Demande de la CNER faisant l'objet d'un examen préalable #125552
Tallurutiup Imanga Underwater Noise Baseline Pilot

Type de demande :	New
Type de projet:	Scientific Research
Date de la demande :	7/30/2020 9:54:48 AM
Period of operation:	from 0001-01-01 to 0001-01-01
Autorisations proposées:	from 0001-01-01 to 0001-01-01
Promoteur du projet:	Clare Kines Parks Canada Agency Box 73 Arctic Bay NU X0A 0A0 Canada Téléphone :: 867-324-0124, Télécopieur ::

DÉTAILS

Description non technique de la proposition de projet

Anglais: Parks Canada Agency, Tallurutiup Imanga National Marine Conservation Area (TINMCA), is proposing a three year pilot project to gather underwater noise baseline data in the area of Arctic Bay, running through open water seasons in 2020, 2021, and 2022Lead of the Project is Clare Kines, Inuit Stewardship Co-ordinator for TINMCA. This proposal is designed to begin establishing baseline data on underwater noise, within 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 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 are the proposed locations: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; and4) 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. 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.

Français: n/a

Inuktitut: ᑖᓇ ᑐᑦᓯᕋᕈᑎᒥᔭᕗ ᐋᕿᒍᓂᒃ ᐱᖓᓱᓂᒃ ᖃᐅᔨᓴᐅᑎᒥᓇᓱᒃᓂᐋᖅᑕᕗᑦ ᑕᓪᓗᕈᑎᐆᑉ ᐃᒻᒪᖓᑕ ᐊᐅᓚᓕᕐᐸᓕᐋᓂᐋᓕᖅᑎᓗᒍ ᑖᑯᐋᓗ ᐃᒪᐆᑉ ᐃᓗᐋᓃᑦᑐᑦ ᓂᐱᖕᒥᑦ ᖃᓄᖅ ᐅᒥᐊᕐᔪᐋᕋᓛᓄᓪᓗ ᐃᖕᒋᕋᔪᖃᖕᒋᑐᓂᒃᓗ ᖃᓄᖅ ᓂᕐᔪᑏ ᐊᐅᓚᓂᖃᓂᐋᕐᒪᖔᑕ ᑕᓪᓗᕈᑎᐆᑉ ᐃᒪᖓᓂ. ᑕᓪᓗᕈᑎᐆᑉ ᐃᒪᖓᑕ ᓴᐳᔾᔭᐅᓯᒪᓂᖏᓂᐋᖅᑕᖓ

ᐊᐅᓪᓴᖅᑕᐅᓯᓂᐊᓂᓕᖅᑎᓄᑐ ᐊᖏᑭᑐᑎ ᐊᑎᓂᐅᖅᑕᐅᓪᓚᐅᑎᓄᑦᑕ ᐊᐅᓪᓴᖅᑎᑕᐅᓯᓂᓪᓚᐅᕗᖅᑐᖅ ᐊᐹᓱ 2019ᖏᔪᑎᓄᑐ. Ċᓐᓇ ᖃᐅᔨᓴᐅᑎᑭᔾᑐᑦ ᑭᐃᑎᑎᑦᓴᑐᑐᑦ ᓂᐱᓂᓪᓚᐅᑎᓄᑦ ᑎᓴᒪᓂ ᐃᖏᕐᕋᐅᓄᖅᓴᖅᑎᑦᓴᖅᓴᓄᑦ ᑕᑦᓄᑭᑎᐅᑦ ᐃᒪᐃᐊᓕᑦ ᐊᑐᓂᐅᖅᑕᐅᓪᓚᐅᑎᓄᑦ. Ċᑯᐊ ᓂᐱᓂᐅᑭᑎᓄᑦ ᐃᓂᓯᐊᒪᓪᓚᕆᔾᔪᑎᑦ ᓇᐅᔨᓯᖅᑎᓄᓂᑦ ᐃᒃᐱᐊᐊᓱᑦᑎᐅᓂᑦ ᑲᑎᒪᓕᖅᑎᑎᓯᖅᑕᖅᑕᖅᑐᑦ ᑐᑭᓯᑎᐊᕐᓯᒃᓗᑕ Ċᑯᐊ ᐃᓂᓯᐊᒪᓪᓚᕆᔾᔪᑎᑦ ᖃᓄᐃᑦᑐᕐᓯᖅᓴᐅᓕᖅᑐᑦ ᐅᓐᓴᐅᒪᓪᓚᐅᑎᓄᑦ. ᐅᓐᓴᐅᒪᓪᓚᐅᑎᓄᑦ 2 ᐅᑦᓂᓴᐅᑎᑕᓂᒃᑎᑦᓗ ᐃᒃᐱᐊᐊᓱᒃᓕ ᑐᑭᓯᐊᓂᔪᓐᓇᖅᑐᑦ 3 ᑲᖏᐅᑦᓗ ᖃᐅᔨᓴᖅᓱᓪᓚᑦ ᓴᖅᓯᐊᓂᓕᖅᑐᑦ ᐃᓂᓯᐊᓂᓕᖅᑐᑦ ᐊᓕᓗ ᐃᓕᖅᓱᓂ ᓂᐱᓂᓪᓚᐅᑎᓄᑦ ᐃᓂᓯᐊᓂᓕᖅᑐᑦ 4 ᖃᐅᔪᑦᑐᓂᓪᓚᐅᑎᓄᑦ ᓴᖅᓯᐊᓂᓕᖅᑐᑦ ᐊᖅᔪᓂᓪᓚᐅᑎᓄᑦ ᐃᓂᓯᐊᓂᓕᖅᑐᑦ Ċᑯᐊ ᓇᐅᔨᓴᖅᑎᑦ ᓄᓇᓕᖅᓄᑦ ᑐᑭᓯᐊᓂᓕᖅᑐᑦ ᐃᓂᓯᐊᓂᓕᖅᑐᑦ ᐃᓕᖅᓱᓂ ᓂᐱᓂᓪᓚᐅᑎ

