



SCREENING DECISION REPORT NIRB FILE No.: 19YN040

NPC File No.: **149058**
Associated with NIRB File No.: 18YN036
Associated with NPC File No.: 148869

October 8, 2019

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Parks Canada's (PC) "RV David Thompson Eastern Arctic Operations 2019" 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

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NUPPAA*
- 5) VIEWS OF THE BOARD
- 6) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 7) OTHER NIRB CONCERNS AND RECOMMENDATIONS
- 8) REGULATORY REQUIREMENTS
- 9) CONCLUSION
- 10) APPENDIX A: SPECIES AT RISK IN NUNAVUT
- 11) APPENDIX B: ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

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*:

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 to 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 July 29, 2019 the NIRB received a referral to screen Parks Canada’s (PC) “RV David Thompson Eastern Arctic Operations 2019” project proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **19YN040**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Information Requests and Suspension of Assessment

On July 29, 2019 the NIRB requested that the Proponent complete the online application form through the NIRB’s public registry system and ensure, pursuant to s. 144(1) of the *NuPPAA*, that sufficient information is provided to determine the scope of the project activities being proposed and commence screening.

On August 19, 2019 the NIRB received information from the Proponent, and following a preliminary completeness check of the proposal as submitted, the NIRB determined that the proposal did not contain the necessary information for the NIRB to carry out its screening and on August 21, 2019 requested that the Proponent provide the Board with the additional information in order to carry out the screening of the project proposal. On August 22, 2019 the NIRB received the required information and commenced the screening pursuant to Part 3 of the *NuPPAA*.

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at <https://www.nirb.ca/project/125481>

The proposed "RV David Thompson Eastern Arctic Operations 2019" project is located within the North Baffin region, the Qikiqtani (North Baffin) and Kitikmeot regions and includes a marine vessel transiting through the Northwest Passage conducting research with stops in Pond Inlet and Pangnirtung. The Proponent intends to conduct non-intrusive scientific and archaeological marine survey operations along a selected route starting at Bellot Strait and transiting through Prince Regent Inlet and Lancaster Sound terminating at Pond Inlet with additional studies being conducted in Cumberland Sound. The program is proposed to take place from September 2019 to October 2022.

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the *RV David Thompson* Eastern Arctic Operations 2019 project as set out by "PC's" in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Usage of research vessel, the *RV David Thompson* and diving platform, for research, transportation, accommodations and as a marine research platform for 10 personnel:
 - Storage and use of fuel (propane, diesel, gasoline) for vessel operation. Ship to ship refueling from Canadian Coast Guard ships;
 - Use of onboard reverse osmosis to supply domestic water needs;
 - Generation of combustible and non-combustible waste, to be either disposed of at Pond Inlet or stored on board to be disposed of at an approved facility;
 - Generation of grey water and sewage to be processed on board, disposal as per Canadian legislation;
- Use of a rigid hull inflatable boat and a zodiac fitted with outboard engines to support research activities;
- Conduct non-intrusive marine-based research activities along the Northwest Passage in or near:
 - Bellot Strait;
 - Prince Regent Inlet;
 - Lancaster Sound;
 - East coast of Baffin Island; and
 - Cumberland Sound (in the area of Kekerten Island and Black Lead Island).
- Marine research activities to include:
 - Use of multi-beam echosounder to survey along the route to collect bathymetric and seafloor topographic data (for seabed classification and habitat mapping purposes);
 - Use of a remote operated vehicle (ROV) to collect ecological features of interest,
 - Use of an unmanned autonomous underwater vehicle (AUV) at select locations to collect information on ecological areas of interest;
 - Use of vessel towed side scan sonar at selective locations to collect information on ecological areas of interest; and
 - Collection of water samples at surface and select depths for analysis at laboratory.

