



## **NIRB Uuktuutinga Ihivriughikhamut #125626**

### **Char Habitat Restoration near Kugluktuk, Nunavut**

**Uuktuutinga Qanurittuq:** New

**Havaap Qanurittunia:** Site Cleanup/Remediation

**Uuktuutinga Ublua:** 7/16/2021 12:00:24 AM

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

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

**Havauhikhaq Ikayuqtinga:** Amanda Dumond  
Kugluktuk Angoniatit Association  
PO Box 309  
Kugluktuk NU X0B 0E0  
Canada  
Hivayautit Nampanga:: 867-982-4908, Kayumiktukkut Nampanga::

# QANURITTUT

## Tukihannaqtunik havaariyauyumayumik uqauhiuyun

Qablunaatitut: Community members from the Hamlet of Kugluktuk have observed low water levels and cases where Arctic Char become stranded as they travel upstream during their fall migration. We propose to restore stream channels at two locations selected by the community to facilitate the fall migration of Arctic Char and reduce the number of stranded fish. The two proposed locations are Nakyoktok River (Richardson Islands) and Kimikyok River (Read Island). The objective of the restoration is to create channels that are deep enough to allow adult fish to pass easily upstream. We propose to use the natural environment, instead of artificial structures, and we will use hand tools and manual labour instead of heavy machinery. Small material like sand, gravel, and small rocks will be removed using shovels. Boulders will be removed using pry bars. Larger boulders will be winched towards the bank using an ATV (on-shore). If a boulder is too large to be removed by pry bar or winch, we will drill holes in the boulders and pour a non-toxic material (Dexpan) into the holes. The material expands when it dries, and will crack the boulder into smaller pieces so the pieces can be safely removed. In areas where widening or braiding of the river channel occurs, weirs will be constructed from small boulders and on-site materials. These weirs will be similar to those historically constructed by Inuit for fishing and used recently at Read Island by local community members. The weirs will direct fish passage away from the braided or shallower channels and toward the deeper, restored channels. Similar restoration methods have been successfully used in the region, both by independent community members (past efforts at Kimikyok River) and by Golder Associates Inc. at Nulahugyuk Creek, near Bernard Harbour. The work will be done by ten people for up to ten days at each site. If restoration takes a long time at the first site, we will spend another ten days at that site instead of moving to the second site. The work will be done between late July and mid-September 2021. The proposed stream restoration is part of a larger research and restoration project, funded by Fisheries and Oceans Canada Coastal Restoration Fund, and a collaboration between the Kugluktuk Hunters and Trappers Organization, Fisheries and Oceans Canada, and the University of Waterloo. Water samples and fish samples may be collected opportunistically, to support the larger research project efforts.

