



## SCREENING DECISION REPORT NIRB FILE No.: 17UN042

Related to NIRB File Nos.: 10YN014, 15YN032, 16YN053  
NPC File No.: 148668

**March 6, 2018**

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of the Arctic Research Foundation's "CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network" project is not required pursuant to paragraph 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

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NuPPAA*
- 5) VIEWS OF THE BOARD
- 6) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 7) MONITORING AND REPORTING REQUIREMENTS
- 8) OTHER NIRB CONCERNS AND RECOMMENDATIONS
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### REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and are confirmed by section 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 section 88 of the *NuPPAA*:

*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 subsection 89(1) of *NuPPAA*:

*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 subsection 89(2) of the *NuPPAA* provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b) of the *NuPPAA*.

As set out under subsection 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister:

*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 January 19, 2018 the NIRB received a referral to screen the Arctic Research Foundation's (ARF, the Proponent) "CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network" project proposal from the Nunavut Planning Commission (NPC or Commission), which noted that the project proposal is outside the area of an applicable regional land use plan. The NPC noted that the project proposal is a significant modification to ARF's previously proposed project (NIRB File No. 17UN042) because of the change in location of one site and the addition of a third site.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and section 87 of the *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 **17UN042**, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number. A summary of the previously screened project activities can be found in **Appendix A**.

## PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

### 1. Project Scope

The proposed "CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network" project is located within the Kitikmeot region, within 300 kilometers (km) of Cambridge Bay. The Proponent intends to transport Mobile Marine-Archaeology-Geology Network (M-MAG-N) laboratories across the sea ice from Cambridge Bay to the Finlayson Islands, the Lachlan River, and to the Bathurst Inlet area to support research projects within the Kitikmeot region. The transport program is proposed to take place in spring 2018, with the laboratories to be returned to Cambridge Bay in the spring of 2020.

As required under subsection 86(1) of the *NuPPAA*, the Board accepts the scope of "CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network" project as set out by the Arctic Research Foundation in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Transport of three (3) M-MAG-N laboratories, one (1) accommodation trailer, and one (1) cooking trailer on skids by a tracked vehicle with a second tracked vehicle to clear the path;
- One (1) laboratory to be deployed at the Finlayson Islands (approximately 40 km southwest of Cambridge Bay), one (1) laboratory to be deployed at the Lachlan River (Byron Bay, approximately 140 km west of Cambridge Bay), and one (1) laboratory to be deployed in Bathurst Inlet near Umingmaktok.

### 2. Inclusion or Exclusion to Scoping List

At this time, the NIRB has identified no additional works or activities in relation to the project proposal; however, the NIRB notes that future proposed research activities and the associated use

and maintenance of the mobile laboratories (e.g., related to NIRB File No. 10YN014, 15YN032, and 16YN053) will be screened separately. As a result, the NIRB screened the project based on the scope as described above.

### 3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
January 19, 2018	Receipt of project proposal from the NPC
January 19, 2018	Information requests
February 6, 2018	Proponent responded to information request(s)
February 6, 2018	Scoping pursuant to subsection 86(1) of the <i>NuPPAA</i>
February 8, 2018	Public engagement and comment request
February 19, 2018	Receipt of public comments
February 23, 2018	Proponent responded to comments/concerns raised by public

### 4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on February 8, 2018 to community organizations in Cambridge Bay, 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 provide the Board with any comments or concerns by February 19, 2018 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.

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

#### **Government of Nunavut (GN)**

- Recommended that the Proponent provide a detailed map showing the precise locations where the mobile camps would be deployed and the overland routes.
- Recommended the Proponent provide details about the research programs that would be conducted from the mobile laboratories, specifically regarding archaeology and palaeontology.
- Noted requirements regarding the protection of archaeological and paleontological sites and specimens, and recommended approval and permits from the GN Department of Culture & Heritage be acquired prior to initiating the Project.

- Noted composting toilets are unsuitable for the cold Arctic climate and recommended the Proponent instead conduct on-site incineration, or storage and removal of human waste to an approved disposal facility.

#### **Environment and Climate Change Canada (ECCC)**

- Noted it could not find the Proponent's Spill Contingency Plan and recommended one be submitted.