- Conduct archaeological investigations along the route:
 - Use of vessel towed sonar, ROV, and AUV to gain more specific (photo/video/laser scan) data on identified archaeological features;
 - Diving activities to observe artefacts;
 - Continue to conduct scientific and archaeological research on the remains of a wooden sailing ship believed to be the wreckage of a British whaler in Maud Bay (previously screened under NIRB File No. 18YN036).
- Host community consultations in Pond Inlet and Pangnirtung to showcase select artefacts from the wrecks of the HMS Erebus and HMS Terror and to update communities on the progress of the work at those locations.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal; however, the NIRB has noted that the project is expected to occur partially within the Sirmilik National Park and the above scope as described includes the entire project activities. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
July 29, 2019	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the NPC.
July 29, 2019 August 21, 2019	Information request(s)
August 19, 2019 August 22, 2019	Proponent responded to information request(s)
August 22, 2019	Acceptance of Online Application and scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
September 3, 2019	Public engagement and comment request
September 13, 2019	Receipt of public comments

5. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on September 3, 2019 to community organizations in Clyde River, Resolute, Pond Inlet, Iqaluit, Qikiqtarjuaq, Pangnirtung, Igloolik, Gjoa Haven, and Taloyoak , as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and the NIRB's proposed project-specific terms and conditions, and provide the Board with any comments or concerns by September 13, 2019 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; and
- 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).

On or before September 13, 2019 the NIRB received comments from the following interested parties (see Summary of Comments and Concerns section below):

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

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:

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

- Has no comments or additional terms and conditions to offer at this time.

Fisheries and Oceans Canada (DFO)

- Concerns with marine mammals and their habitat.
- Noted that Section 7 of the Marine Mammal Regulations (*Fisheries Act*¹) prohibits the disturbance of marine mammals. The Marine Mammal Regulations apply to all boaters including commercial and recreational boaters.
- Recommended watercraft survey the area for Marine Mammals to avoid disturbing them. If marine mammals are encountered, and remain in the area, effort should be made to avoid disturbing them by rerouting, slowly navigating around their location at a reduced speed and maintaining their distance
- Recommended watercraft setbacks based on marine species, noting that Section 5 of the Marine Mammal Regulations provides additional setbacks based on species and location.
- Noted that it is the Proponent's *Duty to Notify* DFO if there is any death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat.

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

¹ *Fisheries Act*, R.S.C., 1985, c. F-14, current to June 20, 2019

Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

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

Factor	Comment
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	<ul style="list-style-type: none">▪ The proposed project would be carried out within marine areas of Northwest Passage from Bellot Strait to Pond Inlet and Pangnirtung, including Lancaster Sound, Prince Regent Inlet, the east coast of Baffin Island, and Cumberland Sound.▪ The proposed project would also include stops in the communities of Pond Inlet and Pangnirtung.▪ Proposed activities may take place within habitats for various marine wildlife including marine mammals, fish populations, benthic invertebrates and Species at Risk (Polar Bear and Ivory Gull). As such, project activities may potentially affect both marine animal migratory patterns.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none">▪ Components of the proposed project would occur within or near the Sirmilik National Park, the Bylot Island Migratory Bird Sanctuary, and in the waters of Tallurutiup Imanga National Marine Conservation Area, and would occur near Agguttinni Proposed Territorial Park, Auyuittuq National Park, and Prince Leopold Island Migratory Bird Sanctuary.▪ Further, components of the proposed project would occur in key critical marine habitat (calving, post-calving areas, and migratory pathways) and areas where fish and marine populations, including several aquatic species listed under COSEWIC (Beluga Whale, Bowhead Whale, Killer Whale, Narwhal and Atlantic Walrus), may be present.
The historical, cultural and archaeological significance of that area.	<ul style="list-style-type: none">▪ The Proponent has indicated that the routing as selected contains some area with known historical, cultural and archaeological significance, which is the

Factor	Comment
The size of the human and the animal populations likely to be affected by the impacts.	<p>reason for the selection of the routing for the research.</p> <ul style="list-style-type: none"> ▪ The proposed project may take place within the habitat of a number of species identified above and as such, may potentially affect wildlife, their habitat and their migratory patterns. ▪ Human populations and/or traditional marine-use activities may be affected by components of the proposed project occurring within the communities of Clyde River, Resolute, Pond Inlet, Iqaluit, Qikiqtarjuaq, Pangnirtung, Igloolik, Gjoa Haven, and Taloyoak, and within the vicinity of traditional harvesting areas.
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"> ▪ A zone of influence of up to 50 km from the most potentially-disruptive project activities was selected for the NIRB's assessment. ▪ Based on past evidence from projects with a similar scope of activities, the potential adverse impacts are considered to be well-known, with potential for localized impacts to the biophysical environment that are mitigable with due care. ▪ With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.
The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.	<ul style="list-style-type: none"> ▪ The 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.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> ▪ No other relevant factors were identified.

