



**SCREENING DECISION REPORT**  
**NIRB FILE No.:**

NPC File No.: 150950

January 13, 2026

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 Calgary’s “Copernicus Expansion Missions Sea Ice Experiment (CEMSIE)” 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, issued in accordance with s. 92(2)(a) of *NuPPAA*, 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.

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## REGULATORY FRAMEWORK

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*. The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 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 indicating one of three options:

- (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.

## PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

On November 17, 2025, the NIRB received a referral to screen University of Calgary’s “Copernicus Expansion Missions Sea Ice Experiment (CEMSIE)” project proposal (NIRB File No: 25YN081) from the Nunavut Planning Commission (Commission); which noted that the project proposal is outside the area of an applicable land use plan. All documents received and pertaining to this project proposal can be accessed from the NIRB’s Public Registry by using any of the following search criteria or [www.nirb.ca/project/126247](http://www.nirb.ca/project/126247)

- Project Name: Copernicus Expansion Missions Sea Ice Experiment (CEMSIE)
- NIRB File No.: 25YN081
- NIRB Application No.: 150950

**Table 1: NIRB’s Assessment Process**

Date	Stage
November 17,2025	Receipt of project proposal from the Commission
November 18,2025	Pursuant to s. 144(1) of the <i>NuPPAA</i> the NIRB requested the Proponent complete an online application to address information required for Screening
November 18,2025	Receipt of online application from Proponent
November 18,2025	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
November 27,2025	Receipt of public comments
December 12,2025	Pursuant to Article 12 s 12.4.5 of the <i>Nunavut Agreement</i> and s. 92(3) of the <i>NuPPAA</i> , an extension to the 45-day timeline for the provision of the Board’s Report was requested from the Minister of Minister Responsible for Nunavut Arctic College
January 13, 2026	Issuance of Screening Decision Report

## 1. Project Scope

<b>Location</b>	Kitikmeot Region, Landfast sea ice located approximately 15–20 km southwest of Cambridge Bay, with airborne surveys conducted over Dease Strait, Queen Maud Gulf, and Victoria Strait. All operations will be supported by CHARS in Cambridge Bay
<b>Objective</b>	The Proponent intends to improve satellite measurements of Arctic first-year sea ice and snow by collecting on-ice and airborne data. The project seeks to enhance climate monitoring, weather forecasting, and northern community safety while integrating Indigenous and local knowledge and producing an open reference dataset for future research.
<b>Timeline</b>	March 15, 2026, to May 5, 2026 and Airborne surveys scheduled for April 10 – April 15, 2026 (weather permitting).

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

### A. Field Camp Establishment (“Remote Sensing City”)

- A temporary, seasonal field camp will be established on landfast first-year sea ice, approximately 15 km southwest of Cambridge Bay.
- The camp will include:
  - Portable tents for personnel,
  - Small shelter structures for equipment, and
  - Equipment caches.
- Daily access to the camp will be via snowmobiles.
- All infrastructure will be removed at the end of the field season, ensuring no lasting environmental disturbance. The ice surface will be restored to its natural state, and all materials and equipment will be removed.

### B. In-Situ Snow and Sea Ice Data Collection

- Daily measurements will include:
  - Snow: depth, temperature, density, salinity, grain size, layering and structure
  - Ice: thickness, density, salinity, layering, surface roughness
  - Weather: air temperature, wind speed, humidity
- Non-invasive tools will be used, including snow probes, ice corers, thermistor strings, and handheld radar or electromagnetic instruments.
- All equipment is battery-powered, and all materials will be removed from the site at the end of operations.

### C. Airborne Remote Sensing Campaign (CIMR air & CRISTAL air)

- Two to three dedicated research flights will operate from Cambridge Bay Airport in mid-April.
- Aircraft will be equipped with:
  - Passive microwave radiometers (CIMR air)
  - Radar altimeters (CRISTAL air)
- Flights will link ground measurements to satellite scales, collecting brightness temperature, radar backscatter, and elevation profiles.

