AREVA Resources Canada Inc.

KIGGAVIK PROJECT, NUNAVUT

WILDLIFE MITIGATION AND MONITORING PLAN

January 2010 – Version 4

REQUIRED USERS

Required and other users are responsible for using the current version of the Wildlife Mitigation and Monitoring Plan as posted on the Kiggavik drive. Users may print copies of this plan, but are ultimately responsible for ensuring they are using a current copy as posted. Users are requested to destroy all previously printed copies of the plan when they are informed of revisions.

HISTORY OF REVISIONS

Version	Date	Details of Revision
01	March 2007	Original submission
02	January 2008	Updated to reflect changes in field activities/capabilities and areas of continual improvement
02 R1	May 2008	Updated to reflect program changes initiated by new consulting biologist and to integrate comments received by Nunavut and NWT biologists
03	January 2009	Updated to reflect opportunities for improvement
04	January 2010	Updated to reflect opportunities for improvement

Original Copy of this Manual:

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Jan. 25, 2010

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The original hard copy of this approval page has been signed and is located at the AREVA Resources Canada Inc. corporate office.

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1 INTRODUCTION

The Wildlife Mitigation and Monitoring Plan (Plan) described herein has been developed by AREVA Resources Canada Inc. (ARC) for the Kiggavik Project (Project) located approximately 80 km west of Baker Lake, Nunavut. The Plan is implemented during the field season to monitor and reduce Project impacts on wildlife, particularly caribou. The Plan serves as a work instructional and internal best management practice and encompasses all activities at site, including continued exploration and environmental baseline programs.

All ARC staff, contractors and visitors have the responsibility to be familiar with and to follow this Plan. Implementation and enforcement will be the responsibility of the ARC Environment Supervisor or designate. All worksites need to be made aware of the proper procedures required to help enforce the Plan. Current field worksites include locations of:

- Camp Activities (including fuel caching);
- Drilling Operations;
- Airborne Geophysics;
- Ground Geophysics and Exploration Activities;
- Environmental Baseline Work; and
- Environmental Monitoring

The Plan is reviewed and updated annually to reflect lessons learned through ARC experience and the experience of other development projects as well as feedback and recommendations from regulators and community members.

The current Plan has evolved with lessons learned during the previous field seasons; community input; and regulatory commitments. The implementation and effectiveness of this plan is outlined in the annual report submitted the Nunavut Impact Review Board, Indian and Northern Affairs Canada, and Kivalliq Inuit Association by January 31, as well as the Nunavut Water Board by March 31st of each year. Evolution of this Plan is evidenced most notably in the movement away from aerial wildlife survey work. Daily low-level aerial surveys, which were once recommended for monitoring caribou presence in close proximity to project activities, are now used infrequently because of concerns related to cumulative effects of aerial monitoring on caribou populations in the Kivalliq region. ARC is working closely with the GN-DoE to investigate options for collecting meaningful caribou population data using a less invasive methodology.

2 MONITORING PLAN

The monitoring plan was designed to provide the following information:

- Locate caribou groups (particularly cows and calves) within 10 km of exploration activities to implement mitigation measures (see Mitigation and Protection Measures); and
- Contribute to the information on caribou numbers, frequency of occurrence, and distribution in the Project area.

ARC will implement the wildlife monitoring procedures outlined in the following sections.

2.1 Ground-Based Monitoring

ARC will employ a fully independent Inuit wildlife monitor(s), preferably from the community of Baker Lake, to conduct ground surveillance throughout the field season. ARC Staff from Environment, Health and Safety (EHS) will assist in the collection of ground-based monitoring observations. Ground-based monitoring surveys will be used to identify caribou and other wildlife species present near Project activities, and to identify caribou aggregations or predators that may have implications for Project operations. When disturbance or potential disturbance to caribou is noted, adaptive mitigation options will be implemented. All observations are recorded on field forms, and a summary is provided to GN-DoE on a monthly basis.

Independent Inuit wildlife monitors will have access to all Project activities, will interact daily with the Environment and Radiation Protection Supervisor to plan activities and will be in a position to report back to the community and regulators on the effectiveness of mitigation and monitoring.