#### **Indigenous and Northern Affairs Canada (INAC)**

- Noted that the Proponent's original proposal and most new application materials indicate human waste would be returned for disposal at facilities in Cambridge Bay, however in one place the Proponent stated the intent to use composting toilets.
- Stated they assumed the Proponent will follow its original plan of returning sewage to Cambridge Bay, and if not, recommended disposing of composted sewage away from waterbodies.

### **5. 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.

### **6. Proponent's Response to Public Comments and Concerns**

The following is a summary of the Proponent's response to concerns as provided by the NIRB on February 23, 2018:

- In response to the request to provide a detailed map of the locations of the proposed camps, the Proponent provided the proposed geographic coordinates where each of the laboratories would be deployed, and reiterated that the locations were chosen based on previously approved research activities and in areas of known human activity to minimize disturbance.
- In response to the request for information on the overland routes, the Proponent provided the general location of the planned crossing between Kent Peninsula and the mainland. Further, the Proponent indicated that it is in the process of discussing with its contractors as to where the safest and most likely overland routes would be; and committed to provide a detailed map of travel routes when available.
- Confirmed that all scientific programs using the laboratories have been or will be independently assessed by the NIRB.
- In response to concerns with respect to heritage sites, the Proponent acknowledged that protections would be in place for archaeological sites. Further, the Proponent noted it will not be conducting any archaeological research or searches for archaeological sites, and committed to contact the GN-Department of Culture and Heritage in the event that any archaeological sites are discovered while undertaking the Project.
- In response to the concerns raised with respect to the use of composting toilets, the Proponent confirmed that all wastes, including human wastes, will be returned to Cambridge Bay for appropriate disposal.

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 section 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:

1. *The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.*

The proposed activities will have a physical footprint consisting of three (3) mobile laboratories, one (1) accommodation trailer, and one (1) cooking trailer, pulled by tracked vehicle and led by snowmobile within a narrow travel corridor primarily across the sea ice, extending west and southwest from Cambridge Bay to the Finlayson Islands, Lachlan River, and Bathurst Inlet area. Only the laboratories will remain at these sites for use by other Proponents (*proposals yet to be submitted for assessment by the Nunavut Planning Commission and the NIRB, and will be assessed separately on their own merits*). Return of the supporting trailers and snowmobiles to Cambridge Bay will follow the same route if ice conditions allow, otherwise a route closer to shore will be followed. The proposed activities may take place within the habitat of the Barren-ground *caribou* (*Dolphin and Union* population), which is considered a Species of Special Concern under the Species at Risk Act, and which crosses the sea ice in this area during the spring migration. Further, the proposed activities may take place within habitats for many far-ranging wildlife species such as muskox, wolves, grizzly bears, and migratory and non-migratory birds, and may affect animal migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area that has been identified as having value and priority to the local community for:

- i. Caribou and other terrestrial wildlife including muskox;
- ii. Migratory and non-migratory birds; and
- iii. Arctic Char.

3. *The historical, cultural and archaeological significance of that area.*

One of the mobile laboratories will be deployed in Bathurst Inlet near the town site of Umingmaktok. The Proponent did not identify any known historical, cultural, or archeological sites within the area; however, during the public commenting period, the Government of Nunavut (GN) requested that the Proponent provide more details on the proposed location due to concerns about the presence of such sites in the area. The

Proponent has committed to contacting the GN to provide additional details prior to undertaking the Project, and again should any sites of historical, cultural or archaeological significance be encountered during the Project.

4. *The size of the human and the animal populations likely to be affected by the impacts.*

The proposed project would occur within approximately 300 km of Cambridge Bay, the nearest permanently settled community, with one mobile laboratory to be deployed near the town site of Umingmaktok, a seasonally occupied community in Bathurst Inlet. Although no significant public concerns were raised during the public commenting period, the NIRB notes that the proximity of the proposed activities to the seasonally occupied community of Umingmaktok and areas used by residents for recreational or traditional pursuits could potentially contribute to public concern developing. Further, the establishment of the mobile laboratories could contribute to increased wildlife disturbance in the area. The Proponent has consulted with the Ekaluktutiak Hunters and Trappers Organization (HTO) and the Kugluktuk HTO, and both HTOs have provided letters of support. A term and condition has been recommended to direct engagement with potentially impacted communities, hunters and trappers organizations and interested parties, as well as the posting of public notices to ensure residents are aware of the transportation activities being or to be conducted.

