

GN-01: Food and Water Service for Project Personnel	
Department	Health
Organization	Government of Nunavut
Subject/Topic	Food and Water Service for Project Personnel
References	Project-application_125295_as_of_2018-03-26
CONCERNS	
<p>The application notes that a 24 person tent camp will be established at the site for the project and will house 50 contract workers. The camp will be providing food, water and waste systems to service the camp. Services will require review under the Public Health Act.</p>	
SUGGESTIONS AND RECOMMENDATIONS	
<p>The applicant contact the Department of Health Environmental Health Officer located in Iqaluit, Building 1091, Box 1000 Iqaluit, X0A 0H0. Phone 867 975 4815 and submit information regarding the food and water services and facilities provided to the project workers.</p>	
ADDITIONAL COMMENTS	
NA	

GN-02: General Wildlife Mitigation	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	General Wildlife Mitigation
References	<ul style="list-style-type: none"> • Project-application_125295_as_of_2018-03-26 • 180307-12XN020-Maps-IA2E • Nunavut Wildlife Act
CONCERNS	
<p>The Government of Nunavut (GN) has concerns regarding the project potential to result in wildlife disturbance. The area is not well studied as to the composition of plant and animal communities and population abundances. Section 6.3.4 states <i>“To date, no systematic, rigorous surveys have been conducted to record the species present, their abundance and distribution or rare/sensitive plants and animal species in the area surrounding the HAWS. Site-specific information on the plant and animal species present during summer when construction activity will take place would significantly reduce the uncertainty in predicting the type of interactions expected, the species and the numbers of individuals involved”</i> In circumstances where a proposed project lacks sufficient data on environmental effects, additional caution should be employed.</p>	
SUGGESTIONS AND RECOMMENDATIONS	
<p>The GN recommends the Proponent undertake localized surveying to determine the composition of local plant and animal species and their habitats that may be affected by project construction and operations.</p> <p>Additionally the GN recommends the Proponent to take the following precautions to ensure no undue stress to wildlife is caused by project activities:</p> <p>General</p> <ol style="list-style-type: none"> 1) Ensure project personnel maintain a distance of at least 100 meters from bears and large mammals (200 meters from muskox), 25 meters from small animals and nesting birds (~100meters from fledging raptors). <ol style="list-style-type: none"> a. Provide wildlife plenty of space and give right of way. Always give wildlife an avenue for retreat, and never pursue an animal. b. Avoid noises or actions that might stress wildlife or cause animals to waste energy in unnecessary flight. 2) Do not approach young or juvenile animals. 3) Avoid approaching animals that are breeding, nesting, brooding, denning or raising young. <ol style="list-style-type: none"> a. Well-meaning but intrusive visitors may cause parents to flee, leaving young vulnerable to the elements or to predators. 4) Educate personnel on how to recognize and respond to signs of alarm from wildlife. <ol style="list-style-type: none"> a. These are sometimes subtle, and they vary between species, but may include increased 	

movements such as agitated flapping or pacing, heightened muscle tension, staring, or frequent vocalizations. If you sense that an animal is disturbed by your presence, increase the distance between you and it. If it still does not resume its normal behaviors, cease activity and leave the area.

Caribou

The GN wishes to advise the Proponent that activities which occur in areas frequented by caribou can induce various negative responses including: fleeing, habitat shifts, increased movement, decreased foraging and resting rates, and decreased reproductive success. Other more subtle responses, such as increased heart and metabolic rates and rumination disruptions, may also have energetic consequences which can be problematic to wildlife, particularly during life requisite periods when individuals are already physiologically stressed. Activities should be conducted in a manner that limits the physical disturbance of caribou. The Proponent should avoid conducting activities in during times, in locations, or utilizing methods that have potential to damage key caribou habitat such as calving and post-calving grounds, or forage areas.

Pursuant to Section 74.(1) of the Wildlife Act no person shall chase, weary, harass or molest a wild animal. DOE recommends giving approaching caribou right of way, never pursuing an animal, and keep at least 100m distance at all times while always allowing an avenue for retreat.

Raptors

Nesting raptors occur throughout the project area and may be disturbed by the Proponent's activities. DOE recommends that The Proponent refrain from approaching nesting raptors during the critical period of May to mid-July. Nesting raptors are extremely vulnerable during this period and may abandon nests if disturbed. Breeding raptors may not have sufficient time to re-nest. Avoiding nesting raptors during this timeframe minimizes the risk of destroying active nests, birds or their eggs etc. and reduces the likelihood of contraventions under the Wildlife Act:

Bird's nests

72. (2) Unless lawfully harvesting down, no person shall injure, molest or destroy
(a) the nest of a bird when the nest is occupied by a bird or its egg; or
(b) the nest of any bird of prey or prescribed bird.