2.2 Baseline Data to Support an Environmental Assessment

- Wildlife survey data collected to support the development of an Environmental Impact Statement will be used to support site monitoring and help inform appropriate mitigation actions as required. The consulting Biologist will communicate regularly with the Environment and Radiation Supervisor or designate to ensure important wildlife observations are recorded and communicated to appropriate staff at site.

2.3 Aerial Observations

Wildlife observed during the transport of contractors and site staff will be recorded. Observations during daily transportation of field staff at altitudes greater than 300 m above ground will provide information about the presence of caribou.

2.4 Wildlife Logs

ARC has provided a wildlife log for all site personnel, contractors, and visitors to complete following the observation of any wildlife. Instructions regarding the log are provided during orientation. Forms

are used to record information in the field. All wildlife log information is transcribed to an electronic file and a summary is submitted to the GN-DoE on a monthly basis.

2.5 Caribou Radio-Collaring Data

The study area will be monitored for approaching caribou with the use of satellite collar information provided by caribou biologists with the Governments of Nunavut and the Northwest Territories**.** If a collared caribou is identified as being on the lease property or within 4 km, verification will occur through an aerial reconnaissance survey (>300 m if possible). Verification of caribou will help guide applicable mitigation measures.

2.6 Raptor Nest Monitoring

Where an active nest (from 2008 and 2009 surveys) is located within 1 km of camp or the proposed access road, a site-specific nest management plan will be developed. Nests will be observed from a distance of at least 100 m with a spotting scope, and information on behaviour, number of eggs, number of chicks, and number of fledged young will be determined.

3 MITIGATION AND PROTECTION MEASURES

Mitigation and protection measures are heavily based on compliance with permit/lease terms and conditions. Additional ARC commitments were adopted from recommendations from the GN-DoE, EC and BQCMB and some are ARC-led commitments. ARC will implement the following mitigation and protection measures for caribou, and other wildlife that are seasonal or annual residents of the Project area.

3.1 General Protection Measures

- Site activities (camp layout, drilling) will be performed in a manner that limits the size of the Project footprint.
- Staff will be required to follow the procedures in the "Safety in Bear Country" manual and all man-bear interactions will be reported to the nearest Renewable Resources Officer.
- If an incident occurs between a grizzly bear, wolverine, wolf, or fox and the field staff, an incident report will be filled out and ARC will contact the local wildlife officer with the GN for appropriate protocols and actions. An incident is defined as wildlife-caused damage to camp facilities, continued persistence of a carnivore(s) within the camp or drill rig area, and interactions between humans and wildlife that lead to harm to either.
- Use of "good house keeping" practices to maintain a garbage-free camp and exploration area, should limit the attraction of animals to the Project. All combustible garbage is burned in an incinerator and ash residue is placed in metal containers and disposed of in Baker Lake (see Waste Management Plan). Non-combustible waste is stored in the camp area and shipped to Baker Lake for disposal.
- ARC educates and enforces "no feeding or harassment of wildlife" and the appropriate response to animal encounters (especially carnivores and muskoxen).
- The use of firearms will continue to be strictly controlled. The only allowable use of firearms is the use of bear deterrence measures (e.g. shotguns, cracker shells and rubber bullets), and for safety kills to protect human life should a situation arise when other measures have failed.
- Hunting and trapping by ARC employees and contractors is prohibited on the ARC land lease.
- ARC employees and contractors must obtain proper Nunavut authorization prior to fishing in Nunavut.
- All wildlife have the "right-of-way" and will not be blocked or deterred from moving through the Project area.

- All materials, chemicals, and equipment will be removed from the drill sites and camp area at completion of the project as described in the Abandonment and Restoration Plan. The intent is to return the area as close as possible to the natural state.

- Implementation of the Noise Abatement Plan in order to protect people and wildlife from excessive noise levels cause by exploration and drilling activities

- All fuel burning equipment meet emission guidelines and are equipped with mufflers (see Environmental Code of Practice and Noise Abatement Plan).

