

The purpose of screening is provided for under s. 88 of the *NuPPAA*:

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

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under s. 89(1) of *NuPPAA*:

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

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

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

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

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

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

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

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

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

PROJECT REFERRAL

On June 4, 2018 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Hurtigruten AS's "*MS FRAM* The Northwest Passage - In the Wake of Great Explorers" project proposal from the Nunavut Planning Commission (NPC or Commission) with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

Please note that the referral from the NPC was triggered by cumulative effects concerns pursuant to subsection 80(1) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*) and are related to:

- a) Nearby projects that have been carried out, are being carried out, or have been proposed, including projects associated with Marine based tourism, scientific research, and minerals and mining freight shipping.
- b) Lancaster Sound and other areas surrounding the project itinerary have been identified as having value and priority for local communities for the following reasons:
 - i. Narwhal calving, whale, fish and seal habitats, bird nesting and char spawning; caribou sea ice crossing;
 - ii. Traditional harvesting of whales, seals, fish, caribou and birds;
 - iii. Access by boats to summer camps and travel to other communities;
 - iv. Historic sites, including sod houses; and
 - v. General concerns about the negative impact of cruise ships and mineral shipping on marine mammals.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and section 87 of the *NuPPAA*, the NIRB has commenced screening this project proposal and has assigned it file number **18TN035**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed "*MS FRAM* The Northwest Passage - In the Wake of Great Explorers" project is a cruise ship which proposes two (2) voyages within the Qikiqtani and Kitikmeot regions with visits to wildlife and historic areas as well as visits to the communities of Pond Inlet, Gjoa Haven and Cambridge Bay. The Proponent intends to conduct vessel-based tourism activities including sightseeing, zodiac cruising, kayak excursions, wildlife watching, shore landings for guided interpretive walks, and organized community visits. The program is proposed to take place from September 2 to 18, 2018.

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the "*MS FRAM* The Northwest Passage - In the Wake of Great Explorers" project as set out by Hurtigruten AS in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Use of cruise vessel, the *MS FRAM*, for transportation and accommodation of up to 240 passengers/tourists and 80 crew members (per cruise);

- Use of a fleet of seven (7) zodiacs (small boats) fitted with outboard engines to facilitate shore landings and sightseeing excursions. All visits to shore to be brief day trips, on foot with no camping, structures built, or motorized transport;
- Use of 10 kayaks for guests and instructors;
- Tourism expedition visits to include:
 - Sam Ford Fjord, Eclipse Sound (Milne Inlet), Crocker Bay, Coningham Bay, James Ross Strait for glacier and wildlife viewing;
 - Dundas Harbour, Radstock Bay, Beechey Island, Fort Ross to visit historic sites;
 - Pre-organized visits to the communities of Pond Inlet, Gjoa Haven, and Cambridge Bay; and
 - Scenic cruising, shore landings and shore-based interpretive activities along the route;
- Storage and use of diesel for vessel operations and for zodiac operations;
- Use of onboard reverse osmosis to supply domestic water needs;
- Generation of combustible wastes, and non-combustible wastes with disposal at a certified reception port; and
- Generation of sewage and grey water with treatment on board, disposal as per Canadian legislation.

2. Inclusion or Exclusion to Scoping List

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

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
June 4, 2018	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the NPC
June 4, 2018	Information request
June 8, 2018	Proponent responded to information request
June 8, 2018	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
June 15, 2018	Public engagement and comment request
July 6, 2018	Receipt of public comments
July 19, 2018	Ministerial extension requested from Minister of Environment and Climate Change, Government of Canada and the Minister of Transport, Government of Canada

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on June 15, 2018 to community organizations in Pond Inlet, Resolute Bay, Arctic Bay, Taloyoak, Gjoa Haven, and Cambridge Bay, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by July 6, 2018 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; and if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (and providing any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

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

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

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

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

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

6. Time of Report Extension

Due to the high volume of screenings and other assessments currently before the Board, and recognizing the unavailability of Board Members during the NIRB’s regular Board meeting this week, the NIRB is unable to provide its written report for the screening of this project proposal within the 45 days as required by Article 12, Section 12.4.5 of the *Nunavut Agreement* and s. 92(3) of the *NuPPAA*. Therefore, on July 19, 2018 the NIRB wrote to the Minister of Environment and Climate Change, Government of Canada and the Minister of Transport Government of Canada seeking an extension to the 45-day timeline for the provision of the Board’s Report.