5. *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.*

As the “CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network” project would involve the transportation of equipment and mobile laboratories across the sea ice via cat train, the nature of potential impacts is considered to be well-known. Potential adverse impacts are likely to be localized, of low magnitude, and of short duration (10-20 days in May 2018 for mobilization, and another 10-20 days in April 2020 for demobilization). However, due to the proximity of the proposed project to the possible migration routes of caribou during the spring time, specific mitigation measures for the protection of the caribou may be necessary. Based on past evidence of similar scope of activities, potential adverse impacts will be reversible and mitigable with due care.

6. *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.*

The proposed project would take place within a 100 km radius to a number of other projects that are currently active or currently undergoing assessment by the Board as listed in Table 1 below. The potential for cumulative impacts to caribou, fish, migratory and non-migratory birds, and recreational or traditional activities from the transportation of equipment and personnel over ice and other projects occurring in the region has been identified and considered in the development of the NIRB’s recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or eliminate the potential for cumulative effects to occur.

**Table 1: Project List**

<b>NIRB Number</b>	<b>Project</b>	<b>Project Title</b>	<b>Project Type</b>
<b><i>Proposed Developments – undergoing assessment</i></b>			
18YN003		Climate – Terrestrial Biodiversity Investigation in Tundra Vegetation along an Arctic Longitudinal Gradient	Research
18AN006		Exploratory Hunting in the Queen Maud Gulf Migratory Bird Sanctuary	Tourism
12MN001		Hope Bay Belt Phase 2	Mine Development
<b><i>Active Projects</i></b>			
12MN001		Doris North Gold Mine	Mine
14YN001		Canadian Ranger Ocean Watch (CROW)	Research (seasonal)
16DN063		DND-NUNALIVUT 2017	Defense
17YN002		Toward a sustainable fishery for Nunavummiut (TSFN)	Research (seasonal)
17YN026		Geoscience Tools for Supporting Environmental Risk Assessment of Metal Mining	Research (seasonal)
17QN048		Land Use Permit for Quarry #3 and Quarry #6 @ Cambridge Bay Airport (Located in Nunavut airport land)	Quarry
17YN074		Connecting Snow Melt to River Discharge in the Kitikmeot Region and Northwest Territories	Research (seasonal)
<b><i>Past Projects</i></b>			
16TN039		MS Crystal Serenity – Crystal Cruises LLC Northwest Passage 2016 and 2017	Tourism
17AN031		Canada C3 led by Students on Ice Foundation	Tourism
17YN024		LiDAR (Light Detection and Ranging) and Radar surveys of land and sea ice of the Cambridge Bay region for satellite validation and modelling: from Twin Otter aircraft platform in April 2017	Research
17YN027		Arctic-Boreal Vulnerability Experiment (ABoVE) Airborne Campaign	Research
17YN041		A Coastal, Pan-Canadian Collection of plants, microalgae and marine invertebrates for the Canadian Museum of Nature, as part of Canada C3	Research

7. Any other factor that the Board considers relevant to the assessment of the significance of impacts.

No other specific factors have been identified as relevant to the assessment of this project proposal.



## 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.

### **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 Board has previously recommended terms and conditions 1 through 4, which continue to apply to the current project proposal. The Board is also recommending term and condition 26 to ensure complete reference to applicable regulatory requirements.

### **Ecosystem, wildlife habitat and Inuit harvesting activities:**

**Issue 1:** Potential adverse impacts to migratory and non-migratory birds, caribou, muskox, and other terrestrial wildlife resulting from noise and disturbance associated with the transport of personnel and the mobile laboratories to and from Cambridge Bay.

**Board views:** As discussed above in the assessment of factors relevant to this project proposal, the potential for impacts to wildlife is limited to a small geographic area and short time period (10 to 20 days to deploy) but may affect several terrestrial wildlife species including caribou herds, muskox, wolves, wolverines, migratory and non-migratory birds. However, the potential adverse effects from the activities and project-related noise would be anticipated to be low in magnitude, reversible, and temporary.