- All chemicals are stored in double-walled containers or in secondary containment. In addition, diesel fuel, gasoline, and aviation fuel is contained within arctic berms or double-walled storage tanks (see Spill Contingency Plan). In the event of a spill, the Spill Contingency Plan will be implemented immediately. Used chemicals are stored for transportation off site for proper handling.

3.2 Caribou Protection Measures

The calving grounds for the Beverly and Qamanirjuak herds are approximately 70 km and 200 km from the proposed exploration areas, respectively. ARC does not conduct any activity within the designated Caribou Protection Areas or within the larger known Caribou Calving Grounds. The distance between the Kiggavik camp and the nearest known caribou water crossings is 25 km. During previous exploration activities, ARC staff and contractors have observed several caribou per day traveling through the Judge Sissons Lake area. ARC recognizes that there is a high probability that caribou will occur within the Project area during migration periods (i.e. April through September). ARC follows the DIAND Caribou Protection Measures as well as additional caribou protection and mitigation commitments.

To meet the regulatory guidelines for the Environmental Impact Statement (EIS), physical and biological (aquatic and terrestrial) baseline data are required. In Nunavut and the NWT, there are currently limited quantitative data on the distribution, probability of occurrence, or behavioral responses of barren-ground caribou to mineral exploration activities. Although previous government surveys and the movement of satellite-collared animals provide some information for the Beverly, Qamanirjuaq, Ahiak, Lorillard and Wager Bay herds, additional data on caribou distribution, group size, and group composition would be helpful for assessing and predicting effects from the Project to caribou. Aerial surveys of the LSA and RSA will be discontinued in 2009 at the request of the GN-DoE. Instead, resources (financial and manpower) will be made available to support government-led caribou population studies. Continual improvement will require ongoing discussions with government representatives and communities.

All ARC employees, contractors and visitors are responsible for the following.

- In the event that caribou cows calve outside the designated Caribou Protection Areas, ARC will suspend operations within 10 km of any area occupied by cows and calves between May 15 and July 15.

- ARC will suspend flights lower than 300 m above ground level (when safe to do so) and snowmobile and ATV use outside camp vicinity in the presence of caribou cows and calves.

- No camp construction, caching of fuel, blasting or drilling activities will occur within 10 km of a designated and/or recognized caribou crossing between May 15 and September 1 (i.e. during periods of migration). Operation of ground, air or water-based mobile equipment within 10 km of a caribou crossing is anticipated to happen infrequently and will only occur in the absence of caribou concentrations. Ground-based monitoring and/or aerial reconnaissance flights will be used to monitor caribou presence as required and appropriate prior to and during operations of mobile equipment.

- Concentrations of caribou (50 or more caribou within close proximity to one another) will be avoided by low-level aircraft at all times.

- During June and July (to avoid injuries to caribou and humans), activities will be suspended if concentrations of caribou (50 or more) approach within 2 km[1] of drilling operations. Activities can resume when caribou leave the area. If a concentration of caribou remains within 2 km of drilling operations for more than 2 days the Environment and Radiation Protection Supervisor will contact the Conservation Officer in Baker Lake to determine the next appropriate course of action.

- Caribou will have the "right-of-way", and will not be blocked or deterred from moving through the Project area. All activities that may interfere with migration will cease during migration.

- ARC will continue to make efforts to minimize the use of aerial surveys to obtain caribou information.

- ARC will forward any direction from GN-DoE or KIA regarding caribou monitoring to NIRB.

3.3 Raptor (and Other Migratory Bird) Protection Measures

ARC has implemented the following protection measures to mitigate potential impacts to raptors and other migratory birds.

