



NIRB File No.: 23YA018

Related to NIRB File No.: 08YN010

NPC File No.: 149999

Related to NPC File No.: 148430

June 7, 2023

Derek Mueller
Department of Geography
Carleton University, 1125 Colonel By Drive
Ottawa ON K1S 5B6

Sent via email: derek.mueller@carleton.ca

Re: Notice of Screening for Carleton University's "Arctic coastal and drifting ice processes and dynamics" project proposal

Dear Derek Mueller:

On March 30, 2023 the Nunavut Impact Review Board (NIRB) received a referral to screen Carleton University's (Carleton) "Arctic coastal and drifting ice processes and dynamics" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan. The NPC noted that the previous conformity determination issued on June 9, 2022 for the activities associated with the current proposal continues to apply and has determined that the project proposal is a significant modification to the project because of the inclusion of fish sampling as part of their research activities.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and section 87 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (NuPPAA), the NIRB has commenced screening this project proposal. Due to the proposal containing activities that are sufficiently related to previously assessed activities under NIRB file number **08YN010**, the NIRB views this project proposal as an amendment to the previously screened project and has assigned this proposal with the file number **23YA018**. Please reference this file number in all future related correspondence. A summary of the previously screened project activities can be found in [Appendix A](#).

INFORMATION REQUEST

On March 31, 2023 the NIRB requested that the Proponent complete the online application form through the NIRB's public registry system and ensure, pursuant to s. 144(1) of the *NuPPAA*, that sufficient information is provided to determine the scope of the project activities being proposed and commence screening.

On May 11, 2023 the NIRB received the required information and commenced the screening pursuant to Part 3 of the *NuPPAA*.

PROJECT OVERVIEW

Project Scope:

The following table provides a summary of the original project as previously screened by the NIRB (File No. 08YN010):

Original Project:	Ice Dynamics and Cryospheric Changes in Northern Canada		
Region:	The project as previously approved was located within the Qikiqtani region.		
Location:	Ellesmere Island, Axel Heiberg Island, Devon Island		
Closest Community:	Grise Fiord	Distance (approximate)	80-700 kilometres (km)
Summary of Project Description:	The Project as originally screened included monitoring the characteristics, dynamics and recent changes of the glaciers, ice shelves and sea ice in the Canadian Arctic Archipelago. A complete description of the scope of activities previously approved has been included within Appendix A .		
Original Project Timeline:	2008 to 2040		

The following table provides a summary of the current *amended* project as proposed by Carleton:

Amended Project:	Arctic coastal and drifting ice processes and dynamics		
Region:	The project would be located in the same area as previously approved and would be located within the Qikiqtani region.		
Location:	Ellesmere Island		
Closest Community:	Grise Fiord	Distance (approximate)	600 kilometres (km)
Summary of Project Description:	The Proponent intends to amend the scope of previously approved activities to include taking sediment cores and sampling benthic organisms.		
Project Proposed Timeline:	2023 to 2040		

According to the current project proposal, the scope of the amended project includes the following additional undertakings, works or activities:

- Use of sediment corer and sediment traps;
- Sampling of benthic organisms;
- Use of an underwater ROV; and
- Continue to use existing temporary camp to facilitate ongoing research.

Inclusion or Exclusion of Scoping List

At this time, the NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB will proceed with screening the project based on the scope as described above.

REQUEST FOR COMMENTS

All documents received can be accessed from the NIRB's online public registry at www.nirb.ca/project/125786 and include:

- *Commission Conformity Decision and Questionnaire*
- *NIRB Application*
- *Commission 2017 and 2022 Conformity Decisions*
- *Email to NIRB Clarifying Scope*
- *NRI Licence*
- *Environmental Impact Mitigation plan*
- *Letter of Support*
- *DFO Correspondence*

The NIRB will copy you on screening process related correspondence and upload related documents to the NIRB's online registry for public access. The NIRB may request additional information at any time during the process.

The NIRB is copying parties and municipalities potentially affected by Carleton University's project proposal with this letter, and we invite interested parties to comment directly to the NIRB by **June 16, 2023**.

