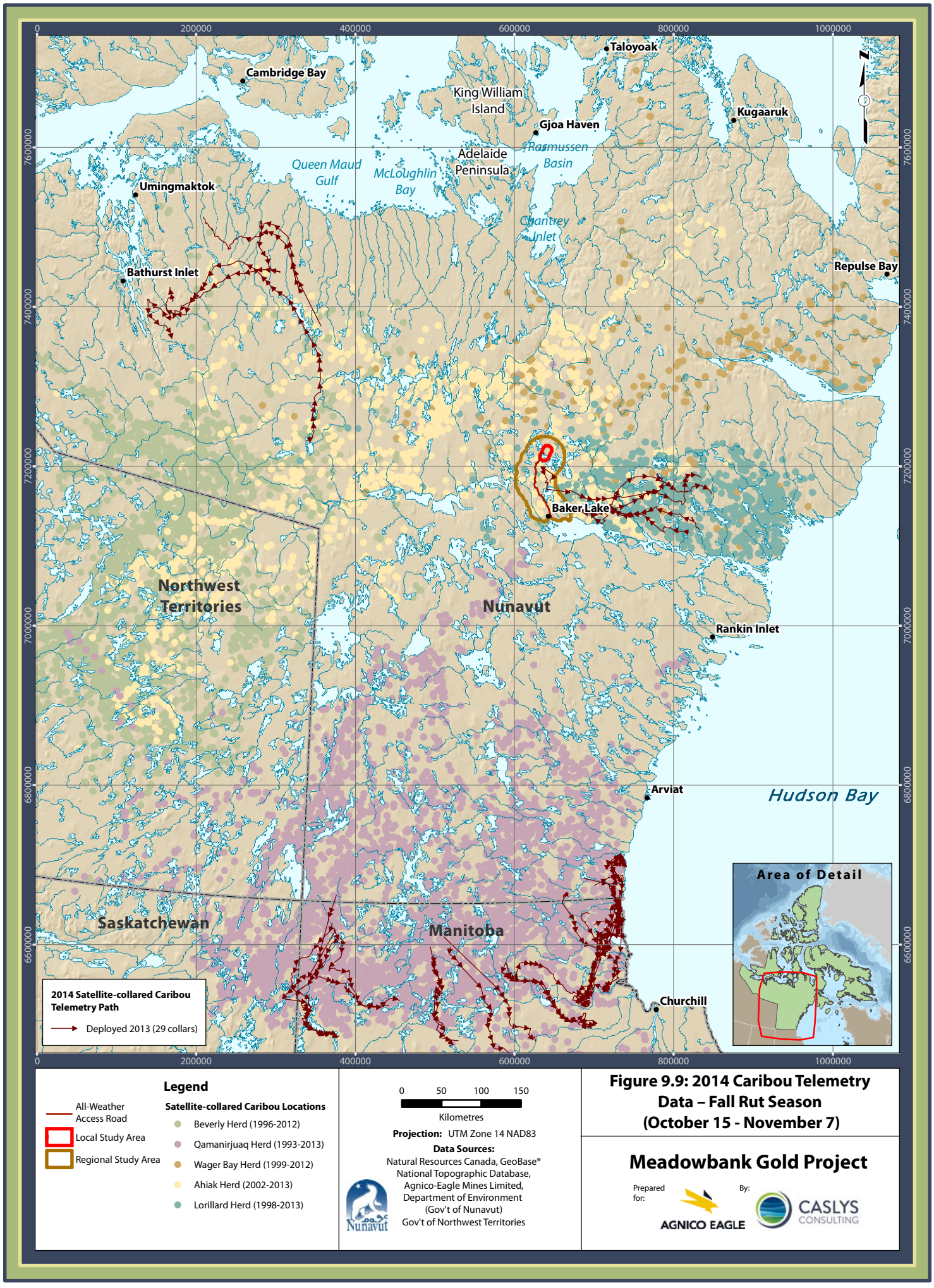
Data Sources:
Natural Resources Canada, GeoBase® National Topographic Database, Agnico-Eagle Mines Limited, Department of Environment (Gov't of Nunavut) Gov't of Northwest Territories

Figure 9.8: 2014 Caribou Telemetry Data – Fall Season (September 16 - October 14)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING



Legend

- All-Weather Access Road
- Local Study Area
- Regional Study Area

Satellite-collared Caribou Locations

- Beverly Herd (1996-2012)
- Qamanirjuaq Herd (1993-2013)
- Wager Bay Herd (1999-2012)
- Ahiak Herd (2002-2013)
- Lorillard Herd (1998-2013)

0 50 100 150

Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase® National Topographic Database, Agnico-Eagle Mines Limited, Department of Environment (Gov't of Nunavut) Gov't of Northwest Territories

Figure 9.9: 2014 Caribou Telemetry Data – Fall Rut Season (October 15 - November 7)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

