

Type de demande :	New
Type de projet:	Scientific Research
Date de la demande :	9/18/2024 1:09:00 PM
Period of operation:	from 2022-04-01 to 2026-03-31
Promoteur du projet:	Jackie Dawson University of Ottawa 60 University Pvt. Ottawa Ontario K1N6N5 Canada Téléphone :: 6135050303, Télécopieur ::

DÉTAILS

Description non technique de la proposition de projet

Anglais: Our project is focused on understanding risks from climate change and growth in shipping across Inuit Nunangat and to identify ways to manage these issues that support Inuit self-determined shipping and oceans governance. Our project objectives include to: 1. Analyse past and future ship traffic in Nunavut; 2. Model current and future underwater noise caused by ships; 3. Sample potential air and water pollution from ships; 4. Evaluate potential for non-indigenous species introduction from ships, and; 5. Develop risk maps and evidence-based recommendations. Fieldwork: We will opportunistically conduct water samples from on board ships (Amundsen, Adventure Canada, Students on Ice), transiting Nunavut waters from July-September, 2024, and 2025. We will also opportunistically conduct water and sediment samples at shore locations along cruise ship routes (where appropriate). Shore locations may include Dundas Harbour, Fort Ross, Gjoa Haven, Beechey Island, Resolute, and Cambridge Bay. We will also conduct community-based sampling of air, water, and sediment, led by Inuit in Arviat and Pond Inlet from June – September, 2024 and 2025. Methods: Onboard the ships, we will sample seawater from the inlet in the hull and filter it through a mesh to collect plastic and other sediments. We will set up onboard air sampling arrays, where particles in the air will be collected on filters. We will take water samples for eDNA to identify any non-indigenous species upstream and downstream of the ship and at shore locations. At shore locations, we will take sediment samples (100g) in a metal bottles and take pictures of any plastic debris. Community-based sampling in Arviat and Pond Inlet will include setting up air sampling arrays near the communities, water sampling for plastic and eDNA by boat and Remotely Operated Vehicle (ROV). Impacts: There are no expected impacts to the environment, wildlife, or people. Data Storage and Management: The research team follows all procedures for data management and storage that is outlined in the Tri-Council protocols and the National Inuit Strategy on Research. All data and samples are saved and/or stored in locked facilities and password protected computers/servers. Physical samples (air, water, and sediment) will be stored at locked facilities in Ottawa and Cambridge, UK. Nunavut residents involvement: Nunavut residents have been involved in the project since the beginning. We have partnered with Ikaarvik (Pond Inlet, NU) and Aqqiumavvik Society (Arviat, NU) to develop the original project proposal and research questions. In May, 2022 all southern team members attended training on Inuit Qaujimajatuqangit (IQ). In December, northern team members received training on how to collect acoustic data using hydrophones, and, in February, training on water and plastics sampling and analysis. In 2023-24, we plan to conduct similar community researcher sampling training and workshops. Results Sharing: Results validation and sharing workshops in Arviat and Pond Inlet are planned for 2025. These events will be co-led by Inuit Youth. Results will also be shared with Nunavut partners throughout the project.

Français: N/A

[illegible]

