



SCREENING DECISION REPORT NIRB FILE No.: 24YN031

NPC File No.: 150430

August 28, 2024

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of University of Turku's "ISOLATED: Impact of Stability On Plasticity and Adaptation Potential of Diatoms" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

Subject to the Proponent's compliance with the terms and conditions as set out in below, the NIRB is of the view that the project proposal is not likely to cause significant public concerns, and it is unlikely to result in significant adverse environmental and social impacts. The NIRB therefore recommends that the responsible Minister accepts this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

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The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

Nunavut Agreement, Article 12, Section 12.2.5: 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.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

NuPPAA, s. 88: The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board...

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under Article 12, Section 12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

NuPPAA, s. 89(1): The Board must be guided by the following considerations when it is called on to determine, on the completion of a screening, whether a review of the project is required:

- (a) a review is required if, in the Board's opinion,
 - i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,
 - ii. the project will cause significant public concern, or
 - iii. the project involves technological innovations, the effects of which are unknown; and
- (b) a review is not required if, in the Board's opinion,
 - i. the project is unlikely to cause significant public concern, and
 - ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

It is noted that under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

- (a) a review of the project is not required;
- (b) a review of the project is required; or
- (c) the project should be modified or abandoned.

Where the NIRB determines that a project may be carried out without a review, the NIRB has the discretion to recommend specific terms and conditions to be attached to any approval of the project proposal pursuant to paragraph 92(2)(a) of *NuPPAA* as follows:

NuPPAA, s. 92(2) In its report, the Board may also

- (a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.

PROJECT REFERRAL

On June 17, 2024 the NIRB received a referral to screen University of Turku's "ISOLATED: Impact of Stability On Plasticity and Adaptation Potential of Diatoms" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **24YN031**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

| Date | Stage |
|-----------------|--|
| June 6, 2024 | Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission. |
| June 6, 2024 | Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i> |
| June 17, 2024 | Receipt of online application from Proponent |
| August 2, 2024 | Scoping pursuant to s. 86(1) of the <i>NuPPAA</i> |
| August 14, 2024 | Public engagement and comment request |
| August 23, 2024 | Receipt of public comments |

| Date | Stage |
|-----------------|---|
| August 6, 2024 | Ministerial extension requested from the Minister of Nunavut Arctic College |
| August 28, 2024 | Issuance of Screening Decision Report |

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125973.

| | |
|--|---|
| Project: | ISOLATED: Impact of Stability On Plasticity and Adaptation Potential of Diatoms |
| Region: | Qikiqtani and Kitikmeot Regions |
| Location: | Kane Basin, Queen Elizabeth Islands, Pond Inlet, Buchan Gulf, Davis Strait, East Baffin Island and Bellot Strait |
| Closest Community: | Pangnirtung, Qikiqtarjuaq, Pond Inlet, Resolute Bay and Grise Fiord |
| Summary of Project Description: | The Proponent intends to conduct marine water sampling to collect phytoplankton samples at various sites around Baffin Bay. |
| Project Proposed Timeline: | August 2024 to September 2024 |

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the project as set out by University of Turku in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

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

- Collection of water samples to identify the plasticity of the thermal response within the diatom species *T. hyalina* along the temperature gradient within Baffin Bay and clarify the adaptation potential of Arctic diatoms to rising sea surface temperatures:
 - Use of a plankton net to gather samples of plankton
 - Collection of 11 L of seawater at each sampling location to assess environmental parameters such as nutrient levels, salinity, temperature and PH, as well as environmental DNA (eDNA)

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on August 13, 2024 to community organizations in Pangnirtung, Qikiqtarjuaq, Pond Inlet, Resolute Bay and Grise Fiord, as well as to relevant federal and territorial government agencies, Inuit organizations and

other parties. 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 August 23, 2024 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.

On or before August 23, 2024 the NIRB received comments from the following interested parties:

- **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)**
- **Transport Canada (TC)**

a. Summary of Public Comments and Concerns Received during the Public comment period of this file

The following provides a summary of the comments and concerns received by the NIRB:

CIRNAC:

Crown-Indigenous Relations and Northern Affairs Canada reviewed the project proposal and suggests that the following should be considered, including, but not limited to;

- Incorporation of Inuit Qaujimajatuqangit into project activities,
- Mitigation measures designed to prevent any disturbance to wildlife,
- The experience of community members who participate in traditional harvesting activities within or proximity to the project area,
- Mitigation measures designed to prevent disturbance to sites with cultural, archaeological, and/or environmental significance,
- Training and employment opportunities for Inuit and community members,
- Procurement opportunities for local and Inuit-owned businesses, and
- Regular updates on the status of the project.