Significant disturbance

73. (1) No person shall, unless authorized by a license,
(a) engage in any activity, other than harvesting, that is likely to result in a significant disturbance to a substantial number of wildlife; or
(b) break into, destroy or damage any abode of a bear, fox, beaver, muskrat, weasel, wolf or wolverine outside any municipality or prescribed area.

Approaching the nest site near the time of fledging (where chicks fly from the nest) often leads to premature nest departure. Premature nest departure can lead to death from exposure, predation, starvation, or trauma from the fall itself. Project personnel should maintain a distance of at least 100m from active nest sites.

Additionally, personnel should not disturb nesting birds of any kind during conditions of poor weather conditions.

ADDITIONAL COMMENTS

It is the responsibility of the applicant to be aware of federal and territorial legislation including but not

limited to the Wildlife Act. Please note that Wildlife Act Section 22(4) General grounds of ineligibility holds true even if licensed under an exemption permit.

Environmental protection and stewardship is the responsibility of all Nunavummiut and utilizing the aforementioned information will support this undertaking. Please contact the GN Department of Environment if you have any questions and/or require clarification on any of above information.

Department of Environment Contact:

Alex Chaikine
Environmental Assessment Specialist
Wildlife Research Centre, Igloolik
Nunavut X0A 0L0
Phone 934-2180
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GN-03: Wildlife: Polar Bear	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Wildlife: Polar Bear
References	<ul style="list-style-type: none"> • Project-application_125295_as_of_2018-03-26 • 180307-12XN020-Maps-IA2E
CONCERNS	
<p>The proposed project area may overlap with or affect Polar Bear Denning. Polar Bear encounters may occur during the project activities.</p>	
SUGGESTIONS AND RECOMMENDATIONS	
<p>The following Mitigation Measures for Polar Bear Denning shall be implemented.</p> <ul style="list-style-type: none"> • A 1km radius exclusion zone must be observed around every known, recorded polar bear den between 15 September and 15 April, or until it is documented and reported that the den has been vacated by the family group and left the exclusion zone. • Any activities or construction must be scheduled around this sensitive timing as not to disturb bears in dens. • If previously unknown dens are being discovered and reported within 1 km of activities, the activities shall stop and the Department of Environment (DOE) will be contacted immediately for guidance. DOE will evaluate these instances on a case-by-case basis (either activities have to cease, or can be continued with modifications). • If activities are carried out during denning season in known denning areas then proponents must have a trained polar bear monitor present. Monitors are integral for early detection and the safety of humans and wildlife. • In addition, the proponent must prepare and submit a DoE-approved human-bear deterrence plan associated with all such activities, with demonstrated capability to carry out this plan. • All bear encounters throughout the period of activities will be recorded and reported to the nearest community Conservation Officer. All reporting must include: <ul style="list-style-type: none"> ○ Date and time of observation ○ Location (ideally GPS coordinates) ○ Observers name and contact information ○ Weather, visibility ○ Closest distance at approach/encounter ○ Description of encounter ○ Duration of encounter ○ Actions taken ○ Number of bears, estimated age class, sex • Any lethal take or injury must be reported within 24 hours to the nearest Conservation Officer so that proper occurrence record information can be filed. 	

- Activities that occur during denning periods in likely denning areas in snow-covered terrain in areas of higher altitude and facing south-west should be carefully undertaken as not to encounter or disturb bears in dens.

Earth moving (e.g. blasting, grading, piling gravel and other debris) in areas that are potential denning areas needs careful consideration as these activities may influence snow drifting, drift direction, drift thickness, etc. which may affect whether bears find suitable denning habitat or not. Before any activities requiring equipment or explosives are conducted, the DOE must be consulted.

ADDITIONAL COMMENTS

Locations and aspects of polar bear dens likely differ across the Nunavut polar bear range and the 12 subpopulations. However, studies and traditional knowledge indicate that in most population's dens occur within 10-15 km of the coastline with higher densities. Some denning may occur farther inland (up to 30-35 km), depending on subpopulation and geography.