Uiviititut: NA

Inuktitut: NA

Inuinnaqtun: Nunaqatigiit Qurluqturmiut Hamletkuni ilihimaliramik imaup itinia aallangurmat Iqaluit mauyuuvinginni, mayurungnaiqpakhutik ilangit ayuqhaqhutik imaq imaiqtitpallar pangmat ukiakhami mayuuliraangata. Uukturumayugut ihuaqharahuarlugu kuukat malruk naunaiqhimayuk Qurluqturmiutanit, ikayurahuarlugit Iqalukpiit mayuuyut ikiglinahuarlugit mayungittut ayuqharamik. Taapkuat kuukak Nagyutuktuut Kugaani (Richardson Island), talvanilu Kimiqyuaq Kuunga (Read Island). Uukturumayaqqut ihuaqhainniq itihinahuarlugit mayurvikhaita apqutikhaannik iqalukpiit mayuutaatqut angiglihimayut mayurvikhaannik ayurnaittumik. Nuna tahamani aturlugu, hanayauhimagittuni, nunainnarmit aturluta algaptingnullu havagluta, algautinik atuqhimaittumik. Hiurarmik, uyaraliarmik, uyaqqaniglu mikkanik aturluta havagumayaqqut pualriharlugulu. Uyaqqat anitqiyait qaatirugit qaatirutinut nuutiqpangniaqtavut. Anitqiyat uyaqqat nuhukhimaarlugit kuukap kiglinganungaqtirahuarlugit hondanut (hinaani). Uyarahugyuit angivallaarumik putuurlugit ikuutarmut imiqturlugit hivuuranaittunik (Dexpanmik) qupijjutikhaq uyaqqanik. Dexpan paniraangat angiliyuumiqhuni qupitiqaktuq uyaqqanik. Ahiruqhuni aahiit qupigaangata, piiyaruminaqhivaktut uyarahuyuit qayangnaittumik. Kuukap ilangata hilikningani, ahiaguurutauningani mayuuyunik, hapuuliuniaqhimayut uyaqqanut mikitqaiyarnut, ingilraatut hapuliuqtauvaktunik. Hupuliurutauvangniaqtut uyaqqat, kuukap ilanganit, hanianillu Inuit pitquhirivaktainnik aturlutik, taimaa Qikiqtannayungmiut pitquhiraluangannut. Taapkuat hapuuliuqhimayut ikayuutainiaqtut iqalungnik apqtutiqaquplugit mayuutillugit hanguhimaittumik ahinut mayuriamingni, itiniq atuquplugu mayuriamingni. Taima havaaqahimayut taimaa Qitirmiuni, nunaqatigiiktut havaqatigiikhutik, tapuallu Golder Associates Inc. ikayuqhutik Qimikyuaq Kuungani, talvanilu Nulahugyup kuugaani, Nulahugyup haniani. Tahamna havaakhaq qulinik inungnik havaqaqtigiiktukhanik pijjutauniaqtuq, qullinut upluni hivullirmi kuugangmi. Havaakhaq iniqtaungitkumi taapkunai qulini upluni, talvaniinginnarlutik uplunik qulinik aniguutifaarlutik iniqtitariamingni, nuutinattik tuglianut kuugarmut. Havaakhat

havaariyauniaqtut July min, September qitinganut 2021. Taapkuak kuukap ihuaqhainia ilaayut angitqiyarmut naunaiyaiyaunmik ikayuqtuirmik, kiinauyutigut ikayuqtauplutik Iqaluit, Taryuplu Hinaani Ihuaqhainiup Kiinaiyagitigut. (Fisheries and Oceans Canada Coastal Restoration Fund), Fisheries and Oceans Canada, taapkuallu University Waterloomi. Imaup nalaumaninga nalunaiyautit, Iqaluit naunaiyautillu katitiqtautaqtut atautiikut naunaiyautikhanut aallanut.

**Personnel**

Personnel on site: 10

Days on site: 28

Total Person days: 280

Operations Phase: from 2021-07-26 to 2022-09-24

## Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunangga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Kimikyokak River, Read Island	Site Cleanup/Remediation	Inuit Owned Surface Lands	This location is currently and historically used for fishing Arctic Char. Community members have done restoration work, similar to what we are proposing, in this river in the past.	Unknown. Project activities will avoid cultural sites if observed.	160 km north of Kugluktuk
Nakyoktok River, Richardson Islands	Site Cleanup/Remediation	Inuit Owned Surface Lands	This location is currently and historically used for fishing Arctic Char. An airstrip is located nearby, and a community member maintains a bear fence around a camp.	Unknown. Project activities will avoid cultural sites if observed.	190 km northeast of Kugluktuk

### Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Information is not available			

# Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Kitikmeot

## Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Iqalukhiurniqmut Tariuqmilu Kaanata	Licence to Fish for Scientific Purposes, and Animal Care Permit	Applied, Decision Pending		
Kitikmeot Inuit Katimayiingit	Certificate of Exemption to access Inuit Owned Lands	Applied, Decision Pending		
Nunavut Imaligiyyit Katimayit	Approval to Use Water/Deposit Water Without a Licence	Not Yet Applied		
Nunavunmi Ihivriunniqmut Timiqutigiyanga	NRI was contacted for a scientific research permit. NRI stated that a permit is not required, since the primary research is on fish.	Active		

## Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Air	Charter plane to transport equipment	
Water	Transport of personnel and equipment by boat	
Land	Limited transport on-site by ATV	