TC:

- Transport Canada has reviewed the project proposal and has no specific comments to submit as other than marine navigation, the proposed project activities do not fall within Transport Canada's mandate. All marine navigation for the Project must conform to applicable federal and territorial legislation and in particular the requirements of the Canada Shipping Act, 2001 and its associated regulations.

b. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project. However, Inuit Qaujimaningit and traditional and community knowledge is incorporated into the terms and conditions recommended below based on information collected from prior and similar projects, data collected and mapped by the Commission, and other available sources.

5. Time of Report Extension

As a result of the time required to allow due to the workload before the Board, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the *Nunavut Agreement* and s. 92(3) of the *NuPPAA*. Therefore, on August 6, 2024 the NIRB wrote to the Minister of Nunavut Arctic College, Government of Nunavut, seeking an extension to the 45-day timeline for the provision of the Board's Report.

ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NuPPAA*

In determining whether a review of the project is required, the Board considered whether the project proposal had potential to result in significant ecosystemic or socio-economic impacts.

Accordingly, the assessment of impact significance was based on the analysis of those factors that are set out under s. 90 of the *NuPPAA*. The Board took particular care to take into account Inuit Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

The following is a summary of the Board's assessment of the factors that are relevant to the determination of significant impacts with respect of this project proposal:

| Factor | Comment |
|---|---|
| The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts. | <ul style="list-style-type: none">▪ The physical footprint of the proposed project components is within the Kane Basin, Queen Elizabeth Islands, Pond Inlet, Buchan Gulf, Davis Strait, East Baffin Island and Bellot Strait.▪ The proposed project would take place within habitats of marine mammals and fish. |
| The ecosystemic sensitivity of that area. | <ul style="list-style-type: none">▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project. |
| The historical, cultural and archaeological significance of that area. | <ul style="list-style-type: none">▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project. |
| The size of the human and the animal populations likely to be affected by the impacts. | <ul style="list-style-type: none">▪ The proposed project is unlikely to result in impacts to local human and animal populations. |

| Factor | Comment |
|--|--|
| The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts. | <ul style="list-style-type: none"> With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur. |
| The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out. | <ul style="list-style-type: none"> The NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future. |
| Any other factor that the Board considers relevant to the assessment of the significance of impacts. | <ul style="list-style-type: none"> No other relevant factors were identified. |

Views of the Board

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

The NIRB has listed specific Acts and Regulations below that may be applicable to the project proposal but this list should not be considered as a complete list and the Proponent is responsible to ensure that it follows all Acts and Regulations that may be applicable to the project proposal.

Ecosystem, wildlife habitat and Inuit harvesting activities:

| | |
|---------------------------------------|---|
| Valued Component | Marine mammals and marine aquatic environment, surface water, fish and fish habitat. |
| Potential effects: | Potential adverse effects on marine mammals and marine aquatic environment, surface water, fish and fish habitat, due to research activities. |
| Nature of Impacts: | The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible. The nature of the proposed activities are unlikely to cause any significant disturbance to the marine environment. |
| Mitigating Factors: | Recommended Terms and Conditions |
| Proposed Terms and Conditions: | Water Courses/Water Bodies (including fresh and marine waters) – 4 through 5 Waste Management – 6 |

| | |
|---|---|
| | Marine-Based Activities – 7 through 13 Other – 14 through 15 |
| Related Acts and/or Regulations: | <ol style="list-style-type: none"> 1. The <i>Fisheries Act</i> (http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html). 2. The <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> (http://laws-lois.justice.gc.ca/eng/acts/n-28.8/). 3. The <i>Wildlife Act (Nunavut)</i> and its corresponding regulations (http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html). 4. The <i>Nunavut Act</i> (http://laws-lois.justice.gc.ca/eng/acts/N-28.6/). The Proponent must comply with the proposed terms and conditions listed in the attached Appendix B. |

| | |
|---|--|
| Valued Component | Potential adverse affects to public and traditional land use activities in the area from the research activities |
| Potential effects: | No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities. |
| Mitigating Factors: | The Proponent should engage with local residents, if possible and practical, regarding planned activities in the area and should consider IQ and traditional knowledge. |
| Proposed Terms and Conditions: | Other – 14 through 15 |
| Related Acts and/or Regulations: | 1. The <i>Nunavut Act</i> (http://laws-lois.justice.gc.ca/eng/acts/N-28.6/). |

