MARY RIVER PROJECT
Pre-Development Works

APPENDIX B.8
WILDLIFE MANAGEMENT PLAN

Adapted from Appendix 10D-11 of the DEIS.

Wildlife Management Plan

1.0 INTRODUCTION

1.1 PURPOSE

This management plan is prepared within the context of the Baffinland Mary River Draft Environmental Impact Statement (DEIS), but applies only to terrestrial wildlife that are likely to interact with components required as part of pre-development activities. A more complete project description of all components is found in Volume 3: Project Description and further management plan descriptions in Appendix 10-D11 of the Draft Environmental Impact Statement. The goal of the Management Plan for the pre-development work is to construct necessary facilities while at the same time ensuring that a no-go decision will allow for a return to pre-development conditions.

The Terrestrial Wildlife Management Plan provides guidance to protect and limit disturbances to vegetation, birds, and terrestrial wildlife resulting from Predevelopment Project activities. The Terrestrial Wildlife Management Plan describes mitigation and monitoring actions Baffinland Iron Mines Corporation (Baffinland) will use so the Mary River Project (the Project) Predevelopment Activities has no net adverse impacts on the terrestrial environment. These actions include employee and subcontractor training programs, and adoption of shipping policies to reduce potential Project-related impacts.

1.2 REGULATORY REQUIREMENTS

The following legislation and regulations related to the protection of birds and terrestrial wildlife applies for the Project area:

Territorial Legislation

- Nunavut Wildlife Act
- Nunavut 2010 Hunting Regulations

Federal Legislation

- Migratory Birds Act (Canadian Wildlife Service)
- Nunavut Land Claims Agreement
- Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA) (Canadian legislative vehicle to meet obligations under the Convention on International Trade in Endangered Species, CITES)
- Species at Risk Act

International Conventions and Agreements

- Convention on Biological Diversity
- Convention on International Trade in Endangered Species (CITES)
- International Agreement on Humane Trapping Standards
- International Agreement on Conservation of Polar Bears and Their Habitat

1.3 RELATIONSHIP TO OTHER MANAGEMENT PLANS

This plan should be viewed in concert with the following environmental management plans:

• Environmental Design Guidelines
• Exploration and Pre-Development Environmental Protection Plan (EPP)

• Air Quality and Noise Abatement Management Plan
• Surface Water and Aquatic Ecosystems Management Plan
• Borrow Pit and Quarry Management Plan
• Roads Management Plan
• Railway Management Plan

1.4 BAFFINLAND'S COMMITMENT

Baffinland provides adequate resources to implement and maintain the EHS Management System, including the necessary human, material, and financial resources. For Baffinland's Sustainable Development Policy, see Figure 1.0.

Figure 1.0 Sustainable Development Policy

1.5 UPDATE OF THIS MANAGEMENT PLAN

The Terrestrial Wildlife Management Plan will be updated periodically.

2.0 TARGETED Valued Ecosystem Components

The Terrestrial Wildlife Management Plan focuses on the targeted valued ecosystem components (VECs) and their key indicators (KIs; see Table 7.8.1). KIs for each VEC were chosen based on criteria outlined in Volume 2 (Impact Assessment Methodology, DEIS 2011), and baseline information.

Table 2-1: Targeted VECs and Key Indicators

VEC	Key Indicators
Vegetation	Vegetation; Blueberry
Birds	Peregrine Falcon; Snow Goose; Common and King Eider; Red-throated Loon
Terrestrial Wildlife	Caribou

2.1 VEGETATION

Two KIs for vegetation including vegetation as a whole and blueberry (a culturally-valued species) have been selected. Vegetation is a primary habitat characteristic selected by birds and terrestrial wildlife; therefore, vegetation is a key indicator in documenting changes to the ecosystem due to Project effects. Vegetation abundance, diversity, and health are commonly and easily monitored. Blueberries are one of the traditionally harvested and valued plant species in the RSA. Blueberries were identified as a KI because they are locally abundant and widespread through the RSA.

2.2 BIRDS

The four KIs identified for birds include:

• Peregrine Falcon

• Snow Goose

• Common and King Eider

• Red-throated Loon

The local Peregrine Falcon subspecies (Falco peregrinus tundrius) is abundant and widespread in the regional study area (RSA), and this area is therefore considered important breeding ground for this species. Peregrine Falcon's widespread distribution both in and outside the local study area (LSA) allows for monitoring and comparisons between LSA study plots and control site study plots. Peregrine Falcons also serve as a useful KI for other cliff-nesting raptors in the area (Rough-legged Hawk and Gyrfalcon).