Inuinnaqtun: Havaavut ihumaavut aadlangurninnganit angiklijuumirninngalu agjariami tamainni Inuit Nunangat ilitarigihamilu qanuqtut munarigihami hapkuat ihumaaluutigijaujut ikajuqtuq Inuit inmiikkut-naunaiqhimajuq umiakkuurniq tariurmullu pijunnautinga. Havaavut tikinahuarutait ilaujut hapkununga:1.Ihivriurlugit kinguani uvalu hivunirmi umiakut aulaviit Nunavunmi;2.Tautuktilugu tadja uvalu hivunirmi ataani imap nipiquqtujuq pidjutitqahutik umidjanit;3.Uuktuutit ikiarmit imarmunlu halumailrut umianin;4.Ihivriurlugit piniarungnaqhiuq Nunaqaaqqaarhimajut huradjaat naunaipekaijut umianit, unalu;5.Hanalutik ihumalungnarninginik nunaujat naunaipekutitu atuqujaujut.Maniqqami Havaangit: Pinaqtugut imakkut uuktuutinik ikihimajut umianut (Amundsen, Adventure Canada, Students on Ice), aulagtutitilik Nunavunmi imakkut hamanga Taaqhivaliavia-Apitilirvik, 2024, unalu 2025. Pinaqtugutlu imakkut uvalu nunavutit uuktuutit naunaijaktakhat hinaani najugaani umiarjuakkut umiat aulaviit (humi ihuaqqat). Hinaani najugait ilaujut Dundas Harbour, Fort Ross, Uqhuqtuuq, Beechey Island, Qausuittuq, uvalu Iqaluktuutiami. Aulatitinaqtugut nunallaani-auladjutikhainik ihivriurtaujukhanik ukuninga ikiarmit, imarmik, hiuravalungmik natqani, havaktauniaqtun hapkununga Inuit Arviami, Mittimatalingmilu tatqiqhiutaini Imaruqtirvia- Apitilirvia, 2024 ukiungani 2025. Pityuhit: Umiani, naunaijainiaqtugut tariumit imarmik kangiqhungmit uvani umiarmi halumaqitrlugulu kuvjaujakkut imaalu katitirlugitlu palastivaluit aallaniklu marluvalungmik hiuravalungmiklu. Ihuaqhainiaqtugut ikiarmit ihivriurtaujukhanik uuktuutinik, humi titiraqhimajut ikiani katitiqtauniaqtut halumaqhijutinun. Imarmik aturniaqtugut imarnik ihiviuktaujukhanik talvuuna eDNA pijukhanik ilitugijaujukhanik naliinik nirjutinik qafiutilanginik kuukakkut qunmut imaalu kuukakkut anmut agjautingit hinaanitunik najugainik. Hinaani najugainni, pinaqtugut hiuravalungmik, nunavalungmik ihivriurtaujukhanik (100g) havigalngnut puurlugit imaalu piksalirlugitlu kituliquaak palastingnik iqakuunik. Nunallaani-pihimajut ihivriurtaujukhanik Arviami Mittimatalingmilu ilaujut ihuaqharlugit ikiarmit ihivriurtaujukhanik haniani nunallaanit, imarmi ihivriurtaujukhanik palastiinun uvalu eDNA qajakkut uvalu Ungahiktukkut Aulajut Akhaluutit (ROV). Aktumaniit: Piqangittuq nahurijaujunik akturninginik avatuijumi, uumajulijit, inungniit.Nampainik tutquumavinga Munarinirlu: Qaujihainikkut havaqatigiiktut malikpaktait tamaita maliqajakhangit naunaitkutikhanik munaqhijutikhanik tutquumavikhaniklu naunaiqtauhimajut uvani Tri-Katimajit maliktakhangit imaalu Kanadami Inuit Qanurilirutikhat Qaujihainirmut. Tamaita naunaipekutit ihivriurtaujukhatlu ilipqamajaujut unalu/uvaluuniit tutquqhimaniaqtut kiluutaqhimajuni igluqpangni angmaidjutiniklu munaridjutinik qaritaujat/tutquumavingitlu. Ihivriurtaujukhanik (ikiarmit, imarmik, hiuravalungmik natqani) tutquqhimaniaqtut kiluutaqhimajuni igluqpangni hamani Ottawa Iqaluktuutiamilu, UK.Nunavunmi nunaqaqtut ilaudjutaat: Nunavunmi nunaqaqtut ilauhimajut havaakhami aullaqtirninganit. Havaqatigijavut ukua Ikaarvik (Mittimatalik, Nunavut) ukualu Aqqiumavvik Katimajit (Arviat, Nunavut) havaklugit hivulliq havaakhamut tukhiutit uvalu ihivriurnikkut apiqhuutit. Uvani May, 2022 tamaita hivuraani havaqatigiiktunut ilaujut ajuiqhaqhimajut Inuit Qaujimaqatugaginit (IQ). Uvani Ubluiqtirviani, ukiuqtaqtumi havaqatigiiktunut ilaujut ajuiqhaqtut talvuuna qanuqtut katitirilutik amigaittunik naunaitkutikhanik atuqhugit imakkut hivajautit, imaalu, Iidjirurvia, ajuiqharnirmik imarmik imaalu palastingnik ihivriurtaujukhanik imaalu qaujihainirmik. Uvani 2023-24, upalungaiqtuqut havaarijaagani aadijkutaanik nunaqijaujumi ilituqhaijinik ihivriurtaujukhanik