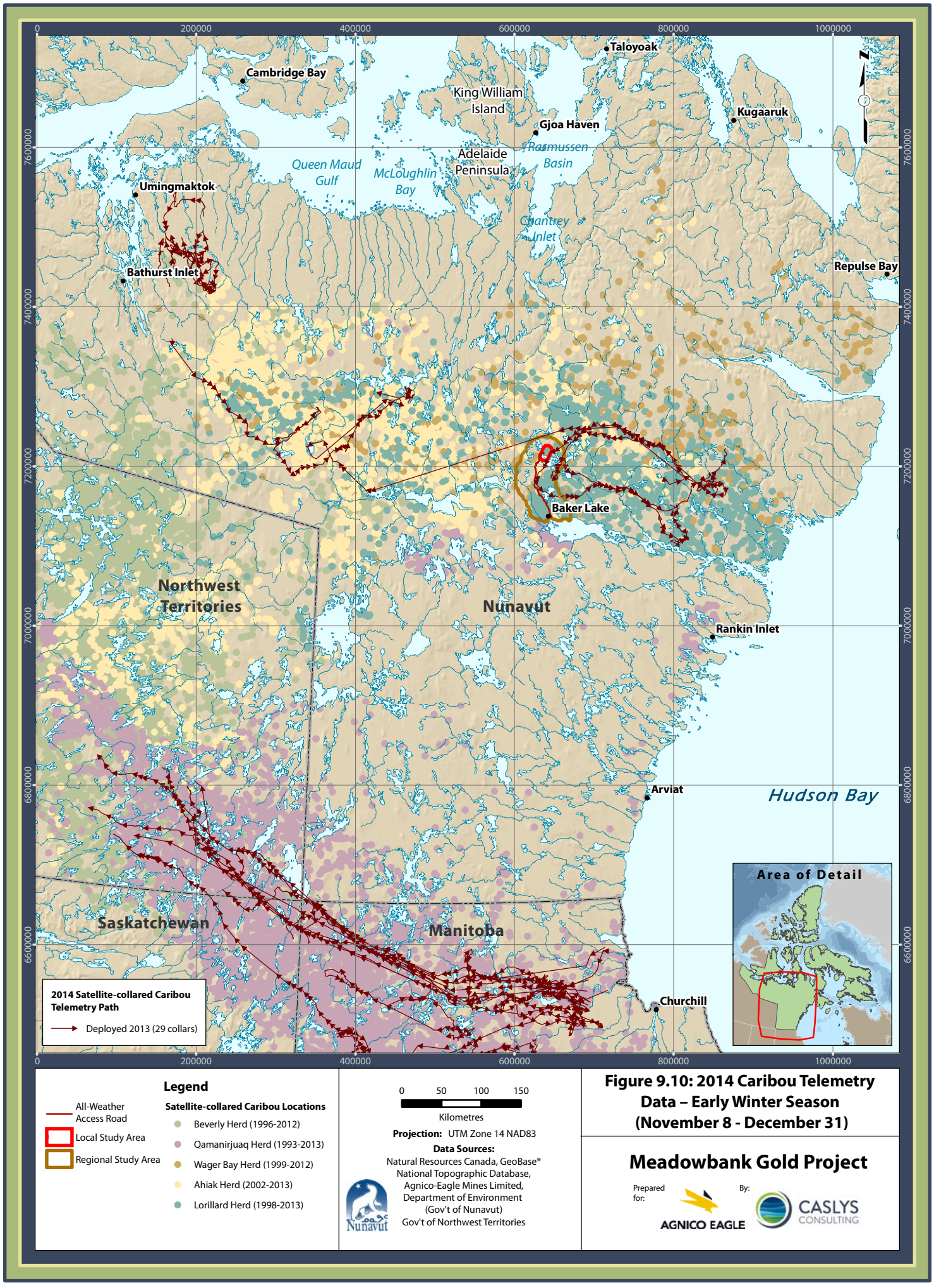


Figure 9.10: 2014 Caribou Telemetry Data – Early Winter Season (November 8 - December 31)

Meadowbank Gold Project

Prepared for: AGNICO EAGLE

By: CASLYS CONSULTING

All Seasons

An overview of collared Caribou distribution in 2014 for all seasons is provided in **Figure 9.1.** These data include all remaining active collars from 2011 and 2013 deployments around the Baker Lake area (Note: the remaining three 2011 collars became inactive on 15 September 2014, presumably because they 'dropped off' as planned). General trends in seasonal distribution are evident and are comparable to findings from previous years for animals collared in this area. Collared Caribou calved (medium green symbol) in four distinct areas: 1) Adelaide Peninsula; 2) the base of the Boothia Peninsula (between Rasmussen Basin and Kugaaruk); 3) between Chesterfield Inlet and Wager Bay; and 4) south of Chesterfield Inlet in the traditional calving grounds of the Qamanirjuaq herd. In winter, animals were either north of the Thelon River system from east of Baker Lake west to east of Bathurst Inlet, or on Qamanirjuaq wintering grounds (see discussion below). Wintering of some Ahiak animals east of Bathurst Inlet is further north that has been documented in previous winters.

Within the Meadowbank RSA, collared Caribou were present during the spring, fall, fall rut, and early winter (**Figure 9.2**). Although collared Caribou were present in the RSA, no movements of collared Caribou across the Meadowbank AWAR occurred in 2014. As in most monitoring years to date, no collared Caribou were found within the Meadowbank RSA during the calving or post-calving seasons.

At the end of 2014, eight satellite collars originally deployed near Baker Lake continued to be active and tracked, with results being downloaded on a regular basis.

9.7 CARIBOU MIGRATION PATTERNS

A summary of Caribou migration patterns, which synthesizes migration information from satellite-collaring data, has been developed by the GN for the spring and fall migrations (**Figures 9.11** and **9.12**). These data and summary are inclusive of telemetry data collected up to 2012.

To generate the maps, satellite-collaring data was first used to generate 'walk lines' for each animal, and then a 'density' analysis was run on the walk lines for Caribou in spring and fall migration pre-breeding and fall migration post-breeding (on a per year and subpopulation basis). This path-derived analysis assesses continuous corridors rather than points, which can artificially elevate density estimates for an area. The approach generates spatial patterns of migration and compares areas by relative intensity of use. Higher use areas represent more intense use by multiple animals within a particular year and/or regions of repeated use occurring over multiple years. One limitation of the data is that areas outside of defined migration corridors do not necessarily indicate it is unimportant to, or uninhabited by, Caribou, but instead could be an area where collared animals have not been located (i.e., and could potentially be an area of high density for non-collared animals).

During the spring migration period, moderate Caribou use is evident north of Whitehills Lake, but high use (i.e., major migration corridor) is located just north of the north end of the Meadowbank RSA (**Figure 9.11**). During the fall migration period, before the fall rut, the Meadowbank RSA is a low movement corridor for Caribou, with major migration corridors occurring further north of the RSA (**Figures 9.12**). Following the rut, the major fall migration corridors move to the east of the Meadowbank RSA; however, during the post-breeding migration period, moderate Caribou use is evident throughout the Meadowbank RSA (**Figure 9.13**).

Figure 9.11: Spring Migration Corridors in Relation to Meadowbank Regional Study Area (RSA)

Legend

- All-Weather Private Access Road
- Mine footprint
- Regional Study Area

Utilization Distribution (%)

- 50
- 80
- 90
- 95
- 100

Increasing use

* Migration corridors based on telemetry data collected up to 2012.

Area of Detail

0 5 10 15 20

Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase®, National Topographic Database, Agnico-Eagle Mines Limited., Caslys Consulting Ltd., Department of Environment (Government of Nunavut)

Meadowbank Gold Project

Prepared for:

AGNICO EAGLE

By:

CASLYS CONSULTING

March 27, 2015

Caribou Migration Corridors
The map identifies key wildlife migration corridors for sub-populations within Northwest Territories and Nunavut based on satellite and GPS telemetry data. Migration corridor map layers were derived from kernel densities for individual sub-populations (broken down by season).

Background
Telemetry data collected between 1993 and 2012.

Data Limitations
The migration corridor map datasets are best suited for use at a regional or territory-wide scale and are not intended for local or site-specific planning.

It is important to note that the data are limited to the movement of animals that have been collared. Data deficiencies exist, and as a result, an area outside of a migration corridor does not necessarily indicate it is unimportant to, or uninhabited by, caribou. It could simply be an area where collared animals have not been located (i.e., it could potentially be an area of high density for non-collared animals).

Due to variation in survey type and sampling intensity, absolute density values are not established. The density layers and their derivative migration corridors cannot be directly linked to population size or duration of use.

Meadowbank Mine

Baker Lake

Schultz Lake

Wolf Whills Lake

Baker Lake

400000 450000 500000 550000 600000 650000 700000 750000

7400000 7350000 7300000 7250000 7200000 7150000

Figure 9.12: Fall Migration Corridors, Pre-breeding, in Relation to Meadowbank Regional Study Area (RSA)

Legend

- All-Weather Private Access Road
- Mine footprint
- Regional Study Area

Utilization Distribution (%)

- 50
- 80
- 90
- 95
- 100

Increasing use

* Migration corridors based on telemetry data collected up to 2012.

Area of Detail

0 5 10 15 20
Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase®, National Topographic Database, Agnico-Eagle Mines Limited., Caslys Consulting Ltd., Department of Environment (Government of Nunavut)

Meadowbank Gold Project

Prepared for:

AGNICO EAGLE

By:

CASLYS CONSULTING

March 27, 2015

Caribou Migration Corridors
The map identifies key wildlife migration corridors for sub-populations within Northwest Territories and Nunavut based on satellite and GPS telemetry data. Migration corridor map layers were derived from kernel densities for individual sub-populations (broken down by season).

Background
Telemetry data collected between 1993 and 2012.