- Survey areas include Dease Strait, Queen Maud Gulf, and Victoria Strait.

#### **D. Satellite Data Integration & Validation**

- Integration of data from multiple platforms:
  - Sentinel-1 / Sentinel-3
  - CIMR, CRISTAL, ROSE-L
  - Other supporting satellites as relevant
- Activities will include harmonizing spatial and temporal datasets and comparing satellite observations with in-situ and airborne measurements.
- This will build a Reference Open Dataset for calibration and validation of Copernicus Expansion Missions.

#### **E. Transportation & Logistics**

- Daily travel will use snowmobiles and small sleds to transport scientific gear.
- Airborne missions will use Twin Otter or similar fixed-wing aircraft; occasional helicopters will be used for regional sampling.
- All personnel accommodation, storage, and support will be provided by CHARS.
- No heavy equipment will be used at any time.

#### **F. Community Engagement & Inuit Qaujimaqatuqangit (IQ) Integration**

- Collaboration with local organizations:
  - Kitikmeot Inuit Association (KIA)
  - Hamlet of Cambridge Bay
  - Hunters & Trappers Organization (EHTO)
  - CHARS and POLAR
- **Activities include:**
  - Community meetings and presentations before and after fieldwork
  - Plain-language summaries, posters, and maps
  - Opportunities for local involvement, including guiding, logistical support, and observation of aerial surveys
  - Integration of Inuit and local knowledge to inform field planning and data interpretation

#### **G. Environmental Protection and Waste Management**

- All garbage, debris, and equipment will be kept secure and removed from the field site.
- Combustible waste will be incinerated where appropriate, with ash disposed safely. Non-combustible waste will be returned to CHARS for proper disposal at approved facilities.
- All activities will comply with environmental, regulatory, aviation, and occupational health and safety requirements, including CHARS guidelines and NIRB/NPC commitments.
- Measures will be taken to minimize disturbance to wildlife and the natural environment.

#### **H. Scale of Operations**

- Approximately 12–14 personnel will be on-site at any time, with up to 25–30 over the full campaign.
- Field operations are short-term and low impact, focusing on non-invasive research and temporary structures.
- The project runs from March 25 to May 15, 2026, coinciding with stable snow and ice conditions.

## 2. Inclusion or Exclusion to Scoping List

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

## 3. Public Comments and Concerns

As outlined in Table 1 above, notices regarding the NIRB's screening of this project proposal were distributed to community organizations as well as to relevant federal and territorial government agencies, Inuit organizations and other parties with a request for interested parties to provide the Board with any comments or concerns 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 December 8, 2025, the NIRB received comments from the following interested parties:

**Table 2: Comments Received**

Commenting Party	NIRB Doc ID No.
Transport Canada (TC)	358453
Crown – Indigenous Relations and Northern Affairs Canada (CIRNAC)	358456

### *a. Summary of Comments and Concerns Received*

The following provides a summary of the comments and concerns received by the NIRB in relation to the Copernicus Expansion Missions Sea Ice Experiment (CEMSIE) proposal:

#### **TC:**

- Transport Canada reviewed the Expansion Missions Sea Ice Experiment (CEMSIE) project proposal and determined that none of the project components fall within its mandate. As a result, Transport Canada has no comments or concerns regarding the project.

#### **CIRNAC:**

- Recommends continued engagement with affected municipalities, Hunters' and Trappers' Organizations, and other relevant community organizations and individuals.
- Consultation should meaningfully incorporate Inuit Qaujimajatuqangit and community knowledge alongside scientific information in project planning and activities.