The Proponent would be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, the *Species at Risk Act*, and the *Wildlife Act (Nunavut)*, (see Regulatory Requirements section).

**Recommended Mitigation Measures:** It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to cease activities when approaching or observing caribou or muskox in the area. The Board has previously recommended terms and conditions to mitigate the potential adverse impacts to migratory and non-migratory birds, caribou, muskox, and all other wildlife, specifically: 5, 6, and 10 through 17, which continue to apply to the current project proposal.

**Issue 2:** Potential adverse impacts to surface and marine water quality, vegetation and soils, and fish and fish habitat from fuel spills or improper storage or disposal of wastes during the transportation of equipment and personnel to and from the community of Cambridge Bay and the temporary instalment of the mobile laboratories at the Finlayson Islands, Lachlan River, and Umingmaktok sites.

**Board views:** As discussed in the previous section, the potential for impact(s) is applicable to a small geographic area and short period. The probability of impacts occurring is

considered to be low, with potential adverse effects anticipated to be low in magnitude, and reversible in nature. The Proponent has provided a comprehensive Spill Contingency Plan, which includes storage measures, spill response measures, equipment requirements, and overall handling procedures for the management of fuel. The Proponent has also committed to store, collect, and dispose of all fuels and wastes properly and safely.

Further, the Proponent would be required to follow the *Fisheries Act*, the *Arctic Waters Pollution Prevention Act*, the *Transportation of Dangerous Goods Regulations*, and the *Transportation of Dangerous Goods Act* (see Regulatory Requirements section).

**Recommended Mitigation Measures:** It is recommended that appropriate operational procedures for the storage and transfer of wastes would reduce the risk of uncontrolled releases resulting in adverse impacts to the surface and marine water quality, fish and fish habitat, soil and vegetation. Additionally, clean up and restoration of the areas utilized would be required to preserve the integrity of the environment. The Board previously recommended terms and conditions to mitigate the potential adverse impacts from waste, fuels, and hazardous materials, specifically: 5 through 9, which continue to apply to the current project proposal.

**Issue 3:** Potential adverse impacts to ground stability, vegetation health, and soil quality from the transportation of the mobile laboratories over areas with limited snow cover and the deployment of mobile laboratories at the Finlayson Islands, Lachlan River, and Umingmaktok sites.

**Board Views:** As discussed in the previous section, the potential for impacts to vegetation, terrain, and soils is limited to a small geographic area and the probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude, and reversible in nature due to the short period of the project activities. The Proponent has committed to traveling over ice/snow covered areas only. The Proponent has also committed to leaving the mobile laboratories on their transport skis/skids once in place to limit disturbance to the ground.

**Recommended Mitigation Measures:** It is recommended that the potential for adverse impacts to vegetation, soils, and terrain be mitigated by ensuring that all disturbed areas are restored to a stable or pre-disturbed state as practical as possible upon completion of fieldwork. The Board has previously recommended the following terms and conditions to address the potential for gouging or rutting, and site restoration of the project area upon project completion or abandonment: 18 through 22, which continue to apply to the current project proposal.

**Issue 4:** Potential adverse impacts to public and traditional land use activities in the area from disturbance to wildlife from increased noise associated with the deployment of mobile laboratories in areas frequently used by community members for potential hunting, fishing and camping.

**Board Views:** The Proponent has indicated that the Lachlan River site where one of the mobile laboratories will be deployed is a commercial fishery site commonly accessed by community members from Cambridge Bay, and that another laboratory will be deployed near Umingmaktok, which is noted to be a popular and traditional camping location for local residents. There is the potential for adverse impacts to arise as a result of the transportation of the mobile laboratories overlapping with traditional harvesting activities. If situations arise where the project may interfere with traditional land use, mitigation measures have been recommended to ensure safety to the public and to minimal impacts to traditional land use activities.

**Noted Inuit Qaujimaningit, traditional or community knowledge:** It is noted that the Proponent communicated with the Ekaluktutiak Hunters and Trappers Organization (HTO) and the Kugluktuk HTO prior to applying to the NIRB, and the HTOs both provided the Proponent letters of support for this project.

