



New

## Scientific Research

Monday, April 14, 2025

from 2025-07-25 to 2025-10-22

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**ᐅᓄᐃᑦ:** Sea ice declines in Canada's Arctic have been accompanied by an increase in shipping traffic. Shipping can have negative direct (i.e., mortality from strikes) and indirect (e.g., noise disturbance) impacts on Arctic marine mammal populations, leading to displacement from critical habitat or disruption of critical behaviors (e.g., reproduction), with ultimate impacts on population demographics. Walrus and beluga are known to be sensitive to shipping-related disturbance, but there has been very little research carried out in Canada. Results from these two projects will be used to assess spatial and temporal overlaps between critical habitat and shipping corridors, detect behavioral (foraging, resting, vocalizing) and distribution responses to shipping activity, and develop mitigation measures (e.g., buffer zones around important terrestrial and marine habitat). This proposal covers two projects and species (across multiple areas) and has been developed in response to community-identified concerns and research priorities concerning shipping impacts on walrus/beluga behaviour, distribution, and demographics.

1. The walrus field project will take place from the communities of Coral Harbour, Nauyasat, Igloodik, Sanirajak and Kinngait, as shipping expansions through these areas of critical high-density walrus habitat stand to have disproportionate impacts on walrus.

2. The beluga work will take place from Igloodik and Kinngait, and data generated from this project will form baseline information on stock definitions, address uncertainties in habitat use, and assess monitor potential impacts of increased shipping over the next few years.

Both projects will use a collection of methods to address different questions and uncertainties:

1) satellite tags to collect distribution, movement and diving data (both walrus and beluga)

2) time-lapse stationary cameras and aerial drone imagery (only walrus to monitor haul-out patterns)

3) hydrophone recordings (e.g., vocalizations of walrus and beluga and shipping noise)

4) tissue biopsies (e.g., both walrus and beluga, for analysis of stress hormone concentrations)

5) drone footage to monitor haul-outs (walrus) and gather behavioural health metrics on beluga whales.

DFO will be on site in Coral Harbour, Igloodik, and Kinngait, while work in Nauyasat and Sanirajak will be community-led. The work will be conducted by boat during day trips (i.e. no field camps) from each community. Operations will take place for ~7-15 days between August 1 to October 30th (exact timing and focus areas will be based on availability of local research team, ice conditions and seasonal species occurrence). The polygons submitted for this project cover large areas to ensure we have the flexibility to follow community recommendations, however they represent a maximum distance that could be traveled. We will not be conducting our work in protected areas or national parks, for example, the Coral Harbour field work will only occur at Walrus Island and will not encroach on the Coats Island Bird Sanctuary. Both projects have and will continue to work closely with the local Hunters and Trappers Associations/Organizations to hire local boats, captains and field research assistants to conduct the work.

For the 2025 field season the walrus field program (biopsy, tagging, cameras, and drone) has been supported by all communities, except Nauyasat did not support the use of drones. The beluga program has received full support from the Igloodik HTA and Kinngait HTA. For the hydrophones, Sanirajak has supported deploying a new one near the community, the beluga approval letter from Kinngait covers the hydrophone being use for both projects, and the support letter to re-deploy 3-4 hydrophones is pending for Igloodik (however verbal support has been provided).

► ΔΑΝΔΣ: Le déclin de la glace de mer dans l'Arctique canadien s'est accompagné d'une augmentation du trafic maritime. La navigation peut avoir des impacts négatifs directs (c.-à-d. mortalité due aux collisions) et indirects (p. ex. perturbation par le bruit) sur les populations de mammifères marins de l'Arctique, entraînant le déplacement de l'habitat essentiel ou la perturbation des comportements essentiels (p. ex. reproduction), avec des impacts ultimes sur la démographie de la population. On sait que le morse et le béluga sont sensibles aux perturbations liées à la navigation, mais très peu de recherches ont été menées au Canada. Les résultats de ces deux projets serviront à évaluer les chevauchements spatiaux et temporels entre l'habitat essentiel et les corridors de navigation, à détecter les réponses comportementales (alimentation, repos, vocalisation) et de répartition aux activités de navigation, et à élaborer des mesures d'atténuation (p. ex. zones tampons autour de l'habitat terrestre et marin important). Cette proposition couvre deux projets et deux espèces (dans plusieurs domaines) et a été élaborée en réponse à des Préoccupations et priorités de recherche concernant les impacts du transport maritime sur le comportement, la répartition et la démographie des morses et des bélugas. 1. Le projet de terrain pour le transport du morse se déroulera dans les collectivités de Coral Harbour, de Naujaat, d'Iqoolik, de Sanirajak et de Kinngait, car l'expansion de la navigation

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Operations Phase: from 2025-07-25 to 2025-10-22

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Coral Harbour, Naujaat, Sanirajak and Igloolik	Researching	Marine	Community lead walrus work has been done for the last couple years. This will be the first year doing beluga work in Igloolik.	None known	Within 200 km of the nearest community, conducting day trips from the community. We will not be conducting our work in protected areas or national parks, for example, the Coral Harbour field work will only occur at Walrus Island and will not encroach on the Coats Island Bird Sanctuary.
Kinngait	Researching	Marine	Community led walrus and beluga work was conducted last year. Baffinland shipping operations will begin in the area in the next few years.	None known	Within 200 km of Kinngait, conducting day trips from the community.

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### Project transportation types

Transportation Type	How the Community Will Use the Transportation	Length of Use
Water	Motor boats will be used during day trips from the community	

### Project accomodation types

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Gasoline	fuel	287	25	7175	Liters	The amount of fuel needed will vary depending on the boat and type of engine and number of successful field days- here we estimated ~205 liters for





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No adverse environmental impacts are expected based on this project.

# **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

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No adverse environmental impacts are expected based on this project.

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### Miscellaneous Project Information

Monitoring walrus and beluga is especially important because Baffinland Iron Mines plans to ship ore from its Mary River mine on Baffin Island using a railway south to Steensby Inlet. This could include an all-season deep-water port, and ice-breaking ore carriers travelling through Foxe Basin and Hudson Strait. This project is important for gathering baseline data on marine mammals in Hudson Strait.

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This project is a collaboration with the HTO/HTA, ongoing discussions and joint planning will ensure timing of this study does not coincide with the subsistence hunt.

## Cumulative Effects

## Impacts

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$$(P = \langle b \rangle \dot{a} p \cap \dot{a} \dot{a}^{\dot{b}} \dot{c}, N = \langle b \rangle \dot{a} \dot{r} \dot{c} \dot{d} \dot{a} \dot{a}^{\dot{b}} \dot{c} \langle c \rangle \dot{r} \dot{r}^{\dot{b}} \dot{c} \dot{d} \dot{a} \dot{a}^{\dot{r}} \dot{c} \dot{c}, M = \langle b \rangle \dot{a} \dot{r} \dot{c} \dot{d} \dot{a} \dot{a}^{\dot{b}} \dot{c} \langle c \rangle \dot{r} \dot{r}^{\dot{b}} \dot{c} \dot{d} \dot{a} \dot{a}^{\dot{b}} \dot{c} \dot{c}, U = \dot{b} \dot{d} \dot{r} \dot{L} \dot{a} \dot{a}^{\dot{r}} \dot{c} \dot{b})$$