Data Limitations
The migration corridor map datasets are best suited for use at a regional or territory-wide scale and are not intended for local or site-specific planning.

It is important to note that the data are limited to the movement of animals that have been collared. Data deficiencies exist, and as a result, an area outside of a migration corridor does not necessarily indicate it is unimportant to, or uninhabited by, caribou. It could simply be an area where collared animals have not been located (i.e., it could potentially be an area of high density for non-collared animals).

Due to variation in survey type and sampling intensity, absolute density values are not established. The density layers and their derivative migration corridors cannot be directly linked to population size or duration of use.

Meadowbank Mine
Baker Lake
Schultz Lake
Whitehills Lake
Baker Lake

400000 450000 500000 550000 600000 650000 700000 750000
7400000 7350000 7300000 7250000 7200000 7150000

Figure 9.13: Fall Migration Corridors, Post-breeding, in Relation to Meadowbank Regional Study Area (RSA)

Legend

- All-Weather Private Access Road
- Mine footprint
- Regional Study Area

Utilization Distribution (%)

- 50
- 80
- 90
- 95
- 100

Increasing use

* Migration corridors based on telemetry data collected up to 2012.

Area of Detail

0 5 10 15 20

Kilometres

Projection: UTM Zone 14 NAD83

Data Sources:
Natural Resources Canada, GeoBase®, National Topographic Database, Agnico-Eagle Mines Limited., Caslys Consulting Ltd., Department of Environment (Government of Nunavut)

Caribou Migration Corridors
The map identifies key wildlife migration corridors for sub-populations within Northwest Territories and Nunavut based on satellite and GPS telemetry data. Migration corridor map layers were derived from kernel densities for individual sub-populations (broken down by season).

Background
Telemetry data collected between 1993 and 2012.

Data Limitations
The migration corridor map datasets are best suited for use at a regional or territory-wide scale and are not intended for local or site-specific planning.

It is important to note that the data are limited to the movement of animals that have been collared. Data deficiencies exist, and as a result, an area outside of a migration corridor does not necessarily indicate it is unimportant to, or uninhabited by, caribou. It could simply be an area where collared animals have not been located (i.e., it could potentially be an area of high density for non-collared animals).

Due to variation in survey type and sampling intensity, absolute density values are not established. The density layers and their derivative migration corridors cannot be directly linked to population size or duration of use.

Meadowbank Mine

Baker Lake

Schultz Lake

Wolverhills Lake

Meadowbank Gold Project

Prepared for:

AGNICO EAGLE

By:

CASLYS CONSULTING

March 27, 2015

9.8 ACCURACY OF IMPACT PREDICTIONS

A summary of the impact predictions identified in the TEMP is provided in **Table 9.1**. The 2014 satellite-collaring data were compared to the impact prediction thresholds to evaluate adherence to the impact predictions and the provision of adaptive management, as either a necessary or proactive measure.

Table 9.1: Accuracy of Impact Predictions – Satellite-collaring Data

Measurable Parameter	Threshold	Threshold Exceeded (2014)	Adaptive Management Implemented	Status	TEMP Ref.
Sensory Disturbance	Mine-related construction and operations activities will not preclude Caribou and Muskoxen from using suitable habitats beyond 500 m of mine buildings, facilities and roads. Threshold is unnatural caribou use patterns beyond 1,000 m.	NO	NO	Satellite-collaring data Daily and weekly mine-site ground surveys AWAR Road Surveys	4.4.2.2
Hunting by Baker Lake Residents	Caribou herds will not be significantly affected by year-round access to the RSA.	NO	NO	Satellite-collaring data Hunter Harvest Study	n/a

9.9 MANAGEMENT RECOMMENDATIONS

The satellite-collaring data depict Caribou movements in the vicinity of the Meadowbank RSA and LSA during the spring, late summer, fall, fall rut, and early winter seasons with fewer occurrences during the other seasons. Although no collared animals were observed travelling through the RSA during the calving season, such movements were observed in 2013, and movements in the RSA during spring season were recorded in 2014. As such, the Agnico Eagle environment department should continue to closely monitor Caribou movement in the weeks leading up to these annual migrations using the latest available satellite-collaring and AWAR survey data as well as incidental reports from staff utilizing the AWAR on a regular basis (e.g., security personnel). Notification and announcements, staff re-education, specific dispatch protocols, and temporary road closures should be implemented, as in previous years, as a proactive adaptive management strategy. As well, the DoE, with support from Agnico Eagle, is planning on deploying an additional 10 collars on Caribou in the Baker Lake area in 2015, which will ensure that ongoing satellite-collaring information on Caribou movements and distribution are accessible to Agnico Eagle for monitoring purposes.

SECTION 10 • SUMMARY

The 2014 Wildlife Monitoring Summary Report describes the data collected to date from the various monitoring programs, investigates the suitability of monitoring programs in assessing trends in wildlife abundance and diversity, and describes (preliminarily) natural and mine-related variability and potential mine-related impacts within wildlife populations.

In 2014, monitoring efforts continued to focus on areas immediately around the mine site and AWAR. At this local scale, emphasis was on monitoring presence and success of breeding birds, waterbirds and raptors, as well as monitoring and management of wildlife presence near the mine facilities and infrastructure. More regional-scale monitoring efforts focused on Caribou movement through ongoing satellite-collaring studies, while hunter harvest surveys collected information on the use of wildlife (mostly Caribou) by the community.

In 2014, threshold levels were not surpassed for terrestrial habitat loss at the mine site. Although threshold levels for High suitability habitat for VECs were not surpassed, levels are very close to being exceeding for ungulates (winter and growing seasons), small mammals, and breeding birds. Potential capping of the North Cell Tailings Storage Facility with NPAG material generated during current operations may occur in 2015. Removal of NPAG rock from an extension area will occur during closure operations at the mine and will reduce effects on High suitability habitat. A summary of potential project effects, threshold levels, and the 2014 monitoring results is provided in **Table 10.1**.

Monitoring programs will continue to evolve throughout the life of the mine, contingent on data quality objectives and the necessity for adaptive management strategy implementation and subsequent effectiveness monitoring. Adjustments to the intensity and frequency of monitoring and the extent of statistical analyses will vary between years depending on observed trends to date, data gap analysis, and determinations of effect.

Table 10.1: Potential Project Effects, Thresholds, and Results of Monitoring in 2014.

Measureable Parameter	Thresholds	Monitoring Methods	Frequency	Completed in 2014	Summary of Results	Comments
Vegetation (Wildlife Habitat)						
Habitat Loss	Mine Site – 867 ha AWAR – 281ha	Ground Surveys, Mapping, GIS Analysis	Every Two Years	Yes	Below Threshold for overall Mine Site (91 ha < predicted) Below threshold for AWAR (173 ha < predicted)	See Section 3
Habitat Degradation by Contamination	See SLRA 2014	Vegetation and Soil Samples	Every three Years	Yes	NA	See 2014 Annual Report
Habitat Reclamation following Mine Closure	NA	Ground Surveys, Vegetation Plots, Mapping	Every three years to 11 Years Post-Closure	NA	NA	NA
Ungulates						
Habitat Loss and Degradation	Growing – 240 ha of High Suitability Habitat Winter – 191 ha of High Suitability Habitat	Ground Surveys, Mapping, GIS Analysis	Every Two Years	Yes	Below Threshold: Growing – 261 ha of High Suitability Habitat (9% above Predicted) Below Threshold: Winter – 208 ha of High Suitability Habitat (9% above Predicted)	See Section 3
Sensory Disturbance	Mine Site - 500m AWAR – 1,000m	Ground Surveys, Satellite-collaring	Daily/Weekly	Yes	No evidence of disturbance	See Sections 7 and 9
Vehicle Collisions	1 individual	Ground surveys, Collision Reporting System	Mine Site – Daily AWAR - >1/week	Yes	Below Threshold: No Mortality in 2014	See Section 7
Hunting by Baker Lake Residents	20% Change from Historic	Hunter Harvest Study	Yearly	Yes	Threshold Exceeded – 40% of harvest within 5 km of AWAR (18% historically)	See Section 8

Table 10.1: Continued.

