



## SCREENING DECISION REPORT NIRB FILE NO.: 10YN046

July 13, 2010

Honourable Daniel Shewchuk  
Minister Responsible for Nunavut Arctic College  
Iqaluit, NU

Via email: [dshewchuk@gov.nu.ca](mailto:dshewchuk@gov.nu.ca) or [thughes@gov.nu.ca](mailto:thughes@gov.nu.ca)

**Re: Screening Decision Report for Queen's University - Melissa Lafreniere's "Climate Change Impacts on River Flows, Sediment Loads, and Water Quality" Project Proposal (NIRB File No.: 10YN046)**

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Dear Honourable Daniel Shewchuk:

The primary objectives of the Nunavut Impact Review Board (NIRB) are set out in Section 12.2.5 of the Nunavut Land Claims Agreement (NLCA) as follows:

*In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.*

Section 12.4.4 of the NLCA states:

*Upon receipt of a project proposal, NIRB shall screen the proposal and indicate to the Minister in writing that:*

- a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;*
- b) the proposal requires review under Part 5 or 6; NIRB shall identify particular issues or concerns which should be considered in such a review;*
- c) the proposal is insufficiently developed to permit proper screening, and should be returned to the proponent for clarification; or*
- d) the potential adverse impacts of the proposal are so unacceptable that it should be modified or abandoned.*

## NIRB ASSESSMENT AND DECISION

After a thorough assessment of all material provided to the Board (please see *Procedural History* and *Project Activities* in **Appendix A**), in accordance with the principles identified within Section 12.4.2 of the NLCA, the decision of the Board as per Section 12.4.4 of the NLCA is:

**12.4.4 (a):** the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5.

### RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS (pursuant to Section 12.4.4(a) of the NLCA)

The Board is recommending that the following or similar project-specific terms and conditions be imposed upon the Proponent through all relevant legislation:

#### General

1. Queen's University-Melissa Lafreniere (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to NIRB in support of the project proposal (*Nunavut Research Institute Application*, date June 7, 2010, and *Letter to Pangnirtung HTO* dated May 28, 2010).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

#### Water

5. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

#### Waste

6. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at approved facilities in the community of Pangnirtung. All wastes shall be kept inaccessible to wildlife at all times.

#### Fuel Storage

7. The Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.
8. The Proponent shall report all spills of fuel, or other deleterious materials immediately to the 24 hour Spill Line at (867) 920-8130.

## **Wildlife**

9. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
10. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
11. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered (i.e. with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
12. The Proponent shall cease activities that may interfere with migration or calving of caribou, until the caribou have passed or left the area.
13. The Proponent shall ensure all project staff are trained in appropriate bear/carnivore detection and deterrent techniques.

## **Physical Environment**

14. The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. The Proponent shall suspend overland travel of equipment or vehicles if rutting occurs.
15. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

## **Camp**

16. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.

## **Restoration**

17. The Proponent shall remove all garbage and fuel at each field season.
18. The Proponent shall complete all clean-up campsite, and restoration of the lands used prior to the final abandonment.

## **Other**

19. The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.

## **MONITORING AND REPORTING REQUIREMENTS**

In addition, the Board is recommending the following:

1. Following the conclusion of project activities, the proponent should submit a record of any Harlequin Duck observations within the project area to the Canadian Wildlife Service through the NWT/NU Bird Checklist program by telephone (867) 669-4773 or Email: [NWTChecklist@ec.gc.ca](mailto:NWTChecklist@ec.gc.ca), including the following:
  - a. The record of locations (i.e., latitude and longitude), number of the ducks and the

- active nests (with eggs or young), a description of the gender of the ducks, and their reaction to the disturbances from the project activities.
- b. The timing of critical life events (i.e., eggs laying, hatching, timing of chicks leaving nests, moulting) within the project area.
- c. Potential impacts from the project and mitigation measures implemented and/or modified to alleviate the impacts on the ducks at nesting sites.

#### OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

##### General

All Authorizing Agencies shall notify the NIRB of any changes in operating plans or conditions associated with this project prior to any such change.