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

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

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

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

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

The geographic area includes marine and coastal areas along the Northwest Passage within the Qikiqtani (North Baffin) and Kitikmeot Regions with visits to wildlife and historic areas as well as visits to the communities of Pond Inlet, Gjoa Haven, and Cambridge Bay. As identified by the Proponent and NPC mapping sources, the proposed activities may take place within habitat and seasonal ranges of marine wildlife, terrestrial wildlife, and migratory and non-migratory birds. Marine animals that may be encountered during the project activities could include fish, seals, walrus, beluga whale, Bowhead whale, Polar Bear, killer whale, and narwhal. Land based animals that may be encountered during project activities include Peary caribou, barren-ground caribou, muskox, wolves, wolverine, grizzly bears, migratory birds, and Species at Risk (Ivory Gull, Ross's Gull, Red Knot, Horned Grebe). The project may potentially affect animal calving and spawning areas as well as migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in areas identified as having ecosystemic sensitivity, including Sirmilik National Park, Bylot Island and Prince Leopold Island Bird Sanctuaries, and the proposed Agguttinni Territorial Park and Tallurutiup Imanga (Lancaster Sound) marine conservation area. In addition, other areas surrounding the project itinerary have been identified from NPC's online mapping data as having as having value and priority for local communities for the following reasons:

- i. Historical Areas (Sod Houses);
- ii. Traditional Hunting, Fishing and Camping Grounds;
- iii. Egg Collection;
- iv. Caribou (migration, habitat, calving areas);
- v. Muskoxen;
- vi. Grizzly Bears;
- vii. Wolves;
- viii. Walrus;
- ix. Polar Bears (habitat and denning areas);
- x. Migratory birds (nesting grounds, Guillemots, Murres, Canada Geese, Snow Geese, eider ducks, Arctic tern);
- xi. Beluga whales, Bowhead whale and narwhal (habitat, calving areas, migration routes);
- xii. Seals;
- xiii. Fish (Trout, Turbot, Halibut, Char);
- xiv. Sport Hunting (Polar Bears, Caribou, Muskox);
- xv. Commercial Fishing; and
- xvi. Tourism (Kayaking).

The communities have also identified key areas they feel should be protected having limited or no activity:

- Sam Ford Fiord: Protection for glaciers and nesting areas for birds.

- Northeastern Area of Baffin Island: Would like to see a wildlife refuge area and don't want to see or any kind of activity in the area.
- Pond Inlet and Eclipse Sound: Protection needed in this area, including shore and inlets. Area is extremely valued for whales, seals and is a migration route. Concerns over noise from ships and ships should be given strict rules and maybe even charged for going through area.
- Navy Board Inlet: Area is a calving ground for whales and all marine mammals migrate through this area. Area should be more protected, even though it is a park. Don't want tourists in some areas. Concerns over noise from ships, and ships should be give strict rules.
- Milne Inlet: Area should be protected, including shoreline, it is a calving ground for whales and is an important area for narwhal, Bowhead whale and beluga whale. Concern over noise from ships and increased activities from Mary River Project.
- Lancaster Sound: Protection needed in this area as it is rich in wildlife a key migration route and is a fragile environment for marine mammals.
- Southern Devon Island (Dundas Harbour): Important area for protection, as the area is rich in wildlife, important habitat and migration route for marine mammals. The area preferred for a National Park. Historic sod houses also need protection.
- Prince Leopold Island/Prince Regent Inlet: Area is important for all marine mammals (habitat and migrate through area). Area should be part of Lancaster Sound NMCA. Concerns about shipping activities in this area.
- Peel Sound: Area should not be disturbed and there should be no marine traffic here. This is a key beluga whale area, whale migration route, plentiful wildlife, including lots of birds and fish.
- Franklin Strait: Protection of area as plentiful wildlife, beluga whale area. Don't want marine traffic through here.

