



## **NIRB Uuktuutinga Ihivriughikhamut #125477**

### **Testing an industrial vessel of opportunity model for ship-time access to survey Canadian Arctic gateway ecosystems using baited remote underwater video**

**Uuktuutinga Qanurittuq:** New

**Havaap Qanurittunia:** Scientific Research

**Uuktuutinga Ublua:** 7/26/2019 1:38:50 PM

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

**Piumayaat Angirutinga:** from 0001-01-01 to 0001-01-01

**Havauhikhaq Ikayuqtinga:** Jonathan Fisher  
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# QANURITTUT

## Tukihiannaqtunik havaariya uyumayumik uqauhiuyun

Qablunaatitut: This research project has been proposed by Dr. Jonathan A. D. Fisher, a Research Scientist within Memorial University of Newfoundland's Centre for Fisheries Ecosystems Research. Jonathan is based in St. John's, Newfoundland and Labrador. Jonathan focuses his research and student training on helping to understand changes in marine ecosystems of Canada's Arctic and sub-Arctic seas. There are two main goals of this research project. The first goal is to test whether baited remote underwater video lander (baited with squid to attract fish, sharks and invertebrates) can be deployed and left to record for up to 10 hours from the MSV Botnica icebreaker as it escorts large iron ore ships into and out of Eclipse Sound, Nunavut. The second goal is to work with other interested researchers to use the video data collected at the sea bottom to identify marine species and their habitats within what is expected to become the Tallurutiup Imanga/Lancaster Sound National Marine Conservation Area. This work involves putting one researcher and an underwater video camera system onto a ship for one month. No animals will be harmed in this project and no equipment will be left in Nunavut. The beauty and diversity of the deep sea in eastern Nunavut has largely been out of sight to scientists. That is partly because of the challenge and expense of collecting images from deep, cold habitats. However, my laboratory has demonstrated how useful baited remote underwater video can be to quantify local abundances of Greenland sharks and reveal benthic habitats, invertebrates and fishes in the eastern Canadian Arctic. This project grew from an offer from the marine transportation industry to develop a scientific sampling program that fits within the MSV Botnica as it fulfils its primary escort mission. This research model for Arctic ship time access has potential to grow in the coming years, yielding significant contributions from industry partners to science programs in areas where required icebreaker ship time is otherwise extremely expensive. Most importantly, this means this model of cooperation means that fewer icebreakers would be needed in Nunavut waters if science and transportation companies can work together. This project is requested to take place in the offshore waters of Eclipse Sound and Milne Inlet within the Qikiqtaaluk region of Nunavut. The closest community to the proposed project site is Pond Inlet, Nunavut. The project is proposed to take place during the most ice-free times of year, in the later summer and early fall (between late July and late October, as weather permits).

Uiviititut: Ce projet de recherche a été proposé par Jonathan A. D. Fisher, chercheur scientifique au Centre de recherche sur les écosystèmes des pêches de l'Université Memorial de Terre-Neuve. Jonathan est basé à St. John's, à Terre-Neuve-et-Labrador. Jonathan concentre sa recherche et sa formation sur l'aide à la compréhension des changements dans les écosystèmes marins des mers arctiques et subarctiques du Canada. Ce projet de recherche a deux objectifs principaux. Le premier objectif est de vérifier si un atterrisseur vidéo sous-marin isolé appâté (avec un calmar pour attirer les poissons, les requins et les invertébrés) peut être déployé et enregistré pendant 10 heures au maximum depuis le brise-glace MSV Botnica lorsqu'il escorte de gros navires hors du détroit d'Eclipse, au Nunavut. Le second objectif est de travailler avec d'autres chercheurs intéressés pour utiliser les données vidéo recueillies au fond de la mer afin d'identifier les espèces marines et leurs habitats dans ce qui devrait devenir l'aire marine nationale de conservation de Tallurutiup Imanga / Lancaster Sound. Ce travail consiste à installer un chercheur et un système de caméra vidéo sous-marine sur un navire pendant un mois. Aucun animal ne sera blessé dans ce projet et aucun équipement ne sera laissé au Nunavut. La beauté et la diversité des eaux profondes de l'est du Nunavut ont été en grande partie perdues de vue pour les scientifiques. Cela est en partie dû au défi et aux dépenses liés à la collecte d'images provenant d'habitats profonds et froids. Cependant, mon laboratoire a démontré l'utilité d'une vidéo sous-marine éloignée avec appâts pour quantifier les abondances locales de requins du Groenland et révéler les habitats benthiques, les invertébrés et les poissons de l'est de l'Arctique canadien. Ce projet découle d'une offre de l'industrie du transport maritime d'élaborer un programme d'échantillonnage scientifique qui s'intègre au MSV Botnica dans la réalisation de sa mission principale d'escorte. Ce modèle de recherche sur l'accès à l'heure des navires arctiques pourrait se développer dans les années à venir, apportant une contribution importante des partenaires de l'industrie aux programmes scientifiques dans des domaines où la durée requise des navires brise-glace est extrêmement coûteuse. Cela signifie surtout que ce modèle de coopération signifie que moins de brise-glace seront nécessaires dans les eaux du Nunavut si les entreprises de la science et du transport peuvent travailler ensemble. Ce projet doit être réalisé dans les eaux extracôtières d'Eclipse Sound et de Milne Inlet, dans la région de Qikiqtaaluk Nunavut. La communauté la plus proche du site du projet proposé est Pond Inlet, au Nunavut. Il est proposé que le projet se déroule pendant les périodes les plus libres de la glace, à savoir l'été et le début de l'automne (entre fin juillet et fin octobre, si le temps le permet).

[illegible]



# Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Potential camera deployment extent	Researching	Marine	Marine waterway and transportation route; proposed Tallurutiup Imanga conservation area	N/A	Adjacent to Pond Inlet and Bylot Island Migratory Bird Sanctuary

## Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Information is not available			

# Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Transboundary  
North Baffin

## Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Alaanut	Nunavut Planning Commission	Active	2019-07-17	

## Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Water	The researcher will be aboard the MVS Botnica icebreaker during this project.	

## Project accomodation types

Alaanut,

# Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
baited underwater camera and frame	1	0.5 m3, 100 kg	We propose to deploy a remote baited remote underwater video camera lander to document fish and invertebrates on the sea floor. The device observes but does not collect specimens, making it a very low impact equipment.

## Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Information is not available						

## Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
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# Iqqakuq

## Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Information is not available				

### Avatiliriniqmut Ayurhautingit:

No environmental impacts are anticipated from this work. At-sea operations will be at the discretion of the Captain in coordination with their primary activity to escort iron ore transport ships.

# **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**

Aboard MSV Botnica, an icebreaker tasked with escorting iron ore ships into and out of Milne Inlet .

## **SECTION H2: Disposal At Sea**

No disposal at sea.

## **SECTION I1: Municipal Development**

### **Qanurittuq Ittunik Avatinga: Avatingalluanga**

Marine waters to 1000 m depth

### **Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga**

Tallurutiup Imanga region serves as an important area for marine mammals and birds due to local highly productive Arctic waters.

### **Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga**

Adjacent to Pond Inlet and to the Baffinland Mary's River mining operation.

## **Miscellaneous Project Information**

### **Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit**

### **Tamatkiumayunik Ihuikgutivaktunik**

None anticipated.

Impacts

Ilitariyauniq Avatiliriniqmut Ayurhautingit

		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
Havakvinga																										
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Aulapkaininnga																										
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Piiqtauniq																										
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(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)

# Havaariyauyukhamut Nayugaa



## List of Project Geometries

1	polyline	Potential camera deployment extent
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