Socio-economic effects on northerners:

| | |
|----------------------------|--|
| Valued Component | Historical, Cultural and Archaeological Sites |
| Potential effects: | No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites. |
| Nature of Impacts: | The potential for impacts are considered minimal as the area has no historical, archeological, and heritage sites that have been previously identified. The nature of the proposed project operations, which are entirely marine-based with no significant seafloor disturbance, are unlikely to impact any unknown archeological sites. |
| Mitigating Factors: | As noted, the Board is recommending terms and conditions to ensure |

| | |
|---|--|
| | that project activities do not negatively effect historical or heritage sites. |
| Proposed Terms and Conditions: | Other – 14 through 15 |
| Related Acts and/or Regulations: | 1. The <i>Nunavut Act</i> (http://laws-lois.justice.gc.ca/eng/acts/N-28.6/). The Proponent must comply with the proposed terms and conditions listed in the attached Appendix B . |

Significant public concern:

| Valued Component | Public Concern |
|---|---|
| Potential effects: | No significant public concern was expressed during the public commenting period for this file; however, the Board is recommending terms and conditions to ensure that to the extent possible hire local people and access local services where possible, and to ensure planned activities in the area utilizes available Inuit Qaujimaningit. |
| Nature of Impacts: | The potential for impacts is considered to be minimal as long as the Proponent follow the recommended terms and conditions. |
| Mitigating Factors: | Recommended Terms and Conditions |
| Proposed Terms and Conditions: | Other – 14 through 15 |
| Related Acts and/or Regulations: | N/A |

Technological innovations for which the effects are unknown:

- No specific issues have been identified associated with this project proposal.

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-3.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. University of Turku (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 150430), and the NIRB (Online Application Form, June 17, 2024).
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

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

4. The Proponent shall ensure that water extraction from any fish-bearing waterbody is done with appropriate care and caution. Small lakes or streams should not be used for water withdrawal unless approved by the appropriate authorizing agency.
5. 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

6. 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.

Marine-Based Activities

7. The Proponent shall, where practicable, coordinate with other vessels to minimize simultaneous vessel traffic in critical wildlife habitat areas allowing the wildlife to continue to use the habitat undisturbed (e.g. Navy Board Inlet, Lancaster Sound, Milne Inlet, Bellot Strait).
8. 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.
9. 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.
10. 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.

11. 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.
12. The Proponent shall maintain a distance of 500 metres of a walrus haul out while conducting activities from a zodiac or other small craft.
13. The Proponent shall suspend all project activities should any dead fish or wildlife (both marine and terrestrial), or any injured wildlife be observed during any works or activities in and around the marine waters. Activities may only be resumed on the recommendation of the authorizing agencies.


Other

14. The Proponent should engage with local residents regarding planned activities in the area and should solicit available Inuit Qaujimaningit and information regarding current recreational and traditional usage of the project area which may inform project activities. Posting of translated public notices and direct engagement with potentially interested groups and individuals prior to undertaking project activities is strongly encouraged.
15. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the University of Turku's "ISOLATED: Impact of Stability On Plasticity and Adaptation Potential Diatoms". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated August 28, 2024 at Baker Lake, NU.


Kaviq Kaluraq, Chairperson

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

APPENDIX A: SPECIES AT RISK IN NUNAVUT

Due to the requirements of Section 79(2) of the Species at Risk Act (SARA), and the potential for project-specific adverse effects on listed wildlife species and its critical habitat, measures should be taken as appropriate to avoid or lessen those effects, and the effects need to be monitored. Project effects could include species disturbance, attraction to operations and destruction of habitat. This section applies to all species listed on Schedule 1 of SARA, as listed in the table below, or have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which may be encountered in the project area. This list may not include all species identified as at risk by the Territorial Government. The following points provide clarification on the applicability of the species outlined in the table.

- 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.

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. 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.

