



## **NIRB Uuktuutinga Ithivriughikhamut #126463**

### **Water quality and fish health near Kugluktuk**

**Uuktuutinga Qanurittuq:** New

**Havaap Qanurittunia:** Scientific Research

**Uuktuutinga Ublua:** Friday, June 12, 2026

**Period of operation:** from 2026-06-09 to 2037-03-25

**Havauhikhaq** Amanda Dumond

**Ikayuqtinga:** Kugluktuk Angoniatit Association

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Hivayautit Nampanga:: 867-982-4908, Kayumiktukkut Nampanga::

# QANURITTUT

## Tukihianaqunik havaariyauyumayumik uqauhiuyun

Qablunaatitut: The Coppermine River provides drinking water for the community of Kugluktuk, as well as critical freshwater habitat for Arctic Char and Dolly Varden Char, which are important year-round sources of nutritious country food for Inuit harvesters. Local fishers and community members from Kugluktuk have raised concerns about the impacts of climate change and upstream resource development on water quality, water temperature, water level, and health of char in the Coppermine River, as well as in other freshwater systems that are used by community members from Kugluktuk. In response to community concerns, the Kugluktuk HTO is either the proponent or the host institution for several sampling programs that are related to water quality and fish health in the area. To reduce administrative burden for the HTO and regulators, we are submitting one project for all sampling programs over the next decade where the HTO is the proponent and/or the host institution. There are three main activities to research and monitor water quality and fish health: 1. Water sampling in the Coppermine River and tributaries. Water samples will be collected and submitted for analysis of nutrients and metals. Water sampling may be expanded to other freshwater systems in the future if funds allow and if there is interest from the community. 2. Monitoring water temperature and water level. Two to three water level and temperature loggers will be installed along the lower reaches of the Coppermine River. Metal housings for the loggers (with footprints less than 0.5 m<sup>2</sup>) will be bolted into bedrock to ensure consistency in logger locations among years. Loggers may be installed in other freshwater systems in the future if funds allow and if there is interest from the community. 3. Collection of biological samples from fish harvested by local, subsistence fishers. Biological samples may include tissues (to be analyzed for metals), fin clips (for DNA analysis), otoliths (fish ear bones, to determine fish ages), and physical measurements (e.g., length, weight, sex). Fish will be collected from the Coppermine River, as well as other freshwater and marine systems used by local fishers. Information will be used by the community to learn about the char species that are harvested in the local fishery and to monitor char over time.