Measureable Parameter	Thresholds	Monitoring Methods	Frequency	Completed in 2014	Summary of Results	Comments
Ungulates						
Other Mine-related Mortality	1 individual	Ground surveys	Daily	Yes	Below Threshold: No Mortality to Date	See Section 6
Exposure to Contaminated Water or Vegetation	See SLRA 2014	Vegetation and Soil Samples	Every three Years	Yes	NA	See 2014 Annual Report
Predatory Mammals						
Project-related Mortality	1 individual	Ground Surveys, Collision Reporting System	Mine Site – Daily AWAR - >1/week	Yes	Below Threshold: No Mortality in 2014	See Sections 6 and 7
Small Mammals						
Habitat Loss and Degradation	178 ha of High Suitability Habitat	Ground Surveys, Mapping, GIS Analysis	Every Two Years	Yes	Below Threshold- 194 ha of High Suitability Habitat (9% above Predicted)	See Section 3
Project-related Mortality	100 Individuals	Ground Surveys, Collision Reporting System	Mine Site- Daily AWAR - >1/week	Yes	Below Threshold: No Mortality Reported in 2014	See Sections 6 and 7
Exposure to Contaminated Water or Vegetation	See SLRA 2014	Vegetation and Soil Samples	Every three Years	Yes	NA	See 2014 Annual Report
Raptors						
Healthy Prey Populations	See SLRA 2014	Vegetation and Soil Samples	Every three Years	Yes	NA	See 2014 Annual Report
Disturbance of Nesting Raptors	1 Nest Failure	Active Nest Monitoring	Nests within 200m - Daily Nests from 200-1000m - Weekly	Yes	Below Threshold: No Nests Disturbed	See Section 5
Project-related Mortality	1 individual	Ground Surveys, Collision Reporting System	Mine Site- Daily AWAR - >1/week	Yes	Below Threshold: No Mortality to Date	See Sections 5 and 6

Table 10.1: Continued.

Measureable Parameter	Thresholds	Monitoring Methods	Frequency	Completed in 2014	Summary of Results	Comments
Waterbirds						
Habitat Loss and Degradation	518 ha of High Suitability Habitat	Ground Surveys, Mapping, GIS Analysis	Every Two Years	Yes	Below Threshold: 389 ha of High Suitability Habitat (25% below Predicted)	See Section 3
Disturbance of Nesting Waterfowl	1 Nest Failure	Waterfowl Nest Surveys	Yearly - For Active Nests within 200m	No (discontinued)	Below Threshold: No Disturbance to Date	See Section 6
Exposure to Contaminated Water or Vegetation	See SLRA 2014	Vegetation and Soil Samples	Every three Years	Yes	NA	See 2014 Annual Report
Project-related Mortality	1 individual	Ground Surveys, Collision Reporting System	Mine Site-Daily AWAR - >1/week	Yes	Below Threshold: No Mortality in 2014	See Sections 6 and 7
Other Breeding Birds						
Habitat Loss and Degradation	322 ha of High Suitability Habitat	Ground Surveys, Mapping, GIS Analysis	Every Two Years	Yes	Below Threshold: 354 ha of High Suitability Habitat (10% above Predicted)	See Section 3.6
Project-related Mortality	50 Individuals Per Year	Ground Surveys, Collision Reporting System	Mine Site-Daily AWAR - >1/week	Yes	Below Threshold: No Mortality Reported in 2014	See Sections 6 and 7
Exposure to Contaminated Water or Vegetation	See SLRA 2014	Vegetation and Soil Samples	Every three Years	Yes	NA	See 2014 Annual Report
Changes in Breeding Bird Populations	20% Change from Natural	Breeding Bird Plots and Transects	Yearly	No (plots and analyses scheduled for 2015)	Below Threshold	See Section 4 See 2011 Annual Report

SECTION 11 • LITERATURE CITED

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APPENDIX A

2014 Wildlife Observation Records

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

Employee Name:**AEM\jpratt**

Start Date: **1/1/2014**

End Date: **12/31/2014**

	Environment Biologist
DATE	**Wildlife**
4/26/2014	**Monitoring:**HHS with Martin Gebauer
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
4/25/2014	**Monitoring:**HHS with Martin Gebauer
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
2/21/2014	**Monitoring:**Wolverine reported by Tailings sludge dump
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
1/14/2014	**Reporting:**Begin 2013 annual report compilation
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
1/12/2014	**Monitoring:**Reviewed AWR protocol with Martin and Randy
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
1/10/2014	**Monitoring:**Completed draft of AWR Survey Protocol
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
	Reporting: Returned wolf carcass to GN officer
	Created by AEM\rvanengen
	Modified by AEM\rvanengen

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

1/9/2014	**Monitoring:** Draft AWR Survey Protocol
	Created by AEM\rvanengen
	Modified by AEM\rvanengen
	Environment Compliance Senior Technician
DATE	**Wildlife**
6/1/2014	**Reporting:** Caribou near the airstrip Fox near mill seepage
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil
5/30/2014	Non wildlife mortality
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil
	Reporting: 1 Fox around hazmat
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil
2/25/2014	**Deterring:** Deterred a wolverine near the tailings deposition point
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil
2/24/2014	**Reporting:** no wildlife mortality - no spill to report
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil
2/23/2014	**Added information :** No wildlife mortality - no spill to reported
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

2/21/2014	**Added information :**Wildlife AWPAR survey completed with Victor
	Created by AEM\marie-pier.marcil
	Modified by AEM\marie-pier.marcil
	Environment Coordinator
DATE	**Wildlife**
5/2/2014	Sent out a Site wide notice regarding caribou numbers increasing on the AWPR.
	Created by AEM\jpratt
	Modified by AEM\jpratt
2/11/2014	**Reporting:**More reports of yellow garbage bin by camp gensets being left open. Been checking regularly today to ensure it is kept closed.
	Created by AEM\jpratt
	Modified by AEM\jpratt
2/7/2014	no Mortalities
	Created by AEM\jpratt
	Modified by AEM\jpratt
1/19/2014	**Added information :**- update firearm procedure
	Created by AEM\jpratt
	Modified by AEM\jpratt
1/18/2014	**Added information :**- created problem wildlife procedure
	Created by AEM\jpratt
	Modified by AEM\jpratt
1/6/2014	**Deterring:**One wolf attempt to deter from STP area
	Created by AEM\jpratt
	Modified by AEM\jpratt
1/3/2014	**Reporting:**One wolf seen at refer pad/ Gatehouse area.

