



Environment Environnement
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RE: NIRB 09YA006 / NWB 3BC-MBA – David Burgess, Geological Survey of Canada – Mass Balance of the Arctic Glaciers and Arctic Pollution

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned applications. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities arising from *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Environment Canada would like to remind the proponent that there are four Ivory Gull colonies on Eastern Devon Island. The locations of the colonies are as follows:

- Belcher Glacier: 75 degrees 28.120 min N Lat., 81 degrees 22.103 min W Long.
- Raper Point: 75 degrees 20.447 min N Lat., 80 degrees 44.663 min W Long.
- Bethune Inlet: 74 degrees 57.185 min N Lat., 81 degrees 0.043 min W Long.
- Bethune Inlet: 74 degrees 46.300 min N Lat., 80 degrees 42.000 min W Long.

Ivory Gulls are considered species of special concern according to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). These gull colonies may be encountered during the proposed research work. Considering the timing of the proposed operations, work should be finished before the gulls return to the colonies to nest. Environment Canada would like to request that any sightings of Ivory Gulls be reported to the Canadian Wildlife Service at (867) 975-4637.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

1. The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes, or sediment into any water body. According to the *Fisheries Act*, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
2. The proponent shall not erect camps or store material on the surface ice of streams or lakes.
3. All fuel caches shall be located above the high water mark of any water body. EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location.
4. Drip pans should be used while refuelling any equipment on site.

5. EC recommends that the proponent use a sturdier, more puncture resistant, type of container to store and transport any spilled material and contaminated snow. As well, it is recommended that in addition to supplies to clean up any potential spills, all spill kits on site should include equipment to contain a spill in progress and extra storage capacity to contain 110% of fuel spilled or a container 10% larger than the largest fuel container on site in case fuel must be transfer from a damaged storage container.
6. The proponent should be aware that any spill of fuel or hazardous materials, adjacent to or into a water body, **regardless of quantity**, shall be reported immediately to the NWT 24-hour Spill Line, (867) 920-8130.
7. Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. If active nests are encountered during project activities, the nesting area should be avoided until nesting is complete (i.e., the young have left the vicinity of the nest).
8. Environment Canada recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) be made inaccessible to wildlife at all times. Such items can attract predators of migratory birds such as foxes, ravens, gulls, and bears. Although these animals may initially be attracted to the novel food sources, they often will also eat eggs and young birds in the area. These predators can have significant negative effects on the local bird populations.
9. Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
10. In order to reduce aircraft disturbance to migratory birds, Environment Canada recommends the following:
 - a. Fly at times when few birds are present (e.g., early spring, late fall, winter)
 - b. If flights cannot be scheduled when few birds are present, plan flight paths that minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet).
 - c. Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting.
 - d. Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1100 m (3500 feet) over areas where birds are known to concentrate.
 - e. Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km.
 - f. Avoid excessive hovering or circling over areas likely to have birds.
 - g. Inform pilots of these recommendations and areas known to have birds.
11. The following comments are pursuant to the *Species at Risk Act* (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner.

Terrestrial Species at Risk potentially within project area ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Ivory Gull	Special Concern	Schedule 1	EC

¹ The Department of Fisheries and Oceans has responsibility for aquatic species.

² Environment Canada has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the *Migratory Birds Convention Act* (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Thus, for species within their responsibility, the Territorial Government is best suited to provide detailed advice and information on potential adverse effects, mitigation measures, and monitoring.

Impacts could be disturbance.

Environment Canada recommends:

- Species at Risk that could be encountered or affected by the project should be identified and any potential adverse effects of the project to the species, its habitat, and/or its residence noted. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the Species at Risk registry at www.sararegistry.gc.ca for information on specific species.
- If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat and/or its residence.
- Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.
- For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
- Mitigation and monitoring measures must be taken in a way that is consistent with applicable recovery strategies and action/management plans.

Environmental Protection Operations (EPO) should be notified of changes in the proposed or permitted activities associated with this application. Please do not hesitate to contact me at (867) 669-4746 or jane.fitzgerald@ec.gc.ca with any questions or comments.

Yours truly,

Jane Fitzgerald
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Assessment & Monitoring, EPO)
Carrie Spavor (EA Coordinator, EPO)