

Project Dashboard

Water Resource Assessment for Coral Harbour (149771)

Proposal Status: Conformity Determination Issued

Project Overview

Type of application: **New**

Proponent name:	Andrew Medeiros
Company:	Dalhousie University

Schedule:

Start Date:	2022-07-05
End Date:	2022-07-25
Operation Type:	Seasonal

Project Description:

Water supply for Coral Harbour, Nunavut is sourced from a river-fed reservoir. There have been instances of high electrical conductivity, which raises concerns regarding saltwater intrusion from Hudson Bay. A team (Dr. Barret Kurylyk and Dr. Julia Guimond) from the Dalhousie Coastal Hydrology Lab plans to conduct a reconnaissance field campaign to characterise the river hydrodynamics and to investigate potential sources and pathways for saltwater, including via the river, the shallow subsurface, and sea spray. The team will use non-invasive instruments to investigate the interactions between the bay and the river and to assess potential subsurface salinity dynamics. Loggers will be placed along the river to measure water level, salinity, and temperature, which will provide new understanding on coastal zone mixing in the river. Geophysical instruments will be used to measure the ground electrical resistivity to map where there are saltwater (low resistivity) and freshwater (high resistivity) zones. Surveys will be taken along the coastline and the riverbanks. Water samples will be collected to transport back to Halifax to assess the water chemistry and to fingerprint salt sources. Sensors may be used to measure total dissolved solids, dissolved oxygen, and other water quality parameters in the river. Collectively, these data will reveal the tidal dynamics in the river and help identify potential mechanisms for drinking water salinization. The first trip will be in early July (e.g. 5 days in Coral Harbour), and a potential follow-up trip will likely be undertaken later in the summer (late July to early August). Results will be shared with and interpreted for the community and Territory as desired.

Personnel:

Persons:	4
Days:	20

Project Map

List of all project geometries:

ID	Geometry	Location Name
8769	point	Coral Harbour
8770	point	Water systems

Planning Regions:

Kitikmeot

Affected Areas and Land Types

Municipal

Settlement Area

Keewatin Planning Region

Southampton and Coats Island

Project Land Use and Authorizations

Project Land Use

Scientific Research

Licensing Agencies

NRI: Scientific Research Licence

NWB: Approval to Use Water/Deposit Water Without a Licence

NIRB: Screening Decision Report

Other Licensing Requirements

No data found.

Material Use**Equipment**

Type	Quantity	Size	Use
Soil resistivity meter	1	1ft x 0.2 ft	measure the ground electrical resistivity
water sampler	1	0.5 ft x 0.2 ft	basically a bucket on a stick

Fuel Use

Type	Container(s)	Capacity	UOM	Use
No records found.				

Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use
No records found.				

Water Consumption

Daily Amount (m ³)	Retrieval Method	Retrieval Location
1	bucket on a stick	water systems, river and lakes for supply source

Waste and Impacts**Environmental Impacts**

Little to no waste will be generated, any personal waste will be put in the appropriate municipal receptacles.

Waste Management

Waste Type	Quantity Generated	Treatment Method	Disposal Method
Non-Combustible wastes	< 1lb	none	in the garbage bin