

Application Type:	New
Project Type:	Scientific Research
Application Date:	4/27/2022 11:10:55 AM
Period of operation:	from 0001-01-01 to 0001-01-01
Proposed Authorization:	from 0001-01-01 to 0001-01-01
Project Proponent:	Annie Mercier Ocean Sciences / Memorial University St. John's Newfoundland and Labrador A1C 5S7 Canada Phone Number:: 7098642011, Fax Number::

DETAILS

Non-technical project proposal description

English: The proposed project builds on interest expressed by Inuit communities in Nunavut to assess the status and value of their marine benthic resources and prospects for their sustainable use in the context of food security and climate change. It aims to expand our understanding of nearshore benthic assemblages, with a focus on winter-spring processes occurring at sea-ice edges and on species of relevance to commercial and subsistence fisheries. Interlinked objectives will be dedicated to fundamental research, practical knowledge transfer and community mobilization. Field work is expected to take place in the summer/fall of 2022 and the winter/spring of 2023. The approach centers on the use of a portable remotely operated vehicle (ROV) deployed through holes in the sea ice to investigate the benthic community structure and diversity in two regions (Low vs High Arctic, specifically Sanikiluaq and Grise Fiord). The ROV will have minimal environmental impact; it will capture videos of the benthos and collect a few water, sediment and biological samples for analysis. Videos will be used for scientific analyses and to create education material; they will be shared with end users in the two localities. A complementary segment will assess methods best adapted for the collection and handling of key commercial species. Benthic life occurring underneath or close to inshore polynyas and landfast ice edges in the Arctic is an understudied topic. Findings thus have the potential to yield novel information on species interactions and benthic-pelagic coupling, including how birds and mammals both depend on and fuel the underlying benthos. The project brings together academic investigators (scientists and students), the territorial government, an NGO partner, an Inuit Birthright Corporation, the local Hunters and Trappers Organizations (HTOs), and other members of the Inuit communities. Ultimately it will produce conservation and technical guidelines for species that might be targeted for premium markets (seafood, nutraceuticals, and pharmaceuticals). Moreover, the project will ground-truth the use of small-sized submersibles as a tool for research and capacity-building in areas where other methods would be too destructive or impractical (due to ice cover or shallow depth). Community leaders and youth will be the primary informants and participants in the project.

French: Le projet proposé s'appuie sur l'intérêt exprimé par les communautés Inuites du Nunavut pour évaluer l'état et la valeur de leurs ressources benthiques marines et les perspectives de leur utilisation durable dans le contexte de la sécurité alimentaire et des changements climatiques. Il vise à élargir notre compréhension des assemblages benthiques côtiers, en mettant l'accent sur les processus hiver-printemps se produisant près des glaces de mer et sur les espèces pertinentes pour les pêches commerciales et de subsistance. Des objectifs interdépendants seront consacrés à la recherche fondamentale, au transfert de connaissances pratiques et à la mobilisation communautaire. Les travaux sur le terrain devraient avoir lieu à l'été/automne 2022 et à l'hiver/printemps 2023. L'approche est centrée sur l'utilisation d'un submersible télécommandé (ROV) portable déployé à travers des trous dans la glace de mer pour étudier la structure de la communauté benthique et sa diversité dans deux régions principales (Bas vs Haut-Arctique, plus précisément Sanikiluaq et Grise Fiord). Le ROV aura un impact minimal sur l'environnement ; il captera des vidéos du benthos et prélèvera quelques échantillons d'eau, de sédiments et d'organismes. Des vidéos seront utilisées pour des analyses scientifiques et pour créer du matériel pédagogique ; elles seront partagées avec les partenaires dans les deux localités. Un segment complémentaire évaluera les méthodes les mieux adaptées pour la collecte et la manipulation des principales espèces commerciales. La vie benthique sous-jacente ou à proximité des polynies côtières et des glaces riveraines dans l'Arctique est un sujet sous-étudié. Les découvertes ont donc le potentiel de fournir de nouvelles informations sur les interactions entre les espèces et le couplage benthique-pélagique, y compris la façon dont les oiseaux et les mammifères dépendent et alimentent le benthos sous-jacent. Le projet rassemble des chercheurs universitaires (scientifiques et étudiants), le gouvernement territorial, une ONG partenaire, une Société de développement Inuit du Nunavut, les organisations locales de chasseurs et de trappeurs (HTO) et d'autres membres des communautés Inuites. En fin de compte, il produira des directives techniques et de conservation pour les espèces qui pourraient être ciblées pour les marchés haut de gamme (fruits de mer, nutraceutiques et pharmaceutiques). De plus, le projet vérifiera sur le terrain l'utilisation de submersibles de petite taille comme outil de recherche et de renforcement des capacités dans des domaines où d'autres méthodes seraient trop destructrices ou peu pratiques (en raison de la couverture de glace ou de la faible profondeur). Les leaders communautaires et les jeunes seront les principaux informateurs et participants au projet.