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

The Proponent has indicated that there are a number of known areas of historical, cultural and archaeological significance in the vicinity of the project area. They will be visiting several historic sites including Dundas Harbour, Radstock Bay, Beechey Island, and Fort Ross. Should the project be approved to proceed, the Proponent has committed to follow all permit requirements for visiting these sites (including limits to number of people per visit) and would be required to contact the Government of Nunavut-Department of Culture and Heritage if any additional sites of historical, cultural or archaeological significance are encountered.

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

The proposed project is planning pre-arranged visits to the communities of Pond Inlet, Gjoa Haven, and Cambridge Bay where the Proponent has committed to follow guidelines laid out by the Government of Nunavut (i.e., Welcoming Visitors to Nunavut guidelines, and the Code of Conduct for Operators in Nunavut) and the Association of Arctic Expedition Cruise Operators (AECO). The Proponent intends to conduct vessel-based tourism activities that would provide passengers opportunities to engage in sightseeing, zodiac cruising, kayak excursions, wildlife watching, and shore landings for guided interpretive walks. However, it

was noted above that there are concerns over the potential for these activities to impact marine mammals (i.e., Bowhead whale, beluga whale, narwhal, Polar Bear, seals, and walrus) as some of the areas along the route are key habitat for calving and feeding or are important migration routes. Terrestrial wildlife such as caribou, muskox, Polar Bears, and migratory and non-migratory birds may also be impacted by shore-based excursions. Mitigation measures have been proposed in addition to the Proponent committing to conduct briefings and educational programs as well as supervising and monitoring the activities in the field by experienced personnel, which should minimize any impacts from these activities.

Although no significant public concerns were raised during the public commenting period, the NIRB notes that the close proximity of the proposed activities to the communities of Pond Inlet, Arctic Bay, Resolute Bay, Taloyoak, Gjoa Haven, and Cambridge Bay, and in areas used by residents for traditional harvesting of whales, seals, fish, caribou and birds and for access by boats to summer camps and other communities, could potentially contribute to public concern developing. A term and condition has been recommended to direct engagement with the community, hunters and trappers organization and interested parties, as well as the posting of public notices to ensure residents are aware of the tourism activities being or to be conducted.

5. *The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts.*

As the “*MS FRAM* The Northwest Passage - In the Wake of Great Explorers” project is a proposed vessel-based tourism project involving sightseeing, zodiac cruising, kayak excursions, wildlife watching, and shore landings for guided interpretive walks, the nature of potential impacts is considered to be well-known. Potential adverse impacts are likely to be localized, of low magnitude, infrequent and restricted to the short period of project activities transit through or conduct short visits up to a few hours. However, due to the proximity of portions of the travel route to calving and post-calving habitat for beluga whale and narwhal, as well as key critical marine and terrestrial wildlife habitat and migration routes, specific mitigation measures for their protection may be necessary. Based on past evidence of similar scope of activities, potential adverse impacts will be reversible and mitigable with due care.

6. *The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.*

The proposed project would take place within a 100 kilometre radius to a number of other projects that are currently active, in addition to other projects proposed and currently undergoing assessment by the Board as listed in Table 1 below. As more tourism cruise ships and other vessels are sailing in Arctic waters, the cumulative effects of this rapidly growing industry combined with shipping from industry (mining) and community re-supply may initiate or contribute to the impacts on some wildlife populations. There is a lack of data related to the effects of shipping on marine mammals in the Arctic and due to local differences in wildlife concentration and movement patterns and habitats, the evaluation of the potential harm to these populations must be considered on a species basis. The potential for cumulative

impacts to marine and terrestrial wildlife and their habitats, fish and fish habitat, migratory birds and non-migratory birds, water quality, cultural and archaeological resources, traditional/recreational pursuits, and local economies resulting from the tourism activities and other projects occurring in the region has been identified and considered in the development of the NIRB's recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or eliminate the potential for cumulative effects to occur.

