



**SCREENING DECISION REPORT  
NIRB FILE No.: 19DN049**

*Related to NIRB File No.: 16DN004, 16DN031, 16DN063*

NPC File No.: 149253

*Related to NPC File No.: 148197, 148282, 148373,  
148577, 148656, 148867, 148932, 149149*

**April 8, 2020**

Following the Nunavut Impact Review Board’s (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Department of National Defence’s “OP NANOOK-NUNALIVUT 2020” is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

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

**OUTLINE OF SCREENING DECISION REPORT**

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

*Nunavut Agreement*, Article 12, Section 12.2.5: In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

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

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

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

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

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

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

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

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

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

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

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

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

## PROJECT REFERRAL

On December 13, 2019 the NIRB received a referral to screen Department of National Defence’s (DND) “OP NANNOOK-NUNALIVUT 2020” project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the Keewatin and North Baffin Regional Land Use Plans. The Commission noted that the previous conformity determinations issued on February 8, 2016, April 25, 2016, November 12, 2016, May 24, 2017, November 29, 2017, May 31, 2018, August 17, 2018 and June 18, 2019 for the activities associated with the current proposal continues to apply and has determined that the project proposal is a significant modification to the project because of because of the use of explosives to cut through sea ice.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **19DN049**. The NIRB considers this project proposal to be sufficiently related to previously assessed activities under NIRB file numbers 16DN004, 16DN031, and 16DN063 but is assessing this proposal as a new project. A summary of the previously screened project activities can be found in [Appendix A](#).

## PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

### 1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
December 13, 2020	Receipt of project proposal and positive conformity determination (North Baffin and Keewatin Regional Land Use Plans) from the Commission.
December 13, 2020	Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i>

Date	Stage
February 4, 2020	Receipt of online application from Proponent
February 6, 2020	Request(s) to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the <i>NuPPAA</i>
February 25, 2020	Proponent responded to information request(s) and provided additional information
February 25, 2020	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
February 26, 2020	Public engagement and comment request
March 18, 2020	Receipt of public comments
April 8, 2020	Issuance of Screening Decision Report

## 2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at [www.nirb.ca/project/125498](http://www.nirb.ca/project/125498).

<b>Project:</b>	OP NANOOK-NUNALIVUT 2020
<b>Region:</b>	Kivalliq and Qikiqtani (North Baffin)
<b>Location:</b>	Land and sea ice activities on Ellesmere Island near Resolute Bay and within the Hudson Bay near Rankin Inlet
<b>Closest Community:</b>	Within the vicinity of the communities of Resolute Bay, Grise Fiord and Rankin Inlet
<b>Summary of Project Description:</b>	The Proponent intends to conduct military exercises and patrols on land, sea ice and air based out of Resolute Bay and Rankin Inlet. The dive team operations will focus on ice breaching capabilities and the exercise in Rankin Inlet will involve the use of explosives to understand the options for breaking through ice for a diver access to the sea.
<b>Project Proposed Timeline:</b>	February 2020 to March 2020.

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

- Conduct military exercises and patrols on land, sea ice and in the air at sites located in and around the communities of Resolute Bay, Grise Fiord and Rankin Inlet;
- Establishment of a Task Force Headquarters in Resolute Bay with 10 members, and an additional 40 support personnel with the following activities to occur;
  - Personnel to be supported by Canadian Ranger Patrol Group out of Resolute Bay for a total of approximately 200 personnel;
  - Establishment of two (2) live fire ranges in the vicinity of Resolute Bay;
  - Use of pyro technique distress flares in Resolute Bay;
  - Conduct arctic training survival skills training;

- Use of CC-177 (Globemaster), CC-138 (Twin Otter), and CC-130 (Hercules) aircraft, based in Resolute Bay to provide transportation, resupply and casualty evacuation services if required;
- Operations in Rankin Inlet to include:
  - A dive team consisting of approximately 60 personnel to conduct under-ice diving operations and on-ice breaching capabilities;
  - Use of C4 explosives including: C4 blocks, detonation cord, electric detonator, time fuse, igniter and non-electric detonator to breach ice for dive operations;
- Establishment and decommissioning of temporary camps to support operations, including dive operations, and patrol safety;
- Use of generators, compression chambers, tents, Colman stoves, lanterns and portable heaters to support military exercises;
- Use of land-based track vehicles and snowmobiles to support military exercises;
- Establishment and use of fuel caches of up to 12,000 litres (L) to support long range patrols from Resolute Bay to Polaris and from Rankin Inlet to Chesterfield;
- Consumption of water from existing municipal facilities in Resolute Bay and Rankin Inlet for domestic purposes and use of snow or ice during foot patrols;
- Generation and management of wastes:
  - Hazardous materials to be stored in approved storage containers and facilities;
  - Combustible and non-combustible wastes to be collected and disposed of at the nearest community for proper disposal;
  - Waste generated during foot patrols to be bagged and packed out for appropriate disposal or incineration of combustible waste; and
- Demobilization and removal of equipment and materials on completion of military exercises.