[illegible]

Operations Phase: from 2022-05-31 to 2023-06-30

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Vicinity of Sanikiluaq in Belcher islands: we have obtained information on sites of interest from partners	Sampling sites	Marine	N/A	N/A	Sanikiluaq
Vicinity of Grise Fiord: that has not been explored yet	Sampling sites	Marine	N/A	N/A	Grise Fiord

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Grise Fiord	Susie Qaunaq	Aviq Hunters and Trappers Organization	2021-08-03
Sanikiluaq	Lucassie Arragutainaq	Sanikiluaq Hunters and Trappers Organization	2019-03-15
Sanikiluaq	Joel Heath	Arctic Eider Society	2019-03-15
Grise Fiord	Terry Noah	Ausuittuq Adventures	2021-08-11
Sanikiluaq	Michelle Morrison	Paatsaali School	2022-02-04

Authorizations

Indicate the areas in which the project is located:

North Baffin
South Baffin

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Fisheries and Oceans Canada	Licence to Fish for Scientific Purposes	Active	2022-03-03	2022-09-30
Hunters and Trappers Associations/Organizations	Sanikiluaq HTO and Iviq HTO --Partners in project and help with local logistics in Sanikiluaq and Grise Fiord	Active	2022-01-31	
Nunavut Research Institute	Application submitted	Applied, Decision Pending	2022-05-04	

Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	Small boats (locally owned) to reach field sites: ice-free areas	
Land	Snowmobiles and / or all-terrain vehicles (locally owned) to reach field sites : shore or ice floe	

Project accomodation types

Community

Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Portable remotely operated vehicle	1	12x14x20 inches	Underwater surveys, sample collection
Nets	2	12x24x12 inches	Sample collection

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	1	1	1	Liters	Transport by local partners (details NA at this time)

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0		

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Information is not available				

Environmental Impacts:

We will be staying in the communities, either at hotel or rented house. We will hire guides and outfitters. We will also give invited presentations at HTO and/or schools. No predicted impact on the communities other than positive ones, like engagement, training, employment and use of infrastructure. At the field sites (marine / nearshore) sampling will occur using one of the following: a portable underwater ROV (camera) with very small capacity for sample collection (water, sediment, organisms) or locally owned fishing boats and gear. Minimal disturbance will therefore occur (under the supervision of local partners). In addition, local partners may contribute fishing by-catches (e.g. sediment or benthic invertebrates) on an opportunistic basis; should this type of sampling occur, it would therefore not be associated with any disruptions other than typical of community harvesting activities (following their own permits as applicable, and with/without compensation, as agreed).

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

Identification of Impacts and Proposed Mitigation Measures

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
Construction																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Operation																										
Sampling sites		-	-	-	-	-	-	-	-	-	N	-	-	-		-	-	-	N	-		-	P	-	-	-
Decommissioning																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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

Project Location



List of Project Geometries

- | | | |
|---|----------|--|
| 1 | polyline | Vicinity of Sanikiluaq in Belcher islands: we have obtained information on sites of interest from partners |
| 2 | polyline | Vicinity of Grise Fiord: that has not been explored yet |
| 3 | point | Sanikiluaq: we have had two preliminary on-site meetings and exchanges with local partners (HTA members and High School) |
| 4 | point | Grise Fiord: a visit and on-site meeting with local partners (HTA members, outfitter) occurred in 2021 |