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

NIRB Project Number	Project Title	Project Type
<i>Proposed Developments – undergoing assessment</i>		
19YN036	Coastal Environmental Baseline Program: Baseline Mercury Levels in Frobisher Bay Fish and Invertebrates	Research
19YN037	Testing industrial vessel to survey Canadian Arctic gateway ecosystems	Research
<i>Present Projects – approved or in operation</i>		
06YN015	Breeding Ecology of High Arctic Marine Birds	Research (<i>ongoing</i>)
06YN024	Contaminants in Arctic Seabirds	Research (<i>ongoing</i>)
06AN041	Adventure Canada	Tourism
08MN053	Mary River Iron Mine	Mine Development
12AN025	One Ocean Expeditions	Tourism (<i>annual</i>)
12AN032	Le Boreal 2018 Cruise	Tourism (<i>annual</i>)
13AN014	Students on Ice 2018 Arctic Expedition	Tourism
13AN020	Lindbald Expeditions	Tourism (<i>annual</i>)
13AN028	F.K. Warren Ltd.'s "LE SOLEAL Cruise"	Tourism (<i>annual</i>)
14AN024	Silversea Cruises	Tourism (<i>annual</i>)
15YN037	HMS Erebus wreck site archaeological investigation	Research (<i>ongoing</i>)
16TN052	Silversea Cruises	Tourism (<i>annual</i>)
17YN069	Effects of Anthropogenic Stressors on Arctic Seabirds	Research (<i>ongoing</i>)
17XN030	Pond Inlet Marine Infrastructure	Infrastructure
18YN029	URI Northwest Passage Project 2019	Research
18YN036	Archaeological Survey of Maud Bight Wreck	Research
19YN023	Arctic Research and Conservation Team Investigating Climate Change (ARCTIC Change)	Research
<i>Past Projects</i>		
18YN028	Assessing Vessel and Seabird Response	Research
18TN035	MS FRAM The Northwest Passage – In The Wake of Great Explorers	Tourism
18YN017	ATKA expedition	Research
18YN008	Spatially Distributed Modelling of Carbon, Water and Nutrient Fluxes for Arctic Community Source Water Catchment	Research
17AN031	Canada C3 led by the Students on Ice Foundation	Tourism
17TN057	MY ARCHIMEDES Northwest Passage 2017	Tourism
17YN041	A Coastal, Pan-Canadian Collection of plants, microalgae and marine invertebrates for the	Research

NIRB Project Number	Project Title	Project Type
	Canadian Museum of Nature, as part of Canada C3	
16AN072	Northwest Passage Project	Tourism

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.

Ecosystem, wildlife habitat and Inuit harvesting activities:

- Potential adverse impacts to migratory and non-migratory birds, terrestrial wildlife, Species at Risk resulting from increased noise disturbance associated with vessel passage and research activities. Further, it is noted that the research activities would occur within or in proximity to the Sirmilik National Park, the Bylot Island Migratory Bird Sanctuary, and in the waters of Tallurutiup Imanga National Marine Conservation Area, as well as near Agguttinni Proposed Territorial Park, Auyuittuq National Park, and Prince Leopold Island Migratory Bird Sanctuary. The potential for impacts is considered to be limited due to the short duration of activities and any resulting impacts would be expected to be reversible and temporary in nature. The potential adverse impacts may be mitigated by measures such as requiring the Proponent to avoid moulting and migratory feeding areas of migratory birds, avoid critical wildlife areas and ensure not to harass wildlife. The Board is recommending terms and conditions 4 through 9 and 13 to mitigate potential adverse impacts resulting from vessel activities to terrestrial wildlife, migratory birds and non-migratory birds. The Proponent would also be required to follow all Acts and Regulations applicable to the project proposal (see Regulatory Requirements section) for the mitigation of potential adverse impacts resulting from project components.