- ARC will avoid unnecessarily disturbing known raptor nests from 15 April to 1 September by maintaining a 1.5 km buffer when in transit by aircraft and will avoid approaching known nests closely while on foot. Limited disturbance (e.g. raptor nest monitoring) within the aircraft buffer may occur infrequently prior to September in order to obtain necessary baseline data. The consulting biologist will be informed of all other potential disturbances in order to implement

[1] With respect to the recommendation for suspending activities when caribou are within 10 km of exploration activities (GN-DoE 2007, GN-DoE 2008), AREVA offers the following information and approach. Studies of woodland caribou have demonstrated avoidance of up to 1 km for well sites and 250 m for roads and seismic lines (Dyer et al. 2001). Data from the Ekati Diamond Mine suggests that the instantaneous negative response (alert, stop feeding) of barren-ground caribou to stressors (e.g., truck traffic) increases within 1 km of the source (BHPB 2004). Behaviour data also demonstrated that the amount of time spent feeding by females with calves was reduced when animals were within 5 km of Ekati mine footprint (BHPB 2004). The size and level of activity of the Kiggavik-Sissons project is much less than an operating diamond mine or road.

potential protection and mitigation measures, and to initiate monitoring efforts to determine vulnerability and susceptibility to the disturbance. Efforts to monitor disturbance response will help to inform future activities.

- An attempt will be made to prevent birds from nesting on man-made structures. If a nest site is established on a man-made structure and eggs are present, the nest will be avoided as much as possible and monitored for nest success.

- Where land disturbance activities occur during the breeding period for landbirds (i.e., 30 May to 31 July), a bird nest survey will be conducted prior to the disturbance. All nests will be recorded and efforts to create appropriate buffers (dependant on species tolerance and protection level) around migratory birds and species at risk will be made. Nests will be monitored for hatch or termination.

3.4 Flight Specific Mitigation

ARC will make efforts to avoid wildlife during flights and to avoid low-level flying to minimize impact of helicopter and airplane noise and presence. Some low-level flights may be occasionally required for wildlife monitoring/survey purposes, airborne gravity gradiometer surveys, land reconnaissance surveys, and during periods of poor weather.

- For long-range transportation flights and over large concentrations of caribou, the normal practice is to fly all aircraft at a minimum of 610 m above ground level. Exceptions may exist during take off and landing, low-level ceiling conditions, high winds, or other risks to flight safety. The reasons for flying at lower altitudes are documented.
- For relatively shorter transportation flights (e.g. movement of staff and equipment between camp and ore bodies within the Kiggavik lease), the normal practice is to fly all aircraft at a minimum of 300 m above ground level. Exceptions may exist during take off and landing, low-level ceiling conditions, high winds, or other risks to flight safety. The reasons for flying at lower altitudes are documented.
- Taking-off or landing of aircraft does not occur if large concentrations of caribou are within 1 km of the aircraft, except where safety is at risk or at the pilot's discretion.
- From 15 April to 1 September, ARC will not fly within 1.5 km of nesting raptors when in air transit and will avoid disturbance in poor weather. Efforts to protect raptors during baseline data collection are given in the previous section.
- Protection measures specific to low-level airborne gravity gradiometer (AGG) flights and AGG flight rationale given in the following section.
- Aircraft pilots are instructed not to fly over the Beverly calving ground to the northwest of the Project area.
- Track logs of helicopter flights are maintained.

Table 3.4-1 Required activities and their applicable frequencies and flying altitudes

Activity	Frequency	Flying Altitude (above ground)
Regular Long Distance Flights		>610 m
Short Distance Flights		>300 m – if achievable during duration of flight
Aerial Reconnaissance Surveys*	When required	>300 m
Aerial Surveys (collecting scientific baseline data)		150 m
Aerial Geophysical Surveys – Reconnaissance	Prior to conducting survey	>300 m
Aerial Geophysical Surveys	As required	120 m

* If required, as per collared satellite data

3.5 Mitigation Specific to Aerial Geophysical Surveys

This section provides a description of the Airborne Gravity Gradiometer survey for the Project including flight requirements. This description is followed by a plan for conducting the AGG survey in relation to concerns expressed by the GN on low-level flights and disturbance to caribou.

3.5.1 Survey Rationale

Airborne techniques are used extensively in mining exploration. Airborne gravity gradiometry surveys are normally conducted once in a cycle of exploration activity. Airborne gravity gradiometry delivers detailed sub-surface density information relating to the underlying geology which can be used as a means of targeting when layered with other geophysical and geological information. However, different methods such as Electromagnetics (EM), Magnetics and Radiometrics may be conducted in other years if required. The proposed survey configuration will combine AGG, Gravity and Magnetic Gradiometry in one survey. Flying altitudes and line spacings are the main factors that govern the resolution of the survey. To map the targets in the proposed flight plan both a tight line spacing (150 m) and an approximate altitude of 120 -200 m is required. Efforts are made to avoid flights below 120 m for safety reasons.