Snow geese are both culturally and ecologically important in the RSA. Because of their numbers and sensitivity to disturbance, it was decided that this species was a suitable KI candidate for long-term Project effects monitoring programs (DEIS 2011).

Eiders have been rated as Sensitive by the Government of Nunavut and, although they are not listed by Committee on the Status of Endangered Species in Canada (COSEWIC) and Species At Risk Act (SARA), they have recently been identified as a Species of Interest by the Canadian Wildlife Service because of an unexplained nationwide decline observed over the past decade (DEIS 2011). Migrating Common and King Eiders were seen in large numbers in the coastal waters of the RSA during their spring and fall migrations, and dozens of females were seen raising broods in Steensby Inlet around the proposed port location. IQ studies indicated that eiders have similar cultural importance as snow geese in terms of harvesting and consumption, and some Inuit still use eider feathers in clothes, pillows, and quilts.

All four species of North American loon (Red-throated, Common, Pacific, and Yellow-billed) were recorded breeding in the RSA, however, Red-throated Loons were by far the most abundant and most widely distributed. The species is ecologically important to the local environment based on their abundance, distribution, and position in the food-chain. Loons are commonly used as indicators of high-quality aquatic habitats because they are relatively sensitive to environmental change. Many studies have used loons in monitoring programs as a surrogate indicator of changes in the health of aquatic ecosystems in response to various environmental impacts (DEIS 2011).

2.3 TERRESTRIAL WILDLIFE

Caribou were identified as the terrestrial wildlife KI because of their ecological and social importance, and they are in part representative of a north Baffin Island terrestrial wildlife response to the Project. Caribou appear to be a keystone species in the north Baffin Island ecosystem as the abundance of many other animals, particularly the island's carnivores, seem to be related to caribou abundance and distribution. Also, caribou were consistently identified as an important species to local communities. When present, caribou are harvested and consumed by local people, and hunters from nearby communities currently harvest caribou within the RSA. Caribou have historically been, and continue to be, a key component of Inuit diet and culture. Additionally, many studies have been conducted on caribou responses to industrial activities throughout the species range.

3.0 MITIGATION MEASURES

3.1 Vegetation – General Mitigation Measures

Vegetation will be impacted mostly by physical disturbance (footprint of facilities), exhaust emissions, dust deposition and surface water quality. Thus, mitigation measures for vegetation are mainly related to limiting the physical footprint of the facilities, and reducing gaseous emissions and dispersal of particulates. Mitigation measures are detailed below.

The Environmental Design Guidelines presented in Volume 10, Section 3.0 of the Draft EIS outlines the steps taken by Baffinland to minimize the footprint of the facilities and the location of facilities with respect to environmentally sensitive habitats. Refer to Air Quality and Noise Abatement Management Plan and the Surface Water, Aquatic Ecosystem, Fish and Fish Habitat Management Plan for a description of mitigation measures related to air quality (DEIS 2011).

Mitigations to reduce PDW effects on vegetation abundance and diversity, and culturally valued vegetation include:

• Project activities will be planned and conducted to minimize the project footprint within the PDA.

• Project vehicles will stay on the established roads within the PDA during PDW, limiting new disturbance to the PDA.

• Disturbed terrestrial habitat will not be reseeded during PDW or during closure. Re-vegetation of the terrestrial habitat will be allowed to occur naturally. The mitigation will reduce the likelihood of invasive plant species becoming established within the RSA due to PDW development activities.

• Equipment brought to the PDW site will be cleaned of soils that could contain plant seeds that do not naturally occur in the RSA. The mitigation will reduce the likelihood of invasive plant species becoming established within the RSA due to Project development activities.

Mitigation measures to reduce effects on vegetation health will be addressed by those measures used to mitigate effects on air quality.

3.2 General Bird Mitigations

General mitigation measures that will be applied to all bird KIs include:

• Minimizing the PDW footprint to the extent possible, thus minimizing the direct loss of habitat or the reduction of habitat effectiveness.

• Implementing no-hunting policies and employee training to ensure workers do not disturb, harass, or feed wildlife.

• Avoiding areas of large concentrations of foraging or moulting birds; the avoidance of known nests or nesting areas by Project personnel and equipment to the extent possible.