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

1/3/2014	**Created by** AEM\jpratt
	Modified by AEM\jpratt
	Environment Senior Technician
DATE	**Wildlife**
7/2/2014	**Monitoring:** Raven still going to the nest in Portage, need to follow up on this. We took the camera away
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
6/24/2014	**Deterring:** Aggressive fox at the site service bin deterred, food in the bin from house keeping, supervisor got advised
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
	Reporting: Ptarmigan eggs gone, taken by a fox
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
6/23/2014	**Reporting:** Report about the dead duck saved in wildlife file
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
6/20/2014	**Reporting:** Nest with 6 eggs between SO2 plant and c-can. No action taken as the nest isn't affecting any work and shouldn't be affected by any work
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
5/5/2014	**Monitoring:** Caribou on the Vault road
	Created by AEM\mtheriault
	Modified by AEM\mtheriault

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

5/4/2014	**Added information :**Muskox near Emulsion (see excel file)
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
4/26/2014	**Monitoring:**Tour around Vault and tailing pond to see if any wildlife, nothing
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
4/25/2014	**Monitoring:**Caribou at the west road, we guide him out of the danger zone
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
	Reporting:wolves at the Vault road, we patrol but no sight
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
4/8/2014	**Deterring:**fox at the sludge dump
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
4/6/2014	**Reporting:**Wolverine at the TSF at 8:30
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
4/4/2014	**Reporting:**Wolverine at the TSF at 8:00
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
4/3/2014	**Added information :**One dead fox on the west road
	Created by AEM\mtheriault
	Modified by AEM\mtheriault

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

4/1/2014	**Reporting:** wolverine at the TSF at 10:15
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
3/27/2014	**Reporting:** wolverine at the tailing and wolves at Vault
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/20/2014	**Reporting:** wolverine at the tailing 7:20
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/19/2014	**Reporting:** wolverine at the tailing
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/18/2014	**Reporting:** Wolverine at the tailing, Muskox and Caribou on the road km 92
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/17/2014	**Reporting:** Caribou on the road heading to Vault
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
	Monitoring: Wolverine at the tailing
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/16/2014	**Reporting:** Caribou and Muskox on the road km 92
	Created by AEM\mtheriault
	Modified by AEM\mtheriault

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

2/15/2014	**Reporting:** wolverine at the tailing pond 10:10 am No need for deterring
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/14/2014	**Monitoring:** AWPR wildlife survey done
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
2/6/2014	**Reporting:** Wolverine at the tailing pond 8:05
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
1/31/2014	**Reporting:** Wolverine reported at Vault at 17:00, patrol the area but no sight
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
1/16/2014	**Reporting:** wolverine onsite near main camp
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
1/15/2014	**Reporting:** wolverine onsite near main camp
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
1/13/2014	**Added information :** No wildlife
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
1/12/2014	**Monitoring:** AWPAR wildlife survey 8 caribous around km 93
	Created by AEM\mtheriault
	Modified by AEM\mtheriault

1/11/2014	No wildlife
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
1/10/2014	**Added information :**No wildlife
	Created by AEM\mtheriault
	Modified by AEM\mtheriault
	Environment Technician
DATE	**Wildlife**
12/21/2014	**Added information :**Wolverine (2) + foxes - sludge dump
	Created by AEM\rallard
	Modified by AEM\rallard
12/16/2014	wolverine reported at Tailings pond - sludge dump
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
12/15/2014	patrolled Mine site and Vault - no wildlife to see
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
12/14/2014	2 wolverines, a red fox, 2 foxes observed at Tailings pond. Patrolled outside of Mine site by snowmobile
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
12/13/2014	**Added information :**Wildlife survey along AWPAR Wolverine still roaming around the Tailings pond
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
12/12/2014	**Added information :**Wildlife survey along the AWPAR
	Created by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

12/12/2014	**Modified by** AEM\jkataluk
12/11/2014	around 8:30 wolverine observed at Tailings pond, used Air Whistler deterrents. Wolverine ran away north of Mine site. At 10:00, 2 wolverines observed heading SW of Tailings pond, watched them for about 20 minutes to see where they are going. I checked around fresh water barge, seen another wolverine heading west
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
12/10/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
12/5/2014	No wildlife to report/ Survey will be conducted today
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
12/3/2014	No wildlife to report
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
12/2/2014	Wildlife Survey was completed today
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
12/1/2014	Confirmed Wildlife survey to be completed on Dec 2 with Victor, Jamie, and Randy.
	Created by AEM\tthomson
	Modified by AEM\randy.schwandt
11/30/2014	**Added information :**3 Wolves on TPL near TPN sampling station.
	Created by AEM\tthomson
	Modified by AEM\rallard
11/27/2014	no mortalities to report

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

11/27/2014	**Created by** AEM\jkataluk
	Modified by AEM\rallard
11/26/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
11/25/2014	AWPAR Wildlife survey - still has caribou along the road from Km 80 to Km 34. Most of them are on the east side of the road
	Created by AEM\jkataluk
	Modified by AEM\rallard
11/23/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
11/22/2014	wolf observed and reported at Emultion road, heading SW
	Created by AEM\jkataluk
	Modified by AEM\rallard
11/21/2014	**Added information :**Wildlife survey completed with Victor
	Created by AEM\jkataluk
	Modified by AEM\rallard
11/20/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
11/19/2014	No wildlife to report thus far
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk
11/18/2014	No wildlife to report
	Created by AEM\jkataluk
	Modified by AEM\randy.schwandt

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

11/17/2014	no wildlife to report
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk
11/16/2014	no wildlife to report
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
11/2/2014	**Added information :**2 Muskox near Vault WTP
	Created by AEM\tthomson
	Modified by AEM\rallard
10/28/2014	**Monitoring:**Road survey with Victor smaller herds along road
	Created by AEM\rallard
	Modified by AEM\rallard
10/27/2014	**Deterring:**Lemmings in housekeeping leader office - JK installed traps. Traps empty.
	Created by AEM\rallard
	Modified by AEM\rallard
10/24/2014	**Monitoring:**Migration road closed - Env. escort daily ride + road survey
	Created by AEM\rallard
	Modified by AEM\rallard
10/23/2014	**Reporting:**Caribou migration on AWPR - road closed
	Created by AEM\rallard
	Modified by AEM\rallard
10/22/2014	Oct 21st, caribou spotted at KM 64 Two Musk-Ox spotted at the far end at vault (Right hand side/walking)
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

10/20/2014	Loon was taken to Baker Lake by Jamie, later was euthanized by Russell (report was sent by Martin) **Added information :**caribou's spotted along the AWPAR at Km 60 west side
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk
10/18/2014	2 wolves observed and reported at Vault, between pit and Main camp, walking north
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
10/17/2014	**Added information :**Wildlife Survey with Victor
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
10/16/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
10/15/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
10/13/2014	**Added information :**50 - 100 Caribou reported on the AWR near km 77 & km 89. EV & TT did follow up in p.m.
	Created by AEM\tthomson
	Modified by AEM\tthomson
10/7/2014	**Added information :**AWPAR survey with Victor
	Created by AEM\rallard
	Modified by AEM\rallard
9/30/2014	AWPAR survey
	Created by AEM\jkataluk
	Modified by AEM\rallard