The NIRB would like parties to provide comments 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 or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; and if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (and providing any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

Please note that *proposed* project-specific terms and conditions, should the project proceed, have been attached for consideration and comment ([Appendix B](#)).

CONTACT INFORMATION

Please send your comments to the NIRB via email at info@nirb.ca, via fax at (867) 983-2594 or via the individual project dashboard for this assessment on the NIRB's online public registry at www.nirb.ca/project/125786.

If you have any questions or require clarification, feel free to contact the undersigned at 867-983-4617 or kmorrison@nirb.ca.

Sincerely,



Keith Morrison
Manager Impact Assessment
Nunavut Impact Review Board

Attachments: Appendix A: Previously-Screened Project Proposals
Appendix B: *Proposed* Project Specific Terms and Conditions

Enclosures (4): Public Notice of Screening (English, and Inuktitut)
Comment Forms (English, and Inuktitut)

cc: Distribution List
Mosha Cote, Nunavut Research Institute
Veronique D'Amours Gauthier, Fisheries and Oceans Canada
Michele Havard, Department of Environment, Government of Nunavut

APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSALS

NIRB File No.	NIRB received NPC Conformity	Screening Decision Issued	Notes
08YN010	February 4, 2008	March 26, 2008	
08YN010	December 12, 2008	January 27, 2009	Amendment
08YN010	March 28, 2014	May 2, 2014	Amendment
08YN010	April 21, 2016	June 20, 2016	Amendment Updated Terms and Conditions issued

The current scope of the Project includes the following undertakings, works or activities:

- Glaciers to be studied to include glaciers on Axel Heiberg, Ellesmere and Devon Islands with installation of instruments at Trinity Glacier to occur in August 2016;
- Research activities to include the following to measure glacier motion and changes to ice cover:
 - Differential Global Positioning Systems (dGPS) to measure ice movement;
 - Chemical analyses of samples collected via shallow ice-coring with the use of an ice auger;
 - Operation of time-lapse cameras to monitor glacier melt and iceberg calving;
 - Installation of temporary weather stations to monitor ice-climate interactions;
 - Use of ground-penetrating radar to measure ice thickness and snow;
 - Installation of ablation stakes to measure snow and ice melt and accumulation;
- Use of twin otter and helicopter to transport personnel and equipment to and from field sites;
- Use of snowmobiles and komatiks to transport personnel to and from glaciers, ice shelves and sea ice;
- Use of the McGill Arctic Research Station camp facilities at Expedition Fiord on Axel Heiberg Island for two (2) to six (6) weeks/year;
- Set-up of temporary camp (3 sleeping accommodation and 1 kitchen) at Purple Valley, Northern Ellesmere Island for two (2) weeks/year;
- Transportation, storage and use of 135 gallons diesel, 135 gallons gasoline, 540 gallons aviation fuel and 300 pounds propane;
- Incineration of combustible and sewage wastes with ash removed;
- Grey water to be disposed in sump;
- All other wastes to be removed from research sites; and
- Use of water for domestic purposes

APPENDIX B: *PROPOSED PROJECT SPECIFIC TERMS AND CONDITIONS*

The following is a list of project-specific terms and conditions which, should the project proceed, may be recommended to be attached to any approval.

General

1. Carleton University (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149999) and the NIRB (Online Application Form, April 22, 2023; email, May 11, 2023). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Water courses/Water bodies (including fresh and marine waters)

6. The Proponent shall not extract water from any fish-bearing water body unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless otherwise authorized by the appropriate authorizing agency.
7. The Proponent shall ensure that no disturbance of the stream bed, lakebed or the banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or approved by a responsible authority in cases of spill management.
8. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including wastewater) or sediment into any water body. The Proponent should have in place an Emergency Spill Response Plan that is approved by the appropriate authorizing agency(ies).

Waste Management

9. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
10. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

11. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
12. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations.
13. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.
14. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
15. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
16. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
17. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Wildlife – General

18. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.
19. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
20. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.

