



## **NIRB Application for Screening #125687**

### **Assessing contaminants in seabird habitats**

**Application Type:** New

**Project Type:** Scientific Research

**Application Date:** 4/13/2022 10:57:57 AM

**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: With this project we aim to assess ship-based pollution in migratory bird habitat near Arviat and Pond Inlet. This includes examining how ship traffic contributes to oil pollution and emissions in areas used by seabirds, as well as ship based plastic pollution, including microplastics. While pollution in seabirds have been studied in Nunavut for over 40 years via the Northern Contaminants Program (NCP), there is lack of information on pollution of emerging concern such as oil pollution and microplastics. We hope that this study will start to explore these issues in two communities in Nunavut, Arviat and Pond Inlet. This project will be carried out with partners in Pond Inlet and Arviat as part of a recently funding project titled Inuit Qaujisarnirmut Pilirijjutit on Arctic Shipping Risks in Inuit Nunangat funded under the CINUK call for proposals led by ITK. Small teams of community members will deploy the sampling during the open water seasons in Arviat and Pond. There will be three sampling types. One set of passive air samplers will be deployed near where migratory birds breed in the areas. These are small dishes approximately 30cm in diameter that are left in the habitat for 60 days a retrieved. Second, an active high volume sampler will be used to test the output from ships when they are moored close to town. A total of 10 active samples will be collected from each site per year, and will involved samples when no ships are in town, and when ships are in town. The last sampling will involve using a manta net to sample for microplastics in the water column. This will be down 5 times a year at each site. The manta net filters the water while being pulled behind a small vessel. The filters are then collected and analysed, with no active water collection. As this project was extensively co-developed through regular consultation with international, national, and local Inuit community organizations in order to respond directly to urgent and locally identified research needs, it is anticipated that project will have substantial impact and wide-ranging outcomes. Results will support multiple levels of decision makers aiming to; a) minimise harmful impacts of shipping to Inuit livelihoods, culture, quality of life and the environment, b) promote the use of scientific evidence in policy decisions affecting shipping in the Arctic/Inuit homeland, and c) improve cooperation between maritime industries, communities and science. All data generated by this project will be a part of the Inuit Qaujisarnirmut Pilirijjutit on Arctic Shipping Risks in Inuit Nunangat team discussion. Community partners will co-collect, co-analyse and co-finalise all reports and data stewardship decisions. The results will be shared within Arviat and Pond Inlet as the project develops from 2022 to 2025, and as results are summarised the team will prepare plain language reports, radio interviews, Facebook posts and other material as needed for wide spread sharing.

French: Avec ce projet, nous visons à évaluer la pollution causée par les navires dans l'habitat des oiseaux migrateurs près de Pond Inlet. Cela comprend l'examen de la façon dont le trafic maritime contribue à la pollution par les hydrocarbures et aux émissions dans les zones utilisées par les oiseaux de mer, ainsi que la pollution plastique causée par les navires, y compris les microplastiques. Bien que la pollution chez les oiseaux de mer soit étudiée au Nunavut depuis plus de 40 ans dans le cadre du Programme des contaminants du Nord (PCN), il y a un manque d'information sur la pollution préoccupante émergente comme la pollution par les hydrocarbures et les microplastiques. Nous espérons que cette étude commencera à explorer ces questions dans Pond Inlet. Ce projet sera réalisé avec des partenaires de Pond Inlet dans le cadre d'un projet récemment financé intitulé Inuit Qaujisarnirmut Pilirijjutit on Arctic Shipping Risks in Inuit Nunangat financé dans le cadre de l'appel de propositions CINUK dirigé par ITK. De petites équipes de membres de la communauté déploieront l'échantillonnage pendant les saisons d'eau libre à Pond. Il y aura trois types d'échantillonnage. Un ensemble d'échantillonneurs d'air passifs sera déployé près de l'endroit où les oiseaux migrateurs se reproduisent dans les régions. Ce sont de petits plats d'environ 30cm de diamètre qui sont laissés dans l'habitat pendant 60 jours et récupérés. Deuxièmement, un échantillonneur actif à volume élevé sera utilisé pour tester la sortie des navires lorsqu'ils sont amarrés près de la ville. Au total, 10 échantillons actifs seront prélevés sur chaque site chaque année et comprendront des échantillons lorsqu'aucun navire n'est en ville et lorsque les navires sont en ville. Le dernier échantillonnage consistera à utiliser un filet de manta pour prélever un échantillon de microplastiques dans la colonne d'eau. Ce sera en baisse 5 fois par an sur chaque site. Le filet manta filtre l'eau tout en étant tiré derrière un petit récipient. Les filtres sont ensuite collectés et analysés, sans collecte d'eau active. Étant donné que ce projet a été largement élaboré dans le cadre de consultations régulières avec des organismes communautaires inuits internationaux, nationaux et locaux afin de répondre directement aux besoins de recherche urgents et identifiés localement, on s'attend à ce que le projet ait un impact substantiel et des résultats de grande envergure. Les résultats appuieront plusieurs niveaux de décideurs qui visent à; a) réduire au minimum les effets néfastes du transport maritime sur les moyens de subsistance, la culture, la qualité de vie et l'environnement des Inuits, b) promouvoir l'utilisation de données scientifiques dans les décisions stratégiques touchant la navigation dans l'Arctique et la patrie inuite, et c) améliorer la coopération entre les industries maritimes, les collectivités et la science. Toutes les données générées par ce projet feront partie de la discussion de l'équipe inuit Qaujisarnirmut Pilirijjutit sur les risques de la navigation dans l'Arctique à Inuit Nunangat. Les partenaires communautaires co-collecteront, co-analyseront et co-finaliseront tous les rapports et les décisions de gestion des données. Les résultats seront partagés au sein de Pond Inlet au fur et à mesure de l'évolution du projet de 2022 à 2025, et au fur et à mesure que les résultats seront résumés, l'équipe