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

9/29/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
9/28/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
9/27/2014	caribou along road to Vault, had to monitor and control traffic. Still have some past NP-1, grazing towards the road **Added information :**Caribou by vault road in PM
	Created by AEM\jkataluk
	Modified by AEM\rallard
9/26/2014	**Added information :**Wildlife survey competed with Victor
	Created by AEM\jkataluk
	Modified by AEM\rallard
9/24/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
9/23/2014	survey along AWPAR, about 50 caribou between Km 83 and 85, about 20 caribou at Km 99, all on west side of the road heading south
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
9/22/2014	seen caribou by Vault, did not see any by Waste rock pile
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
9/19/2014	caribou along road to Vault an north of Waste rock pile. Monitor are everyday until there is no more **Added information :**wildlife survey along the AWPAR, did alone as Victor did not come on the daily ride - no babysitter
	Created by AEM\jkataluk
	Modified by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

9/18/2014	**Added information :**seen caribou at Km 82 while southbound to Baker, more caribou showed up when we were north bound. Seen caribou from Km 77 to Km 82. 2 wolves seen by SANA crusher at Vault - observed by nightshift
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
9/17/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
8/23/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
8/20/2014	**Added information :**peregrine falcon observed by Rock storage facility during thermistor readings, flying around the area
	Created by AEM\tthomson
	Modified by AEM\jkataluk
8/6/2014	no mortalities to report **Added information :**Caribou IN TSF. JK deterred
	Created by AEM\jkataluk
	Modified by AEM\rallard
8/5/2014	**Added information :**caribou inside tailings, by the booster pump, deterred from area until it went past Blind hill EMR
	Created by AEM\jkataluk
	Modified by AEM\rallard
8/4/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
8/1/2014	**Added information :**AWPAR survey alone
	Created by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

8/1/2014	**Modified by** AEM\rallard
7/29/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
7/21/2014	Wolverine behind waste dump area
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
7/17/2014	Wolves spotted by Charles at 2:30AM heading toward Caribou around NP2 Area.
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
7/15/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\randy.schwandt
7/14/2014	Fox and pups by environment office
	Created by AEM\jkataluk
	Modified by AEM\randy.schwandt
7/13/2014	Caribou in/ around the tailings pond
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk
7/12/2014	Wolverine reported around Sewage waste dump
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
7/10/2014	Foxes around Sea-can going towards ST-18, Fox could have a litter going
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

7/8/2014	checked the Ravens nest at Pit B, no signs of ravens
	Created by AEM\jkataluk
	Modified by AEM\rallard
7/6/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Monitoring: Fox litter underneath c-cans at the base of SD2
	Created by AEM\rallard
	Modified by AEM\rallard
7/5/2014	**Reporting:** Wolves and wolverine reported on AWPR
	Created by AEM\rallard
	Modified by AEM\rallard
7/3/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
6/28/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
6/26/2014	**Added information :** AWPAR Wildlife survey completed - with Victor
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
6/24/2014	Foxes around Maintenance area
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
6/23/2014	Foxes near smoke shack by Nova camp was seen carrying baby fox
	Created by AEM\randy.schwandt

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

6/23/2014	**Modified by** AEM\randy.schwandt
6/22/2014	Fox by rock storage chasing Canadian Geese 8:30AM
	Created by AEM\randy.schwandt
	Modified by AEM\tthomson
6/20/2014	4 Musk ox's were seen while on route to Meadowbank site.
	Created by AEM\randy.schwandt
	Modified by AEM\tthomson
6/12/2014	**Reporting:** ravens nest in midpit
	Created by AEM\rallard
	Modified by AEM\tthomson
6/10/2014	re-installed recharged propane tanks for Cannons, installed by Reclaim barge
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Reporting: 2 wolves at km 100 night 2 muskox EMR road
	Created by AEM\rallard
	Modified by AEM\rallard
6/6/2014	**Added information :** Wildlife survey along AWPAR with Victor
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Reporting: Grizzlies at 101
	Created by AEM\rallard
	Modified by AEM\rallard
6/5/2014	Geese by the front of Assay Lab Seepage
	Created by AEM\jkataluk
	Modified by AEM\rallard

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

6/4/2014	Sandpiper by Meadowbank fueling station
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk
6/3/2014	**Added information :**no mortalities to report
	Created by AEM\randy.schwandt
	Modified by AEM\jkataluk
6/1/2014	Caribou spotted on airstrip (7:00AM) but was gone by the time environment team arrived
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
5/29/2014	**Added information :**no mortalities to report. More snow/Canada geese flying, non observed at Tailings pond
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
5/28/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
5/22/2014	**Deterring:**ducks flying over TSF seagulls
	Created by AEM\rallard
	Modified by AEM\tthomson
5/21/2014	**Monitoring:**8 birds at TSF cannons installed
	Created by AEM\rallard
	Modified by AEM\tthomson
5/20/2014	**Monitoring:**16 ducks at TSF 10 seagulls planning of cannon installation
	Created by AEM\rallard

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

5/20/2014	**Modified by** AEM\tthomson
5/19/2014	**Added information :**Ducks at TSF
	Created by AEM\rallard
	Modified by AEM\tthomson
5/18/2014	**Added information :**no birds at TSF
	Created by AEM\rallard
	Modified by AEM\tthomson
	Reporting:2 wolves at NP1
	Created by AEM\rallard
	Modified by AEM\tthomson
5/17/2014	**Added information :**no birds at TSF
	Created by AEM\rallard
	Modified by AEM\tthomson
5/16/2014	**Monitoring:**no birds at TSF
	Created by AEM\rallard
	Modified by AEM\tthomson
5/15/2014	**Monitoring:**no birds at TSF
	Created by AEM\rallard
	Modified by AEM\tthomson
5/14/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\tthomson
	Monitoring:no birds at TSF
	Created by AEM\rallard
	Modified by AEM\tthomson

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

5/13/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Monitoring: no birds at TSF
	Created by AEM\rallard
	Modified by AEM\rallard
5/12/2014	**Added information :** AWPAR survey completed with Victor
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Monitoring: no birds at TSF
	Created by AEM\rallard
	Modified by AEM\rallard
5/11/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Reporting: Grizzlies reported at whitehills
	Created by AEM\rallard
	Modified by AEM\rallard
5/10/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
5/9/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
5/8/2014	no mortalities to report
	Created by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

5/8/2014	**Modified by** AEM\rallard
5/5/2014	Herd of caribou spotted at vault area
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
5/4/2014	Numerous foxes around Hazmat Area
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
5/1/2014	Caribou sighted at 91km
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
4/30/2014	30 Caribou sighted at 89km
	Created by AEM\randy.schwandt
	Modified by AEM\randy.schwandt
4/29/2014	**Monitoring:** Approximately 20 Caribou near Vault Rd.
	Created by AEM\tthomson
	Modified by AEM\randy.schwandt
	Reporting: Large herd of Caribou reported at KM 71 & KM 89.
	Created by AEM\tthomson
	Modified by AEM\randy.schwandt
4/28/2014	**Reporting:** 2 Wolves reported near Vault Blast Pattern.
	Created by AEM\tthomson
	Modified by AEM\tthomson
4/27/2014	**Monitoring:** 12 Caribou near Fresh Water Barge
	Created by AEM\tthomson
	Modified by AEM\tthomson

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P.T.C. X-Shift Communication Tool