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 undertaken in a way that is consistent with applicable recovery strategies and action/management plans.

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

Updated: September 2019

| Terrestrial Species at Risk¹ | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility² |
|---|----------------------------|-------------------------|---|
| Migratory Birds | | | |
| Buff-breasted Sandpiper | Special Concern | Schedule 1 | Environment and Climate Change Canada (ECCC) |
| Common Nighthawk | Threatened | Schedule 1 | ECCC |
| Eskimo Curlew | Endangered | Schedule 1 | ECCC |
| Harlequin Duck | Special Concern | Schedule 1 | ECCC |
| Harris's Sparrow | Special Concern | Schedule 1 | ECCC |
| Horned Grebe | Special Concern | Schedule 1 | ECCC |
| Ivory Gull | Endangered | Schedule 1 | ECCC |
| Olive-sided Flycatcher | Threatened | Schedule 1 | ECCC |
| Peregrine Falcon | Special Concern | Schedule 1 | ECCC |
| Red Knot Islandica Subspecies | Special Concern | Schedule 1 | ECCC |
| Red-necked Phalarope | Special Concern | Schedule 1 | ECCC |
| Ross's Gull | Threatened | Schedule 1 | ECCC |
| Rusty Blackbird | Special Concern | Schedule 1 | ECCC |
| Short-eared Owl | Special Concern | Schedule 1 | ECCC |
| Vegetation | | | |
| Porsild's Bryum | Threatened | Schedule 1 | Government of Nunavut (GN) |
| Arthropods | | | |
| Transverse Lady Beetle | Special Concern | No Schedule | GN |
| Terrestrial Wildlife | | | |
| Caribou (Dolphin and Union Population) | Endangered | Schedule 1 | GN |
| Caribou (Barren-ground Population) | Threatened | No Schedule | GN |
| Caribou (Torngat Mountains Population) | Endangered | No Schedule | GN |
| Grizzly Bear (Western Population) | Special Concern | Schedule 1 | ECCC |
| Peary Caribou | Endangered | Schedule 1 | GN |
| Polar Bear | Special Concern | Schedule 1 | ECCC |
| Wolverine | Special Concern | Schedule 1 | GN |
| Marine Wildlife | | | |
| Atlantic Walrus (High Arctic Population) | Special Concern | No Schedule | Fisheries and Oceans Canada (DFO) |
| Atlantic Walrus (Central/Low Arctic Population) | Special Concern | No Schedule | DFO |
| Beluga Whale (Cumberland Sound Population) | Threatened | Schedule 1 | DFO |
| Beluga Whale (Eastern Hudson Bay Population) | Endangered | No Schedule | DFO |

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

2 Environment and Climate Change Canada (ECCC) 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.

| Terrestrial Species at Risk¹ | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility² |
|--|----------------------------|-------------------------|---|
| Beluga Whale (Eastern High Arctic-Baffin Bay Population) | Special Concern | No Schedule | DFO |
| Beluga Whale (Western Hudson Bay Population) | Special Concern | No Schedule | DFO |
| Fish | | | |
| Atlantic Cod (Arctic Lakes Population) | Special Concern | No Schedule | DFO |
| Fourhorn Sculpin (Freshwater Form) | Data Deficient | Schedule 3 | DFO |
| Lumpfish | Threatened | No Schedule | DFO |
| Thorny Skate | Special Concern | No Schedule | DFO |

APPENDIX B: ARCHAEOLOGICAL AND PALAEOONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS



INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

- 1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

| | Types of Development (See Guidelines below) | Function (See Guidelines below) |
|----|---|--|
| a) | Large scale prospecting | Archaeological/Palaeontological Overview Assessment |
| b) | Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances | Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation |
| c) | Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities | Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation |

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*³ to issue such permits.

³ P.C. 2001-1111 14 June, 2001

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent 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 CH.
- 6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*:

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

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Under the *Nunavut Act*⁴, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*⁵, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

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 Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).

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

“fossil” includes:

Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:

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

Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory

(Note: Partial document only, complete document at: www.ch.gov.nu.ca/en/Archaeology.aspx)

Introduction

The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns. Effective collaboration between the developer, the Department of Culture, and Heritage (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and

⁴ s. 51(1)

⁵ P.C. 2001-1111 14 June, 2001

the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*

- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*
- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.