Table 1: Project List

NIRB Number	Project	Project Title	Project Type
<i>Proposed Developments – undergoing assessment</i>			
16YN027		Scientific Diving Field Research On Board One-Ocean Expeditions Cruise	Research
18YN040		Crocker Bay Study and NW Passage Transit	Research
18UN037		Field Trip for Franklin Expedition Inuit Oral History Project	Research
<i>Active Projects</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>)
14YN001		DFO's Crow Project	Research
15AN029		Arctic Kingdom Navy Board Inlet Tourist Camp	Tourism
15YN037		HMS Erebus and Terror Wreck Sites Archaeological Research	Research (<i>ongoing</i>)
16TN052		Silversea Cruises	Tourism (<i>annual</i>)
17YN002		Queen's University's Toward a Sustainable Fishery for Nunavummiut (TSFN)	Research
17YN037		Periglacial and Paleoglacial Investigation for the Houghton Impact Structure and Surrounding Terrain	Research (<i>ongoing</i>)
17TN054		Complete Expeditions Tourist Operations-Yacht Silver Cloud Interpretive Trip	Tourism
17YN061		Kitikmeot Region Marine Science Study	Research

NIRB Number	Project	Project Title	Project Type
17YN067		Nunami Stantec Ltd.'s 2017/18 Research Program for the Grays Bay Road and Port Project	Research
17YN069		Effects of Anthropogenic Stressors on Arctic Seabirds	Research (ongoing)
18YN007		Climate–Terrestrial Biodiversity Investigation of Tundra Vegetation and Sediment of Lakes/Ponds along an Arctic Latitudinal Gradient	Research
18YN008		Spatially Distributed Modelling of Carbon, Water and Nutrient Fluxes for Arctic Community Source Water Catchment	Research
18YN017		ATKA expedition	Research
18YN028		Assessing Vessel and Seabird Response	Research
18YN029		URI Northwest Passage Project	Research
<i>Past Projects</i>			
16DN063		NUNALIVUT 2018	Defense
16TN039		<i>MS Crystal Serenity</i>	Tourism
16YN054		Baseline Monitoring of Marine Productivity and Oceanography Spanning the Northwest Passage Using Ships of Opportunity	Research
16YN070		DFO's Underice Monitoring NW Passage	Research
17YN004		Northern Contaminant Air Monitoring: Passive Air Sampling for Organic Pollutants and Mercury	Research
17AN007		Bear Witness Arctic Expedition	Tourism
17AN031		Canada C3 led by Students on Ice Foundation	Tourism
17YN041		A Coastal, Pan-Canadian Collection of plants, microalgae and marine invertebrates for the Canadian Museum of Nature, as part of Canada C3	Research
17TN057		MY ARCHIMEDES Northwest Passage 2017	Tourism
17YN062		University of Ottawa's Satellite-Derived Bathymetry for Marine Shipping Corridors	Research

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

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

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

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-4.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to marine wildlife, terrestrial wildlife, and migratory birds and key critical habitat (calving, post-calving areas, and migratory pathways) from vessel operations, sea-based tourism activities, on land excursions and from the potential increased noise associated with the tourism activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impacts is applicable to marine and coastal areas along the vessels proposed travel route in the Qikiqtani and Kitikmeot Regions, and includes stops and visits to wildlife and historic areas as well as visits to the communities of Pond Inlet, Gjoa Haven, and Cambridge Bay. Due to the short and intermittent nature of the proposed activities, as well as the operational procedures that would be adhered to, the potential adverse impacts to affected marine and terrestrial wildlife and within the critical habitat areas would be expected to be minimal and temporary only. Short-term localized noise disturbance to wildlife may occur due to vessel transit and the tourism activities, and cumulative effects on marine wildlife and marine habitat could occur if a number of 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. Provided that mitigation measures are adhered to, the proposed activities would have a minor impact on the environment to be visited.

The Proponent would also be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, *Species at Risk Act*, the *Wildlife Act (Nunavut)*, the *Arctic Waters Pollution Prevention Act*, the *Canada Shipping Act*, the *Marine Liability Act*, the *Navigation Protection Act*, and the *Guidance Document for Passenger Vessels Operating in the Canadian Arctic* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent, where practicable, coordinate with other vessels to avoid encounters in critical wildlife habitat areas, as well as reducing vessel speed allowing wildlife to continue to use the habitat undisturbed (i.e., Navy Board Inlet, Lancaster Sound, Milne Inlet, and Bellot Strait). In addition, the Proponent should

employ species-specific measures for the protection of marine and terrestrial wildlife during tourism operations and to ensure that project personnel and passengers are properly briefed on wildlife protocols, sensitivities, and management procedures prior to undertaking project activities. The following terms and conditions are recommended to mitigate the potential adverse impacts: 6 through 13 and 16 through 21.

