

These objectives are confirmed under section 23 of the NuPPAA.

The purpose of screening is provided for under section 88 of the NuPPAA:

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

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

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

- (a) a review is required if, in the Board’s opinion,*
 - i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,*
 - ii. the project will cause significant public concern, or*
 - iii. the project involves technological innovations, the effects of which are unknown; and*

- (b) a review is not required if, in the Board’s opinion,*
 - i. the project is unlikely to cause significant public concern, and*
 - ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.”*

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

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. Specifically, paragraph 92(2)(a) of NuPPAA provides:

“92. (2) In its report, the Board may also
(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.”

PROJECT REFERRAL

On December 2, 2016 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Fisheries and Oceans Canada-Institute of Ocean Sciences’ (DFO) “CROW – Canadian Ranger Ocean Watch” project proposal from the Nunavut Planning Commission (NPC or Commission). The NPC noted that the project proposal is outside the area of an applicable regional land use plan and has determined that the project proposal is a significant modification to the previously screened works and activities associated with NIRB File 14YN001 because of the project study area boundary.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the Nunavut Agreement and section 87 of the NuPPAA, the NIRB commenced screening this project proposal. Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB file number 14YN001, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number. A summary of the previously screened project activities can be found in Appendix A.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed “CROW-Canadian Ranger Ocean Watch” project is located within the Kitikmeot region, in the vicinity of Cambridge Bay, Gjoa Haven, Kugluktuk, and Taloyoak. The objective of the proposed project is for the Canadian Rangers to measure key observational parameters to compile ice-covered seasonal water profiles during their regular activities for the Department of National Defense. This extension to the program is proposed to take place from February 2017 to December 2019 and intends to monitor sea and sea ice conditions in the Kitikmeot region. The scope of activities previously approved for this ongoing research program (NIRB File No. 14YN001) has been included within Appendix A.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the “CROW-Canadian Ranger Ocean Watch project proposal as set out by Fisheries and Oceans Canada-Institute of Oceans Science. The scope of the project proposal includes the following undertakings, works, or activities:

- Continue project for another two (2) years;
- Increase in research geographic area to include areas around Victoria Island, King Williams Island and Larsen Sound;
- Use of small nets to collect samples of plankton; and
- Use of chemicals to preserve plankton samples.

2. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal.

3. Key Stages of the Screening Process

The following key stages were completed:

| Date | Stage |
|-------------------|---|
| December 2, 2016 | Receipt of project proposal |
| December 13, 2016 | Information request(s) |
| January 4, 2017 | Proponent responded to information request(s) |
| January 4, 2017 | Scoping pursuant to subsection 86(1) of the NuPPAA |
| January 18, 2017 | Public engagement and comment request |
| January 30, 2017 | Receipt of public comments |
| February 17, 2017 | Ministerial extension requested from the Minister Indigenous and Northern Affairs |

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on January 18, 2017 to community organizations in Cambridge Bay, Gjoa Haven, Kugluktuk, 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 provide the Board with any comments or concerns by January 30, 2017 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; if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide 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:

Environment and Climate Change Canada (ECCC)

- No comments at this time

Fisheries and Oceans Canada (DFO)

- No concerns

Indigenous and Northern Affairs Canada (INAC)

- 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.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

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

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

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

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

The geographic area for the amended project includes a large portion of the waters travelled around Victoria Island, Bathurst Inlet, King Williams Island, Back River, and Larsen Sound whereas previously the areas sampled were focused more around the communities of Kugluktuk, Cambridge Bay, Gjoa Haven, and Taloyoak. The amended activities may take place within habitats for many far-ranging wildlife species such as Peary and Dolphin Union herd caribou, muskox, wolves, Polar Bears, migratory birds as identified by mapping sources, and may potentially affect animal migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed amended project would occur in areas with no particular identified ecosystemic sensitivity, with the exception of a portion of the research area that would occur adjacent to the Queen Maud Bird Sanctuary, and within the Peary and Dolphin Union caribou herd migration and calving areas, though activities would occur outside of the post-calving period. These areas have been identified as having value and priority to the local community for:

- i. Terrestrial wildlife;
- ii. Marine mammals;
- iii. Archaeology;
- iv. Tourism and sport hunting; and
- v. Polar Bears.