## Project accomodation types

Temporary Camp

# Ihuaqtivaluin Atuqtauyukhan

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

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
ATV	2	Utility, 2-up	ATV will be used to winch boulders out of stream channel and transport equipment around site
Boat	4	18-24 foot	Boats will be used to transport personnel and equipment to restoration sites
Generator	1	1500 W	Power emergency communication equipment

## Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atautilmut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Non-explosive boulder breaker (Dexpan)	hazardous	5	11	55	Lbs	Cracking boulders to facilitate removal. Product is nonhazardous.
Gasoline	fuel	30	5	150	Gallons	Fuel for boats, ATVs, and generator

## Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
1	Water jugs	Kimikyoak River and Nakyoktok River (streams where restoration activities are taking place)

# Iqqakuq

## Ikkakunik Munakgiyayunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Camp	Qirnarivyaktuq imaq	3 gallons/day	Filtered and buried	Food particles will be filtered out. Grey water will be poured into shallow pit, dug > 50 m away from water.
Camp	Anaagun (inuin anaaguin)	40 gallons	Hamlet waste facilities	Human waste will be contained, transported back to Kugluktuk, and disposed in Hamlet facilities

### Avatiliriniqmut Ayurhauingit:

Transportation of equipment by ATV will only occur on hard-packed substrate so minimal damage to wetlands and vegetation will occur. Travel overland will avoid cultural and archaeological sites. All fueling will be done away from water sources. All project activities will be conducted with minimal impacts to large mammals (terrestrial and marine). Wildlife will not be approached and participants will leave the area if wildlife show signs of being disturbed by human presence and/or project activities. Boulders and substrate removed from the stream channels will be deposited on hard-packed substrate and where substrate is unlikely to be transported by spring run-off. Dexpan (a non-toxic expanding powder that will be used to crack boulders) forms a hardened compound when set. This compound is nontoxic and will be disposed of with boulders and substrate. Unused Dexpan (either in original powder form or in mixed solution) will be transported to Kugluktuk for disposal at Hamlet facilities.

# **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**

No equipment, infrastructure, or supplies will be cleaned up. The site restoration refers to natural materials (e.g., boulders, stones) only. Natural materials will be relocated, to create deeper channels and directional weirs to assist migrating Arctic Char.

## **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**

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

No roads or trails exist at either location. Cabins and camps are located at both locations and are used for hunting and fishing by community members.

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

Arctic Char migrate through streams at both locations. Community members have observed low water levels and stranding of migrating Arctic Char. The objective of the project is to make deeper channels, to improve the streams for migrating Arctic Char.

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

Community members from Kugluktuk use these areas for recreation, as well as subsistence hunting and fishing.

## **Miscellaneous Project Information**

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

Transportation of equipment by ATV will only occur on hard-packed substrate so minimal damage to wetlands and vegetation will occur. Travel overland will avoid cultural and archaeological sites. All fueling will be done away from water sources. All project activities will be conducted with minimal impacts to large mammals (terrestrial and marine). Wildlife will not be approached and participants will leave the area if wildlife show signs of being disturbed by human presence and/or project activities. Boulders and substrate removed from the stream channels will be deposited on hard-packed substrate and where substrate is unlikely to be transported by spring run-off. Dexpan (a non-toxic expanding powder that will be used to crack boulders) forms a hardened compound when set. This compound is nontoxic and will be disposed of with boulders and substrate. Unused Dexpan (either in original powder form or in mixed solution) will be transported to Kugluktuk for disposal at Hamlet facilities.

### **Tamatkiumayunik Ihuikgutivaktunik**

No future projects are expected in this area. The project is of short duration and is not expected to have lasting cumulative effects.