4/26/2014	**Reporting:** Caribou reported near the road at KM104. Likely same Caribou that was on West Road on Apr 25.
	Created by AEM\tthomson
	Modified by AEM\tthomson
4/25/2014	**Monitoring:** 2 Caribou & Wolves reported on West Road/Vault Road intersection. When we arrived on scene 1 Caribou was running around and appeared very exhausted and disorientated. Traffic was stopped and Caribou wandered away from West Road towards tailings pond.
	Created by AEM\tthomson
	Modified by AEM\tthomson
4/15/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
4/14/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
4/11/2014	wolverine observed by Incinerator, it was gone when I got there. Was reported to head towards FGL, patrolled area but did not see it. Patrolled entire camp area for about an hour, no wolverine observed
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
4/9/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
4/8/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
4/6/2014	no mortalities to report

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P.T.C. X-Shift Communication Tool

4/6/2014	**Created by** AEM\jkataluk
	Modified by AEM\jkataluk
4/2/2014	**Added information :**no mortalities to report
	Created by AEM\tthomson
	Modified by AEM\jkataluk
4/1/2014	No wildlife to report.
	Created by AEM\tthomson
	Modified by AEM\jkataluk
3/31/2014	**Added information :**No wildlife to report.
	Created by AEM\tthomson
	Modified by AEM\tthomson
3/28/2014	**Added information :**AWR Wildlife Road survey completed by TT & Victor.
	Created by AEM\tthomson
	Modified by AEM\tthomson
3/25/2014	km 73 van driver seen large herd of caribou
	Created by AEM\randy.schwandt
	Modified by AEM\rallard
3/23/2014	Two Wolves at km 102- They were eating on a piece of caribou, body of caribou could not be found.
	Created by AEM\randy.schwandt
	Modified by AEM\rallard
3/17/2014	**Added information :**no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
3/16/2014	wolverine observed at Vacuum truck discharge point while getting a sample from the Reclaim barge
	Created by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

3/16/2014	**Modified by** AEM\rallard
3/15/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
3/14/2014	**Reporting:** Wolverine at TSF (SS)
	Created by AEM\rallard
	Modified by AEM\rallard
3/12/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
3/10/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
3/9/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
3/8/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
3/6/2014	**Added information :** no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
3/5/2014	Called Viktor to confirm he would be available for Friday. Probably best for one of Technicians to call prior to every road survey and make sure he is available.
	Created by AEM\jkataluk
	Modified by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

3/5/2014	**Reporting:** wolverine reported at Tailings pond
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
3/4/2014	**Reporting:** Wolverine reported near tailings pond.
	Created by AEM\tthomson
	Modified by AEM\jkataluk
3/3/2014	**Reporting:** wolverine at tailings wolves at SD
	Created by AEM\rallard
	Modified by AEM\tthomson
3/2/2014	**Reporting:** wolverine at tailings and FGL
	Created by AEM\rallard
	Modified by AEM\rallard
3/1/2014	**Reporting:** wolverine at tailings
	Created by AEM\rallard
	Modified by AEM\rallard
	AWPAR wildlife survey postponed to due Blizzard. Email sent to Victor. Robin put in new flow request. New survey scheduled for Monday March 3, and Friday March 7.
	Created by AEM\tthomson
	Modified by AEM\rallard
2/28/2014	**Reporting:** wolverine at tailings
	Created by AEM\rallard
	Modified by AEM\rallard
2/27/2014	**Reporting:** wolverine at tailings
	Created by AEM\rallard
	Modified by AEM\rallard

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

2/26/2014	**Reporting:** Wolverine reported at tailings pond at 10:45am by Orest of D/D.
	Created by AEM\tthomson
	Modified by AEM\rallard
2/25/2014	**Reporting:** Wolverine reported at 7:30 by S/S near tailing pond sewage dump. Wolverine reported at 8:30 by Pierre McMullin by the Saddle Dam road. Wolverine reported at 10:43 by Orest of D/D near Tailings Discharge pipe.
	Created by AEM\tthomson
	Modified by AEM\rallard
2/24/2014	**Reporting:** Wolverine reported at 7:30 by S/S near tailing pond sewage dump.
	Created by AEM\tthomson
	Modified by AEM\tthomson
2/22/2014	**Reporting:** Wolverine reported behind Wing 12 going towards Core Shack @ 8:00am by Site Services.
	Created by AEM\tthomson
	Modified by AEM\tthomson
2/21/2014	**Added information :** MP completed AWR Wildlife Survey with Victor
	Created by AEM\tthomson
	Modified by AEM\tthomson
	Reporting: Wolverine reported at the tailings Pond @ 7:30am by Site Services.
	Created by AEM\tthomson
	Modified by AEM\tthomson
2/11/2014	Reports that fox was caught in yellow roll-off at camp gensets again.
	Created by AEM\rallard
	Modified by AEM\rallard
	Reporting: Wolverine by WTP heading towards fresh water barge.

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

2/11/2014	**Created by** AEM\rallard
	Modified by AEM\rallard
2/9/2014	**Reporting:** Wolverine (2) at tailings pond
	Created by AEM\rallard
	Modified by AEM\rallard
2/8/2014	**Added information :** Fox caught in yellow roll-off by camp gensets
	Created by AEM\jkataluk
	Modified by AEM\rallard
2/7/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
2/6/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
2/4/2014	**Reporting:** Wolverine reported near Tailings pond at 7:20am by Daniel at S/S.
	Created by AEM\tthomson
	Modified by AEM\rallard
2/2/2014	**Reporting:** Fox in roll off near mine dry. Reported by Yannick Simard D/D.
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/31/2014	**Reporting:** Wolverine @ Tailings Pond. Reported by S/S.
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/30/2014	**Reporting:** 8:30am Wolverine at Tailings Pond - heading N to EMR. Reported by S/S.
	Created by AEM\tthomson

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

1/30/2014	**Modified by** AEM\tthomson
1/29/2014	**Reporting:** Wolverine reported near tailings pond by Daniel @ S/S.
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/27/2014	**Added information :** AWR Wildlife Survey postponed due to weather.
	Created by AEM\tthomson
	Modified by AEM\rallard
1/26/2014	**Added information :** No Wildlife issues to report.
	Created by AEM\tthomson
	Modified by AEM\rallard
1/25/2014	**Added information :** No Wildlife issues to report.
	Created by AEM\tthomson
	Modified by AEM\rallard
1/24/2014	**Added information :** AWR Wildlife survey postponed due to blizzard/road conditions.
	Created by AEM\tthomson
	Modified by AEM\rallard
1/22/2014	no mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
	Reporting: Wolverine reported near Incinerator at 5:15pm by S/S.
	Created by AEM\tthomson
	Modified by AEM\rallard
1/21/2014	Remington .223 and Tikka .300, inspected. Ready for use when necessary No mortalities to report
	Created by AEM\jkataluk

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

1/21/2014	**Modified by** AEM\rallard
1/20/2014	**Added information :**no wildlife mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
1/18/2014	Wolverine reported by Toromont between LD 2 and 3.
	Created by AEM\rallard
	Modified by AEM\rallard
	Reporting: One fox was caught in yellow bin by camp gensets (by KB). Escaped before tech got there.
	Created by AEM\rallard
	Modified by AEM\rallard
1/17/2014	fox observed by the roll-off bin by the Mill **Added information :**wolverine reported at sludge dump.
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
1/16/2014	no wildlife mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\rallard
1/15/2014	no wildlife mortalities to report
	Created by AEM\jkataluk
	Modified by AEM\jkataluk
1/9/2014	No Wildlife issues to report
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/8/2014	No Wildlife Issues
	Created by AEM\tthomson
	Modified by AEM\tthomson