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
Area within Hydrophone #1 will be placed. Adam's Sound, approaches to Arctic Bay	Scientific/International Polar Year Research	Marine	Site is a marine area, within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.	none	Within the traditional use area of Arctic Bay, at the mouth of Adam's Sound. It is within Tallurutiup Imanga National Marine Conservation Area.
Area within Hydrophone #2 will be placed. Strathcona Sound, approaches to Nanisivik	Scientific/International Polar Year Research	Marine	Site is a marine area, within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.	none	Within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.
Area within Hydrophone #3 will be placed. Kakiak Point area, important location for Arctic Bay	Scientific/International Polar Year Research	Marine	Site is a marine area, within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.	none	Within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.
Alternate location for an area within Hydrophone #3 will be placed.	Scientific/International Polar Year Research	Marine	Site is a marine area, within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.	none	Within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.
Area within Hydrophone #4 will be placed. Admiralty Inlet, waters around Yeoman Island.	Scientific/International Polar Year Research	Marine	Site is a marine area, within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.	none	Within the traditional use area of Arctic Bay. It is within Tallurutiup Imanga National Marine Conservation Area.

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Arctic Bay	Debbie Johnson, SAO	Hamlet of Arctic Bay	2020-07-14
Arctic Bay	Dorothy Oyukuluk, Manager	Ikajutit Hunters and Trappers Organization	2020-07-14

Autorisations

Indiquez les zones dans lesquelles le projet est situé:

North Baffin

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Institut de recherche du Nunavut	Licence to conduct research	Not Yet Applied		

Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Water	28 or 27 foot Aluminum boat with outboard motors, or similar	

Project accomodation types

Collectivité

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
Hydrophone Micro Aural	4	Diameter: 8 cm (3 in) - Length: 45 cm (18 in.) - Air weight: 6 lbs. - Water Weight: 2 lbs.	Collecting data (underwater noise recordings). Moored 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.

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
Gasoline	fuel	1	364	364	Liters	Fuel for boat. None cached. Fuel within boat's fuel tanks only.

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 :

Environmental Impacts will be minimal. Where a subsurface mooring will be used, for the hydrophones, an anchor consisting of local rock, a metal sleeve, stainless steel eyebolt, and the lug from the acoustic release, will be left on the ocean floor. It is expected to have no impact on wildlife, or navigation.

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

A 27-28 foot aluminum boat (or similar) powered by outboards will be used to deploy and recover the hydrophones. No overnight stays are anticipated

SECTION H2: Disposal At Sea

none.

SECTION I1: Municipal Development

Description de l'environnement existant : Environnement physique

Typical Arctic Marine Environment

Description de l'environnement existant : Environnement biologique

Typical Arctic Marine flora and fauna

Description de l'environnement existant : Environnement socio-économique

Study area is within the community of Arctic Bay's traditional use ara.

Miscellaneous Project Information

Identification des répercussions et mesures d'atténuation proposées

Impacts will be minimal. Where a subsurface mooring is used for the hydrophones an anchor, consisting of local rock, a metal sleeve, stainless steel eyebolt, and the lug from the acoustic release, will be left on the ocean floor. It should have no impact on local wildlife.