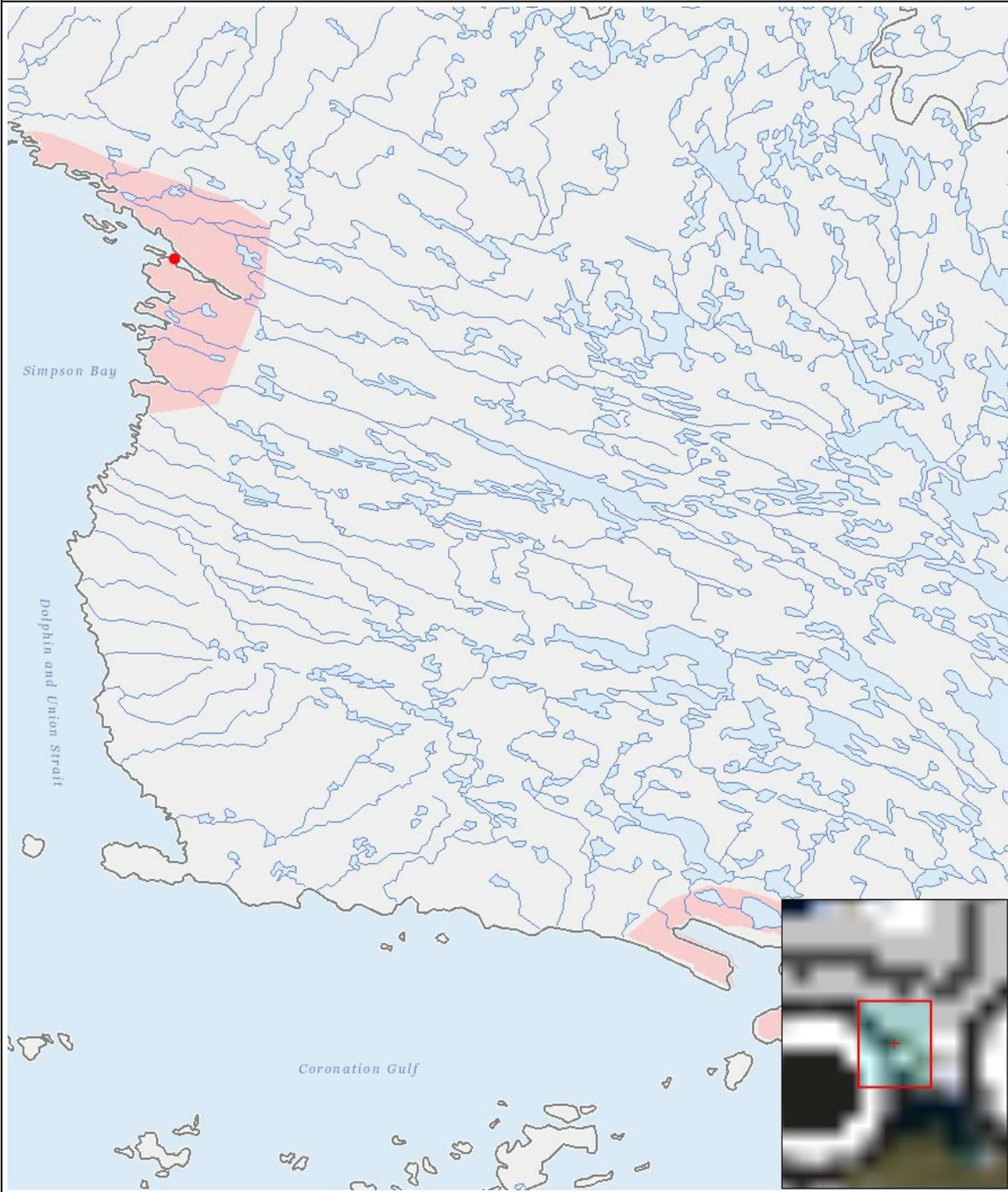
# Impacts

## Ilitariyauniq Avatiliriniqmut Ayurhauingit

	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
<b>Havakvinga</b>																									
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<b>Aulapkaininnga</b>																									
Site Cleanup/Remediation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	P	-	-	P	-	-	-	-
<b>Piiqtauniq</b>																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(P = Nakuuyuuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)

# Havaariyauyukhamut Nayugaa



## List of Project Geometries

- |   |       |                                     |
|---|-------|-------------------------------------|
| 1 | point | Kimikyoak River, Read Island        |
| 2 | point | Nakyoctok River, Richardson Islands |