##### The Proponent

1. The Proponent review the bear/carnivore detection and deterrent techniques outlined in “Safety in Grizzly and Black Bear Country” which can be down-loaded from this link: <http://www.nwtwildlife.com/Publications/safetyinbearcountry/safety.htm>. Note that some recommendations in this manual are also relevant to polar bears. There is a DVD about polar bears and safety available from Nunavut Parks at the following link <http://www.nunavutparks.com/english/visitor-information/suggested-resources.html> and a “Safety in Polar Bear Country” pamphlet from Parks Canada at the following link <http://www.pc.gc.ca/pn-np/nu/auyuittuq/pdf/PolarBearEnglish2007final.pdf>.
2. The Proponent shall take all possible measures to avoid wildlife encounters. Any problem wildlife (e.g., nuisance, Wildlife kill, Wildlife attack) should be reported immediately to the Government of Nunavut, Department of Environment at:
  - a. Regional Manager, Wildlife, Seeglook Akeeagok, (867) 975-7800, [akeeagok@gov.nu.ca](mailto:akeeagok@gov.nu.ca)
  - b. Biologist, Baffin Region, Debbie Jenkins, (867) 899-8876, [pondbiologist@qiniq.com](mailto:pondbiologist@qiniq.com)
  - c. Wildlife Deterrent Specialist, Sarah Medill (867) 934-4335, [smedill@gov.nu.ca](mailto:smedill@gov.nu.ca)

#### REGULATORY REQUIREMENTS

The Proponent is also advised that the following legislation may apply to the project:

1. The *Fisheries Act* (<http://laws.justice.gc.ca/en/showtdm/cs/F-14///en>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://www.canlii.org/ca/sta/n-28.8/whole.html>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws.justice.gc.ca/en/showtdm/cs/M-7.01>).

4. The *Species at Risk Act* (<http://laws.justice.gc.ca/en/showtdm/cs/S-15.3>). Attached in **Appendix B** is a list of Species at Risk in Nunavut.
5. The *Nunavut Wildlife Act* which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
6. The *Nunavut Act* (<http://laws.justice.gc.ca/en/showtdm/cs/N-28.6>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix C**.

## **Validity of Land Claims Agreement**

### *Section 2.12.2*

Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to the extent of the inconsistency or conflict.

Date: July 13, 2010 at Sanikiluaq, NU.



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Lucassie Arragutainaq, Chairperson

Attachments: Appendix A: Procedural History and Project Activities  
Appendix B: Species at Risk in Nunavut  
Appendix C: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

## **Appendix A**

### **Procedural History and Project Activities**

#### ***Procedural History***

On June 11, 2010 the Nunavut Impact Review Board (NIRB or Board) received Melissa Lafreniere's "Climate change impacts on river flows, sediment loads, and water quality" project proposal from Nunavut Research Institute. As the project is proposed for a location in the South Baffin Region, for which there is currently no approved land use plan, this project proposal did not require a conformity determination from the Nunavut Planning Commission. The NIRB assigned this project proposal file number 10YN046.

This project proposal was distributed to community organizations in Pangnirtung, as well as to relevant federal and territorial government agencies and Inuit organizations. The NIRB requested that interested parties review the proposal and the NIRB's *proposed* project-specific terms and conditions, and provide the Board with any comments or concerns by June 25, 2010 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic and socio-economic effects; and if so, why;
- Whether the project is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (providing any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

On or before June 25, 2010, the NIRB received comments from the following interested parties:

- Government of Nunavut, Department of Environment
- Environment Canada

All comments provided to NIRB regarding this project proposal can be viewed on NIRB's ftp-site, at the following location:

<http://ftp.nirb.ca/SCREENINGS/COMPLETED%20SCREENINGS/>

#### ***Project Activities***

The proposed project is located at Aulattivijjuaq River on Baffin Island, Nunavut. The nearest community is Pangnirtung, located approximately 25 km southwest of the project site. The project is designed to understand how climate change will affect river flows, sediment loads and water quality by combining measurements of water level and water quality in the rivers with studies of lakes and lake sediments to reconstruct past river flows. The project also intends to understand how climate change can affect floods. The planned project activities would be undertaken from August 16, 2010 to August 31, 2012.

The project activities would include:

- Establishment and removal of temporary camp;

- Use of watercraft/land vehicle for personnel drop-off and pick-up to project location;
- Periodic seasonal site visits for water and snow samples collection and instrument maintenance; and
- Scientific research activities, including:
  - Onsite hydrological and physical testing in two chosen rivers (flow rate, flow, level, temperature, and turbidity);
  - Water sample collection for water chemistry analysis;
  - Deployment of a temporary weather station to monitor the metrological data; and
  - Soil moisture monitoring at two sites using thin metal probes.



