

# Project Dashboard

Passive acoustic monitoring and UAV assessment of the impacts of shipping and development on High Arctic beluga whales (*Delphinapterus leucas*) and narwhals (*Monodon monoceros*) (149746)

## Proposal Status: Conformity Determination Issued

- **Overview**
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### Project Overview

Type of application: **New**

Proponent name:	Cortney Wheeler
Company:	Fisheries and Oceans Canada

#### Schedule:

Start Date:	2022-07-26
End Date:	2022-08-14
Operation Type:	Seasonal

#### Project Description:

Narwhal (*Monodon monoceros*) and beluga whale (*Delphinapterus leucas*) populations in Canada are subjected to a growing number of anthropogenic stressors including annual harvesting, changes in climate, and increasing industrial activities. To determine risk and design effective management policies going forward we need to gain fundamental insights into how narwhal and beluga respond to emerging stressors. This study will involve setting up a small field camp (6 people camping in tents) on Somerset Island in Creswell Bay, and will use non-invasive techniques to monitor beluga whales and narwhals in their natural habitat. These non-invasive techniques will include use of Unmanned Aerial Vehicles (UAVs), hydrophones, and underwater cameras to collect photographs, video, and audiograms to assess body condition, behaviour in response to vessels, and social interactions. Tissue samples will be collected to assess genetic relationships and hormone levels of the populations studied. The study site is one of the few locations where the summer ranges of both species overlap close to shore providing a rare opportunity to conduct simultaneous investigations of narwhal and beluga whales.

#### Personnel:

Persons:	6
Days:	20

### Project Map

#### List of all project geometries:

ID	Geometry	Location Name
8649	point	Field camp location

#### Planning Regions:

Kivalliq

#### Affected Areas and Land Types

Inuit Owned Surface Lands  
Settlement Area

## Project Land Use and Authorizations

### Project Land Use

Scientific Research

### Licensing Agencies

DFO: Fish for Scientific Purposes Permit

DFO: Animal Use Protocol Permit

### Other Licensing Requirements

No data found.

## Material Use

### Equipment

Type	Quantity	Size	Use
Zodiac with 25HP outboard motor	2	12x2	Zodiacs may be used to collect tissue samples from whales, to deploy hydrophones and to collect drone imagery and video if flying from land is not possible due to whale behaviour.
Drones	2	289.5*289.5*196 mm (length×width×height)	Drones will be flown a minimum of 20m over the surface of the water within line of sight.
Hydrophone	2	2x2 ft	Hydrophone will be deployed in the water just off shore to record the soundscape and whale vocalizations.
Underwater camera	1	1x1 ft	Underwater camera will

be deployed near shore to record underwater behaviour of whales.

#### Fuel Use

Type	Container(s)	Capacity	UOM	Use
Gasoline	2	45	Gallons	Gasoline will be used in zodiacs.

#### Hazardous Material and Chemical Use

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

#### Water Consumption

Daily Amount (m <sup>3</sup> )	Retrieval Method	Retrieval Location
0.05	With buckets from freshwater runoff	Small runoff reservoirs.

## Waste and Impacts

#### Environmental Impacts

This is a small field camp and all garbage/equipment will be brought in and out of the field camp with the crew. The only waste left will be human excrement and it is predicted to have minimal environmental impacts.

#### Waste Management

Waste Type	Quantity Generated	Treatment Method	Disposal Method
Sewage (human waste)	0.02 m3	No treatment will be conducted.	Waste will remain on land (urine)/be buried on land (feces).