### 3. Inclusion or Exclusion to Scoping List

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

### 4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on was distributed on February 26, 2020 to community organizations in Rankin Inlet, Grise Fiord and Resolute 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 March 18, 2020 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 March 18, 2020 the NIRB received comments from the following interested parties:

- **Government of Nunavut**
- **Crown-Indigenous Relations and Northern Affairs Canada**
- **Fisheries and Oceans Canada**

On March 26, 2020 the NIRB received comments from:

- **Parks Canada**

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

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

**Government of Nunavut (GN)**

- Wildlife harvesting while on patrol is not permitted;
- Recommended the reporting of any and all wildlife mortalities to the local Department of Environment Conservation Officer or Department of Environment Headquarters;
- Patrol between Grise Fiord and Eureka should take special care to avoid disturbance to wildlife, in particular Peary Caribou and muskoxen;
- Recommended that the communities of Resolute Bay and Rankin Inlet be made publicly aware of when and where live-fire exercises, such as ranges or ice breaching with explosives, will occur so any harvesters will avoid the areas.

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

- Recommended mitigation measures related to:
  - Fuel storage and hazardous waste management;
  - Waste management practices;
  - Ground disturbance;
  - Protection of water quality; and
  - The use of ammonium-nitrate based explosives near water.
- Recommended that the Proponent maintain communications with land users to ensure that they are aware of planned activities and their interests are respected;
- Recommended additional communications with organizations such as the Hunters and Trappers Associations and the Regional Inuit Organizations; and
- Recommended the Proponent consider how it will involve local residents in its planned activities, how Inuit Qaujimajatuqangit will be incorporated into the project design, and any training and employment opportunities for community members.

**Fisheries and Oceans Canada (DFO)**

- Not aware of any significant public concern and has no concern with the Project as proposed;

- Noted the Project would not result in serious harm to fish and/or fish habitat, or prohibited effects on listed aquatic species at risk, provided the Project is implemented in the manner and during the timeframe, as described;
- Noted the Proponent has outlined appropriate mitigation measures;
- Noted that it is the Proponents' responsibility to remain in compliance with the *Fisheries Act* and it is also the Proponents' *Duty to Notify* DFO if they have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat; and
- suggest that the 100 kilopascal (kPa) guideline presented in the "*Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters*" (1998), may not be adequate to protect fish from damaging overpressures. DFO now recommends using a more appropriate overpressure of 50 kPa to protect fish; and
- recommended the site be monitored for death of fish or harmful alteration, disruption or destruction of fish habitat.

#### **Parks Canada (PC)**

- DND has not requested authorization from Parks Canada to conduct activities in the vicinity of Massey Island which is within Qausuittuq National Park;
- Noted that one of the reasons for the establishment of Qausuittuq National Park was to protect Peary Caribou, a Species at Risk.
- Recommending that no activities within the boundaries of Qausuittuq National Park and that all participants be familiar with the boundaries of the park to avoid entering without permission;
- Noted that due to COVID-19 the park is closed to persons not exercising harvest rights under the *Nunavut Agreement*;
- Recommends that military personnel not only keep one (1) kilometre away from the boundary of Polar Bear Pass National Wildlife Area but the same considerations should apply to Qausuittuq National Park; and
- Recommend that low level flight exercises should not be conducted over park air space and should maintain a minimum flying altitude of 2100 feet in air space over the park.

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

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project.

### ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NUPPAA*

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

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

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

Factor	Comment
<p>The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.</p>	<ul style="list-style-type: none"> <li>▪ The project proposal covers a large geographic area in the Qikiqtani and Kivalliq regions with military exercises and patrols on land, sea ice and in the air at sites located in and around the communities of Resolute Bay, Grise Fiord and Rankin Inlet.</li> <li>▪ The proposed project activities may take place within habitats and seasonal ranges of various far ranging terrestrial wildlife including, caribou, muskox, wolves, wolverines, and non-migratory birds and Species at Risk (such as Polar Bears, Ross’s Gulls and Ivory Gulls, Peary Caribou). Further, marine wildlife such as ringed seal, Atlantic walrus, Beluga Whale, Bowhead Whale, grey whale, killer whale, and narwhal may also be encountered during the diving project activities.</li> </ul>
<p>The ecosystemic sensitivity of that area.</p>	<ul style="list-style-type: none"> <li>▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent. However, there are proposed activities in the immediate vicinity of Massey Island which is within the boundaries of Qausuittuq National Park. It is also noted that activities will occur in close proximity to Polar Bear Pass National Wildlife Area on Bathurst Island and Napaqtulik Proposed Territorial Park on Axel Heiberg Island.</li> </ul>
<p>The historical, cultural and archaeological significance of that area.</p>	<ul style="list-style-type: none"> <li>▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project.</li> </ul>
<p>The size of the human and the animal populations likely to be affected by the impacts.</p>	<ul style="list-style-type: none"> <li>▪ The logistical support for the project as would occur out of the communities of Rankin Inlet and Resolute Bay. As such resident human populations are likely to be affected by additional noise from traffic,</li> </ul>