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

Neither the Proponent nor the Government of Nunavut have identified any areas of historical, cultural and archaeological significance associated with the project area. Should the project be approved to proceed, the Proponent would be required to contact the Government of Nunavut-Department of Culture and Heritage if any 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 size of the geographic area for the amended project proposal ranges over a large area that includes portions of Victoria Island and King Williams Island not previously assessed as part of the research area. The amended study area would also include Bathurst Inlet, the outlet of the Back River, and approximately 81,225 square kilometres (km²) of Larsen Sound. As previously assessed, the Project would be based out of the four (4) communities; therefore, human and animal populations will continue to be affected by amended project impacts. The proposed amended research activities could result in negative impacts to traditional pursuits such as terrestrial and marine hunting. No specific animal populations have been identified as likely to be affected by potential amended project impacts during the commenting period.

Although no significant public concerns were raised during the public commenting period, the NIRB notes that the proximity of the proposed activities to the communities of

Kugluktuk, Cambridge Bay, Gjoa Haven, and Taloyoak and areas used by residents for recreational/traditional pursuits could potentially contribute to public concern developing.

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 “CROW-Canadian Rangers Ocean Watch” project is a modification to a previously approved project, 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 seasonal activities (up to a week in the winter and in the summer). It is noted that the new proposed project corridor would be adjacent to the Queen Maud Bird Sanctuary, and specific mitigation measures for the protection of the area may be necessary. Based on past evidence of similar scope of activities, potential adverse impacts would 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 activities and amended project study area would occur in and around numerous communities that have extensive history of year-round research (e.g., terrestrial sampling projects, filming, and remediation), mineral development (e.g., Doris North, NIRB File No. 05MN047) and exploration along the Hope Bay Belt (NIRB File No. 12MN001). During the summer months cruise ships, community resupply ships, and leisure vessels also travels the proposed project corridor.

The potential for cumulative impacts to caribou, other terrestrial wildlife and habitat, fish and fish habitat, migratory birds, marine mammals, water quality, cultural and archaeological resources, air quality, traditional wildlife harvesting pursuits, and the local economy, as a result of the implementation of the proposed expansion to research activities and other projects occurring the region have been considered in the development of the NIRB’s recommendations. Other projects are expected to occur in the proposed project corridor; however, the original project has been occurring in the area since 2014, and no concerns of cumulative impacts were raised during the assessment.

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 Kugluktuk, Cambridge Bay, Gjoa Haven, and Taloyoak and an area used by residents for recreational/traditional pursuits could potentially contribute to public concern developing. A modification to the original term and condition has been recommended to direct engagement with the communities, hunters and trappers organizations, and posting of public notices to ensure residents are aware of the activities being or to be conducted.

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.

IEWS OF THE BOARD

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

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the Board has previously recommended terms and conditions 1 through 4 which continue to apply to the current project proposal. The Board is also recommending term and condition 19 to ensure complete reference to applicable regulatory requirements.

The Board would also note that, as justified in its previous decision (NIRB File No. 14YN001 dated April 4, 2014), all terms and conditions listed below remain applicable to the original research, while the additional impacts identified for the new components of the additional area and research subjects warrant mitigation measures as justified below.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential negative impacts to migratory and non-migratory birds especially near the Queen Maud Bird Sanctuary from the research conducted in a larger research area.

Board views: As discussed above in the assessment of factors relevant to this amended project proposal, the potential for impact(s) is applicable to a large geographic area; however, is limited due to infrequent activities (a one (1) week period in the winter and again in the summer) that now includes additional areas adjacent to the Queen Maud Bird Sanctuary. Any resulting impacts from the research activities would be expected to be of low magnitude, temporary in nature, and mitigable with due care as most research activities would occur during the winter season with limited activities to occur in the summer months.

The Proponent would also be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, and *Species at Risk Act*.

Recommended Mitigation Measures: It is recommended that the potential negative impacts to migratory birds may be mitigated by measures such as requiring the Proponent to minimize activities during periods when birds are particularly sensitive to disturbance. The Board has previously recommended terms and conditions to mitigate potential

negative impacts to migratory and non-migratory birds, specifically term and condition 13 which continue to apply to the current project proposal.

Issue 2: Potential negative impacts to migratory wildlife and migratory routes such as Peary and Dolphin Union caribou herd due to research activities in an increased research area.

Board views: As discussed above in the assessment of factors relevant to this amended project proposal, the potential for impact(s) is applicable to a large geographic area; however is limited due to infrequent activities (a one (1) week period in the winter and again in the summer) that now includes areas that were not previously considered in the original assessment. The increase in the research area could overlap with migratory routes and crossings of the Peary and Dolphin Union caribou herds. Any resulting impacts from the research activities would be expected to be of low magnitude, temporary in nature, and mitigable with due care as most research activities would occur during the winter season with limited activities to occur in the summer months.