- Opportunities for training and employment of Inuit and local community members should be considered.
- Potential effects on traditional harvesting activities within or near the project area should be addressed.
- Procurement opportunities for local and Inuit-owned businesses should be explored.
- Communities should be provided with regular updates on the status and progress of project activities

**4. b. Comments and Concerns with respect to Inuit Qaujimaningit, Indigenous and Community Knowledge**

No concerns or comments were received with respect to Inuit Qaujimaningit or Indigenous and Community knowledge in relation to the proposed project. However, Inuit Qaujimaningit and Indigenous 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.

**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. Table 3. The Board took particular care to consider Inuit Qaujimaningit, Indigenous and Community Knowledge in carrying out its assessment and determination of the significance of impacts.

**Table 3: Summary of the Board’s Assessment of Factors s. 90 *NuPPAA***

<b>Factor</b>	<b>Comment</b>
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"> <li>▪ The physical footprint of the proposed project is small, localized, and temporary, consisting of a seasonal on-ice field camp, short snowmobile travel routes, and limited aircraft overflights within Dease Strait, approximately 15–20 km southwest of Cambridge Bay. Project activities occur in seasonal marine ice habitat and are short-term and non-invasive, with no permanent habitat loss or fragmentation. The airborne surveys will cover a broader marine area beyond the on-ice field camp footprint, providing data over a larger portion of Dease Strait, Queen Maud Gulf, and Victoria Strait.</li> </ul>
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> <li>▪ The project area is a sensitive seasonal marine ice environment. The physical footprint of the fieldwork is temporary and localized, and the activities are short-term, non-invasive, and limited in scope. While the area may experience seasonal ecological use, the marine ice habitat is resilient, and the research activities are designed to minimize interference. Sensitivity of the</li> </ul>

Factor	Comment
	environment is acknowledged separately from potential impacts
The historical, cultural and archaeological significance of that area.	<ul style="list-style-type: none"> <li>▪ The project area occurs within seasonal marine ice areas that are part of the broader Inuit cultural and traditional use landscape. While no specific historical, cultural, or archaeological sites have been documented within the immediate physical footprint of the field camp and travel routes, these areas may still hold seasonal significance for local communities. The statement acknowledges cultural context without making absolute claims about the absence of historical or cultural importance.</li> </ul>
The size of the human and the animal populations likely to be affected by the impacts.	<ul style="list-style-type: none"> <li>▪ The project occurs in a sparsely populated area with limited human presence. Any interactions with wildlife populations are expected to be low in frequency and spatially limited due to the small footprint and short duration of the project. The scale of human and animal populations potentially exposed to the project is minimal, and the activities are largely confined to the temporary field camp and immediate travel routes, with airborne surveys covering a broader marine area.</li> </ul>
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"> <li>▪ The proposed project may result in localized, short-term disturbances to the seasonal marine ice environment through snowmobile travel, on-ice research activities, and aerial surveys. These interactions are limited in scale, infrequent, and reversible, and occur only for the duration of the field campaign. Given the temporary and non-invasive nature of the project, the activities are not expected to cause lasting changes to the environment.</li> </ul>
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"> <li>▪ When considered alongside past, present, and reasonably foreseeable activities in the region, including scientific research, infrastructure maintenance, and resource monitoring programs, the Copernicus Expansion Missions Sea Ice Experiment (CEMSIE) is unlikely to contribute meaningfully to cumulative effects. Its small physical footprint, short duration, and localized nature mean that interactions with other activities are minimal, and any combined effects with other regional projects are expected to be negligible.</li> </ul>
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> <li>▪ No other relevant factors were identified; however, see below for Regulatory Requirements mandating mitigation and/or reporting.</li> </ul>

