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Environmental Protection Operations Directorate (EPOD)
Prairie and Northern Region (PNR)
Qimugjuk Building
P. O. Box 1870
Iqaluit, NU X0A 0H0

August 8, 2014

EC file: 6500 000 151
NIRB File: 14YN032

Tara Arko
Technical Advisor
Nunavut Impact Review Board
P.O. Box 1360
Cambridge Bay, NU X0B 0C0

via: Info@nirb.ca

RE: Part 4 Screening - Natural Resources Canada's "Seabed Mapping of Frobisher Bay to Support Infrastructure Development and Natural Hazard Assessment" Project Proposal.

Environment Canada (EC) has reviewed the information submitted to the Nunavut Impact Review Board (NIRB) regarding the above-mentioned project proposal and is submitting comments on mitigation measures as well as other matters of importance to the project proposal as requested by NIRB. EC's specialist advice is provided pursuant to the *Canadian Environmental Protection Act 1999*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* (MBCA), and the *Species at Risk Act* (SARA).

The project would survey areas within Frobisher Bay, from Iqaluit to as far as Resolution Island and intends to develop a detailed map of the seabed of Frobisher Bay.

For further clarification on any aspect of the submission, please contact me at (867) 975-4982 or John.Price@ec.gc.ca.

Sincerely,

John Price
Environmental Assessment Officer

Attached – Environment Canada's Comments

cc: Carey Ogilvie, Head, Environmental Assessment North (NT & NU), EPOD-PNR, EC
Michael Mohammed, Senior Environmental Assessment Coordinator, EPOD-PNR, EC
Paula Smith, Environmental Assessment Coordinator, Canadian Wildlife Service - Eastern Arctic, EC



Environment Canada's Comments

General

1. Subsection 36(3) of the *Fisheries Act* specifies that, unless authorized by federal regulation, no person shall deposit or permit the deposit 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. In the definition of deleterious substance Subsection 34(1) of the *Fisheries Act* includes "any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water." Subsection 36(3) makes no allowance for a mixing or dilution zone at the point of deposit.

Spills

2. Please note that according to the Aboriginal Affairs and Northern Development Canada's "Guidelines for Spill Contingency Planning" (April 2007), available at <http://www.aadnc-aandc.gc.ca/eng/1100100024236/1100100024253>, all releases of harmful substances, regardless of quantity are to be reported to the NWT / NU 24-hour Spill Line, (867) 920-8130 if the release is near or into a water body, is near or into a designated sensitive environment or sensitive wildlife habitat, poses imminent threat to human health or safety, poses imminent threat to a listed species at risk or its critical habitat, or is uncontrollable.

Wildlife and Species at Risk

3. EC notes that the proposed project has the potential to overlap Frobisher Bay key marine habitat site for migratory birds and Hantzsch Island which has been identified as a terrestrial key migratory bird site. Significant concentrations of marine birds are distributed through this region and Hantzsch Island is an important breeding colony for Thick-billed Murres. Large numbers of Black-legged Kittiwakes also nest on the island and Glaucous Gulls and possibly Northern Fulmars and Black Guillemots breed here. Nesting seabirds are sensitive to disturbance and pollution and the proponent should avoid activities in areas identified as key migratory bird sites from May to October. This includes ensuring no low-level flights occur in these areas.

For further information on Hantzsch Island key terrestrial habitat site, refer to site NU 49 (page 90) in: Latour, P.B., J. Leger, J.E. Hines, M.L. Mallory, D.L. Mulders, H.G. Gilchrist, P.A. Smith and D.L. Dickson. 2008. Key Migratory Bird Terrestrial Habitat Sites in the Northwest Territories and Nunavut. 3rd edition. Canadian Wildlife Service Occasional Paper No. 114.

Available on-line at:

<http://publications.gc.ca/site/eng/317630/publication.html>

For further information on Frobisher Bay key marine habitat site, refer to site NU 28 (pages 66-67) in: Mallory, M.L. and A.J. Fontaine. 2004. Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories. Canadian Wildlife Service Occasional Paper No. 109.

Available online at:

<http://publications.gc.ca/site/eng/392824/publication.html>



4. Paragraph 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).

The Proponent should consult the fact sheet “Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs” available at: <http://www.ec.gc.ca/paom-itmb/> for further guidance.

5. EC 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.
6. Section 5.1 of the MBCA 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.
7. The following comments are pursuant to the SARA, which came into full effect on June 1, 2004. Subsection 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 subsection applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, EC 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. The Table below lists species that may be encountered in the project area that have been assessed by COSEWIC as well as their current listing on Schedule 1 of SARA (and designation if different from that of COSEWIC). Project impacts could include species disturbance, attraction to operations and destruction of habitat.

Table 1. Terrestrial Species at Risk potentially occurring within the project area.

Terrestrial Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Lead Management Responsibility ²
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex ³)	Schedule 1	Government of Nunavut (GN)
Polar Bear	Special Concern	Schedule 1	GN
Wolverine (Western population)	Special Concern	No status	GN
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Red Knot	Endangered	Schedule 1	EC



(<i>rufa</i> subspecies)			
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC

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

² EC 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 MBCA. Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

³ The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern, and was added to Schedule 1 of SARA in July 2012.