Répercussions cumulatives

n/a

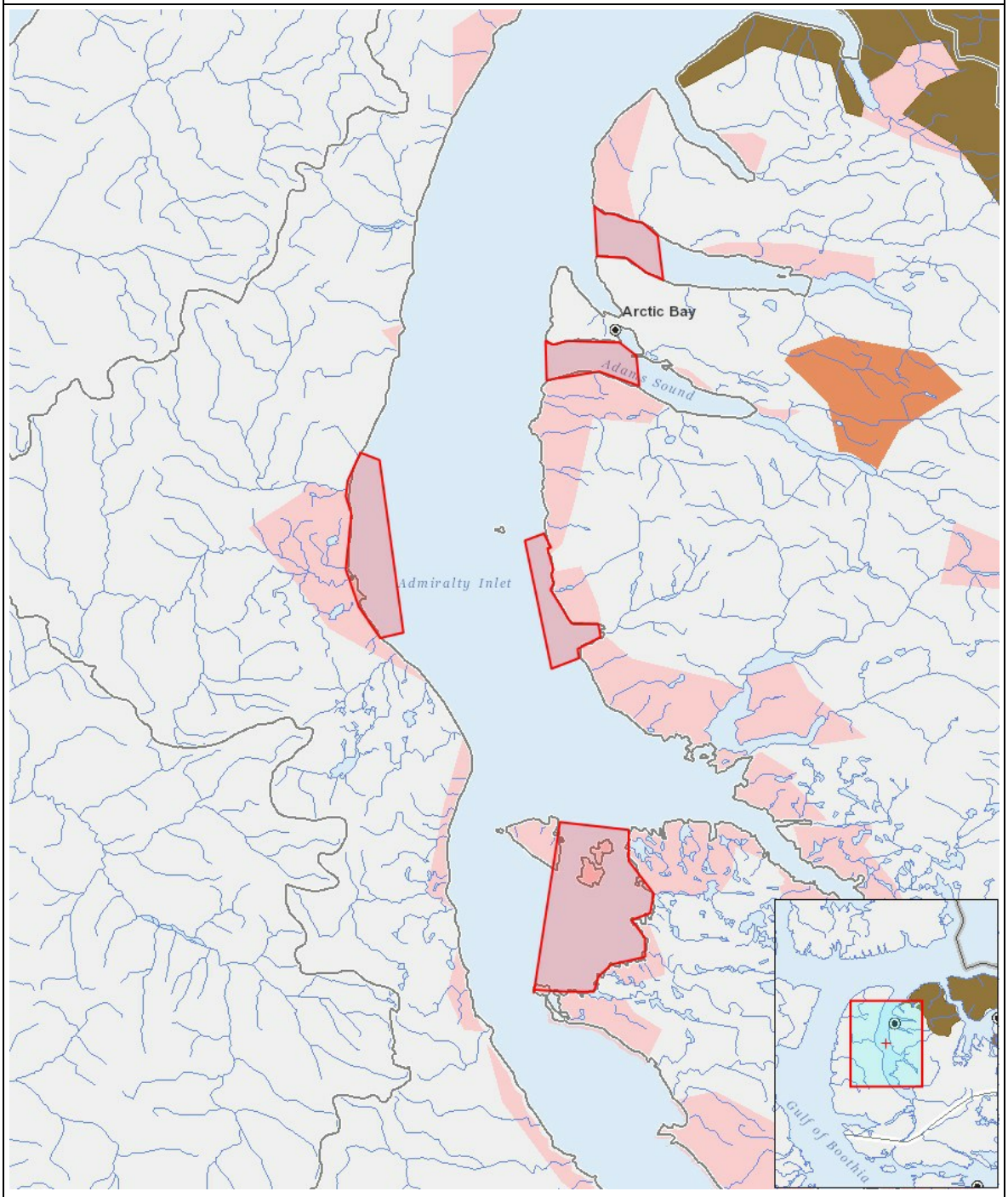
Impacts

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																									
Scientific/International Polar Year Research			P	-	-	-	-	-	-	-	-	-	-	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	polygon	Area within Hydrophone #1 will be placed. Adam's Sound, approaches to Arctic Bay
2	polygon	Area within Hydrophone #2 will be placed. Strathcona Sound, approaches to Nanisivik
3	polygon	Area within Hydrophone #3 will be placed. Kakiak Point area, important location for Arctic Bay
4	polygon	Alternate location for an area within Hydrophone #3 will be placed.
5	polygon	Area within Hydrophone #4 will be placed. Admiralty Inlet, waters around Yeoman Island.