Factor	Comment
	<p>and activities generated by the proposed project.</p> <ul style="list-style-type: none"> <li>▪ In addition, far-ranging terrestrial wildlife species such as Polar Bears, caribou, muskox, non-migratory birds (ravens, snowy owl or ptarmigan) and marine wildlife such as ringed seal, Atlantic walrus, Beluga Whale, Bowhead Whale, grey whale, killer whale and narwhal are likely to be encountered within the area and may be impacted by the project proposal.</li> </ul>
<p>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.</p>	<ul style="list-style-type: none"> <li>▪ A zone of influence of up to 10 km from the most potentially-disruptive project activities was selected for the NIRB's assessment.</li> <li>▪ With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.</li> </ul>
<p>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.</p>	<ul style="list-style-type: none"> <li>▪ The mitigation measures recommended by the NIRB have been designed with consideration for the potential for cumulative effects to result from the impacts of the project combined with other past, present and reasonably foreseeable projects.</li> </ul>
<p>Any other factor that the Board considers relevant to the assessment of the significance of impacts.</p>	<ul style="list-style-type: none"> <li>▪ Project Activities would not permitted within the boundaries of Qausuittuq National Park without proper authorizations from Parks Canada.</li> </ul>

**Other past, present and reasonably foreseeable projects considered in this assessment:**

NIRB Project Number	Project Title	Project Type
<b><i>Proposed Developments – undergoing assessment</i></b>		
19XN014	Nunavut Clean Energy Project Rankin Inlet and Baker Lake	Infrastructure
19EN027	Whale Cove Exploration Projects	Mineral Exploration
<b><i>Present Projects – approved or in operation</i></b>		
11EN016	MXGold's Kuulu Project	Mineral Exploration
15EN028	Kahuna Diamond Project	Mineral Exploration

<b>NIRB Number</b>	<b>Project</b>	<b>Project Title</b>	<b>Project Type</b>
17EN029		Gibson-MacQuoid Project	Mineral Exploration
19XN042		Rankin Inlet and Baker Lake Meteorological Towers	Research
<b><i>Past Projects</i></b>			
16DN004		Operation Nunaliut 2016	Defence
16DN031		Operation Nanook 2016	Defence
16DN061		NOREX 18	Defence
16DN063		Operation Nunaliut 2017	Defence
16YN070		Under-ice Monitoring of the Northwest Passage	Research
17AN010		Emergency Use of Polar Bear Wildlife Area Cabin	Access (seasonal)
17UN035		Bathurst / High Arctic Remediation and Risk Management Project	Remediation

#### VIEWS OF THE BOARD

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

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

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

<b>Valued Component</b>	Marine mammals, Fish and Aquatic Life
<b>Potential effects:</b>	Potential adverse effects to marine mammals, fish and aquatic life from the detonation of explosives and the shock waves associated with them. Under certain conditions there is the potential to be lethal to fish, may cause auditory damage to mammals, or may change behaviour of marine life. Use of explosives near fish habitat may also result in physical or chemical alteration of that habitat.
<b>Nature of Impacts:</b>	The potential for adverse effects is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible.
<b>Mitigating Factors:</b>	DFO recommends reducing the size of the charge or by isolating fish from potentially affected waters using a barrier device or by a combination of these measures to ensure an appropriate overpressure of 50 kilopascal (kPa) to protect fish. The site should be monitored for death of fish or harmful alteration, disruption or destruction of fish

	habitat. In addition, the Board is also recommending mitigation measures to ensure the protection of fish and wildlife including recommending that there be a safety zone clear of any marine mammals.
<b>Proposed Terms and Conditions:</b>	15, 16, 18, 41 through 44
<b>Related Acts and/or Regulations:</b>	<ol style="list-style-type: none"> <li>1. The <i>Fisheries Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html">http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html</a>).</li> <li>2. The <i>Species at Risk Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html">http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html</a>). Attached in <a href="#">Appendix B</a> is a list of Species at Risk in Nunavut.</li> <li>3. The Guidelines for the use of Explosives in or near Canadian Fisheries Waters (<a href="http://publications.gc.ca/site/eng/82558/publication.html">http://publications.gc.ca/site/eng/82558/publication.html</a>).</li> </ol>