Uviititut: n/a

Inuktitut: n/a

Inuinnaqtun: Una Kugluktumi Kuuk immiktakviokataktok tatvani nunaptingni Kugluktumi, tatvataok huli imaagiktok nayogagiyaat tahapkua ikalukpiit tatvalu tahapkua ikaluit Dolly Varden-mik attikaktot ihuukit, tahapkua ukkiugalok nikkitaongmata nikkigivagait tahapkua Inuinait angunahuaktot. Nunakatigit ikalukhioktit tatvalu hapkua Kugluktukmiotat ihomalutikakpalikmiyot ikpingnaktomik hila allangukpaliatitlugo tatvalu taima tatvani kuukmi immap kanogininganik, immap unnakninganik, immaukaumaninganik, tatvalu anniakutikaligiaghaita tahapkua ikalukpiit tatvani Kugluktumi Kuukmi, tatvalu ahiani kaningani immagiktut kuukani atoktaokataktuni Kugluktukmioniit. Kiotjutigiyomavlutjuk tahapkua nunaliitni ihomalutaoyot, ukkua Kugluktumi Anguniaktit Katimayit HTO-kut naliaknik attuni havagiyaat ikkayoghiotihimavlutjuk uvalunin havakataoyut tahapkuninga kaffinik naunaiyainikut havagiyaoyunik pitjutigivlugit tahapkua immap kanogingninganik tatvalu ikalukpiit anniakutikaligiaghaita tahamani kuukani. Tahapkua akkiliktogiakaktot akkitokpalangitangita HTO-kunut havakatigiyaitlo, tunnihiniaktugot ataohinakmik toghiktotighamik laisikhamik tamatkiklugit tahapkua naunaiyaotaoyut havaghat kaffinik ukkiunik hivunighami tahapkua HTO-kut ikkayoghiotihimayot tatvalu/uvalunin havaktitiniaktitlugit. Pingahuyut tahapkua havagiyaoloakniaktot naunaiyainikut tatvalu takkukikataklugo tahamna immap kanogininga tatvalu ikaluit anniakutikagiakhaita: 1. Immap kanogininganik naunaiyainik tatvani Kugluktukmi Kuukmi tatvalu kuukiktuni, Immap naunaiyaotait katikhuktaokatakniaktot tunniyaokataklutik kaoyihaktioyonut takkuktakhait kanoginingitnik haviktakagiakhaitalo. Immap naunaiyaotait ahinnilo taima takkuuktauniagungnakhuyut manikatuakat tatvalu havagiyaoyumakpat tatvanga nunaliitnin. 2. Takkuukataklugit immap unnakninganik tatvalu immap immaukaumaninganik. Malguk pingahutluniit immap unnakninganik tatvalu kanok immaukaumayakhaitnik naunaiyainik illiugaktauniaktot natkani tahaffuma Kukluktumi Kuukmi. Havigaliknik ighikvighaitnik (tahapkua] angitilangit mikkiyunuit 0.5 m<sup>2</sup>) tahapkua ikkutaktaolutik kikiaktoktauniaktot kaittumut taima aolagaakniaktot tahapkuak nayogagiyait tatvani ukkiuni hivunighamit. Tahapkua immap naunaiyaotait illiugaktauniaktot allani kuukani immagiktuni manikatuakat tatvalu piyomakpatjuk hapkua nunakatigit. 3. Katighuktauhimayot naunaiyaotighat illuliit ikaluit tahapkua nunakatigitot ikalukhimayaitnit. Tahapkua ikaluit illuhiit illiutiuvakmiyait gapkua takkai ammikluitlu takkuktauyughat haviktakagiaghaita, angutaitlu (Auktaktauyughat), hiutait (ikaluit hiutait, naunaiyaotighat kanok ikaluit ukkiukagiagait), tatvalu ikaluit takkitingit

uktakhugit (uktutigilugit, takkitiningitnik, ukkumaitilaakhugitlu, aknauyaghaita angutauyaghaita naunaiyaghugit). Ikaluit katighuktauniaktot tatvanga Kugluktumi Kuuk-min, tahapkunangalu ahianit immagiktunit kuukaniit tagiokmutlo kuukaniit hiituyunit ikalukhiokviovaktunit. Tahapkua naunaiyaotait atoktaoniaktot nunaliitni iliitukhaitjutigilugit tahapkua allatkiit ikaluit tahamani nunami ikalukhioktut angutait tatvalu takkukataklugit kakugungugaikpat.

**Personnel**

Personnel on site: 2

Days on site: 500

Total Person days: 1000

Operations Phase: from 2026-06-09 to 2037-03-25

## Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Lakes on Melville Creek	Scientific/International Polar Year Research	Inuit Owned Surface Lands	Area is used for hunting and trapping	Unknown	70 km from Kugluktuk
Ocean areas	Scientific/International Polar Year Research	Marine	Area is used for fishing, harvesting, and travel	Unknown	Within 220 km of Kugluktuk
Coppermine River	Scientific/International Polar Year Research	Crown	Area is used for fishing and drinking water. The river passes through crown land, Inuit Owned Lands (surface and subsurface), and commissioners land (near Kugluktuk)	Bloody Falls is an important historic and archaeological location, located in a territorial park along the Coppermine River	Kugluktuk is located at the mouth of the river. Kugluk/Bloody Falls Territorial Park is about 17 km upstream of the river mouth
Upstream lake at Bernard Harbour	Scientific/International Polar Year Research	Crown	Part of the lake shore is on Inuit Owned Land (surface). Traditional fishing location and location of past research and restoration activities.	Unknown	100 km from Kugluktuk
Dismal Lakes	Scientific/International Polar Year Research	Crown	Part of the lake shore is on Inuit Owned Land (surface). Area is used for hunting and travel.	Unknown	95 km from Kugluktuk
Tributaries of the Coppermine River (Kendall River and Melville Creek)	Scientific/International Polar Year Research	Crown	Melville Creek is also located on Inuit Owned Land (surface). These areas are used for hunting, trapping, and travel.	Unknown	70 (Melville) and 95 (Kendall) km from Kugluktuk