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

1/7/2014	**Added information :**No Wildlife Issues
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/6/2014	**Deterring:**Wolf at STP see report.
	Created by AEM\tthomson
	Modified by AEM\tthomson
	Monitoring: Wolf at STP see report.
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/5/2014	**Monitoring:**Went to monitor refer area / smoke shack for roughly 30 minutes around 19h30
	Created by AEM\rallard
	Modified by AEM\tthomson
	Inspected Q23 for any sign of Wildlife - Nothing to report.
	Created by AEM\tthomson
	Modified by AEM\tthomson
	Reporting: Wolf near refer pad heading across airstrip.
	Created by AEM\tthomson
	Modified by AEM\tthomson
1/4/2014	**Reporting:**two wolves at Q23. reported by maintenance 1 wolf at refer pad reported by SS.
	Created by AEM\rallard
	Modified by AEM\rallard
1/3/2014	**Reporting:**Wolf reported near refer pad and heading NW across airstrip.
	Created by AEM\tthomson
	Modified by AEM\tthomson

Agnico Eagle Mines Limited - Meadowbank

P.T.C. X-Shift Communication Tool

1/2/2014	No wildlife to report.
	Created by AEM\tthomson
	Modified by AEM\rallard

APPENDIX B

2014 Wildlife Mitigation Documentation

Jeffrey Pratt

From: Jeffrey Pratt
Sent: Friday, June 06, 2014 8:31 PM
To: Meadowbank Contractors; Meadowbank Arctic Fuel; Meadowbank - SANA; Meadowbank - Management Team
Subject: FW: Wildlife at Meadowbank
Attachments: Wildlife Memo_2014.pdf

All,

Please be advised that there was a sighting of a Grizzly bear at KM 96 of the AWPR today. Grizzly Bears are generally transient animals and the bear was likely passing by. They can cover great distances in a short timeframe, so likely the bear is away from site.

However, we would still ask that all personnel to be cautious of their surroundings and be sure to carefully "Inspect" your work areas. Please read the attached memo.

Please be sure to report any sightings of wildlife to the environment department.

Supervisors: it is imperative you share this information with your employees.

Wildlife is one of the most beautiful pieces of nature, but please remember it is wild!

Thank you for your cooperation.

Jeff

Jeffrey Pratt
Environmental Coordinator
ICMC Facilitator

jeffrey.pratt@agnicoeagle.com

T: 819.759.3555 x6728
M: 819.856.1475

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Meadowbank Division
Baker Lake, Nunavut, Canada
X0C 0A0

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Jeffrey Pratt

From: Martin Beausejour
Sent: Sunday, June 22, 2014 2:10 PM
To: Meadowbank AEM; Meadowbank Contractors
Subject: Grizzly Warning Lifted

Hi all,

This is a confirmation that the site surroundings are safe and that the grizzly warning is no more in effect. Walking on the airstrip is permitted.

Thanks,

Martin

Martin Beauséjour, Eng.
General Superintendent – Mine Operations Meadowbank

martin.beausejour@agnicoeagle.com

T: 819.759.3555 x6767
C: 819.355.2913

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AGNICO EAGLE 

Jeffrey Pratt

From: Jeffrey Pratt
Sent: Thursday, October 23, 2014 7:38 PM
To: Road Status Meadowbank
Subject: Caribou Migration

All,

Please note that the All-Weather road between Exploration Camp and Baker Lake is **closed** due to Caribou Migration until further notice.

Thank you,

Jeff

Jeffrey Pratt
Environmental Coordinator
ICMC Facilitator

jeffrey.pratt@agnicoeagle.com

T: 819.759.3555 x6728
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AGNICO EAGLE 

Jeffrey Pratt

From: Jeffrey Pratt
Sent: Friday, October 24, 2014 5:53 PM
To: Road Status Meadowbank
Cc: Gatehouse Baker Lake; Stephane Larose; Pierre Verdon; Lonny Syvret
Subject: Caribou Migration Oct 25 & 26

All,

The AWPR between Exploration Camp and Baker Lake will remain closed to all traffic for October 25 & 26. This will allow the migration to take place at its own pace without any disturbance from Meadowbank operations.

We will reassess the road status first thing Monday morning. If there is a critical reason to travel on the AWPR please contact myself or Lonny Syvret.

Thank you for you cooperation and patience,

Jeff

Jeffrey Pratt
Environmental Coordinator
ICMC Facilitator

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APPENDIX C

2014 Wildlife Mortality Reports

January 6th, 2014

Wolf Mortality

Time: 07:30

Location: Meadowbank Mine site

Weather Conditions: Visibility good, low wind. Dark.

Robin Allard, Senior Environmental Technician

Tom Thomson, Environmental Technician

Description of Events:

The Environmental department was called on the radio and on the phone around 7h00 regarding a sighting of a wolf underneath a raised walkway beside the Sewage Treatment Plant (STP) (photo #1). It was reported by a Site Services laborer to his supervisor. The Laborer was clearing the snow on the walkway.

In addition there have been repeated wolf sightings in that area every day since January 3rd. The environmental department monitored frequently without observing the animal.

Environment technicians asked Stephane Valcourt (Site Services Field leader) to keep watch until they arrived on site.

Upon arrival the techs saw that the wolf was in a rolled up position underneath the walkway and seemed to be sleeping. After firing one "screamer" with the pistol and without seeing any movement, two more "screamers" were shot near the wolf and the pickup horn was sounded. Some movement was observed after the third shot. The animal then tried to get up. He got up with great difficulty and seemed to be struggling. The wolf started walking slowly, limping slightly, towards the refer pad area. His behavior was very sluggish and he appeared to be sickened.

It was assessed that the wolf was getting habituated to humans and camp and was sick. It had to be euthanized. One shot of 12 gauge was fired and the animal went down behind the refer pad area. A second shot was fired (photo #2).

I trust this is a satisfactory account of what happened.

Signed and date

Robin Allard, January 6th 2014

Tom Thomson, January 6th 2014

Photo #1 Location of wolf upon arrival.

Photo #2 Wolf

Wildlife Incident Report

Date: 2014-06-20 ***From: Martin Theriault***

Incident Description:

On June 20th, the environmental department received an e-mail from a Mill worker stating that there was a dead duck in the leach pad. The environment technician went on site and pick up the duck. The duck didn't look sick but the neck was limp which brought us to assume that he had a broken neck

Action and Recommendations:

No mitigated action were taking, everything lead us to believe that this was an accident not provoked by mining activities.

Picture 1: Dead duck found in the leach pad

Agnico-Eagle Mines:
Meadowbank Division
Environment Department

Wildlife Incident Report: Injured Common Loon

Date: 2014-10-19

From: Martin Theriault

To: Russell Toolooktook
CC: Ryan VanEngen

Incident Description:

On October 19th at 17:45, the environment department received a call from the mine department regarding an injured bird lying in the pit. The environmental technician went there and saw an injured Common Loon on the ground. The bird was still alive but barely moving.

The technicians used a winter jacket to carefully cover the Loon, picked it up and brought it back to the office where the bird was transfer into a fox cage still with the winter jacket to prevent from the cold.

After investigation, the environmental staff was told that the Loon was injured by a Falcon during the evening. One technician left the mine site the same day and brought the Loon with him to give it to the wildlife officer in Baker Lake.