The Proponent would also be required to follow the *Nunavut Wildlife Act* and *Species at Risk Act*.

Recommended Mitigation Measures: It is recommended that the potential negative impacts to migratory wildlife may be mitigated by measures such as requiring the Proponent to minimize activities during periods when wildlife are migrating or are particularly sensitive to disturbance. The Board has previously recommended terms and conditions to mitigate potential negative impacts to terrestrial wildlife, specifically: 10 through 12 and 14, which continue to apply to the current project proposal.

Issue 3: Potential negative impacts to marine fish and fish habitat due to the additional use of nets to collect plankton, with the potential to disrupt fish movement, or unintended catches of non-target species.

Board views: The potential sampling area is indicated to cover a large geographic area; however as noted previously the impacts are limited due to infrequent activities (a one (1) week period in the winter and again in the summer), sampling would be conducted in small sites within the overall sample area indicated, and sampling would occur in additional areas that were not previously considered in the original assessment. Marine fish and fish habitat could potentially be impacted from the increase in sampling protocol with the use of nets to collect additional samples such as plankton. Further, impacts to marine fish habitat could occur due to potential chemical spills from the preservation of the plankton samples. The probability of impacts occurring is considered to be low, with potential negative impacts are anticipated to be low in magnitude, infrequent in occurrence and reversible in nature as the Proponent has previously provided a comprehensive spill contingency plan.

The Proponent would also be required to follow the *Fisheries Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent to store and use the required chemicals in an appropriate manner. The Board has previously recommended term and condition 8 to minimize impacts from chemical spills which continue to apply to the current project proposal.

Issue 4: Potential negative impacts to public and traditional land use activities in the area due to transportation of personnel and equipment to the winter sampling sites and camping activities.

Board Views: If situations arise where the project may interfere with traditional land use, a term and condition has been recommended to ensure minimal impacts to traditional land use activities.

Recommended Mitigation Measures: Term and condition 20 is recommended to ensure that the affected communities and organizations are informed about the project proposal and term and condition 21 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

Socio-economic effects on northerners:

Issue 5: Potential negative impacts to historical, cultural, and archaeological sites from research activities.

Board Views: The Proponent is proposing to work in an area of no known historical, cultural or archaeological significance

The Proponent is required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section) if any sites of historical, cultural and archaeological importance are encountered during their research activities.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as soliciting available Inuit Qaujimaningit from local residents and the Board recommends term and condition 20.

Issue 6: Potential positive impact as the Proponent will be sourcing accommodations and supplies in each of the communities of Kugluktuk, Cambridge Bay, Gjoa Haven, and Taloyoak.

Board Views: It is noted that the winter sampling would be conducted by the Canadian Rangers Patrol Group in each of the communities and thus training would be conducted as well as potential compensation for conducting the sampling work. Supplies (e.g., fuel, groceries, and oil) are purchased locally for use as well.

Recommended Mitigation Measures: The Board has previously recommended term and condition 17 to provide community members with information to ensure successful

hiring opportunity. In addition, the Board recommends terms and conditions 20 to ensure the Proponent continues to inform the community of the research activities and findings.

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 as this is a modification of a previously approved project.

Recommended Mitigation Measures: Term and condition 17 was previously recommended by the Board to ensure that the affected community and organizations are informed about the project proposal. The Board further recommends term and condition 20 to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities findings and to ensure to include Inuit Qaujimaningit. Term and condition 21 is recommended to ensure that the Proponent ensures that project activities do not interfere with traditional harvesting or land use activities due to the increase in the research geographic area.

Technological innovations for which the effects are unknown:

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

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

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The following terms and conditions were previously issued by the NIRB in the April 4, 2014 Screening Decision Report for File No. 14YN001, **and continue to apply to the "CROW – Canadian Rangers Ocean Watch" project:**

General

1. Fisheries and Oceans Canada – Institute of Ocean Sciences (the Proponent) shall maintain a copy of the Project Terms and Conditions at all sites 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 NIRB and comprising its project proposal (Nunavut Research Institute

Application, January 16, 2014, NIRB Part 1 Form, February 21, 2014, and follow-up correspondence, February 21, 2014).

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

Water

5. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

Waste

6. The Proponent shall remove all garbage generated and dispose of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

Fuel and Chemical Storage

7. Unless otherwise permitted, the Proponent shall ensure that re-fuelling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body.
8. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife and shall use adequate secondary containment and spill response when storing and transferring fuel and chemicals.
9. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

10. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
11. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
12. 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

13. 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 metre 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.