ajuiqhanirmik ajuiqhaqatigiikhutik. Qanuriniit Uqautiginikkut: Qanuriliningit naamainaqtut atuqtilugilu ajuiqhaviujut Arviani Mitimatalingmilu upalugaiqtaujut ukiungani 2025. Hapkuat hulipkaidjutikhat hivulliuqtauniaqtut Inuit Inulrammiinit. Qanuriliningit uqautauniarmijurlu Nunavumi ikajuqtiriinik atuqtilugu havaakhaq.

Personnel

Personnel on site: 7

Days on site: 21

Total Person days: 147

Operations Phase: from 2022-04-01 to 2026-03-31

Activités

Emplacement	Type d'activité	Statut des terres	Historique du site	Site à valeur archéologique ou paléontologique	Proximité des collectivités les plus proches et de toute zone protégée
Pond Inlet - community-based sampling	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within the community and near the community (approximately 20km radius).
Arviat - community-based sampling	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within the community and near the community (approximately 20km radius).
Dundas Harbour (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
King William Island (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
Arctic Bay (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Gjoa Haven (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Cambridge Bay (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Fort Ross (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
Resolute Bay (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the

location)					shoreline within or near the community depending on where the ship goes.
Devon Island (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
Prince Leopold Island (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
Kugluktuk (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Grise Fiord (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Smith Sound (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
Iqaluit (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Kimmirut (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Kinngait (potential shore location)	Sampling sites	Municipal	N/A	N/A	We will be sampling the shoreline within or near the community depending on where the ship goes.
Resolution Island (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A

Hantzsch Island (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A
Tookoolito Inlet (potential shore location)	Sampling sites	Crown	N/A	N/A	N/A

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Pond Inlet	Eric Soloman	Ikaarvik	2024-06-18
Pond Inlet	Shelly Elverum	Ikaarvik	2024-06-18
Pond Inlet	Justin Milton	Ikaarvik	2024-07-03
Pond Inlet	Michael Milton	Ikaarvik	2024-09-16
Arviat	Kukik Baker	Aqqiumavvik Society	2024-09-17
Arviat	Shirley Tagalik	Aqqiumavvik Society	2024-08-15
Pond Inlet	Jamie Enook	ECCC	2022-09-20
Arviat	Jimmy Muckpah	Aqqiumavvik Society	2024-09-17

Autorisations

Indiquez les zones dans lesquelles le projet est situé:

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Qikiqtani Inuit Association	QIA Land Use Exemption Certificate– QX-2210 (Jennifer Provencher)	Active	2022-06-01	2025-12-31
Institut de recherche du Nunavut	Scientific Research License Number 05 006 24R-M	Active	2024-02-19	2024-12-31

Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Water	Ship and local boats	

Project accomodation types

Autre,

Utilisation de matériel

Équipement à utiliser (y compris les perceuses, les pompes, les aéronefs, les véhicules, etc.)

Type d'équipement	Quantité	Taille – Dimensions	Utilisation proposée
Air sampling array	4	<1m	Optical particle counters, air filtration units and depositional dust gauges to quantify the concentration and size distribution of particulates and allowing for the assessment of black carbon concentration.
Water filters	4	0.5m	Customised filtration system which sample a ship's uncontaminated sea water supply (ambient near-surface waters pumped through the hull). The filtration system has an inline flow meter to record the volume of water filtered and three sequential filters (i.e., mesh size 300, 100 and 50 microns).
Manta net	2	2m x 0.6m	Sampling using manta nets to identify and quantify the concentration of anthropogenic particulates and microplastics in surface waters.
Niskin water sampler	4	0.6m	Collect small water samples (50mL) for environmental DNA(eDNA) meta-barcoding.
Remotely Operated Vehicle (ROV)	2	0.5m x 0.4m	Take surface water samples using syringe sampler and take underwater photographs vessel hulls to determine the extent of biofouling.