**Recommended Mitigation Measures:** The Board previously recommended term and condition 23 to ensure that the affected communities and organizations are kept informed about the project, such as the dates of the trip; 25 to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area; and 10 through 17 to minimize interference with the movements of terrestrial wildlife and nesting/breeding birds. These terms and conditions continue to apply to the current project proposal.

### **Socio-economic effects on northerners:**

**Issue 5:** Potential adverse impacts to historical, cultural and archaeological sites from the transportation activities over land based areas to get to the Finlayson Islands, Lachlan River, and Umingmaktok.

**Board Views:** The Proponent is proposing to work in an area of no known historical, cultural, or archaeological significance, although the Bathurst Inlet area near Umingmaktok has been and still is used by local Inuit for traditional land-based activities. The Proponent has committed to engaging with the Government of Nunavut – Culture and Heritage prior to undertaking the Project. Further, the Proponent would be required to contact the Culture and Heritage Department when encountering historical sites is required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section).

**Recommended Mitigation Measures:** The Board previously recommended term and condition 23 to ensure that available Inuit Qaujimaningit can inform project activities and reduce the potential for negative impacts occurring to any potential historical sites. This term and condition continues to apply to the current project proposal.

**Issue 6:** Potential benefits to the community of Cambridge Bay from the sourcing of accommodations for researchers within the community, purchasing of local goods and services, and local employment opportunities.

Board Views: ARF personnel would be in Cambridge Bay for a few days before and after mobilization, and would be sourcing local accommodations and purchasing local goods and services, which would provide income within the community. Additionally, the Proponent proposes to rely on a local contractor for supply and operation of the cat-train.

Recommended Mitigation Measures: The Board previously recommended terms and conditions 23 and 24 to ensure the Proponent continues to inform the community of the project activities and provide community members with information about local hiring opportunities. These terms and conditions continue to apply to the current project proposal.

**Significant public concern:**

**Issue 7:** No significant public concern was expressed during the public commenting period for this file.

Board Views: It is noted that the Proponent has previously consulted with the Ekaluktutiak Hunters and Trappers Organization (HTO) and the Kugluktuk HTO. Follow-up consultation and involvement of local community members is expected to mitigate any potential for public concern resulting from project activities.

Recommended Mitigation Measures: The Board previously recommended term and condition 23 to ensure that the affected community and organizations are kept informed about the proposed project, and to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities findings.

**Technological innovations for which the effects are unknown:**

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

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 following terms and conditions were previously issued by the NIRB in the June 15, 2017 Screening Decision Reports for File No. 17UN042, **and continue to apply to the CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network project:**

**General**

1. The Arctic Research Foundation (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 the Nunavut Planning Commission (Application to Determine Conformity, April 6, 2017), and the NIRB (Online Application Form, April 10, 2017, Map and Project Description, April 12, 2017).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

### **Waste Disposal**

5. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

### **Fuel and Chemical Storage**

6. The Proponent shall store all fuel in such a manner that they are inaccessible to wildlife.
7. 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.
8. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, at all fuel storage sites and when refueling equipment.
9. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

### **Wildlife - General**

10. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
11. The Proponent shall not harass wildlife. This includes persistently circling, chasing, hovering over pursuing or in any other way harass wildlife, or disturbing large groups of animals.
12. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
13. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

### **Migratory Birds and Raptors Disturbance**

14. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). 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.

15. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.

#### **Caribou and Muskoxen Disturbance**

16. The Proponent shall cease activities that may interfere with the migration or calving of caribou or muskox, until the caribou or muskox have passed or left the area.
17. The Proponent shall not block or cause any diversion to caribou migration, and shall cease activities likely to interfere with migration such as movement of equipment or personnel until such time as the caribou have passed.

#### **Ground Disturbance**

18. 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.

#### **Temporary Camps and Land Use**

19. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
20. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

#### **Restoration of Disturbed Areas**

21. The Proponent shall remove all garbage, fuel and equipment.
22. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state as practical as possible upon completion of fieldwork and/or upon abandonment of site.

#### **Other**

23. 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.
24. The Proponent should, to the extent possible, hire local people.
25. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

#### **In addition to the previously issued terms and conditions, the Board recommends the following project-specific terms and conditions:**

##### **General**

26. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148668), and the NIRB (Online Application Form, February 6, 2018; follow-up correspondence February 16 and February 23, 2018).