[illegible]

Operations Phase: from 2022-07-01 to 2025-10-01

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Eclipse Sound	Marine Based Activities	Marine	Active waterway	None known	Pond Inlet
Eclipse Sound	Sampling sites	Inuit Owned Surface Lands	None known	None known	Across Eclipse Sound from Pond Inlet
Arviat	Marine Based Activities	Marine	None known	None known	The waters around Arviat

## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Pond Inlet	Molleen	HTO	2021-11-23
Pond Inlet	Shelly Elverum	Ikaarvik	2021-12-01
Pond Inlet	Jamie Enook	ECCC	2021-11-01
Pond Inlet	Justin Milton	Ikaarvik	2021-12-01
Arviat	Shirley Tagalik	Aqqiumavvik Society	2022-03-10

## Authorizations

Indicate the areas in which the project is located:

Kivalliq  
North Baffin

### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Research Institute	Applied for an NRI Research license	Applied, Decision Pending		
Qikiqtani Inuit Association	Application to access Inuit owned lands to place the passive sampling device	Not Yet Applied		

### Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	small vessels from Pond Inlet and Arviat, day trips	

### Project accomodation types

Community  
Other,

## Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Manta trawl	1	30cmx40cm	The manta trawl is pulled behind a small boat for approximately 20 min to filter the water. All pieces collected in the net are then collected and sent for analysis.
Passive air samplers	6	30cmx30cm	Passive sampling refers to collecting contaminants from air on a trap that sits out in the open without any pumps pulling in the air. Passive samplers are a low-cost, low-maintenance way to monitor contaminants because they do not require power for pumps or a shed to house the instruments. They are unobtrusive and they make no noise, do not produce any emissions and they simply sit outside and trap contaminants from the air.
Sampling jars	10	10cmx10cm	Glass sampling jars will be used to collect sediments at the shoreline
Shoreline transects	10	10m	Transect tape and materials will be used to mark beaches and shorelines to count plastic pollution, and will be removed when the transects are completed (about 1 hour)

## Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	3	5	15	Liters	Small boat engines for sampling

## 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
Information is not available				

### Environmental Impacts:

We do not expect any environmental impacts from this work, in fact, the goal of the work is to address potential environmental impacts from vessel traffic in the region. Our team will actively work in minimize any impacts on wildlife during the collection of samples.

# **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**

**SECTION H2: Disposal At Sea**

**SECTION I1: Municipal Development**

**Description of Existing Environment: Physical Environment**

**Description of Existing Environment: Biological Environment**

**Description of Existing Environment: Socio-economic Environment**

**Miscellaneous Project Information**

**Identification of Impacts and Proposed Mitigation Measures**

**Cumulative Effects**

We do not expect any cumulative effects from this work, and in fact we set out to study the cumulative effects from shipping.

# 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
<b>Construction</b>																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
<b>Operation</b>																										
Marine Based Activities		-	-	-	-	-	-	-	-	-	-	-	-	-		-	M	M	M	-		-	-	-	-	-
<b>Decommissioning</b>																										
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(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

1	polygon	Arviat
2	polygon	Eclipse Sound