- Potential adverse impacts to marine mammals, fish and benthic populations, and key critical habitat (calving, post-calving areas, and migratory pathways) resulting from increased noise and/or physical disturbance associated with vessel operation and research activities, including the operation of multi-beam echosounder, sonar equipment, remote operated vehicle (ROV), unmanned autonomous underwater vehicle (UAV), water, sampling and diving activities. Cumulative effects on marine wildlife and marine habitat could occur if multiple vessels are encountered in the same area. Measures should be taken to avoid encounters with other vessels, where possible, to minimize adverse impacts to the wildlife, particularly in critical habitat, calving areas, and narrow migration corridors. The Proponent has committed to ensuring cessation of sonar operations and/or relocate to a different area when marine mammals are detected within 500 metres of the vessel. Provided that mitigation measures are adhered to, the proposed activities would have a minor impact on the environment to be visited. The Board is recommending terms and conditions 4 through 7, 10 and 12 through 15 to mitigate potential adverse impacts resulting

from vessel operation and research activities to marine mammals, fish and key critical habitat.

- Potential adverse impacts to marine water quality, and marine ecosystems, from storage and use of fuel, exchange of ballast water. The Proponent has submitted information for the RV *David Thompson* related to the use of aforementioned topics and has committed to following the maritime pollution convention (MARPOL) and the international code for ships operating within polar waters (Polar Code) with regards to the handling of oil, hazardous substances, sewage and garbage. Further, the Proponent has indicated that it will refuel the vessel directly from Canadian Coast Guard ships. As such, the potential for adverse impacts is anticipated to be low in magnitude, infrequent in occurrence and reversible in nature. The Board recommends terms and conditions 4, 10 and 11 to ensure ship-based activities and vessel operation do not adversely impact marine water quality and ecosystems. The Proponent would also be required to follow the applicable Acts and Regulations regarding the operation of vessels in Arctic waters (see Regulatory Requirements section).
- Potential adverse impacts to the public and traditional land-use activities resulting from vessel movement and research activities. Due to the project's proximity to the communities of Clyde River, Resolute, Pond Inlet, Iqaluit, Qikiqtarjuaq, Pangnirtung, Igloolik, Gjoa Haven, and Taloyoak, there is the potential for adverse impacts to result from project components overlapping with traditional land use areas. In addition, noise from the vessel may temporarily change the distribution of harvested species through avoidance and may affect personal enjoyment of traditional hunting and fishing areas intersected by the planned route of the expedition. Communities have also previously identified key areas they feel should be protected by having limited or no vessel movements and/or research activities. The Board recommends terms and conditions 4 through 7 and 12 through 15 to minimize potential interference with the movement of terrestrial and marine wildlife. Terms and conditions 17 through 19 to ensure that available Inuit Qaujimaningit can inform project activities and to ensure the project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

Socio-economic effects on northerners:

- Potential adverse impacts to historical, cultural and archaeological sites from research activities. The Proponent is proposing to conduct research on identified archaeological features including diving activities to observe artefacts, which could have negative impacts on the historical and environmental integrity of these areas from the research activities. However, the Proponent has noted that the research activities would involve non-invasive/non-disturbance identification with the use of sonar, ROV and UAV, and evaluation of potential archaeological sites and the probability of significant impacts occurring is considered to be low. The Proponent is also required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section) and would be required to contact the Government of Nunavut – Department of Culture and Heritage and/or Parks Canada if in any national parks if any additional historical sites are encountered. The Board is recommending term and condition 16 and 18 to reduce the potential for negative impacts

to any historical sites and to ensure that available Inuit Qaujimaningit would inform the project activities.

- Potential positive impacts to the local community resulting from community consultation as the Proponent has committed to engaging with community members regarding *HMS Erebus* activities. Further, there is potential for positive impacts to local community members from the shore-based landings and the purchase of supplies for the crew. The Board recommends term and condition 18 and 20 to ensure available Inuit Qaujimaningit can inform project activities and to encourage to the extent possible the hiring of local people. Term and condition 17 is recommended to ensure communities are informed in advance of shore-based activities.

Significant public concern:

- No significant public concern was expressed during the public commenting period for this file. Follow up consultation is expected to mitigate any potential for public concern resulting from project activities. The Board is recommending term and condition 18 was to ensure that the affected community and organizations are informed about the project proposal, and to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities' findings.