Airborne gravity gradiometry surveys can gain access to remote areas quickly and reduce exploration time. In addition, where environmental issues may limit the amount of exploration possible with ground activities, airborne surveys, in this case AGG, offers a solution to these issues. If flying over concentrations of caribou is avoided, then this technique is a non-invasive passive technology, an environmentally friendly alternative that will help to focus future ground-based activities while limiting or reducing impacts to the environment.

3.5.2 Survey Specifications

The chosen method for 2009 is to mount survey instrumentation in a suitable aircraft. Instrumentation includes the data acquisition system, which records full tensor gravity gradiometry, gravity, triaxial magnetic gradiometry, digital video, and a complete digital terrain model from an inertially referenced laser (Lidar) altimeter system. The specific requirements to complete this survey are:

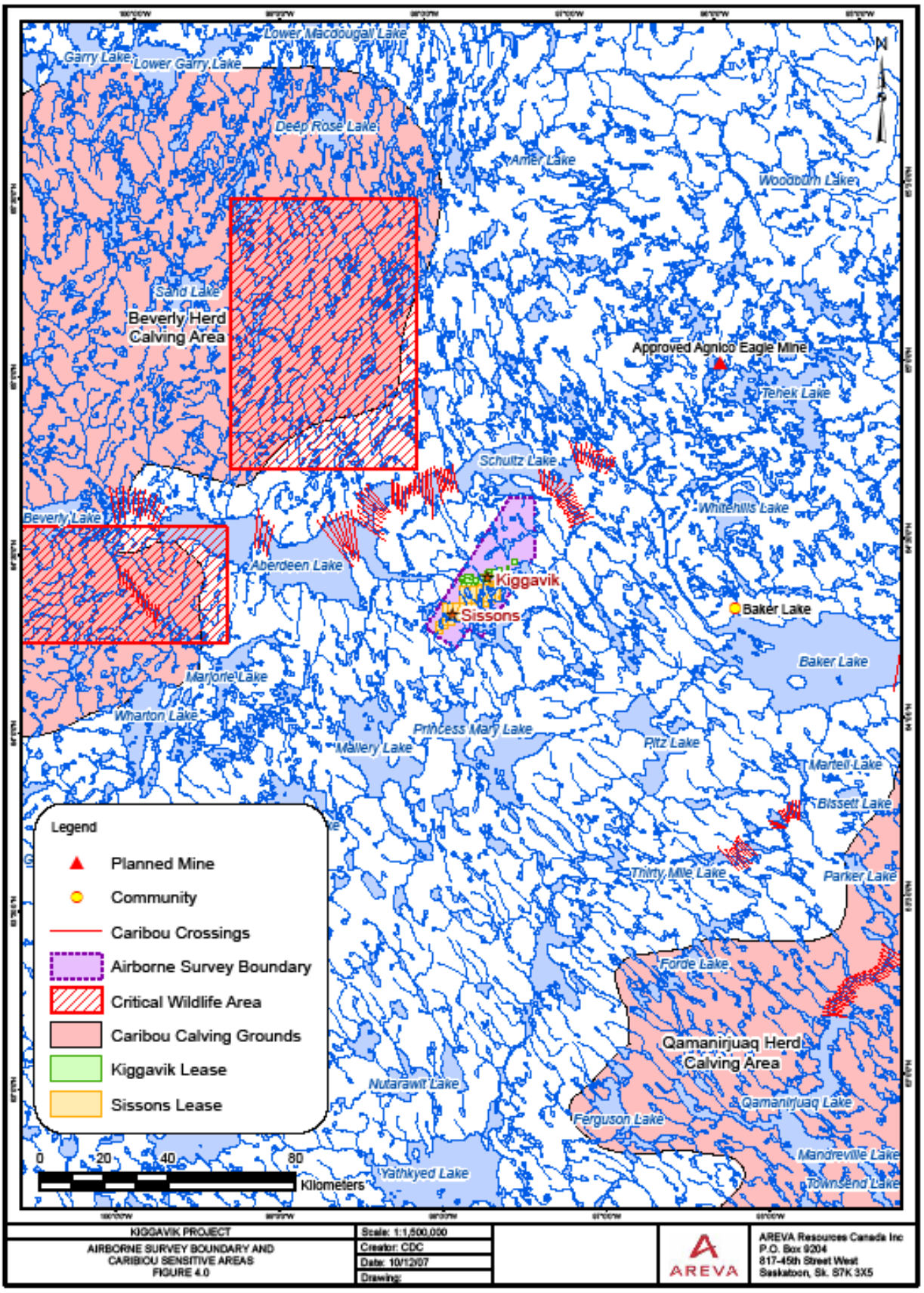
- Nominal Flying Height: 120 - 200 m;
- Flying Mode: Modified Drape;
- Line Spacing: 150 m;
- Tie Line Spacing: 750 m;
- Ground Cover Restriction: Results are much more precise without snow cover;
- Survey time: 20-50 days (depending on weather conditions and the presence of caribou within the survey area).

