



Environmental Protection Operations
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Our file: 4704 004 024
Your file: 09YN002

Leslie Payette
Manager of Environmental Administration
Nunavut Impact Review Board
P.O. Box 1360
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Re: NIRB 09YN002 – Jason Briner – “Glacier and Climate Evolution of Baffin Island, Arctic Canada” Project

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

Jason Briner, Department of Geography, University of Buffalo, is proposing to conduct scientific research on Baffin Island to determine the glacier and climate evolution on long, prehistoric time scales. The work will involve obtaining rock and lake sediment samples from four locations on Baffin Island: (1) Clyde River region, (2) North Baffin, small ice caps, (3) East Baffin, Qivitoo sea cliffs, and (4) Southwest Baffin, Iqaluit Lakes. Rock samples will be collected by hand, while lake sediment samples will be collected either through holes in the lake ice or by boat. The research will involve between two to four people at each location and will occur between April 15 – August 31, 2009. Personnel will be housed in temporary camps for 12-20 days at each location during the project.

Based on the information provided, EC does not have any concerns with the proposed activities as described. However, EC does recommend that the following general conditions be applied throughout all phases of the project:

1. The proponent shall ensure that any chemicals, fuel, or wastes associated with the proposed land use permit amendment application do not enter waters frequented by fish. It is a requirement of Section 36(3) of the *Fisheries Act* that all effluent discharged into water frequented by fish, be non-deleterious.
2. Any fuel caches shall be located above the high water mark of any water body. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions.
3. Drip pans, or other similar preventative measures, should be used when refueling equipment on site.
4. 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
5. All sumps used for the disposal of camp greywater and sewage shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any

water body frequented by fish. Further, all sumps shall be backfilled upon completion of the project and contoured to match the surrounding landscape.

6. 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 to prevent disturbance (i.e. the young have left the vicinity of the nest).
7. In order to reduce disturbance to nesting, moulting, and migrating birds, Environment Canada recommends that aircraft used in conducting project activities maintain a flight altitude of at least 650 m during horizontal (point to point) flight unless safety or cloud ceiling do not permit. Environment Canada also recommends that aircraft maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.
8. Environment Canada recommends that camp waste be made inaccessible to wildlife at all times. Camp waste can attract predators of migratory birds (e.g., foxes and ravens) to an area if not disposed of properly.
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. All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
11. Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*). The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.
12. 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.
 - 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.

If there are any changes in the proposed activities, EC should be notified, as further review may be necessary. Please contact me with any questions or comments with regards to the foregoing at (867) 669-4746 or by email at jane.fitzgerald@ec.gc.ca

Yours truly,

Jane Fitzgerald
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cc: Carey Ogilvie (Head, EA-North, Environment Canada)