- For any Species at Risk that could be encountered or affected by the project, the proponent should note any potential adverse effects of the project to the species, its habitat, and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the Species at Risk registry at <http://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.

8. EC notes that the *rufa* subspecies of Red Knot (a shorebird) was added to Schedule 1 of SARA as an Endangered species in July 2012. The Red Knot (*rufa* subspecies) breeding range overlaps with the location of the proposed project area. Although the major threats to Red Knot relate to habitat degradation in the wintering areas and decreases in food resources during spring migration, the proponent should ensure that extra precautions are taken to avoid any disturbance to the Red Knot or its habitat during the breeding season. Red Knots nest on barren habitats (often less than 5% vegetation) such as windswept ridges, slopes or plateaus. Nest sites are usually in dry, south-facing locations, within 500 m of wetlands or lake edges, where the young are led after hatching. Nests are simple scrapes on the ground in small patches of vegetation. Nesting occurs in June with hatching in early July. If an active Red Knot nest is encountered during project activities, or observations of Red Knot in the area suggest that a nest could be nearby, the proponent should avoid all activities in the area until nesting is complete (i.e., likely only resume activities in the area until after mid-July).



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Left: A Red Knot doing a distraction display which indicates a nest is in close vicinity.

Right: A Red Knot nest in dry, sparsely vegetated upland within 500m of a wetland.

9. Ivory Gulls are medium-sized gulls that can be identified by their pure white plumage and black legs. Ivory Gulls nest in colonies on windswept plateaus, ice-choked islands, or on steep cliffs of mountains protruding from glaciers. Ivory Gulls nest on the Inglefield Mountains on Ellesmere Island and eastern Devon Island (Sites 1 and 11 in Latour et al. 2008). It is possible that Ivory Gull colonies exist in the High Arctic that have not been noted. If inland groups of gulls are encountered that could be nesting Ivory Gulls, these areas should be avoided to prevent disturbance and observations reported to the Canadian Wildlife Service of EC.
10. Harlequin Ducks spend most of the year in coastal marine environments, but they move inland each spring to breed along fast-flowing turbulent streams. Their nests are usually built on the ground along the stream banks. Harlequin Ducks are tolerant of moderate levels of disturbance, but they will abandon a site when the disturbance becomes chronic. Disturbance events can include boating and chronic human presence. If a Harlequin Duck nest or a hen with ducklings is encountered, the proponent should avoid activities in the area until nesting is complete and the brood has moved beyond the range of disturbance.
11. The following setback distances are recommended to minimize disturbance to nests for different bird groups nesting in tundra habitat (see footnotes for adjustments to setbacks for sensitive species and species at risk):

Species Group	Pedestrians /ATVs (m)	Roads / Construction / Industrial Activities (m)
Songbirds	30	100
Shorebirds	50 ^a	100 ^a
Terns/Gulls	200 ^b	300 ^b
Ducks	100	150
Geese	300	500
Swans/Loons/Cranes	500	750

^a If project activities are within the breeding ranges of American Golden Plover or Ruddy Turnstone, these setbacks should be increased to 150 m for Pedestrians/ATVs and 300 m for Roads/Construction/Industrial Activities respectively. If project activities are within the breeding ranges of Black-bellied Plover, Whimbrel or Red Knot (a Species at Risk), these setbacks should be increased to 300m for Pedestrians/ATVs and 500m for Roads/Construction/Industrial Activities. If field crew are trained in the identification of these species then these higher setbacks need only apply to these more sensitive species, and lower setbacks can be used for the remaining shorebird species. In areas where several species are nesting in proximity, setbacks for the most sensitive species should be used if they are present.



^b If project activities are in proximity to breeding colonies of Ross's Gull (SAR) or Ivory Gull (SAR) these setbacks should be increased to 500m Pedestrians/ATVs and 750m for Roads/Construction/Industrial Activities.

12. The Canadian Wildlife Service of EC is interested in observations of birds, especially observations of birds identified as Species at Risk (e.g., Harlequin Duck, Ivory Gull, Ross's Gull and Red Knot) or of species occurring outside their known ranges. Proponents are encouraged to submit their observations to eBird Canada (<http://ebird.org/content/canada>). Observations submitted to eBird are immediately available to anyone interested in birds in the north. Observations can also be sent to the NWT/NU Bird Checklist program:

NWT/NU Bird Checklist Survey
Canadian Wildlife Service, Environment Canada
5019 - 52 Street, 4th Floor
P.O. Box 2310
Yellowknife NT, X1A 2P7
Phone: 867.669.4771
email: NWTChecklist@ec.gc.ca

Please contact the Canadian Wildlife Service for blank checklist forms.

13. 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.
14. Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the MBCA, Migratory Birds Regulations, and the SARA. The proponent must ensure they remain in compliance during all phases and in all undertakings related to the project.