## Appendix B Species At Risk in Nunavut

This list includes species listed on one of the Schedules of SARA (*Species at Risk Act*) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

Schedules of SARA are amended on a regular basis so it is important to periodically check the SARA registry ([www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)) to get the current status of a species.

Updated: August 4, 2009

Species at Risk	COSEWIC Designation	Schedule of SARA	Government Organization with Lead Management Responsibility <sup>1</sup>
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon ( <i>anatum-tundrius</i> complex)	Special Concern	Schedule 1 ( <i>anatum</i> ) Schedule 3 ( <i>tundrius</i> )	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peary Caribou	Endangered	Pending	Government of Nunavut
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Red Knot ( <i>rufa</i> subspecies)	Endangered	Pending	EC

Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Atlantic Cod (Arctic population)	Special Concern	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Porsild's Bryum	Threatened	Pending	Government of Nunavut
Atlantic Walrus	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO
Red Knot ( <i>islandica</i> subspecies)	Special Concern	Pending	EC
Horned Grebe (Western population)	Special Concern	Pending	EC
Barren-ground Caribou (Dolphin and Union population)	Special Concern	Pending	Government of Nunavut
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Polar Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut

<sup>1</sup> Environment Canada (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 Migratory Birds Convention Act (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. The Department of Fisheries and Oceans (DFO) has responsibility for management of aquatic species.

**Appendix C**  
Archaeological and Palaeontological Resources Terms and Conditions  
for Land Use Permit Holders



**BACKGROUND: Archaeology**

*As stated in Article 33 of the Nunavut Land Claims Agreement:*

The archaeological record of the Inuit of Nunavut is a record of Inuit use and occupancy of lands and resources through time. The evidence associated with their use and occupancy represents a cultural, historical and ethnographic heritage of Inuit society and, as such, Government recognizes that Inuit have a special relationship with such evidence, which shall be expressed in terms of special rights and responsibilities. [33.2.1]

The archaeological record of Nunavut is of spiritual, cultural, religious and educational importance to Inuit. Accordingly, the identification, protection and conservation of archaeological sites and specimens and the interpretation of the archaeological record is of primary importance to Inuit and their involvement is both desirable and necessary. [33.2.2]

In recognition of the cultural, spiritual and religious importance of certain areas in Nunavut to Inuit, Inuit have special rights and interests in these areas as defined by Article 33 of the Nunavut Land Claims Agreement. [33.2.5]

**BACKGROUND: Palaeontology**

Under the Nunavut Act<sup>1</sup>, the federal Government can make regulations for the protection, care and preservation of palaeontological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*<sup>2</sup>, it is illegal to alter or disturb any palaeontological site in Nunavut unless permission is first granted through the permitting process.

**Definitions**

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<sup>1</sup> s. 51(1)

<sup>2</sup> P.C. 2001-1111 14 June, 2001

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

- (a) natural casts
- (b) preserved tracks, coprolites and plant remains; and
- (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.

#### Terms and Conditions

- 1) The permittee shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 2) The permittee shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 3) The permittee shall immediately contact the Department of Culture, Language, Elders and Youth (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035 should an archaeological site or specimen, or a palaeontological site or fossil be encountered or disturbed by any land use activity.
- 4) The permittee shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation, until permitted to proceed with the authorization of the Department of Culture, Language, Elders and Youth, Government of Nunavut.
- 5) The permittee shall follow the direction of the Department of Culture, Language, Elders and Youth and DIAND in restoring disturbed archaeological or palaeontological sites to an acceptable condition.
- 6) The permittee shall provide all information requested by the Department of Culture, Language, Elders and Youth concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.

- 7) The permittee shall make best efforts to ensure that all persons working under authority of the permit are aware of these conditions concerning archaeological sites and artifacts, and palaeontological sites and fossils.
- 8) The permittee shall avoid the known archaeological and/or palaeontological sites listed in Attachment 1.
- 9) The permittee shall have an archaeologist or palaeontologist perform the following functions, as required by the Department of Culture, Language, Elders and Youth:
  - a. survey
  - b. inventory and documentation of the archaeological or palaeontological resources of the land use area
  - c. assessment of potential for damage to archaeological or palaeontological sites
  - d. mitigation
  - e. marking boundaries of archaeological or palaeontological sites
  - f. site restoration

The Department of Culture, Language, Elders and Youth shall authorize by way of a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit, all procedures subsumed under the above operations.