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ᐅᓂᓄᓇᓂᓗ: 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 though 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.

DΔΛNƆ: 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

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

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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

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ᕐᕆᕌᕊᕋᖅ	Molleen	HTO	2021-11-23
ᕐᕆᕌᕊᕋᖅ	Shelly Elverum	Ikaarvik	2021-12-01
ᕐᕆᕌᕊᕋᖅ	Jamie Enook	ECCC	2021-11-01
ᕐᕆᕌᕊᕋᖅ	Justin Milton	Ikaarvik	2021-12-01
ᔪᖅᔬᔪᕋᖅ	Shirley Tagalik	Aqqiumavvik Society	2022-03-10

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Kivalliq

North Baffin

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Project transportation types

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

Project accomodation types

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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 horur)

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$$\Delta^b C d_C \sim \sigma \Delta^a \sigma^a$$
[illegible]
$$\begin{array}{c} \text{A} \\ \text{B} \\ \text{C} \\ \text{D} \\ \text{E} \\ \text{F} \\ \text{G} \\ \text{H} \\ \text{I} \\ \text{J} \\ \text{K} \\ \text{L} \\ \text{M} \\ \text{N} \\ \text{O} \\ \text{P} \\ \text{Q} \\ \text{R} \\ \text{S} \\ \text{T} \\ \text{U} \\ \text{V} \\ \text{W} \\ \text{X} \\ \text{Y} \\ \text{Z} \end{array}$$

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 11: Municipal Development

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Miscellaneous Project Information

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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

$a \rightarrow a \Delta^{q_b} C D \sigma^{q_r} r^c$ $\nabla e \cap \Gamma D C \dot{\sigma}^c \rangle^c$ $\nabla b \rangle^{q_b} C D r L \downarrow^c$

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List of Project Geometries

1	polygon	Arviat
2	polygon	Eclipse Sound