Issue 2: Potential adverse impacts to marine water quality, and marine ecosystems, from storage and use of fuel, tourism activities, ballast water, and the storage of wastes.

Board views: There is a potential for the project to impact marine and coastal areas in the Qikiqtani and Kitikmeot regions from fuel spills and marine waste disposal during vessel operations and refueling activities. The probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude, infrequent in occurrence and reversible in nature. The Proponent has committed, with the exception of grey and blackwater, to retain all wastes on board the vessel for disposal outside of the Arctic to comply with Canadian legislation. Grey and blackwater would be treated with a sewage treatment system prior to discharge and would only be discharged well outside of 12 nautical miles from shore, none while near communities.

In addition, the Proponent would also be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act*, the *Canadian Environmental Protection Act*, the *Arctic Waters Pollution Prevention Act*, and the *Marine Liability Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that potential impacts may be mitigated by requiring the Proponent to employ appropriate fuel management and waste management measures. The following terms and conditions are recommended to mitigate the potential adverse impacts: 5, 14, and 15.

Issue 3: Potential adverse impacts to soil and terrestrial ecosystem integrity from land-based tourism activities.

Board Views: The potential for impacts is applicable to land-based excursion areas along the proposed travel route. The probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude, infrequent in occurrence and reversible in nature as the Proponent has committed to conducting on-shore visits in a manner so that no new trails or walking paths are created at any site visited. The Proponent has also committed adhering to the AECO Biosecurity Guidelines ensuring guests and crew examine and clean clothes, footwear and equipment thoroughly to remove seeds and organic matter with a disinfectant and scrub brushes before disembarking and when returning to the ship from each wilderness landing.

Recommended Mitigation Measures: It is recommended that potential impacts may be mitigated by requiring the Proponent to employ proper waste management measures, habitat protection measures, and to use existing trails wherever possible during project activities

on land. The following terms and conditions are recommended to mitigate the potential adverse impacts: 5, 14, 15, and 23.

Issue 4: Potential adverse impacts to public and traditional land use activities due to increased tourism activities, along the proposed travel route, particularly in areas adjacent to the communities to be visited and areas of ecological sensitivity.

Board Views: The Proponent has indicated that the proposed project would include visits to various marine and terrestrial locations as well as visits to the communities of Pond Inlet, Gjoa Haven, and Cambridge Bay. As discussed above in the assessment of factors relevant to this project proposal, the NPC's mapping sources have identified many areas along the route that are important traditional hunting and fishing areas and noise from the vessel and tourism activities may temporarily change the distribution of harvested species through avoidance, and may affect personal enjoyment of the land and marine areas. Communities have also identified key areas they feel should be protected having limited or no vessel movements and tourism activities. The Proponent has committed to conducting expedition activities in a manner that does not interfere or disturb Inuit harvesting activities. Terms and conditions have also been recommended to minimize impacts to traditional land use activities.

Recommended Mitigation Measures: It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent to comply with wildlife management measures for vessel-based research activities. Terms and conditions 24 and 25 have been recommended to ensure that the affected communities and organizations are informed about the project proposal and term and condition 26 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the project area. In addition, terms and conditions 6 through 21 have been recommended to minimize interference with the movements of marine mammals, and breeding birds.

Socio-economic effects on northerners:

Issue 5: Potential negative impacts to historical, cultural and archaeological sites as well as contemporary traditional use and hunting sites from tourism activities.

Board Views: The Proponent is proposing to visit known protected historical and archaeological sites, which could have negative impacts on the historical and environmental integrity of these areas. Further, the Proponent is proposing to conduct various land based excursions and could potentially encounter additional sites of historical, cultural, or archaeological of significance not previously identified. The proposed project could also interact with historically and culturally significant areas for traditional activities, such as hunting and fishing, while touring areas adjacent to the communities to be visited.

The Proponent would be required to follow the *Nunavut Act* and would be required to contact the Government of Nunavut-Department of Culture and Heritage when encountering historical sites or archeological sites during the research project (see Regulatory Requirements section).

Recommended Mitigation Measures: Term and condition 22 is recommended to ensure visitors are aware of the Proponent's responsibilities and requirements regarding archaeological or palaeontological sites that are encountered during land-based activities. Term and condition 25 is recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring to any additional historical sites or traditional use areas.