<b>Valued Component</b>	Wildlife, Wildlife Habitat, Migratory and Non-migratory Birds, and Species at Risk
<b>Potential effects:</b>	Potential adverse effects to wildlife, wildlife habitat, migratory and non-migratory birds; and Species at Risk such as Polar Bears and Ivory Gull from the noise generated from transportation and movement of personnel, military exercises, and use of temporary camps.
<b>Nature of Impacts:</b>	The potential for adverse effects is applicable to targeted areas for a short duration to time while the military operations occur. The nature of potential effects are considered to be well-known, and limited to infrequent, localized impacts to the biophysical environment that are temporary in nature, reversible and mitigable with due care.
<b>Mitigating Factors:</b>	It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent to maintain minimum flight altitudes, reducing wildlife attractants and avoidance tactics.
<b>Proposed Terms and Conditions:</b>	6, 15 through 28; 41 through 44
<b>Related Acts and/or Regulations:</b>	<ol style="list-style-type: none"> <li>1. The <i>Migratory Birds Convention Act and Migratory Birds Regulations</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/M-7.01/">http://laws-lois.justice.gc.ca/eng/acts/M-7.01/</a>).</li> <li>2. The <i>Species at Risk Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html">http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html</a>). Attached in <a href="#">Appendix B</a> is a list of Species at Risk in Nunavut.</li> <li>3. The <i>Wildlife Act</i> (<a href="http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html">http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html</a>) which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.</li> <li>4. The <i>Aeronautics Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/A-2/">http://laws-lois.justice.gc.ca/eng/acts/A-2/</a>).</li> <li>5. The <i>Canada National Parks Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/n-14.01/">http://laws-lois.justice.gc.ca/eng/acts/n-14.01/</a>).</li> </ol>

<b>Valued Component</b>	Surface Water Quality, Sea Ice, Fish and Fish Habitat, and Aquatic Environment
<b>Potential effects:</b>	Potential adverse effects to surface water quality, sea ice and fish and fish habitat from military activities, storage and use of fuel, potential spills as a result of re-fueling during operations or accidents/malfunctions during the military exercises.
<b>Nature of Impacts:</b>	The potential for adverse effects is applicable to targeted areas for a short duration to time while the military operations occur. The nature of potential effects are considered to be well-known, and limited to infrequent, localized impacts to the biophysical environment that are temporary in nature, reversible and mitigable with due care.
<b>Mitigating Factors:</b>	The Board is recommending terms and conditions that ensure that the potential adverse effects can be mitigated by measures such as operational procedures for storing and transfer of materials, use of secondary containment, and spill response equipment would reduce the risk of uncontrolled releases of fuel or hazardous materials resulting in negative impacts to surface and ground water quality and quantity.
<b>Proposed Terms and Conditions:</b>	4 through 14, 29 through 37, 41 and 42
<b>Related Acts and/or Regulations:</b>	<ol style="list-style-type: none"> <li>1. The <i>Fisheries Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html">http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html</a>).</li> <li>2. The <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> (<a href="http://www.canlii.org/ca/sta/n-28.8/whole.html">http://www.canlii.org/ca/sta/n-28.8/whole.html</a>).</li> <li>3. The <i>Arctic Waters Pollution Prevention Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/A-12/">http://laws-lois.justice.gc.ca/eng/acts/A-12/</a>).</li> </ol>

<b>Valued Component</b>	Terrestrial Vegetation, Land, Soil Quality, Terrain Stability and Permafrost
<b>Potential effects:</b>	Potential adverse effects to ground stability, vegetation health, soil quality, terrain, and permafrost from the establishment and operation of the military exercises and from the storage, transportation, and use of fuel.
<b>Nature of Impacts:</b>	The potential for adverse effects is applicable to targeted areas for a short duration to time while the military operations occur. The nature of potential effects are considered to be well-known, and limited to infrequent, localized impacts to the biophysical environment that are temporary in nature, reversible and mitigable with due care.
<b>Mitigating Factors:</b>	The Board is recommending terms and conditions to mitigate the potential adverse effects to the land and shoreline in addition to ensuring that transportation occurs only during appropriate conditions and that site remediation activities are undertaken.
<b>Proposed Terms and Conditions:</b>	6 through 15, 29 through 40, 47 and 48

<b>Related Acts and/or Regulations:</b>	<p>1. The <i>Fisheries Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html">http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html</a>).</p> <p>2. The <i>Transportation of Dangerous Goods Regulations</i> (<a href="http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm">http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm</a>), <i>Transportation of Dangerous Goods Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/t-19.01/">http://laws-lois.justice.gc.ca/eng/acts/t-19.01/</a>), and the <i>Canadian Environmental Protection Act</i> (<a href="http://laws-lois.justice.gc.ca/eng/acts/C-15.31/">http://laws-lois.justice.gc.ca/eng/acts/C-15.31/</a>).</p>
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<b>Valued Component</b>	Public and traditional land use activities in the area,
<b>Potential effects:</b>	There is the potential for adverse effects to arise as a result of the military exercises overlapping with traditional land use, and harvesting activities from community members due to its close proximity to the communities of Rankin Inlet and Resolute Bay.
<b>Nature of Impacts:</b>	The project activities are limited to the short period of time the military activities would occur, and if situations arise where the project may interfere with traditional land use, mitigation measures have been recommended to ensure minimal impacts to traditional land use activities.
<b>Mitigating Factors:</b>	The Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
<b>Proposed Terms and Conditions:</b>	49, and 50
<b>Related Acts and/or Regulations:</b>	n/a