• Conducting nest searches for all birds in areas to be disturbed during the nesting season, before starting PDW activities.

• Implementing nest-specific management plans for any nest sites that may require PDW activity to take place within 500 m.

• Preventing air traffic below 500 m above ground level (agl) over known nests and nesting areas during the nesting period, and over any large concentrations of birds.

• Developing appropriate aircraft approach and departure flight paths, to the extent possible, for the airstrips at the Milne and Steensby Inlet port sites to reduce the likelihood of bird strikes.

Since the bird KIs are considered reliable proxies for many species of birds that have similar habitat use patterns in the LSA, these mitigation measures will serve to protect several species in the area.

3.2.1 Nest-Specific Mitigations

In some cases it may not be feasible to maintain a 500 m buffer between known nests and PDW activities. In such cases, specific-nest management plans will be developed and these will outline proper operating procedures for all personnel to minimize the duration of the activity and the magnitude of the disturbance. Qualified personnel will monitor each nest in a manner that does not cause added disturbance to the nest.

3.2.2 Peregrine Falcon Mitigations

The Project area in general has a high density of breeding Peregrine Falcons and although the assessment concluded that PDW will have no population-level impacts, the potential to disturb and disrupt individuals is possible and proper mitigation procedures must still be implemented to minimize unforeseen effects. General mitigation measures applied in all areas of the PDW footprint will mitigate effects to Peregrine Falcons and, additionally, personnel and equipment will, to the extent possible, avoid known nests, and

avoid areas where birds exhibit territorial behaviour indicative of nearby nests.

3.2.3 Snow Geese, Eiders, and Loons Mitigations

The potential impacts on geese, eiders, and loons are expected to be low and localized to only a few water bodies found adjacent to the Milne Inlet Tote Road, and therefore, no specific additional mitigation measures are proposed for these species.

3.3 TERRESTRIAL WILDLIFE

Mitigations measures for caribou are described for each of the issues identified as potentially affected by PDW activities.

3.3.1 Habitat Mitigations

Sensory disturbances that affect habitat effectiveness within a ZOI can only be partially mitigated. Caribou will find some PDW activities disturbing, and the degree to which caribou will adapt to those disturbances is not known. Mitigation measures that will reduce the likelihood of reduced habitat effectiveness for caribou include:

• Dust suppression on the tote road during the growing season.

3.3.2 Movement Mitigations

The effect of PDW activities on caribou movement is not expected to be significant. Mitigation measures that will reduce the likelihood of a barrier effect on caribou movement include:

- Snow management that will grade snow banks along roadway so that caribou can easily cross the transportation corridor without being blocked by steep snow banks.
- Aircraft delivering supplies and are expected to fly at altitudes above 300 m.

3.3.3 Mortality Mitigations

Baffinland has a No Hunting/No Fishing policy for its employees.

There are no expected residual effects of the project on caribou mortality. Mortality, if it occurs, will be limited to individuals, within the PDA, and occur rarely. The effect of PDW on caribou mortality is not expected to be significant. Mitigation measures that will reduce the likelihood of PDW having an effect on caribou mortality include:

- Adjusting speed limits for trucks that will allow caribou time to get off the road, and will increase the chance of a truck being able to stop before colliding with a caribou.
- Enforcement of Baffinland's no-hunting policy for all personnel while working onsite.

4.0 ROLES AND RESPONSIBILITIES

Baffinland's Environmental Department is responsible for monitoring compliance with applicable regulations and permit requirements.

Compliance is achieved through ongoing monitoring, and development and implementation of operational standards, procedures, and employee training. Where required specialist consultants may be required to carry out work (i.e. nest survey's) to ensure compliance with regulations prior to and during PDW . Baffinland will endeavour to hire qualified personnel to conduct these studies. As much as possible, Baffinland will insist on inclusion/participation of local experts/individuals in the execution of this work and or mitigation measures.

5.0 MONITORING AND FOLLOW-UP

The Terrestrial wildlife monitoring program will be developed with the anticipation that the Baffinland Mary River Project will be approved. Additional baseline information on birds and terrestrial wildlife will be collected during 2012. The scope and extent of these additional baseline studies will be defined in the FEIS (to be submitted in January 2012).

During the PDW period, all site personnel will be required to report wildlife sighting as per EPP procedures. Truck drivers and all employees will be required to report caribou sightings in the project development area (PDA) and along the transportation corridor. Records will be kept of all sightings in wildlife sightings logs.