## Regulatory Requirements

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

### Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Migratory Birds Convention Act* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>), the *Migratory Birds Regulations* ([https://lawslois.justice.gc.ca/eng/regulations/C.R.C.,\\_c.\\_1035/index.html](https://lawslois.justice.gc.ca/eng/regulations/C.R.C.,_c._1035/index.html)) and the *Migratory Bird Sanctuary Regulations* ([https://lawslois.justice.gc.ca/eng/regulations/C.R.C.,\\_c.\\_1036/index.html](https://lawslois.justice.gc.ca/eng/regulations/C.R.C.,_c._1036/index.html)).
3. The *Species at Risk Act* (<https://laws-lois.justice.gc.ca/eng/acts/s-15.3/>). Attached in **Appendix A** is a list of Species at Risk in Nunavut.
4. 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>).
5. The *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>) and the *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>).
6. The *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>). The Proponent is advised that the *Canadian Environmental Protection Act* lists calcium chloride (CaCl) as a toxic substance. The Proponent should assess alternatives to the use of CaCl as a drill additive, including biodegradable and non-toxic additives.
7. The *Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* (<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-197/FullText.html>). The Proponent must identify their tank system to Environment and Climate Change Canada and installation of new systems must comply with the regulations' design requirements.

### Other Applicable Guidelines

8. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (<https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html>).
9. Environmental Guidelines for the Management of Hazardous Waste, Government of Nunavut, Revised October 2010 ([https://www.gov.nu.ca/sites/default/files/Guideline%20-%20General%20Management%20of%20Hazardous%20Waste%20%28revised%20Oct%202010%29\\_0.pdf](https://www.gov.nu.ca/sites/default/files/Guideline%20-%20General%20Management%20of%20Hazardous%20Waste%20%28revised%20Oct%202010%29_0.pdf)).

VIEWS OF THE BOARD

In considering the above factors, the Board has identified the following and respectfully provides its views regarding whether or not the proposed project has the potential to result in significant impacts. The NIRB has also proposed terms and conditions that would mitigate the potential adverse impacts identified.

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

<b>Valued Component</b>	Marine Wildlife Use of Seasonal Ice
<b>Potential effects:</b>	Temporary and localized spatial overlap between project activities and wildlife use of seasonal landfast sea ice due to the presence of personnel, snowmobile travel, a small temporary field camp, and short-duration aircraft overflights
<b>Nature of Impacts:</b>	Interactions, where they occur, are low in complexity, short-term, intermittent, and fully reversible. Activities do not involve physical alteration of the ice environment and do not result in long-term changes to habitat availability or use.
<b>Mitigating Factors:</b>	The limited spatial footprint, small number of personnel, seasonal timing, short overall duration of activities, and absence of permanent infrastructure naturally constrain the extent and intensity of interaction.
<b>Proposed Terms and Conditions:</b>	Wildlife – General: 17 through 20 Migratory Birds and Raptors Disturbance: 21 through 24 Aircraft Flight Restrictions: 25 through 30

<b>Valued Component</b>	Inuit Harvesting Activities
<b>Potential effects:</b>	Project activities (temporary field camp, daily snowmobile travel, short-term aircraft overflights) may temporarily overlap with areas of seasonal marine ice used for Inuit travel and harvesting.
<b>Nature of Impacts:</b>	Effects are expected to be short-term, localized, and low intensity, with no permanent alteration of ice conditions or restriction of access. Any minor interference is fully reversible once fieldwork concludes.
<b>Mitigating Factors:</b>	The small physical footprint of the camp, limited number of personnel, short seasonal duration (March 15 – May 5, 2026; airborne surveys April 10–15), and ongoing communication and coordination with local organizations (HTO, Smart ICE) reduce the likelihood and extent of any overlap.
<b>Proposed Terms and Conditions:</b>	Other - 31 through 33

<b>Valued Component</b>	Water Quality
<b>Potential effects:</b>	Minor contamination from accidental spills, fuel handling, or improper disposal of field materials on sea ice that could melt into the marine environment.

