



NIRB Application for Screening #125579

Contaminants in seabirds in the Baffin Bay - Davis Strait region

Application Type: New

Project Type: Scientific Research

Application Date: 2/10/2021 5:26:21 PM

Period of operation: from 0001-01-01 to 0001-01-01

Proposed Authorization: from 0001-01-01 to 0001-01-01

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DETAILS

Non-technical project proposal description

English: Studies of seabirds have shown that several seabird species are affected by a number of contaminants in the Arctic region. To date most work on contaminants in seabirds has focused on legacy contaminants, including pesticides and flame retardants, but there are a suite of chemicals of emerging concern in the Arctic that have only been addressed in a limited number of species or at a few colonies in the Arctic region. Preliminary studies of seabirds at the Prince Leopold Island Migratory Bird Sanctuary have shown that plastic additives can be detected in the eggs and livers of seabirds, thus it is important to explore these contaminants more widely in seabirds to increase our ability to assess the potential impacts. Currently in the Canadian Arctic, there are low levels of shipping and oil exploration related activities as compared to many other regions. As offshore oil and gas activities might proceed in Baffin Bay and Davis Strait, there is a need to assess. The first aim of this project is to contribute to our growing understanding of the distribution of both plastics and microplastics in Arctic ecosystems, and how seabirds may act as vectors and concentrators of plastic pollution. The second objective is to assess current levels of oil-related contaminants and their effects on seabirds and their habitat. We propose to work with local hunters that can collect seabirds in the both the Qikiqtarjuaq and Pond Inlet regions near the colonies. These collections will be done in consultations with the local Hunter and Trapper Organizations and Area Co-Management Committees in Qikiqtarjuaq and Pond Inlet. These birds will be examined for contaminants to better understand how seabirds in Nunavut are being effected by plastic debris and pollution from oil and gas.

French: Des études sur les oiseaux de mer ont montré que plusieurs espèces d'oiseaux de mer sont affectées par un certain nombre de contaminants dans la région arctique. À ce jour, la plupart des travaux sur les contaminants chez les oiseaux de mer se sont concentrés sur les contaminants hérités, y compris les pesticides et les retardateurs de flamme, mais il existe une série de produits chimiques préoccupants émergents dans l'Arctique qui n'ont été traités que dans un nombre limité d'espèces ou dans quelques colonies de la région arctique. Des études préliminaires sur les oiseaux de mer au refuge d'oiseaux migrateurs de l'île Prince Leopold ont montré que des additifs plastiques peuvent être détectés dans les œufs et le foie des oiseaux de mer. Il est donc important d'explorer ces contaminants plus largement chez les oiseaux de mer pour accroître notre capacité à évaluer les impacts potentiels. À l'heure actuelle, dans l'Arctique canadien, les activités liées à la navigation et à l'exploration pétrolière sont faibles comparativement à de nombreuses autres régions. Étant donné que les activités pétrolières et gazières extracôtières pourraient se poursuivre dans la baie de Baffin et le détroit de Davis, il est nécessaire de procéder à des évaluations. Le premier objectif de ce projet est de contribuer à notre compréhension croissante de la distribution des plastiques et des microplastiques dans les écosystèmes arctiques, et de la façon dont les oiseaux de mer peuvent agir en tant que vecteurs et concentrateurs de la pollution plastique. Le deuxième objectif est d'évaluer les niveaux actuels de contaminants d'origine pétrolière et leurs effets sur les oiseaux de mer et leur habitat. Nous proposons de travailler avec des chasseurs locaux qui peuvent capturer des oiseaux de mer dans les régions de Qikiqtarjuaq et de Pond Inlet près des colonies. Ces collectes seront effectuées en consultation avec les organisations locales de chasseurs et de trappeurs et les comités de cogestion régionaux de Qikiqtarjuaq et de Pond Inlet. Ces oiseaux seront examinés pour les contaminants afin de mieux comprendre comment les oiseaux de mer au Nunavut sont affectés par les débris de plastique et la pollution par le pétrole et le gaz.

[illegible]

Operations Phase: from 2021-06-01 to 2021-09-30

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Pond Inlet area	Marine Based Activities	Marine	NA	NA	Hunters will be based out of Pond Inlet. Hunting will occur within 200km of town
Qikiqtarjuaq	Marine Based Activities	Marine	NA	Na	Hunters will be based out of Qikiqtarjuaq. Hunting will occur within 200km of town

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Qikiqtarjuaq	Susanne Emond - Jeannie Baker	Sululiit Area Co-management Committee	2021-03-04
Qikiqtarjuaq	Alison Kopalie	Nattivak HTO	2021-02-09
Pond Inlet	Mr. Ootovak	Mittimatalik Hunter and Trappers Organization	2021-02-24

Authorizations

Indicate the areas in which the project is located:

North Baffin
South Baffin

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Canadian Wildlife Service	Research permit for migratory birds	Applied, Decision Pending		
Canadian Wildlife Service	Protected areas permit	Applied, Decision Pending		
Government of Nunavut, Department of Environment	Wildlife research	Not Yet Applied		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	Small hunting boats will be used	

Project accomodation types

Community

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
small local boats	3	~15 feet	Up to 3 local boats and captains will be hired to collect seabirds around their home communities.

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	4	10	40	Liters	Use in small local boats

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0		

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Marine Based Activities	Non-Combustible wastes	11	All waste will be taken back to town and disposed of properly.	NA

Environmental Impacts:

Five seabird species will be sampled by local hunters. All of the species are locally abundant and common. The proposed 30 individuals from each species, from each site, is well within the sample size that would result in an impact at the population level. Importantly, these sample sizes are set in consultation with communities and in-line with sample sizes needed to assess contaminants in a meaningful way.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

Two small boats in each region (Pond Inlet and Qikiqtarjuaq) will be used.

SECTION H2: Disposal At Sea

No disposal at sea will occur.

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

We will be sampling birds while they are foraging or travel over the water.

Description of Existing Environment: Biological Environment

The birds will be collected by local hunters

Description of Existing Environment: Socio-economic Environment

Local hunters will be hired to complete this work, funding application pending.

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

NA

Cumulative Effects

The bird collections proposed are part of a cumulative effects study on seabirds, including plastic pollution, legacy contaminants, and oil-related contaminants.

Impacts

Identification of Environmental Impacts

		PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Construction																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Operation																										
Marine Based Activities		-	-	-	-	-	-	-	-	-	-	-	-	-		-	N	N	-	-		-	-	-	-	-
Decommissioning																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

1	polygon	Pond Inlet area
2	polygon	Qikiqtarjuaq