

# Project Dashboard

Tallurutiup Imanga Underwater Noise Baseline Pilot (149110)

## Proposal Status: Conformity Determination Issued

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### Project Overview

Type of application: **New**

Proponent name:	Clare Kines
Company:	Parks Canada
<b>Schedule:</b>	
Start Date:	2020-08-01
End Date:	2022-11-30
Operation Type:	Annual

#### Project Description:

This proposal is a three year pilot research project designed to begin establishing baseline data on underwater noise, within Tallurutiup Imanga National Marine Conservation Area (TINMCA). TINMCA is currently in the establishment phase but has been operating since the signing of an Inuit Impact Benefit Agreement in August 2019. The pilot project will involve deploying four hydrophones in strategic spots within TINMCA in the area of Arctic Bay. This work would contribute to better understanding human generated noise and its effects on marine life and ocean health within the NMCA. This pilot underwater noise study is consistent with similar studies done in the Arctic (e.g. around Pond Inlet) and in Canada. It is expected that the result of this study would contribute to the overall understanding of human generated noise on marine wildlife. Once the data is analyzed, the results will be shared with the Hunter and Trapper Organization of Arctic Bay, the Hamlet, and the community at large. The following suggested locations have been discussed with Arctic Bay Inuit Stewards of the Qikiqtani Inuit Association (QIA), Department of Fisheries and Oceans scientists, and experts in underwater acoustics to help determine their suitability: 1) Adam's Sound, the approach to the community of Arctic Bay; 2) Strathcona Sound, the approach to the Nanisivik Naval Facility; 3) near Kakiak Point on Admiralty Inlet, an important area for the harvest of Narwhal by Arctic Bay Community members, and an important area of Narwhal habitat, although a Steward felt that there may be some reservations locally about the location, and felt further consultation necessary; and 4) the area in the vicinity of Sannirugaaluit (Yeoman Island), an area that should have less anthropogenic underwater noise. The exact locations will be confirmed after further consultation with the community, including Arctic Bay Hunter and Trapper Organization, the Hamlet, and QIA. Discussion with QIA is also ongoing to explore potential partnership between Parks Canada and the Inuit Stewards regarding the deployment and recovery of the hydrophones. 2020 is an important year to start baseline data, as Covid-19 has reduced the amount of ship traffic that should be present in the Arctic. If there is any significant change in locations, or substantive changes in the project after consultation, the revision will be brought back to Nunavut Planning Committee. The four hydrophones that are to be deployed are Micro Aural hydrophones (Multi-Electronique Ltd.), locations 1-4 on the map. These hydrophones will be deployed annually over three years during the open water season. They would be deployed in waters less than 30 metres deep, using an anchor and surface buoy (see below photos of the hydrophones and quick release devices). At the earliest, initial deployment would take place in mid-August and the sites revisited in 5 week intervals (in late September and early November). An alternative mooring may be used, consisting of a subsurface buoy, and a Vemco Ascent acoustical release, depending on circumstance. In the case of the subsurface mooring, an anchor made of local rock with an eye bolt would be left behind. The acoustic devices also obtain data on tagged Greenland sharks as part of an ongoing study by Nigel Hussey of the University of Windsor. He has been using similar devices throughout Baffin Bay, including around Pond Inlet, Clyde River and Qikiqtarjuaq, to monitor the movement of 180 Greenland sharks in order to support sustainable fisheries management and development of community fisheries. Nigel Hussey's research is conducted through the support of local HTOs, the Government of Nunavut and the Nunavut Fisheries Association with relevant licenses to fish obtained through the Department of Fisheries and Ocean. Basically, Nigel Hussey will lend Parks Canada some of his Vemco Ascent acoustical release to make the underwater noise baseline pilot project more efficient, while collecting data on Greenland sharks for him. Hydrophones record sound, they do not make sound. They are passive and remain in one spot. Further, surface floats to which the hydrophones are attached are small vinyl floats that will not cause damage

to boats and create no risk to wildlife. This technology, although relatively new, is in place throughout the Arctic and the rest of Canada and has been used by government and universities. During the 2nd visit the data would be downloaded and the battery recharged. The equipment will be removed from the site during the 3rd visit in late October / early November. Dates may be adjusted to account for ice and other local conditions. The hydrophones are set to sample at 96,000 Hz and record at 15 minutes out of each hour, for approximately five weeks each deployment. It is important to note that the hydrophones record sounds only, and do not make any sound. No camp is planned, visits will be by boat. Vessels utilized to deploy and recover the hydrophones would be welded aluminum runabouts, not exceeding 28 feet, and powered by outboard motors. It is anticipated that either Arctic Bay Adventures' boat, or one used by the Inuit Stewards would be used, but circumstances may dictate similar boats being used. Social distancing and other Covid-19 protective measures will be followed as recommended by the Nunavut Health Authority and the Arctic Bay community council (e.g. use of personal protective equipment). Data obtained would be recordings of underwater noise, including marine mammals, benthic organisms (animals that live on the bottom of the ocean), ship traffic, small vessel traffic, and ice. Data will be used to establish the baseline of underwater noise within TINMCA, in proximity of Arctic Bay. It is expected that the baseline data could help better understand the impact of underwater noise on, marine mammals within TINMCA, and could be used to complement the work on similar initiatives conducted in Nunavut waters and elsewhere. .

**Personnel:**

Persons:	3
Days:	40

**Project Map**

**List of all project geometries:**

ID	Geometry	Location Name
6354	polygon	Area within Hydrophone #1 will be placed. Adam's Sound, approaches to Arctic Bay
6355	polygon	Area within Hydrophone #2 will be placed. Strathcona Sound, approaches to Nanisivik
6357	polygon	Area within Hydrophone #3 will be placed. Kakiak Point area, important location for Arctic Bay
6358	polygon	Alternate location for an area within Hydrophone #3 will be placed.
6359	polygon	Area within Hydrophone #4 will be placed. Admiralty Inlet, waters around Yeoman Island.

**Planning Regions:**

Kivalliq

**Affected Areas and Land Types**

Inuit Owned Surface Lands

Municipal

Settlement Area

North Baffin Planning Region

**Project Land Use and Authorizations**

**Project Land Use**

Marine-Based Activities

Marine-Based Activities

Scientific Research

**Licensing Agencies**

NRI: [Scientific Research Licence](#)

**Other Licensing Requirements**

No data found.

**Material Use**

**Equipment**

Type	Quantity	Size	Use
Hydrophone Micro Aural	4	Diameter: 8 cm (3 in) - Length: 45 cm (18 in.) - weight: 6 lbs. - Water Weight: 2 lbs.	Collecting data (underwater noise recordings). AirMoored either with a surface buoy (vinyl fishing float 12 inch diameter or less and anchor, or a subsurface buoy and acoustic release.

Acoustic Release - Vemco Ascent	4	Diameter; 81mm (3 in) – Length: 465mm (18 in) – Air weight: 6 lbs. – water weight – 1.75 lbs.	Recovery of hydrophone if subsurface mooring is used.
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**Fuel Use**

Type	Container(s)	Capacity	UOM	Use
Gasoline	1	364	Liters	Fuel for boat. None cached. Fuel within boat's fuel tanks only.

**Hazardous Material and Chemical Use**

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

**Water Consumption**

Daily Amount (m³)	Retrieval Method	Retrieval Location
0		

**Waste and Impacts**

**Environmental Impacts**

n/a

**Waste Management**

Waste Type	Quantity Generated	Treatment Method	Disposal Method
No data found.			