**Socio-economic effects on northerners:**

<b>Valued Component</b>	Historical, cultural and archeological sites
<b>Potential effects:</b>	Potential adverse effects to historical, cultural and archeological sites from ground based military activities.
<b>Nature of Impacts:</b>	As the project does not involve any permanent earthworks or alteration of the areas, it is unlikely that the Proponent would significantly alter archaeological sites, therefore the probability of significant impacts occurring are considered to be low.
<b>Mitigating Factors:</b>	The Proponent would be required to contact the Culture and Heritage Department of the Government of Nunavut if any historical or archeological sites are encountered.
<b>Proposed Terms and Conditions:</b>	45, 46 and 49

<b>Related Acts and/or Regulations:</b>	1. The <i>Nunavut Act</i> ( <a href="http://laws-lois.justice.gc.ca/eng/acts/N-28.6/">http://laws-lois.justice.gc.ca/eng/acts/N-28.6/</a> ). The Proponent must comply with the proposed terms and conditions listed in the attached <a href="#">Appendix C</a> .
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**Significant public concern:**

<b>Valued Component</b>	Public Concern
<b>Potential effects:</b>	No significant public concern was expressed during the public commenting period for this file.
<b>Nature of Impacts:</b>	The potential for impacts is considered to be minimal as long as the Proponent follow the recommended terms and conditions.
<b>Mitigating Factors:</b>	Follow up consultation and involvement of community members is expected to mitigate any potential for public concern resulting from project activities.
<b>Proposed Terms and Conditions:</b>	49, 50 and 51
<b>Related Acts and/or Regulations:</b>	n/a

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

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

**Administrative Conditions:**

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

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

**RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS**

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

**General**

1. Department of National Defence (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149253), and the NIRB (Online Application Form, February 25, 2020).

3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

### **Water Use**

4. The Proponent shall not extract water from any fish-bearing waterbody unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless otherwise authorized by the Nunavut Water Board.
5. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless authorized by the Nunavut Water Board.

### **Waste Disposal**

6. 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.
7. The Proponent shall incinerate all combustible wastes daily and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.
8. The Proponent shall ensure that no waste oil/grease is incinerated on site.

### **Fuel and Chemical Storage**

9. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
10. The Proponent shall ensure that fuel and hazardous materials are stored in such a manner as to prevent their release into the environment.
11. 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.
12. The Proponent shall use drip pans or other equivalent device when refueling equipment.
13. 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 at all refuelling stations.
14. 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**

15. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.

16. 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.
17. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
18. 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.

### **Aircraft Flight Restrictions**

19. The Proponent shall not alter flight paths to approach wildlife, and avoid flying directly over animals.
20. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum flight altitude of 610 metres 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. Low level flight exercises are not permitted over Qausuittuq National Park air space and all aircraft are restricted to minimum flying altitude of 2100 feet in air space over the park.
21. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
22. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

### **Caribou and Muskox Disturbance**

23. The Proponent shall avoid interfering with any paths or crossings known to be frequented by caribou during periods of migration.
24. 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.
25. The Proponent shall not block or cause any diversion to caribou or muskox migration, and shall cease activities likely to interfere with migration such movement of equipment or personnel until such time as the caribou or muskox have passed.
26. The Proponent shall not construct or operate any camp, cache any fuel or conduct blasting within ten (10) kilometres, of any designated caribou water crossings. The proponent shall avoid interfering any paths or crossings known to be frequented by caribou during periods of migration.
27. Should pregnant caribou cows, cows with young calves, or groups of 50 or more caribou be observed within one (1) kilometer of project operations at any time, the Proponent shall suspend all operations in the vicinity, including low level overflights, and use of snowmobiles and all terrain vehicles outside the immediate vicinity of the camp, until caribou are no longer in the immediate area.

28. All vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

### **Winter Trail**

29. The Proponent shall select a winter route that maximizes the use of frozen water bodies.
30. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.
31. The Proponent shall ensure that no disturbance of the stream bed or banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or by a responsible authority in cases of spill management.
32. The Proponent shall not move any equipment or vehicles without prior testing the thickness of the ice to ensure the lake is in a state capable of fully supporting the equipment or vehicles.
33. 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.
34. The Proponent shall ensure that bank disturbances are avoided and no mechanized clearing carried out immediately adjacent to any watercourse.
35. The Proponent shall ensure that stream crossings and/or temporary crossings constructed from ice and snow, which may cause jams, flooding or impede fish passage and or water flow, are removed or notched prior to spring break-up.
36. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
37. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediment from entering any waterbody. This includes ensuring that a sufficient thickness of snow and ice is present on the winter road to prevent unnecessary erosion of the underlying ground surface and impact on underneath vegetation.

### **Land Use**

38. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

### **Temporary Camps**

39. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
40. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

### **Marine-Based Activities**

41. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including waste water) or sediment into any marine waters.
42. The Proponent shall implement measures designed to minimize disturbance to seabed sediments and benthic communities and marine wildlife when carrying out project activities within the marine environment.