3.5.3 Protection Measures

The following protection measures apply to aerial geophysical surveys. The intent of these protection measures is to help ensure AGG surveys are only conducted when caribou disturbance can be avoided.

- Prior to initiating the survey program for the day, a reconnaissance flight is flown at an altitude of 300 m over the initial line of the proposed route to determine the presence of caribou. If the ceiling is lower than the 300 m but at an altitude that permits safe flying, the reconnaissance flight will be flown at the maximum altitude possible.
- If a concentration of caribou (50 or more individuals in close proximity to one another) are present within the area, then the aircraft will relocate to another part of the block and repeat the reconnaissance flight or will be postponed until the animals are a distance of 2 km from the survey area.
- If no caribou are observed within the survey route, then the survey proceeds at an altitude of approximately 120 m.
- A continuous watch is kept for caribou during the survey. If concentrations of caribou are observed in the study area during the survey, the survey is aborted.

The proposed window for these surveys is in June, after the northern migration when the cows are on the calving grounds and outside of the study area. The included Figure titled Airborne Survey Boundary and Caribou Sensitive Areas indicates the location of calving grounds in relation to the proposed AGG survey boundaries. The survey could also be completed in mid- to late-August if the cows and calves have moved away from the study area, but weather at that time of year may preclude aerial surveys.


Lower Macdougall Lake
Garry Lake
Lower Garry Lake
Deep Rose Lake
Amer Lake
Woodburn Lake
Sand Lake
Beverly Herd
Calving Area
Approved Agnico Eagle Mine
Tehek Lake
Schultz Lake
Whitehills Lake
Beverly Lake
Aberdeen Lake
Kiggavik
Sissons
Baker Lake
Baker Lake
Marjorie Lake
Wharton Lake
Princess Mary Lake
Mallery Lake
Pitz Lake
Martell Lake
Bissett Lake
Thirty Mile Lake
Parker Lake
Forde Lake
Qamanirjuaq Herd
Calving Area
Nutarawit Lake
Qamanirjuaq Lake
Ferguson Lake
Mandreville Lake
Townsend Lake
Yathkyed Lake
Legend
Planned Mine
Community
Caribou Crossings
Airborne Survey Boundary
Critical Wildlife Area
Caribou Calving Grounds
Kiggavik Lease
Sissons Lease
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KIGGAVIK PROJECT
AIRBORNE SURVEY BOUNDARY AND CARIBOU SENSITIVE AREAS
FIGURE 4.0
Scale: 1:1,600,000
Creator: CDC
Date: 10/12/07
Drawing:
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4 REPORTING

All wildlife activities will be reported and updated monthly during the field season to ensure quality of the Wildlife Mitigation and Monitoring Plan. Reports will be submitted by the Environment Supervisor or designate on site to the General Manager or designate in the Saskatoon office, the consulting biologist, local Hunter and Trappers organization (HTO) and the GN. The monthly reports will be used to help construct a year-end overview to be included in the Kiggavik Project Annual Report.

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