Migratory Birds and Raptors Disturbance

21. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
22. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas

until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone¹ appropriate for the species and the surrounding habitat.

23. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.
24. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

Aircraft Flight Restrictions

25. The Proponent shall not alter flight paths to approach wildlife and avoid flying directly over animals.
26. The Proponent shall plan flight paths that minimize flights over known habitat likely to have birds or concentrations of wildlife. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.
27. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum flight altitude of 610 metres (2,100 ft) above ground level except during landing, take-off or if there is a specific requirement for low-level flying, which does not disturb wildlife or migratory birds.
28. The Proponent shall avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of 1.5 kilometre. If avoidance is not possible maintain a minimum flight altitude of 1,100 metres (3,500 feet) over these areas.
29. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
30. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

Caribou and Muskoxen Disturbance

31. The Proponent shall avoid interfering with any paths or crossings known to be frequented by caribou during periods of migration as identified by current land use plans in place and/or by Inuit Qaujimaningit.
32. The Proponent shall not locate any operation or undertake activities that could block or cause any diversion to migration of caribou or muskoxen.
33. The Proponent shall immediately cease activities likely to interfere with the migration or calving of caribou or muskoxen until such time as the caribou or muskox have passed.

Road and Ground Disturbance

34. 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. Overland travel of equipment or vehicles must be suspended if rutting occurs.

¹ Recommended setback distances to define buffer zones have been established by Environment and Climate Change Canada for different bird groups nesting in tundra habitat and can be found at www.ec.gc.ca/paom-itmb.

Land Use and Restoration of Disturbed Areas

- 35. The Proponent shall ensure that the land use area is kept clean and tidy at all times.
- 36. The Proponent shall remove all garbage, fuel and equipment at the end of each field season and/or upon completion of work and/or upon abandonment.
- 37. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state using Best Available Technology Economically Achievable (BATEA) upon completion of work and/or abandonment.

Camps

- 38. The Proponent shall ensure that all camps are located durable surfaces, such as gravel or sand that is consolidated and can withstand repeated, heavy use. Measures shall be put in place to prevent erosion, trail formation and damage to the ground.
- 39. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.

Marine-Based Activities

- 40. The Proponent shall ensure that noise be kept to a minimum and shall refrain from making sharp or loud noises, blowing horns or whistles and shall maintain constant engine noise levels.
- 41. The Proponent shall not visit cliffs used by nesting and breeding birds during the late afternoon or early evening hours during the months of August and September.
- 42. The Proponent shall not attempt to intersect or interfere with the movements of marine mammals. This includes ensuring that there are no wake zones within 250 metres and a minimum of 100 metre no go zone around marine mammals. Strategic positioning of vessels ahead of the path being traveled by mobile mammals and waiting for the mammals to pass is also prohibited.
- 43. When marine mammals appear to be trapped or disturbed by vessel movements, the Proponent shall implement appropriate measures to mitigate disturbance, including stoppage of movement until wildlife have moved away from the immediate area.
- 44. The Proponent shall maintain a distance of 100 metres if a Polar Bear is encountered on land or ice while conducting activities from a zodiac or other small craft; all interaction with Polar Bears should be avoided if possible.
- 45. The Proponent shall maintain a distance of 500 metres of a walrus haul out while conducting activities from a zodiac or other small craft.
- 46. The Proponent shall report all incidents, injuries or sightings of marine mammals to the appropriate authorizing agencies.

Heritage Sites

- 47. The Proponent shall ensure that archaeological and paleontological sites are not purposely or inadvertently disturbed by clients or staff as a result of project activities.
- 48. The Proponent shall ensure that all clients and staff are aware of the Proponent's responsibilities and requirements regarding archaeological or palaeontological sites that are

encountered during land-based activities. This should include briefings explaining the prohibitions regarding removal of artifacts, and defacing or writing on rocks and infrastructure.

Other

49. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
50. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
51. The Proponent should, to the extent possible, hire local people and access local services where possible.