



## **NIRB Application for Screening #125831**

### **Admiralty Inlet and Milne Inlet narwhal tagging and drone work**

**Application Type:** New

**Project Type:** Scientific Research

**Application Date:** 6/5/2023 2:04:50 PM

**Period of operation:** from 0001-01-01 to 0001-01-01

**Proposed Authorization:** from 0001-01-01 to 0001-01-01

**Project Proponent:** Marianne Marcoux  
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Canada  
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## DETAILS

### Non-technical project proposal description

English: Part 1: Remote tagging. We would like to use remote tags to gather information about the dive behaviour of narwhals. Our goal would be to deploy the tags on the whales before an aerial survey (NIRB File #23YN020) so that we can get locations of the whales at the same time the survey is being flown. Tags usually last a few weeks but have lasted for many months in the past. The tags provide information on location when the whale surfaces, as well as information on the depth and time of their dives. Our team would attempt to deploy tags on the narwhals backs using a crossbow, from either shore, boat, or kayak. Although we have never tried to remotely tag narwhals, we have had success with this method on belugas, killer whales and bowhead whales. We would like to try this method because it is less invasive and less stressful for the animals than capturing them in a net to put a tag on their back. In this way there would be no direct contact between the human and the whale. Part 2: Drone work. We have two goals for the drone work: 1) To collect footage of narwhals swimming at and near the surface of the water, to follow them for as long as possible and get information on their dive behaviour and how long they stay underwater. If successful, this information can be useful in narwhal abundance estimate, by correcting for the time the animals spend underwater versus at the surface. 2) To collect footage of narwhals to look at their body condition by comparing their length to width at different points along the body. We can also determine the number of males, females and calves in groups. We would fly the drone from shore or boat at a height of 20 meters or more to ensure we do not disturb the animals. The drone will fly directly overhead to ensure we get a straight down view of the whales, and will follow the whales until they cannot be seen or the drone battery runs out, usually a maximum of 20 minutes.

French: N/A

[illegible]

Inuinnaqtun: N/A

## Personnel

Personnel on site: 6

Days on site: 15

Total Person days: 90

Operations Phase: from 2023-07-15 to 2023-08-31

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Camp Kakiak point	Camp	Inuit Owned Surface Lands	Important area for the harvest of narwhal by Arctic Bay Community members, and important area of narwhal habitat	None known	Approximately 65 km southwest of Arctic Bay
Potential Camp Bruce Head peninsula	Camp	Crown	Peninsula on the western shore of Milne Inlet overlooking Mary River's northern shipping route	None known	Approximately 115 km southwest of Pond Inlet
Eclipse Sound (potential camp at Bruce Head peninsula)	Researching	Marine	Established as Tallurutiup Imanga National Marine Conservation Area in 2019. Baffinland shipping operations in the area begun in 2015.	None known	Within the Tallurutiup Imanga National Marine Conservation Area. Adjacent to Sirmilik National Park and Bylot Island Migratory Bird Sanctuary.
Admiralty Inlet (camp at Kakiak point)	Researching	Marine	Established as Tallurutiup Imanga National Marine Conservation Area in 2019.	None known	Within the Tallurutiup Imanga National Marine Conservation Area.

## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Arctic Bay	Chris Mitchell	Arctic Bay Adventures	2023-05-08

## Authorizations

Indicate the areas in which the project is located:

North Baffin

### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Fisheries and Oceans Canada	Authorization to Disturb a Marine Mammal	Active	2023-06-05	2023-08-31
Fisheries and Oceans Canada	Approval of animal use protocol	Active	2023-06-08	
Parks Canada	Research Permits are not required for the 2023 season in Tallurutiup Imanga National Marine Conservation Area.	Active		
Qikiqtani Inuit Association	Land Use License QL0 - 2308	Active	2023-07-01	2023-08-31
Hunters and Trappers Associations/Organizations	Support letter from the Ikajutit HTA (Arctic Bay)	Active	2023-04-04	
Hunters and Trappers Associations/Organizations	Support letter from the Mittimatalik HTO (Pond Inlet)	Applied, Decision Pending		
Fisheries and Oceans Canada	Licence to fish for scientific purpose (needed for tagging whales)	Applied, Decision Pending		

### Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	Transport from Arctic Bay to Kakiak and from Pond Inlet to Bruce Head peninsula point by boat. Contract is being put in place with Arctic Bay Adventures. If work goes ahead in Pond Inlet, boat dimension / driver will be determined by the Mittimatalik HTO..	

### Project accomodation types

Temporary Camp

Community

## Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Personal tent	6	50 sq ft	Sleeping
Canvas tent	1	8'x10'	Office for data analysis
Canvas tent	1	10'x12'	Cooking/kitchen tent
Generator	1	max 3000W	Charge electronics
Big buddy propane heater	1	N/A	Heat source
Camping stove	1	N/A	Cooking
Kayak	2	N/A	Could be used for potentially tagging from
Drone	2	N/A	Will be flown by licensed pilots to collect information on narwhal diving behaviour and body condition.
Wildlife Computers Motes	2	34 x 39 x 19 cm + tripod	Temporary installations that will log telemetry data from satellite tags on animals within reception range. This will allow us to log a lot more data from tagged narwhals than if we only rely on satellites.
Boat	1	N/A	Transport from Arctic Bay to Kakiak point. Boat dimension / driver will be determined by Arctic Bay Adventures.

### Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	2	205	410	Liters	Drums for boat and generator
Other	fuel	4	1	4	Gallons	White gas for camp stove
Propane	fuel	3	20	60	Lbs	Small tanks for cooking / heating

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0	Freshwater will be collected and stored in camp for daily drinking and cooking needs	Stream or river close to camp

# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Camp	Greywater	1 m3	Greywater will be disposed in a sump hole at least 30 m away from the high water mark and sleeping areas.	N/A
Camp	Non-Combustible wastes	0.5 m3	All garbage will be packed out and properly disposed of in Arctic Bay	N/A
Camp	Sewage (human waste)	0.5 m3	Sewage will be buried in a sump hole at least 30 m away from the high water mark and sleeping areas	N/A

### Environmental Impacts:

No adverse effects are expected based on this project. We will prevent potential fuel spills by storing all liquid fuels in a temporary berm located at least 30m above the high water mark. All liquid fuel transfer will be done within this berm using appropriate nozzles/funnels; and a spill kit will be readily available. Unused fuel and empty containers to be removed from site at the end of the program. The environmental impacts of the camp will be minimal. We will use the most durable surfaces when travelling, resting or re-filling water containers to avoid soil compaction/vegetation trampling. Biodegradable soap will be used (only when necessary) for dishwashing and bathing. The use of the motorboat and generator will be kept to a minimum to minimize noise and air pollution.

# **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**

### **Description of Existing Environment: Physical Environment**

### **Description of Existing Environment: Biological Environment**

### **Description of Existing Environment: Socio-economic Environment**

### **Miscellaneous Project Information**

1: Until recently, this project was to take place only at Admiralty Inlet (Arctic Bay). However, we were informed at the end of March that Baffinland was proposing to do very similar work in Eclipse Sound and that Pond Inlet's HTO would rather see DFO undertake the task. It is important for us to respond to community requests/concerns so we are trying to extend our work in Admiralty Inlet to Milne Inlet while trying to get official support from Mittimatalik HTO, but considering how little time we have left it's unsure if the project will go ahead. 2: The list of material includes 2 wildlife computers Motes, which are stationary, unattended ground-based listening stations that continually log telemetry data from satellite tags on animals within reception range. This would allow us to log a lot more data from tagged narwhals than if we only rely on satellites. Their installation will depend on local HTOs support. One Mote would be installed in Admiralty Inlet and the other one in Eclipse Sound (see project map). Engineering experts and local HTOs would be consulted for site-specific planning and installation, taking into account topography and making sure we do not impact any site of cultural importance. IOLs, National Parks and Protected Areas will be avoided. For more details about Wildlife Computers Motes, please visit <https://wildlifecomputers.com/our-tags/extras/wildlife-computers-mote/>

### **Identification of Impacts and Proposed Mitigation Measures**

No adverse effects are expected based on this project. We will prevent potential fuel spills by storing all liquid fuels in a temporary berm located at least 30m above the high water mark. All liquid fuel transfer will be done within this berm using appropriate nozzles/funnels; and a spill kit will be readily available. Unused fuel and empty containers to be removed from site at the end of the program. We will avoid causing stress to narwhals by sitting and waiting for whales to swim by us instead of chasing/following them. Following requirements from the Ikajutit HTA, we will not use drones during narwhal hunts in the area. Tagging and behaviour data collection procedures have been reviewed and approved for 2023 by DFO's Freshwater Institute Animal Care Committee. These protocols include provisions to minimize short-term impacts narwhals, and long-term studies of several other marine mammal species have shown no long-term negative impacts of satellite tag deployment. The environmental impacts of the camp will be minimal. We will use the most durable surfaces when travelling, resting or re-filling water containers to avoid soil compaction/vegetation trampling. Biodegradable soap will be used (only when necessary) for dishwashing and bathing. The use of the motorboat and generator will be kept to a minimum to minimize noise and air pollution.

### **Cumulative Effects**





# Impacts

## Identification of Environmental Impacts

		PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
<b>Construction</b>																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
<b>Operation</b>																										
Camp		-	-	-	-	-	-	-	-	-	-	-	M		M	-	-	-	-	-		-	P	-	-	-
<b>Decommissioning</b>																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

## Project Location



## List of Project Geometries

- |   |         |  |
|---|---------|--|
| 1 | polygon | Admiralty Inlet (camp at Kakiak point)                 |
| 2 | polygon | Eclipse Sound (potential camp at Bruce Head peninsula) |
| 3 | point   | Camp Kakiak point                                      |
| 4 | point   | Potential Camp Bruce Head peninsula                    |