43. The Proponent shall ensure that all activities associated with breaching the ice will not commence unless a full 1000 metres safety zone is clear of any marine mammal or colonies of seabirds by visual inspection by a trained Marine Mammal Observer for a continuous period of at least thirty (30) minutes. The activities must be must be shut down if any marine mammal enters or is anticipated to enter the 1000 metres safety zone.
44. The Proponent shall suspend all project activities should any dead fish or wildlife, or any injured wildlife be observed. Resumption of activities will be dependent on the results of discussions with Fisheries, Oceans and the Canadian Coast Guard and Government of Nunavut – Department of Environment representatives, and the circumstances leading to the injuries or mortalities.

### **Heritage Sites**

45. No activities shall be conducted in the vicinity (50 metres buffer zone) of any archaeological/historical sites. If archaeological sites or features are encountered, activities shall immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to the Government of Nunavut-Department of Culture and Heritage.
46. The Proponent shall ensure that all clients and staff are aware of the Proponent's responsibilities and requirements regarding archaeological or palaeontological sites that are encountered during land-based activities. This should include briefings explaining the prohibitions regarding removal of artifacts, and defacing or writing on rocks and infrastructure.

### **Restoration of Disturbed Areas**

47. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
48. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state as practical as possible upon completion of field work.

### **Other**

49. 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.
50. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
51. The Proponent should, to the extent possible, hire local people and access local services where possible.

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 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. As per s. 137(4) of the *NuPPAA*, responsible authorities are required to submit a copy of each licence, permit or other authorization issued for the Project to the Nunavut Planning Commission and the NIRB. 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, film or other media produced 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: [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).
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 Rankin Inlet (867) 645-8083, Resolute Bay (867) 252-3879, Grise Fiord (867) 980-4164.

## 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.

## CONCLUSION

The foregoing constitutes the Board’s screening decision with respect to the Department of National Defence’s “Operation Nanook-Nunaliut 2020”. The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 8, 2020 at Baker Lake, NU.



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Kaviq Kaluraq, 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

### **NIRB 16DN004: Operation Nunalivut**

The original project proposal for Operation NUNAVLIVUT (NIRB File No.: 16DN004), was received by the Nunavut Impact Review Board (NIRB or Board) from the Nunavut Planning Commission (Commission) on February 8, 2016 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 March 31, 2016 the NIRB issued a screening decision pursuant to paragraph 92(2)(a) of the *NuPPAA* to the then Minister of Indigenous and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

The Joint Task Force (North)'s (Proponent) original "Operation Nunalivut" project was located in the Qikiqtani (North Baffin) region, based out of Resolute Bay, and intended to conduct military exercises at several locations between Resolute Bay and Alert. The exercises were supported by the Canadian Rangers and occurred on land, sea ice, underwater, and in the air to further enhance the Canadian Armed Forces, Canadian Rangers, and partner agencies' knowledge and capacity to operate in the north and demonstrate the ability to effectively respond to safety and security issues in the Canadian North. The program was proposed to take place during April 2016; however, the Proponent requested the licences to be issued from March 27 to September 30, 2016.

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

- Exercises conducted at sites located in and around the community of Resolute Bay and adjacent to Bathurst Island, near the Polaris Mine on Little Cornwallis Island, near the community of Grise Fiord, and the Canadian Forces Base at Alert.
  - Military would keep at least one (1) kilometre away from the boundary of the Polar Bear Pass National Wildlife Area and Seymour Island Migratory Bird Sanctuary.
- Establish a Task Force Headquarters in Resolute Bay for approximately 80 persons and use of Canadian Armed Forces Arctic Training Centre facilities at Resolute Bay for up to 225 persons at the start and end of the exercises;
- Existing or temporary camps would be used to undertake the program and all waste generated from the camps would be transported offsite for proper disposal:
  - Use of Canadian Forces Station Alert for up to 40 persons;
  - Establishment of a temporary camp on Little Cornwallis Island for approximately 110 persons;
  - Establishment of a temporary camp west of Grise Fiord for 10 persons;
- Land and Ice Based Exercises:
  - Conduct overland and over ice travel by snowmobile and qamutiik, Snow Cat, and/or Argo for transport of personnel for various exercises;
  - Construction of snow and ice defenses at Little Cornwallis Island to be used in live fire exercises;
- Dive operations to evaluate the Royal Canadian Navy's Fleet Diving Unit's (Atlantic) cold weather diving ensembles and ice diving tactics, techniques and procedures;