Technological innovations for which the effects are unknown:

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

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. Parks Canada (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.: 149058) and the NIRB (Online Application Form, August 22, 2019; conformation of temporal scale, August 26, 2019).

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

Wildlife - General

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

Migratory Birds Disturbance

8. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
9. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.

Vessel Based Activities

10. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including waste water) or sediment into any marine waters, and shall manage wastes on board the vessel prior to final disposal at approved port facilities.
11. 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.
12. The Proponent shall, where practicable, coordinate with other vessels to minimize simultaneous vessel traffic in critical wildlife habitat areas allowing wildlife to continue to use the habitat undisturbed (e.g., Navy Board Inlet, Lancaster Sound, Milne Inlet, Bellot Strait, etc.).
13. The Proponent shall ensure that all staff are aware of the Proponent's responsibilities and requirements regarding wildlife and wildlife habitat protection. This should include briefings on wildlife sensitivities and potential hazards, proper wildlife viewing techniques, and safety practices.
14. The Proponent shall not attempt to intersect or interfere with the movements of marine mammals. Strategic positioning of vessels ahead of the path being traveled by mobile whales and waiting for the whales to pass is also prohibited.
15. The Proponent shall maintain a distance of 100 metres if a Polar Bear is encountered on land or ice while conducting activities from a zodiac or other small craft; all interaction with Polar Bears should be avoided if possible.
16. The Proponent shall ensure that all staff are aware of the Proponent's responsibilities and requirements regarding archaeological sites that are encountered.

17. The Proponent is strongly advised to provide sufficient advance notice communities where a landing is planned as part of project activities.

Other

18. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
19. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
20. 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 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 or upload a copy to the NIRB's online registry at 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. 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.
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/ayuittuq/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:
 - a. Cambridge Bay
 - b. Igloolik (867) 934-8999
 - c. Iqaluit (867) 975-7783

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. 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.

Transport of Dangerous Goods and Waste Management

9. 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.

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* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
3. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). 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 *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix B**.
6. The *Canada National Parks Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-14.01/>).
7. The *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>).
8. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>) and the *Arctic Shipping Safety and Pollution Prevention Regulations* (<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2017-286/index.html>).
9. The *Canada Shipping Act, 2001* (<http://laws-lois.justice.gc.ca/eng/acts/C-10.15/>).
10. The *Marine Liability Act* (<http://laws-lois.justice.gc.ca/eng/acts/M-0.7/>).
11. The *Marine Transportation Security Act* (<https://laws-lois.justice.gc.ca/eng/acts/m-0.8/index.html>).
12. The *Navigation Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-22/index.html>).

Other Applicable Guidelines

13. The *Guidance Document for Passenger Vessels Operating in the Canadian Arctic* (<https://www.tc.gc.ca/eng/marinesafety/tp-tp13670-menu-2315.htm>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Parks Canada's "RV David Thompson Eastern Arctic Operations 2019". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated October 8, 2019 at Baker Lake, NU.



Kaviq Kaluraq, A/Chairperson

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

APPENDIX A: SPECIES AT RISK IN NUNAVUT

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

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

If species at risk are encountered or affected, the primary mitigation measure should be avoidance. The Proponent should avoid contact with or disturbance to each species, its habitat and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the species at risk Registry at <http://www.sararegistry.gc.ca> for information on specific species.

Monitoring should be undertaken by the Proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of species at risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.

For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.

Mitigation and monitoring measures must be undertaken in a way that is consistent with applicable recovery strategies and action/management plans.

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

Updated: November 2018

Terrestrial Species at Risk ²	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ³
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	No Schedule	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	GN
Peary Caribou	Threatened	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	GN
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO

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

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

Terrestrial Species at Risk²	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility³
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

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



INTRODUCTION

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

TERMS AND CONDITIONS

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

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

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*⁴ to issue such permits.

⁴P.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*⁵, 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*⁶, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).

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

“fossil” includes:

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

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

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

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

Introduction

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

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as

⁵s. 51(1)

⁶P.C. 2001-1111 14 June, 2001

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.