## MONITORING AND REPORTING REQUIREMENTS

***The Board has previously recommended the following on June 15, 2017, which continue to apply to the CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network project:***

### **Spill Contingency Plan**

The Proponent shall provide an updated Spill Contingency Plan to the NIRB and Environment and Climate Change Canada prior to the commencement of project activities and include the following information:

- List contents of the spill kits;
- Ensure the up to date emergency contact numbers for the Government of Nunavut- Department of Environment, Manager of Environmental Protection (867-975-7748) are included; and
- List of locations where fuel and/or hazardous material would be stored.

## OTHER NIRB CONCERNS AND RECOMMENDATIONS

***In addition to the project-specific terms and conditions, the Board has previously recommended the following on June 15, 2017, which continue to apply:***

### **Change in Project Scope**

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission (NPC) and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

### **Bear and Carnivore Safety**

2. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: [http://gov.nu.ca/sites/default/files/bear\\_safety\\_-\\_reducing\\_bear-people\\_conflicts\\_in\\_nunavut.pdf](http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf). Further information on bear/carnivore detection and deterrent techniques can be found in the "Safety in Grizzly and Black Bear Country" pamphlet, which can be downloaded from this link: [http://www.enr.gov.nt.ca/sites/default/files/web\\_pdf\\_wd\\_bear\\_safety\\_brochure\\_1\\_may\\_2015.pdf](http://www.enr.gov.nt.ca/sites/default/files/web_pdf_wd_bear_safety_brochure_1_may_2015.pdf).
3. There are polar bear and grizzly bear safety resources available from the Bear Smart Society with videos on polar bear safety available in English, French and Inuktitut at <http://www.bearsmart.com/play/safety-in-polar-bear-country/>. Information can also be obtained from Parks Canada's website on bear safety at the following link: <http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx> or in reviewing the "Safety in Polar Bear Country" pamphlet, which can be downloaded from the following link: [http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety\\_English.ashx](http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx).
4. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Cambridge Bay, phone: 867-983-4164.)

## Species at Risk

5. The Proponent review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link:  
[http://www.sararegistry.gc.ca/virtual\\_sara/files/policies/EA%20Best%20Practices%202004.pdf](http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.pdf). The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

## Migratory Birds

6. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: <http://publications.gc.ca/site/eng/317630/publication.html> and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: <http://publications.gc.ca/site/eng/392824/publication.html>. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.
7. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and 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/>.

## Transport of Dangerous Goods and Waste Management

8. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.

## REGULATORY REQUIREMENTS

*The Board previously recommended in the June 15, 2017 Screening Decision Report for the CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network project the following legislation, which continues to apply to the current proposal:*

### Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
4. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix B** is a list of Species at Risk in Nunavut.
5. (updated) The *Wildlife Act (Nunavut)* and its corresponding regulations (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>).



6. The *Nunavut Act* (<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 C**.
7. The *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>).
8. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>)

## CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Arctic Research Foundation's "CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network" project proposal. The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated March 6, 2018 at Whale Cove, NU.



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Elizabeth Copland, Chairperson

Attachments: Appendix A: Previously-Screened Project Proposals  
Appendix B: Species at Risk in Nunavut  
Appendix C: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

## APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSALS

The original project proposal NIRB (File No. 17UN042) was received by the NIRB from the Nunavut Planning Commission (NPC) on April 6, 2017 and was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and Section 3 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c.14, s. 2 (NuPPAA). On June 15, 2017 the NIRB issued a screening decision to the Minister of Indigenous and Northern Affairs Canada pursuant to paragraph 92(1)(a) of the NuPPAA which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

The Arctic Research Foundation's (Proponent) original "CAT TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network" project was located in the Kitikmeot region, within 100 kilometres (km) of Cambridge Bay. The Proponent indicated that it intended to conduct transport mobile Marine-Archaeology-Geology Network (M-MAG-N) laboratories across the sea ice from Cambridge Bay to the Finlayson Islands and the Halokvik River. The transport program was proposed to take place in May 2017, with the laboratories to be returned to Cambridge Bay by April 30, 2019.