- Air travel and Skiway Operations:
  - Use of existing airstrips where possible;
  - Transportation of personnel and supplies via Globemaster, twin otter, Hercules aircraft or helicopter(s);
  - Potential construction of a skiway and/or ice airstrip on the sea or lake ice near Resolute Bay to be used for training and to supply materials;
- Use and storage of 4,510 litres (L) of diesel and 20,9010 L of gasoline at either the Resolute Airport or temporary facilities established for Little Cornwallis Island and Grise Fiord
- Management of wastes, fuel, and hazardous materials:
  - Hazardous materials and fuel to be stored in approved storage containers and facilities, including compliant secondary containment and would be stored in accordance with municipal, territorial, and federal regulations;
  - Hazardous waste would be appropriately packaged and transported to a suitable facility for disposal, in accordance with appropriate regulations – provided by a third-party waste disposal facility if required;
  - Generators placed within suitable containment throughout the operation, and emptied for transportation;
  - Local treatment systems and municipal landfill or incineration used for the disposal of human waste. Waste generated by foot patrols would be bagged and packed out for appropriate disposal;
  - Local landfill or incineration used for the disposal of combustible waste. Disposal to occur in accordance with Territorial and Municipal regulations (waste would be handled by contract); and
  - Local landfill, incineration or recycling centers, where available, to be used for the disposal of non-combustible wastes. Disposal to occur in accordance with Territorial and Municipal requirements (waste would be handled and disposed by contract).

Additional authorization requests associated with the “Operation NUNALVUIT” project have also been reviewed by the NIRB following screening of the original project proposal (File No. 16DN063).

### **NIRB 16DN063: Operation NUNALVIUT (2017 and 2018)**

The project proposal for “Operation NUNALVIUT 2017” NIRB (File No. 16DN063), was received by the NIRB from the Commission on November 12, 2016 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 February 1, 2017 the NIRB issued a screening decision pursuant to paragraph 92(2)(a) of the *NuPPAA* to the then Minister of Indigenous and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB’s recommended project-specific terms and conditions.

The Department of National Defence’s (Proponent) “Operation NUNALIVUT 2017” project was located within the Qikiqtani, Kivalliq and Kitikmeot regions, based out of Resolute Bay and Hall

Beach with activities occurring near the communities of Hall Beach, Kugaaruk, Igloolik, and Resolute Bay. The Proponent indicated that it intended to conduct military exercises based out of Hall Beach and Resolute Bay to enhance the Canadian Armed Forces' (CAF) knowledge and capacity to operate in challenging environments, while allowing the CAF to demonstrate their ability to effectively respond to safety and security issues in the North. The activities were proposed to take place from February to March 2017.

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

- Mobilization of approximately 290 CAF personnel to each site;
- Support to the operations by approximately 175 personnel of the Canadian Ranger Patrol Groups from Taloyoak, Kugaaruk, Nauyasat, and Igloolik via ground and air transport;
- Establishment of a Task Force Headquarters in Hall Beach, including multiple temporary tents around site to support operations and personnel accommodations;
- Conducting patrols on land and on sea ice near Hall Beach;
- Conducting live fire exercise on the sea ice;
- Conducting dive operations near Resolute Bay by a 60 person Dive Team;
- Use of aircrafts including Twin Otters, Hercules and Globemaster and a helicopter to support military exercises;
- Use of land-based track vehicles and snowmobiles to support military exercises;
- Establishment and decommissioning of temporary camps to support operations, including dive operations, and patrol safety.
- Use of two (2) 5 kilowatt generators, one (1) compression chamber, portable heaters, and two (2) unmanned aerial vehicles;
- Temporary storage, transportation and use of the following fuels and hazardous materials:
  - 3,895 and 820 litres of diesel at Hall Beach and Resolute Bay, respectively;
  - 3,895 and 410 litres of gasoline at Hall Beach and Resolute Bay, respectively;
  - 200 litres and 50 litres of engine oil at Hall Beach and Resolute Bay, respectively;
  - 20 litres of Naphtha fuel for Coleman stoves in Hall Beach;
- Consumption of water from existing municipal facilities in Resolute Bay and Hall Beach for domestic purposes;
- Generation and management of wastes:
  - Grey water and sewage to be disposed of at existing municipal facilities;
  - Combustible and non-combustible wastes to be disposed of at approved waste disposal facilities in the nearest community; and
- Demobilization and removal of equipment and materials on completion of military exercises.

An additional amendment request associated with the “Operation NUNALVUIT” project has also been reviewed by the NIRB following screening of the original project proposal (File No. 16DN063). On November 29, 2017 the NIRB received a referral form from the Commission to screen Department of National Defence’s (DND) “Operation NUNALIVUT 2018”. The Commission noted that the previous conformity determination issued on November 12, 2016 for the activities associated with the current proposal continues to apply and determined that the project proposal is a significant modification to the project because of a change in location of activities from Hall Beach to Cambridge Bay. On February 1, 2018 NIRB re-issued the original terms and conditions

recommended in the original February 1, 2017 Screening Decision Report and issued additional terms and conditions associated with the Project as per p. 92(2)(a) of the *NuPPAA*.

The proposed “Operation NUNALIVUT 2018” project was located within the Kitikmeot and Qikiqtani regions, near the communities of Cambridge Bay and Resolute Bay. The Proponent intended to conduct military exercises to enhance the Canadian Armed Forces’ (CAF) knowledge and capacity to operate in challenging environments, while allowing the CAF to demonstrate their ability to effectively respond to safety and security issues in the North. The program took place from February to March 2018.