<b>Nature of Impacts:</b>	Short-term, localized, and low intensity. No persistent or large-scale water quality changes are expected. Effects are reversible once materials are removed.
<b>Mitigating Factors:</b>	All waste, including fuel containers and consumables, will be removed from the site and returned to CHARS for proper disposal. No heavy equipment is used. Fieldwork follows CHARS environmental and safety guidelines, and all equipment is non-invasive and battery-powered.
<b>Proposed Terms and Conditions:</b>	Waste Management: 6 and 7 Fuel and Chemical Storage: 8 through 15

<b>Valued Component</b>	Air Quality and Noise
<b>Potential effects:</b>	Emissions of exhaust gases from snowmobiles, small sleds, and occasional aircraft (Twin Otter or helicopter) used for regional surveys. Noise generated from daily on-ice activities, including travel, equipment operation, and airborne surveys.
<b>Nature of Impacts:</b>	Impacts are short-term, localized, and low intensity. Emissions and noise are temporary and confined to the immediate area of operations. They are reversible, ceasing once vehicles and aircraft are not in use. No cumulative air quality effects are expected due to the limited scale and duration of the project.
<b>Mitigating Factors:</b>	The project relies primarily on small, low-emission vehicles, battery-powered equipment, and a small team of personnel to minimize noise and emissions. Airborne surveys are limited to a short period (April 10–15, 2026) and follow specific flight paths. All activities comply with CHARS environmental and safety procedures, ensuring minimal disturbance to the surrounding environment.
<b>Proposed Terms and Conditions:</b>	Air Quality – 16 Wildlife General – 17 through 20

**Socio-economic effects on northerners:**

<b>Valued Component</b>	Socio-economic well-being of northern communities
<b>Potential effects:</b>	Positive effects may include employment, training, and local engagement opportunities for community members, as well as knowledge sharing and capacity building. Potential minor effects could include temporary presence of project personnel in local areas, which might slightly increase traffic or use of local services.
<b>Nature of Impacts:</b>	Impacts are short-term, localized, and limited in scale. The project footprint is temporary (on-ice camp ~15–20 km from Cambridge Bay) and does not restrict access to traditional lands or resources. No long-term or cumulative adverse effects are expected.
<b>Mitigating Factors:</b>	Engagement with local organizations such as the Hamlet of Cambridge Bay, HTO, and Smart ICE ensures timely communication and coordination. Opportunities for local participation in fieldwork, logistics, and observation are provided. All project activities are

	conducted with respect for Inuit Qaujimagatuqangit and follow CHARS environmental and safety procedures.
<b>Proposed Terms and Conditions:</b>	Other – 33

**Significant public concern:**

<b>Valued Component</b>	<b>Public Concern</b>
<b>Potential effects:</b>	Temporary questions or interest from community members, local organizations, or stakeholders about project objectives, timing, and safety. Concerns may arise regarding aircraft operations, on-ice activities, or environmental practices.
<b>Nature of Impacts:</b>	Impacts are short-term, minor, and informational in nature. No evidence suggests significant opposition or lasting social effects.
<b>Mitigating Factors:</b>	Proactive communication and engagement with local communities, including the Hamlet of Cambridge Bay, EHTO, Smart ICE, and CHARS, will address questions and provide clear information. Sharing plain-language summaries, maps, and results before, during, and after the field season ensures transparency and responsiveness. Engagement emphasizes education, collaboration, and inclusion of local perspectives.
<b>Proposed Terms and Conditions:</b>	Other – 31 through 33

**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: 1-5.

In considering the above factors and subject to the Proponent’s compliance with regulatory requirements and 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. John Yackel (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.:150950), and the NIRB (Online Application Form, Project Summary, November 18, 2025). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

## **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.
7. The Proponent shall dispose of all combustible wastes as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

## **Fuel and Chemical Storage**

8. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
9. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations.
10. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.

11. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
12. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
13. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
14. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
15. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

### **Air Quality**

16. The Proponent shall eliminate unnecessary idling to reduce greenhouse gas emissions as much as possible.

### **Wildlife – General**

17. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.
18. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
19. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
20. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.

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

21. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's Avoidance Guidelines. The Proponent's actions in applying the Avoidance Guidelines shall be in compliance with the Migratory Birds Convention Act, 1994 and with the Species at Risk Act.

22. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone appropriate for the species and the surrounding habitat.

23. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.

24. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

### **Aircraft Flight Restrictions**

25. The Proponent shall not alter flight paths to approach wildlife and avoid flying directly over animals.

26. The Proponent shall plan flight paths that minimize flights over known habitat likely to have birds or concentrations of wildlife. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

27. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum flight altitude of 610 metres (2,100 ft) above ground level except during landing, take-off or if there is a specific requirement for low-level flying, which does not disturb wildlife or migratory birds.

28. The Proponent shall avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of 1.5 kilometre. If avoidance is not possible maintain a minimum flight altitude of 1,100 metres (3,500 feet) over these areas.

29. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.

30. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

### **Other**

31. 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.

32. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

33. The Proponent should, to the extent possible, hire local people and access local services where possible.

## OTHER NIRB CONCERNS AND RECOMMENDATIONS

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

### Change in Project Scope

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

### Copy of licences, etc. to the Board and Commission

2. The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. Please forward a copy of the licences, permits and/or other authorizations to the NIRB directly at [info@nirb.ca](mailto:info@nirb.ca) or upload a copy to the NIRB's online registry at [www.nirb.ca](http://www.nirb.ca).

### Use of Inuit Qaujimaningit

3. The Proponent is encouraged to work with local communities and knowledge holders to inform project design, to carry out the project, and to confirm or validate the perspectives represented in publications, and reports as part of the project. Care should be taken to ensure that Inuit Qaujimaningit and local knowledge collected for the project is used with permission and is accurately represented.

### Bear and Carnivore Safety

4. 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: [https://www.enr.gov.nt.ca/sites/enr/files/resources/safety\\_in\\_grizzly\\_and\\_black\\_bear\\_country\\_english.pdf](https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf).
5. 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).
6. 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

7. 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

8. 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.
9. 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://publications.gc.ca/collections/collection\\_2013/ec/CW66-324-2013-eng.pdf](http://publications.gc.ca/collections/collection_2013/ec/CW66-324-2013-eng.pdf).

## Transport of Dangerous Goods and Waste Management

10. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
11. The Proponent shall ensure that proper shipping documents (waste manifests, transportation of dangerous goods, etc.) accompany all movements of dangerous goods. Further, the Proponent shall ensure that the shipment of all dangerous goods is registered with the Government of Nunavut Department of Environment, Department of Environment Manager. Contact the Manager (867) 975-7748 to obtain a manifest if dangerous goods including hazardous wastes will be transported.
12. The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes.

## Remotely Piloted Aircraft Systems, Unmanned Air Vehicles and Non-Recreational Drones

13. The Proponent should review Transport Canada's site on the rules for flying drones in Canada at <https://www.tc.gc.ca/en/services/aviation/drone-safety/new-rules-drones.html>.

## CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the University of Calgary's "Copernicus Expansion Missions Sea Ice Experiment (CEMSIE)". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated January 13, 2026 at Iqaluit, NU.



Albert Ehaloak, *Acting* 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*, S.C. 2002, c. 29 (*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 2024

<b>Terrestrial Species at Risk<sup>1</sup></b>	<b>COSEWIC Designation</b>	<b>Schedule of SARA</b>	<b>Government Organization with Primary Management Responsibility<sup>2</sup></b>
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
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Transverse Lady Beetle	Special Concern	No Schedule	GN
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
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
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
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

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

<sup>2</sup> 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.

**APPENDIX B: ARCHAEOLOGICAL AND PALAEOLOGICAL 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 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*<sup>3</sup> to issue such permits.

<sup>3</sup> 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]*

## Palaeontology and Archaeology

Under the *Nunavut Act*<sup>4</sup>, 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*<sup>5</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.

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<sup>4</sup> s. 51(1)

<sup>5</sup> P.C. 2001-1111 14 June, 2001

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 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.