GN-04: Mitigation for Listed Vegetation Species	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Mitigation for Listed Vegetation Species
References	<ul style="list-style-type: none"> • Project-application_125295_as_of_2018-03-26 • 180307-12XN020-Maps-IA2E • Canada Species at Risk Act • Environment Canada. 2014. Recovery Strategy for the Porsild's Bryum (<i>Haplodontium macrocarpum</i>) in Canada [Proposed]. Available at http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs_porsild's_bryum2_e.pdf
CONCERNS	
The Government of Nunavut (GN) has concerns for the projects potential impact on a species of Species At Risk Act (SARA) listed moss (Porsild's Bryum)	
SUGGESTIONS AND RECOMMENDATIONS	
<p>The GN recommends the Proponent conduct a survey of the project location to ensure no presence of the <i>Porsild's Bryum</i> (Environment Canada, 2014) in or near the project footprint. If any Porsild's Bryum colonies¹ are identified contact the Department of Environment (DOE) prior to commencing construction activities.</p> <p>Porsild's Bryum is susceptible to human-caused activities that destabilize rock cliffs. These can include off-road vehicle use, mining exploration, road construction, and vibration from drilling operations. Airborne pollution, road dust in particular, may adversely affect Porsild's Bryum populations that occur near roads. Proposed mitigation / monitoring strategies:</p> <ul style="list-style-type: none"> • Alert site personnel if a colony of Porslid's Bryum is discovered in the project area. • Install fencing, signage, etc. if deemed necessary for the protection of the colony. • Ensure avoiding any activity in the vicinity of the Porslid's Bryum habitat area. The recommended buffer zone may be as large as 1 - 3 km dependent on activity and subject to assessment of impacts of vibration and air pollution. • Establish a monitoring program of Porslid's Bryum population in the project area. 	
ADDITIONAL COMMENTS	
<p>Porsild's Bryum (Scientific Name: <i>Haplodontium macrocarpum</i>, Other/Previous Names: <i>Mielichhoferia macrocarpa</i>) is a small moss that grows in short, compact cushions only 0.3 to 1 cm high. These cushions are bright green and have a spongy texture. Individual stems are reddish-brown and have multiple branches. The leaves are shiny, slightly concave, recurved, and range in length from 0.6 to 1.5 mm. The Porsild's Bryum is protected under SARA with a status of: Schedule 1, Threatened. The distribution of the species is highly fragmented, with the majority of known populations in Canada and Alaska. One site has</p>	

been identified in Nunavut on Ellesmere Island (Quttinirpaaq National Park), total area unknown. There may be other locations of Porsild's Bryum including the area of the project.

Notes:

¹ A 'colony' is treated as one individual plant, a 'sub-population' is defined as a collection of colonies, and a 'population' is a collection of sub-populations within 1-km of each other.

GN-05: Archaeological Impact Assessment	
Department	Culture and Heritage
Organization	Government of Nunavut
Subject/Topic	Archaeological Impact Assessment
References	NIRB Notice of Screening
CONCERNS	
<p>In the context of the Eureka Weather Station Facility project, the proponent puts forward activities including continued operations and maintenance of the existing Station Infrastructure and is proposing additional activities such as the:</p> <ul style="list-style-type: none"> • Enlargement of an existing ATV trail to a six meter wide permanent road from West Remus Creek to the current Eureka Runway for a length of approximately 12 km; • Placement of culverts along the road; • Development of a new borrow location at West Remus Creek; • Movement of a crusher and temporary camp and associated infrastructure from Blacktop Creek to West Remus. <p>The proponent has been proactive and an initial Archaeological Impact Assessment of the project footprint has been undertaken under Archaeology Permit 2017-39A. However, the proponent needs to ensure that any new infrastructure components will not be affecting archeological sites. The final permit report 2017-39A indicates that a number of archaeological sites are in conflict with some components of the project (borrow source, road, access road, etc.) and a series of recommendation have been formulated to that effect.</p>	
SUGGESTIONS AND RECOMMENDATIONS	
<p>Thus, the Department of Culture and Heritage is recommending that the proponent archaeologist applies for a Class 2 permit in order to mitigate any potential impact to archaeological sites located within the project footprint. The permit application should highlight the mitigation actions to be undertaken at specific threatened sites (avoidance marking, excavation, etc.)</p> <p>No activities be conducted in the vicinity (50 m buffer zone) of any archaeological/historical sites. If archaeological sites or features are encountered, activities should immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to the Government of Nunavut Territorial Archaeology Office.</p> <p>All archaeological and palaeontological sites in Nunavut are protected by law. The applicant must understand that it is their responsibility to ensure that no heritage resource sites are disturbed in the course of their activities. No person shall alter, or otherwise disturb an archaeological site, or remove</p>	

any artifact from an archaeological site. Moreover, the building of inuksuit is not recommended.

ADDITIONAL COMMENTS

S. LeBlanc April 2018