The scope of the activities and components associated with the February 1, 2018 amendment application included:

- Mobilization of approximately 300 CAF personnel in Cambridge Bay and in Resolute Bay for military exercises;
  - Conduct military drills on land, on sea ice, underwater and in the air;
  - Conduct live fire exercises on the sea ice as well as undertake patrols and diving operations near Cambridge Bay and Resolute Bay;
  - Conduct training in arctic survival skills;
- Deployment of approximately 90 members of the 1st Canadian Ranger Patrol Group (1<sup>st</sup> CRPG) to support military activities of the Canadian Army Platoon and Royal Canadian Navy dive team near the communities of Cambridge Bay and Resolute Bay;
- Establishment of a Task Force Headquarters and patrol base in Resolute Bay consisting of approximately 20 members with an additional 40 support personnel;
- Use of military aircrafts (Globemaster and Hercules), including Twin Otters and a helicopter to support airborne military exercises and transportation of personnel and equipment;
- Use of tracked vehicles, all-terrain military vehicles (BV206), light-over-snow-vehicles and snowmobiles to support military exercises;
- Use of generators, compression chamber, and portable heaters for power generation, dive safety and heating;
- Temporary storage, transportation and use of the following fuels and hazardous materials:
  - 5,000 litres (L) and 820 L of diesel at Cambridge Bay and Resolute Bay, respectively;
  - 5,000 L and 410 L of gasoline at Cambridge Bay and Resolute Bay, respectively;
  - 200 L and 50 L of engine oil at Cambridge Bay and Resolute Bay, respectively;
  - 20 L of Naphtha fuel for Coleman stoves and lanterns in Cambridge Bay;
- Use of water from the communities for domestic purposes;
- Generation and management of wastes:
  - Greywater produced at Cambridge Bay and Canadian Armed Forces Arctic Training Centre in Resolute Bay to be disposed of via existing infrastructure;
  - Sewage to be collected and shipped south for proper disposal;
  - Combustible and non-combustible wastes to be collected and disposed of at the nearest community for proper disposal;
  - Collection and shipment of hazardous wastes to larger centres for proper disposal;
  - Potential incineration of human waste and combustible wastes; and

- Demobilization and removal of equipment and materials on completion of military exercises.

### **NIRB 16DN031: Operation Nanook**

The Canadian Armed Forces' original project proposal for Operation Nanook 2016 (NIRB File No.: 16DN031), was received by the Nunavut Impact Review Board (NIRB or Board) from the Nunavut Planning Commission (Commission) on May 31, 2016 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 July 22, 2016 the NIRB issued a screening decision pursuant to paragraph 92(2)(a) of the *NuPPAA* to the then Minister of Indigenous and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

The Nunavut portion of Operation Nanook 2016 was located within the Kivalliq region, with simulated combat exercises to cover an area of approximately 55 kilometres squared (km<sup>2</sup>) adjacent to the north, south, and west boundaries of the municipal boundary of Rankin Inlet and approximately 60 km<sup>2</sup> adjacent to the south boundary of the municipal boundary of the community of Chesterfield Inlet. The project was conducted between August 1 and September 25, 2016.

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

- Simulated ground combat exercise to be conducted in the vicinity of Rankin Inlet to include the following with potential of activities north of Chesterfield Inlet:
  - Use of twin otters and helicopters to transport personnel to and from the area as well as ATVs on site;
  - Establishment of a temporary camp for up to 250 people with tents and generators;
  - Water to be supplied from Rankin Inlet (packed in and out) and sourced on site;
  - Temporary storage of fuel at camp site:
    - Approximately 800 litres (L) of gasoline in jerry cans;
    - Approximately 400 L of diesel in jerry cans
    - Approximately 310 L of naphtha in cans;
  - All waste to be contained and transported back to Rankin Inlet for proper disposal;
- Use of airport in Rankin Inlet;
  - Potential use of other airstrips including Chesterfield Inlet within the area of operations;
- Main base of all activities to be at Rankin Inlet, including the use of existing facilities and accommodations;
  - Use of all-terrain vehicles (ATV) for transportation within Rankin Inlet and between Rankin Inlet and the exercise sites;
- Simulated water combat exercises to be conducted in the vicinity of the Chesterfield Inlet to include the following:
  - Use of twin otters and helicopters to transport personnel to and from the area;
  - Use of Royal Canadian Navy Vessels;

- Potential establishment of a temporary camp for up to 100 people north of Chesterfield Inlet; and
- Aircraft(s) and personnel to be based out of Rankin Inlet.

## 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 2019

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	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
<b>Vegetation</b>			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
<b>Arthropods</b>			
Transverse Lady Beetle	Special Concern	No Schedule	GN
<b>Terrestrial Wildlife</b>			
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
<b>Marine Wildlife</b>			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO

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

2 Environment and Climate Change Canada (ECCC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

<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>
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
<b>Fish</b>			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

**APPENDIX C: 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.

CH is the Nunavut Government agency which oversees the protection and management of

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

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

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.