

Public Registry - Project Proposals

NPC 150247: OPP 2.0 Baseline Shoreline Mapping 2024
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Proposal Status: Conformity Determination Issued

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[Project Overview](#)

Type of application: New

Proponent name:

Valerie Wynja

Proponent company:

ECCC

Project Description:

The overall health of Canada's oceans is strongly influenced by the coastal marine environment. Through the Government of Canada's Oceans Protection Plan 2.0 (OPP 2.0), Environment and Climate Change Canada is working to protect, preserve, and restore Canada's marine environment. Under the OPP 2.0, our team has been funded to collect baseline shoreline data for oil spill preparedness in priority areas in the Arctic. The main purpose of the shoreline segmentation process is to collect information to help emergency responders plan and prepare for potential marine pollution incidents. A pre-spill shoreline dataset includes baseline coastal information such as the shoreline type and form, the substrate and vegetation type. •To collect key shoreline information, low-altitude helicopter overflights are conducted at the study sites to capture geotagged video and photos of the shoreline characteristics. •Once the shoreline data is collected, that information is recorded within a GIS database. •Shoreline interpretation is performed by reviewing the oblique videography and geotagged photos. The final product is a detailed vector geodatabase which describes each shoreline segment and its associated intertidal zones. The vector shoreline characterization database can be used to identify environmentally sensitive shoreline types, support a rapid response to pollution incidents, and aid in effective clean-up efforts. By presenting the data on an interactive map, we are aiming to improve decision-making during oil-spill responses. With the inclusion of information from satellite and drone imagery, we hope to provide broader coverage of Canadian shorelines to support spill response and protect marine

ecosystems. Beyond supporting oil spill response, datasets and imagery have been used by local communities and environmental managers for project planning, marine safety & response preparedness, assessment of areas for marine restoration, marine planning, food security, among others. We hope to perform mapping activities during several different periods in the summer (June-Sept) of 2024. 1)Summer 2024 - mapping Southern Bathurst Inlet (based out of Cambridge Bay/Bathurst Inlet, NU - logistical support through the Polar Continental Shelf Program (PCSP)) 2)Summer 2024 - mapping Frobisher Bay near Iqaluit (Iqaluit -based from a Canadian Coastguard vessel) 3)Summer 2024 mapping Rankin Inlet, Chesterfield Inlet and part of Baker Lake (Rankin Inlet - based from a Canadian Coastguard vessel)

Project Schedule

Start Date:

2024-06-01

End Date:

2024-09-30

Project Map

List of project geometries:

Id	Geometry	Location Name
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[11092](#)

polygon

Frobisher Bay Study Site

[11093](#)

polygon

Rankin Inlet, Chesterfield Inlet and Baker Lake Study Site

[11094](#)

polygon

Southern Bathurst Inlet Study Site

NPC Planning regions:

No Approved Plan

Keewatin

Project Land Use and Authorizations

Project Land Use:

Scientific Research

Scientific Research

Licensing Agencies:

Nunavut Research Institute
 Nunavut Impact Review Board

Material Use

Equipment:

	Type	Quantity	Type	Use
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Helicopter

1

20 X 8

Use helicopter to collect key shoreline information and establish a shoreline database, low-altitude helicopter overflights (approximately 60-70 knots, 200-300 feet elevation above the water, and 300ft off the shoreline) are conducted at the study site to capture video of the shoreline characteristics.

Video Camera

1

24 x 6

Video camera on a gimbal to collect geotagged videos.

Camera

1

6x4

Digital camera to collect geotagged photos.

GPS

1

2x3

GPS to record our flight path.

Toughbook tablet

1

4x6

Toughbook tablet to display map and to record our flight path.

Drone

2

10x12

Potentially fly drone along the coastline to see if we can collect high resolution imagery suitable to doing a remote sensing classification.

Fuel Use:

Type

Container Capacity Use

Aviation fuel

0
208

Access to aviation fuel from the coastguard ship for mapping in Frobisher Bay and Rankin/Chesterfield Inlets.

Aviation fuel

0
208

Access to aviation fuel from the Cambridge Bay Airport with the Southern Bathurst Inlet Study Site.

Aviation fuel

15
208

We have applied to the Polar Continental Shelf Program for logistical research support in the Arctic. We have proposed one a fuel cache with 10-15 drums at the Bathurst Inlet Lodge. Coordinates: 66 50' 14.62N; 108 00' 57.64

Hazardous Material and Chemical Use:

Type Container Capacity Use

No data found

Water Consumption:

Daily Amount (m ²) Retrieval Method Retrieval Location
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0

Waste and Impacts

Environmental Impacts:

We aim to have minimal impact to the environment. We will be working out of a helicopter the majority of the time and would like to work with the communities to coordinate the overflights so they have the least impact on wildlife and other traditional activities taking place on the land. We are not doing any destructive sampling and therefore do not anticipate any waste

products with this project. Fuel cache drums will be coordinated with the Polar Continental Shelf Program and will be removed with their logistical support. All food and waste products will be packed out of with us.

Waste Management:

Waste Type
Quantity Generated
Treatment Method
Disposal Method

No data found