Caribou and Muskoxen Disturbance

14. 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.

Ground Disturbance

15. The Proponent shall not move any vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of vehicles must be suspended if rutting occurs.

Winter Trail

16. The Proponent shall select a winter route that maximizes the use of frozen water bodies when travelling over land.

Other

17. The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.
18. Any activity related to this application, and outside the original scope of the project as described in the application, will be considered a new project and should be submitted to the NIRB for Screening.

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

19. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, December 2, 2016), and the NIRB (Online Application Form and additional information, January 4, 2017).
20. The Proponent should engage with local residents regarding planned activities in the area and should solicit available Inuit Qaujimaningit and information regarding current recreational and traditional usage of the project area which may inform project activities. Posting of translated public notices and direct engagement with potentially interested groups and individuals prior to undertaking project activities is strongly encouraged.
21. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

MONITORING AND REPORTING REQUIREMENTS

The Board has previously recommended the following on April 4, 2014:

Annual Report

- 1) The Proponent shall submit a report yearly during the project lifecycle and one year post-project to the NIRB that outlines all materials recovered, particularly after the spring break-up.

In addition to the project-specific terms and conditions, the Board has previously recommended the following on April 4, 2014:

Bear and Carnivore Safety

1. (*updated*) 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.
2. 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.
3. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officers in Kugluktuk, phone: (867) 982-7450 and Gjoa Haven, phone: (867) 360-7605).

Species at Risk

4. (*updated*) 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.

The Board is currently also recommending the following updated recommendations:

Bear and Carnivore Safety

5. Any problem wildlife or any interaction with carnivores should be reported immediately to the following local Government of Nunavut, Department of Environment Conservation Offices:
 - a. Kugluktuk – (867) 982-7451
 - b. Cambridge Bay – (867) 983-4164
 - c. Gjoa Haven – (867) 360-7605
 - d. Taloyoak – (867) 561-6231

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/>.

REGULATORY REQUIREMENTS

The Board previously recommended in the April 4, 2014 Screening Decision Report for the "CROW-Canadian Ranger Ocean Watch" project the following legislation, which continues to apply to the current proposal:

Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *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 B** is a list of Species at Risk in Nunavut.
4. The *Wildlife Act* (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
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 C**.
6. The *Navigable Waters Protection Act (NWPA)* (<http://laws-lois.justice.gc.ca/eng/acts/N-22/index.html>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Fisheries and Oceans Canada-Institute of Ocean Science's "CROW-Canadian Ranger Ocean Watch". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated February 27, 2017 at Arviat, NU.



Elizabeth Copland, Chairperson

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

APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSALS

The original project proposal NIRB (File No. 14YN001), was received by the NIRB from on January 16, 2014 and was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement). On April 4, 2014 the NIRB issued a Nunavut Agreement 12.4.4(a) screening decision to the Minister Responsible for the Nunavut Arctic College which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

Fisheries and Oceans Canada - Institute of Ocean Sciences' (DFO or Proponent) original "Canadian Ranger Ocean Watch" project was located in the Kitikmeot region, and is proposed to occur in the vicinity of Cambridge Bay, Gjoa Haven, Kugluktuk, and Taloyoak. The objective of the proposed project is for the Canadian Rangers to measure key observational parameters to compile ice-covered seasonal water profiles during their regular activities for the Department of National Defense. The program is proposed to take place from February 2014 to December 2016 and intends to monitor sea and sea ice conditions in the Kitikmeot region.

As set out in the project proposal, the scope of the previously screened project included the following undertakings, works, or activities:

- Transportation to sampling locations via snowmobiles and boats;
- Measurements to be conducted by Canadian Rangers using an ice auger including:
 - snow and ice thickness;
 - snow/ice interface temperature;
 - sea water temperature, salinity, chlorophyll content, and dissolved oxygen;
- Use of an internally recording CTD (Conductivity [salinity], Temperature and Depth) instrument with dissolved oxygen and chlorophyll sensors through the ice to the sea floor via a hand cranked winch;
- Collection of small volumes of seawater for analysis; and
- Deployment of free-floating ice buoys to collect data that will be transmitted via satellite to the Institute of Ocean Sciences in Sidney, British Columbia.

