



Ekaluktutiak Hunters & Trappers Organization

P.O. Box 1270 Cambridge Bay, Nunavut, X0B 0C0

Telephone #: (867) 983-2426 or 983-2428 Facsimile #: (867) 983-2427

Email: cambay@krwb.ca

APPROVAL OF HUNTERS AND TRAPPERS ORGANIZATIONS

Project Title: Assessing the ecological risk associated with critical mineral extraction and oil/oil co-contaminants in the North

Funding: Natural Sciences and Engineering Research Council of Canada Alliance Missions Grants and Fisheries and Oceans Canada Environmental Spill Response Grants

- Arctic Ice algae sampling and zooplankton from freshwater and marine around Dease Strait and subsequent toxicology studies at CHARS (INRS, UAlberta)
- Arctic invertebrate sampling (zooplankton) around Greiner Lake and toxicology studies at CHARS (WLU, UAlberta)
- Water and sediment sampling around Cambridge Bay, Greiner lake and Dease Strait for inorganic analysis

Project Leaders:

Tamzin Blewett (University of Alberta, UAlberta) Erin

Leonard (Wilfrid Laurier University, WLU)

Anne Crémazy (Institut national de la recherche scientifique, INRS)

The specific objectives of our 2025-2026 proposed research are to:

This project aims to understand Arctic organisms' sensitivity to two types of toxicants: metal contaminants (copper, zinc, cobalt, nickel, and lithium) and oil-related chemicals (including perfluoroalkyl and polyfluoroalkyl substances (PFAS) and other substances from low-sulfur fuels.

1. We will expose three types of organisms found in the Arctic to these toxicants (i.e., low sulfur fuel and metals) of interest using Arctic-relevant concentrations under Arctic-relevant conditions (e.g., temperature, water chemistry). By testing different concentrations of exposure, we aim to identify the most vulnerable species and expand our knowledge to help communities, stakeholders, and policy-makers protect the Arctic environment. Sea-ice algae, marine and freshwater zooplankton will be collected in and around Cambridge Bay, NT. Specifically, algae and marine and zooplankton will be collected in May 2025 from the sea ice between Cambridge Bay and the Dease Strait, while marine and freshwater zooplankton (e.g., copepods and *Daphnia*) and water samples will be collected in August from Greiner Lake. The exposures in May will last three weeks, while those in August will take five weeks. All experiments will be safely contained within CHARS labs, and water used in tests will be treated before disposal to remove any harmful substances. Different cleaning methods, such as biochar filtration, chelating resins, and activated charcoal, will be used to remove metals and chemicals, ensuring that no potentially harmful contaminants are released into the environment during the research project.

Timeline: May - September, 2025, 2026

Applicant & Affiliation: Tamzin Blewett, University of Alberta, email: tamzin@ualberta.ca

The following section is to be filled out by each affected Hunters and Trappers Organization (HTO)

By signing this page, the President or Manager of the affected Hunters and Trappers Organizations indicates that the applicant has fully informed the HTO about the nature of the project and that the HTO supports or does not support the project.

EKALUKTUTIAK HTO - Cambridge Bay	
<input checked="" type="checkbox"/> supports or <input type="checkbox"/> does not support this project.	
<u>B. Mahagan</u>	<u>April 1, 2025</u>
Manager	Date