According to the previously screened project proposal, the scope of the project included the following undertakings, works or activities:

- Transport of two (2) M-MAG-N laboratories, one (1) accommodation trailer and one (1) cooking trailer on skids by tracked vehicle;
- One (1) laboratory to be deployed at the Finlayson Islands (approximately 40 km southwest of Cambridge Bay), and one (1) laboratory to be deployed at Halokvik River (approximately 80 km west of Cambridge Bay);
- Route-scouting over sea ice and escort of train by up to five (5) snowmobiles;
- Transportation and use of approximately 400 litres (L) gasoline and approximately 1,200L diesel for transportation equipment;
- Use of water for domestic purposes;
- Accommodation and cooking trailers immediately returned across the sea-ice following deployment of laboratories; and
- Collection of greywater and garbage and returned for disposal at the local facilities in Cambridge Bay.

## **Appendix B**

### **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](http://www.sararegistry.gc.ca)) to get the current status of a species.

Updated: September 2017

Terrestrial Species at Risk <sup>1</sup>	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility <sup>2</sup>
<b>Migratory Birds</b>			
Buff-breasted Sandpiper	Special concern	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Pending	ECCC
Horned Grebe (Western population)	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Peregrine Falcon	Special Concern ( <i>anatum-tundrius</i> complex <sup>3</sup> )	Schedule 1 - Schedule 3	ECCC
Red Knot ( <i>islandica</i> subspecies)	Special Concern	Schedule 1	ECCC
Red Knot ( <i>rufa</i> subspecies)	Endangered	Schedule 1	ECCC
Red-necked Phalarope	Special concern	Pending	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
<b>Vegetation</b>			
Blanket-leaved Willow	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Porsild's Bryum (Moss)	Threatened	Schedule 1	Government of Nunavut
<b>Arthropods</b>			
Traverse Lady Beetle	Special Concern	Pending	Government of Nunavut
<b>Terrestrial Wildlife</b>			
Caribou (Barren-Ground population)	Threatened	Pending	Government of Nunavut
Dolphin and Union Caribou	Special Concern	Schedule 1	Government of Nunavut
Grizzly Bear (Western Population)	Special Concern	Pending	Government of Nunavut
Peary Caribou	Endangered	Schedule 1	Government of Nunavut
Peary Caribou (High Arctic Population)	Endangered	Schedule 2	Government of Nunavut
Peary Caribou (Low Arctic Population)	Threatened	Schedule 2	Government of Nunavut
Wolverine	Special Concern	Pending	Government of Nunavut
Wolverine (Western population)	Non-active	Pending	Government of Nunavut
<b>Marine Wildlife</b>			
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Endangered	Schedule 2	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO

Beluga Whale (Southeast Baffin Island – Cumberland Sound population)	Endangered	Schedule 2	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Arctic population)	Endangered	Schedule 2	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO
Polar Bear	Special Concern	Schedule 1	Government of Nunavut/DFO
Fish			
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Atlantic Wolffish	Special Concern	Schedule 1	DFO
Bering Wolffish	Special Concern	Schedule 3	DFO
Blackline Prickleback	Special Concern	Schedule 3	DFO
Fourhorn Sculpin	Special Concern	Schedule 3	DFO
Fourhorn Sculpin (Freshwater form)	Data Deficient	Schedule 3	DFO
Northern Wolffish	Threatened	Schedule 1	DFO
Roundnose Grenadier	Endangered	Pending	DFO
Spotted Whitefish	Threatened	Schedule 1	DFO
Thorny Skate	Special Concern	Pending	DFO

<sup>1</sup> The Department of Fisheries and Oceans has responsibility for aquatic species.

<sup>2</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.

## Appendix C

### Archaeological and Palaeontological 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:

	<b>Types of Development</b> (See Guidelines below)	<b>Function</b> (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 Inventory
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/ Palaeontological Inventory or Assessment 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*<sup>1</sup> to issue such permits.

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.

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<sup>1</sup> P.C. 2001-1111 14 June, 2001

- 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]*

### **Palaeontology and Archaeology**

Under the *Nunavut Act*<sup>2</sup>, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

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<sup>2</sup> s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*<sup>3</sup>, 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](http://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 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

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<sup>3</sup> P.C. 2001-1111 14 June, 2001



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.