Appendix B

Species at Risk in Nunavut

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

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

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

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

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

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

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

Updated: October 2016

| Species at Risk ¹ | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility ² |
|--|---|---|---|
| Migratory Birds | | | |
| Eskimo Curlew | Endangered | Schedule 1 | ECCC |
| Buff-breasted Sandpiper | Special concern | Pending | ECCC |
| Ivory Gull | Endangered | Schedule 1 | ECCC |
| Ross's Gull | Threatened | Schedule 1 | ECCC |
| Harlequin Duck (Eastern population) | Special Concern | Schedule 1 | ECCC |
| Rusty Blackbird | Special Concern | Schedule 1 | GN |
| Peregrine Falcon | Special Concern (<i>anatum-tundrius</i> complex ³) | Schedule 1 - Threatened (<i>anatum</i>) Schedule 3 – Special Concern (<i>tundrius</i>) | GN |
| Short-eared Owl | Special Concern | Schedule 3 | GN |
| Red Knot (<i>rufa</i> subspecies) | Endangered | Schedule 1 | ECCC |
| Red Knot (<i>islandica</i> subspecies) | Special Concern | Schedule 1 | ECCC |
| Horned Grebe (Western population) | Special Concern | Pending | ECCC |
| Red-necked Phalarope | Special concern | Pending | ECCC |
| Vegetation | | | |
| Felt-leaf Willow | Special Concern | Schedule 1 | GN |
| Blanket-leafed Willow | Special Concern | Schedule 1 | GN |
| Porsild's Bryum | Threatened | Schedule 1 | GN |
| Terrestrial Wildlife | | | |
| Peary Caribou | Endangered | Schedule 1 | GN |
| Peary Caribou (High Arctic Population) | Endangered | Schedule 2 | GN |
| Peary Caribou (Low Arctic Population) | Threatened | Schedule 2 | GN |
| Barren-ground Caribou (Dolphin and Union population) | Special Concern | Schedule 1 | GN |
| Marine Wildlife | | | |
| Polar Bear | Special Concern | Schedule 1 | GN/DFO |
| Grizzly Bear | Special Concern | Pending | GN |
| Wolverine | Special Concern | Pending | GN |
| Atlantic Cod, Arctic Lakes | Special Concern | Pending | DFO |
| Atlantic Walrus | Special Concern | Pending | DFO |
| Beluga Whale (Cumberland Sound population) | Threatened | Pending | DFO |
| Beluga Whale (Eastern Hudson Bay population) | Endangered | Pending | DFO |
| Beluga Whale (Western Hudson Bay population) | Special Concern | Pending | DFO |
| Beluga Whale (Eastern High Arctic – Baffin Bay population) | Special Concern | Pending | DFO |
| Bowhead Whale (Eastern Canada – West Greenland population) | Special Concern | Pending | DFO |
| Bowhead Whale (Eastern Arctic population) | Special Concern | Schedule 2 | DFO |
| Killer Whale (Northwest Atlantic / Eastern Arctic populations) | Special Concern | Pending | DFO |
| Grey Whale (Eastern North Pacific population) | Special Concern | Schedule 1 | DFO |

| Species at Risk¹ | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility² |
|--|----------------------------|-------------------------|---|
| Humpback Whale (Western North Atlantic population) | Special Concern | Schedule 3 | DFO |
| Narwhal | Special Concern | Pending | DFO |
| Fish | | | |
| Northern Wolffish | Threatened | Schedule 1 | DFO |
| Atlantic Wolffish | Special Concern | Schedule 1 | DFO |
| Bering Wolffish | Special Concern | Schedule 3 | DFO |
| Fourhorn Sculpin | Special Concern | Schedule 3 | DFO |
| Roundnose Grenadier | Endangered | Pending | DFO |
| Spotted Wolffish | Threatened | Schedule 1 | DFO |
| Thorny Skate | Special Concern | Pending | DFO |
| Atlantic Cod, Arctic Lakes | Special Concern | Pending | DFO |
| Blackline Prickleback | Special Concern | Schedule 3 | DFO |

Notes: DFO: Fisheries and Oceans Canada; ECCC: Environment and Climate Change Canada; GN: Government of Nunavut

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

²Environment and Climate Change Canada 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.

³The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern.

Appendix C
Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders



INTRODUCTION

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

TERMS AND CONDITIONS

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

| | 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.

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

¹P.C. 2001-1111 14 June, 2001

- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.
- 6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement):

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology

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

² s. 51(1)

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 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

³ P.C. 2001-1111 14 June, 2001

prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement)), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*

- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a

heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.