Issue 6: Potential positive impacts to local economies as the Proponent would be visiting several communities along the sailing route and may require services and supplies.

Board Views: It is noted that the Proponent has committed to work with local communities to hire local guides and use local services while visiting communities. They would also be hiring an Inuit beneficiary to serve as a cultural interpreter (per cruise). Benefits to local economies may be realized through the purchase of souvenirs, supplies, and services during the proposed community stops.

Recommended Mitigation Measures: Term and conditions 24 and 25 have been recommended to ensure that sufficient notice is given to communities prior to visitation and term and condition 27 is recommended to ensure the Proponent considers purchasing and hiring to the extent possible throughout the project.

Significant public concern:

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

Board Views: Follow up consultation and involvement of local community members is expected to mitigate any potential for public concern resulting from project activities. Further it is noted that the Proponent has committed to hiring of an Inuit beneficiary to serve as a cultural interpreter (per cruise); and hiring of local guides and use of local services when visiting communities. In addition, the Proponent has committed to conducting expedition activities in a manner that does not interfere or disturb Inuit harvesting activities.

Recommended Mitigation Measures: Term and condition 25 is recommended 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. Term and condition 27 is recommended to ensure that the Proponent provide community members with information to ensure a successful local hiring opportunity.

Technological innovations for which the effects are unknown:

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

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and

its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

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

General

1. Hurtigruten AS (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148834) and the NIRB (Online Application Form, June 08, 2018).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations, and Guidelines.

Waste Disposal

5. The Proponent shall keep all garbage and debris inaccessible to wildlife at all times.

Wildlife - General

6. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
7. 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.
8. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
9. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Migratory Birds and Raptors Disturbance

10. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
11. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
12. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.

Caribou and Muskox Disturbance

13. 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.

Ship-based Activities

14. 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.
15. 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.
16. 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).

Vessel Craft-based Tourism

17. The Proponent shall ensure that all passengers (clients and staff) are aware of the Proponent's responsibilities and requirements regarding wildlife and wildlife habitat protection. This should include pre-landing briefings on wildlife sensitivities and potential hazards, proper wildlife viewing techniques, and safety practices.
18. While on the cruise ship, vessel or small craft, the Proponent shall limit viewing time of each concentration of marine mammals to a maximum of thirty (30) minutes in order to minimize disturbance.
19. 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.
20. 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.
21. The Proponent shall ensure that visitation of cliffs used by nesting and breeding birds is restricted to small crafts or zodiacs only, and then only during morning and early afternoon hours. Noise should be kept to a minimum when visiting these bird colonies.
22. The Proponent shall ensure that all passengers (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 pre-landing briefings explaining the prohibitions regarding removal of artifacts, and defacing or writing on rocks and infrastructure.
23. The Proponent should use existing trails where possible during project activities on land.
24. The Proponent is strongly advised to provide sufficient advance notice communities where a landing is planned as part of project activities.

Other

25. 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.
26. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
27. 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.

Bear and Carnivore Safety

2. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. 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.
3. There are Polar Bear and grizzly bear safety resources available from the Bear Smart Society with videos on polar bear safety available in English, French and Inuktitut at <http://www.bearsmart.com/play/safety-in-polar-bear-country/>. Information can also be obtained from Parks Canada's website on bear safety at the following link: <http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx> or in reviewing the "Safety in Polar Bear Country" pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~/_media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.
4. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut-Department of Environment Conservation Office.

Species at Risk

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

Migratory Birds

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

Transport of Dangerous Goods and Waste Management

8. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
9. The Proponent shall ensure that proper shipping documents (waste manifests, transportation of dangerous goods, etc.) accompany all movements of dangerous goods. Further, the Proponent shall ensure that the shipment of all dangerous goods is registered with the Government of Nunavut Department of Environment, Department of Environment Manager. Contact the Manager (867) 975-7748 to obtain a manifest if dangerous goods including hazardous wastes will be transported.
10. 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 *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->

Appendix A Species at Risk in Nunavut

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

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

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

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

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

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

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

Updated: September 2017

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

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

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

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

Appendix 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*¹ to issue such permits.

¹P.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*², 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*³, 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

² s. 51(1)

³ P.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.