Décrivez l'utilisation du carburant et des marchandises dangereuses

Décrivez l'utilisation de carburant :	Type de carburant	Nombre de conteneurs	Capacité du conteneur	Quantité totale	Unités	Utilisation proposée
Information is not available						

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
0		

Déchets

Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Information is not available				

Répercussions environnementales :

Waste: We expect waste to be minimal, limited to small amounts of garbage from sampling equipment. Sampling equipment will be unpacked in the South to reduce waste brought to Nunavut. Any waste produced while sampling will be packed out and transported South for disposal. Wildlife disturbance: All sampling activities will be accompanied by local residents and/or vessel operators trained in the local marine and terrestrial wildlife, in order to reduce any potential disturbances. Environmental disturbance: All research staff are trained in sampling protocols in order to minimize any potential disturbance to the environment. Physical samples taken will be small, and we will not be taking more than is needed for laboratory analysis. Local residents: Our research is being conducted in partnership with local organizations and relies on IQ in order to be of maximum benefit to local residents. Before any research activities are undertaken, we will consult with our Inuit partners, local hunters, and local residents to ensure our activities will not disrupt any traditional practices (e.g. hunting activities).

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 de l'environnement existant : Environnement physique

Description de l'environnement existant : Environnement biologique

Description de l'environnement existant : Environnement socio-économique

Miscellaneous Project Information

Identification des répercussions et mesures d'atténuation proposées

Waste: We expect waste to be minimal, limited to small amounts of garbage from sampling equipment. Sampling equipment will be unpacked in the South to reduce waste brought to Nunavut. Any waste produced while sampling will be packed out and transported South for disposal. Wildlife disturbance: All sampling activities will be accompanied by local residents and/or vessel operators trained in the local marine and terrestrial wildlife, in order to reduce any potential disturbances. Environmental disturbance: All research staff are trained in sampling protocols in order to minimize any potential disturbance to the environment. Physical samples taken will be small, and we will not be taking more than is needed for laboratory analysis. Local residents: Our research is being conducted in partnership with local organizations and relies on IQ in order to be of maximum benefit to local residents. Before any research activities are undertaken, we will consult with our Inuit partners, local hunters, and local residents to ensure our activities will not disrupt any traditional practices (e.g. hunting activities).

Répercussions cumulatives

Impacts

Identification des répercussions environnementales

		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
Construction																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exploitation																										
Sampling sites		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	P	-	-
Désaffectation																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(P = Positive, N = Négative et non gérable, M = Négative et gérable, U = Inconnue)

Site du projet



Liste des géométries de projet

1	polyline	Potential ship route
2	polyline	Potential ship route
3	polyline	Potential ship route
4	polyline	Potential ship route
5	polyline	Potential ship route
6	point	Pond Inlet - community-based sampling
7	point	Arviat - community-based sampling
8	point	Dundas Harbour (potential shore location)
9	point	King William Island (potential shore location)
10	point	Arctic Bay (potential shore location)

11	point	Gjoa Haven (potential shore location)
12	point	Cambridge Bay (potential shore location)
13	point	Fort Ross (potential shore location)
14	point	Resolute Bay (potential shore location)
15	point	Devon Island (potential shore location)
16	point	Prince Leopold Island (potential shore location)
17	point	Kugluktuk (potential shore location)
18	point	Grise Fiord (potential shore location)
19	point	Smith Sound (potential shore location)
20	point	Iqaluit (potential shore location)
21	point	Kimmirut (potential shore location)
22	point	Kinngait (potential shore location)
23	point	Resolution Island (potential shore location)
24	point	Hantzsch Island (potential shore location)
25	point	Tookoolito Inlet (potential shore location)