Rivers flowing into Grays Bay (Anialik River, Wentzel River)	Scientific/International Polar Year Research	Crown	Area is used for fishing and hunting. Dolphin-Union caribou cross from Victoria Island to the mainland in this area.	Unknown	170 km from Kugluktuk
Kugaryuak River	Scientific/International Polar Year Research	Crown	One bank of the river is located on Inuit Owned Land (surface). Popular fishing location, with a bear fence at the river mouth around community campsite.	Unknown	75 km from Kugluktuk
Aptalok Lake	Scientific/International Polar Year Research	Crown	Area is used for fishing and hunting	Unknown	75 km from Kugluktuk
Nakyoktok River	Scientific/International Polar Year Research	Inuit Owned Surface Lands	Part of the river bank is on crown land. An outpost camp was located near the river mouth. The area is used for fishing and hunting.	Unknown	200 km from Kugluktuk
Upstream lakes at Nakyoktok	Scientific/International Polar Year Research	Crown	Area is used for fishing and hunting	Unknown	200 km from Kugluktuk
Nulahugyuk Creek	Scientific/International Polar Year Research	Inuit Owned Surface Lands	Traditional fishing location and location of past research and restoration activities. A cabin is located near the river.	Unknown	100 km from Kugluktuk
Tree River	Scientific/International Polar Year Research	Inuit Owned Surface Lands	Popular fishing location. A commercial fishing lodge is located along the river.	Past location of Hudson's Bay post and RCMP station	135 km from Kugluktuk

<b>Nunauyuq</b>	<b>Atia</b>	<b>Timiuyuq</b>	<b>Upluani Uqatigiyaungmata</b>
Kugluktuk	Amanda Dumond	Kugluktuk Hunters and Trappers Organization (proponent)	2026-03-16

# Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Transboundary  
Kitikmeot

## Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Iqalukhiurniqmut Tariuqmilu Kaanata	Licence to fish for scientific purposes	Applied, Decision Pending		
Nunavunmi Ihivriunniqmut Timiqutigiyanga	Research license	Not Yet Applied		

## Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Water	Small (12-25 foot) boats will be used to access sampling locations during the open-water season and snow machines during the ice-covered season. At most 3 boats/snow machines will be used at one time for sampling activities.	
Land	2 ATVs will be used to access sampling locations along established trails. Up to 3 snow machines will be used to access sampling locations in the ice-covered season.	

## Project accomodation types

Temporary Camp

# Ihuaqutivaluin Atuqtauyukhan

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

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Small boats	3	12-25 feet	Access sampling locations during open-water season. At most 3 boats will be used at one time for sampling activities.
ATV	2	2-up	Access sampling locations along established trails. At most 2 ATVs will be used at one time for sampling activities.
Snow machine	3	2-up	Access sampling locations during ice-covered season. At most 3 snow machines will be used at one time for sampling activities.
Cordless hammer drill	1	5/8	Drill holes in bedrock to bolt housings for water level loggers
Helicopter	1	AStar or Long Ranger	A helicopter may be used to access sampling locations that are difficult to access by boat or snow machine

## Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Gasoline	fuel	10	5	50	Gallons	Transportation by boat, ATV, and/or snow machine to sampling locations. Fuel will not be cached and only the necessary quantity of fuel will be transported for a given trip (< 50 gallons)
Other	fuel	6	1	6	Gallons	White gas for cooking and heating during brief overnight trips

## Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
0	Reusable water jugs	Freshwater systems near sampling locations that require camping overnight (1-4 days) to access

# Iqqakuq

## Ikkakunik Munakgiyauyunik

Havauhikhaq Huilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Scientific/International Polar Year Research	Qinarivyaktuq imaq	3 gallons/day	Shallow pit	Food particles will be filtered out. Grey water will be poured into shallow pit, dug > 50 m away from water.
Scientific/International Polar Year Research	Anaagun (inuin anaaguin)	1 gallon/day	Containment and disposal at Hamlet facilities	Human waste will be contained, transported back to Kugluktuk, and disposed in Hamlet facilities

### Avatiliriniqmut Ayurhauingit:

Environmental impacts are predicted to be minimal. To limit the possibility of a fuel spill, all fueling (boats, ATVs, snow machines, helicopter) will be done in the community of Kugluktuk when possible. Additional fuel required for longer trips will be transported and stored securely upright, out of direct sunlight and away from any sources of combustion. Logger housings will be made of metal and will be bolted into bedrock. Loggers and housings will be removed at the end of the project. No materials will be left on the land following the research project. Biological samples will be collected from char captured through the subsistence fishery in Kugluktuk, so no disposal or waste of char carcasses is required. The majority of project transportation will be by boat or snow machine, so terrestrial impacts will be limited. All ATV travel will be on durable surfaces and using pre-existing trails. Helicopter travel will maintain a minimum altitude of 500 m, except for take-off and landing, to avoid disturbing wildlife. All sampling will be conducted by local harvesters and land users, who will avoid activities that impact wildlife and harvesting practices. Some sampling locations may require overnight travel and camping (typically 1-4 nights). Camps will typically have 1-3 tents with 2-4 individuals, so impacts of the camps will be minimal. Greywater will be disposed of on-site, and waste from the camps will be transported back to Kugluktuk for disposal. As indicated below, effects on aquatic species/wildlife and water quality are considered to be positive, because findings will identify impacts from climate change, resource use, and other factors, and can be used for future monitoring, management, and potential restoration and/or mitigation.

# **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**

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

There is an established road, boardwalk, and trail that connects Kugluktuk to Kugluk/Bloody Falls Territorial Park. Other trails exist on hard-packed surfaces at some sampling locations, such as Nakyoktok and Bernard Harbour. A commercial fishing lodge and small airstrip is located at Tree River. Water gauges are located at the Tree River and ~ 100 km upstream in the Coppermine River. Numerous privately owned cabins are located throughout the area. Community cabins are located at Bernard Harbour and Grays Bay.

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

Arctic Char and/or Dolly Varden Char are present in all waterbodies. Dolly Varden farther west are listed as a species of special concern under the Species at Risk Act, but populations near Kugluktuk are not listed. Research on fish health, species composition, and demographics will allow monitoring of Arctic Char and Dolly Varden over time, and will be used to manage the local fishery. Impacts on fish are therefore expected to be positive. Caribou migrate throughout the area. Sampling activities are for fish and water only, and should not interfere with caribou migration or calving.

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

All sampling locations are used by community members from Kugluktuk, for fishing, hunting, trapping, and travel. Some tourism activities also occur near Kugluktuk, and a commercial fishing lodge is located at the Tree River. Cultural sites are located throughout the region, and an important historic site is located at Kugluk/Bloody Falls Territorial Park, about 17 km upstream in the Coppermine River. Sampling activities will provide employment for community members, who will conduct all sampling and coordination of activities. Results will have a positive impact on human health and community well-being, because they will inform the health of fish and water, including the safety for human consumption.

## **Miscellaneous Project Information**

### **Naunaiyainiq ukuningga Ayurhautingit unalu Piumayaat Iikliyuumiutinahuarutit**

Environmental impacts are predicted to be minimal. To limit the possibility of a fuel spill, all fueling (boats, ATVs, snow machines, helicopter) will be done in the community of Kugluktuk when possible. Additional fuel required for longer trips will be transported and stored securely upright, out of direct sunlight and away from any sources of combustion. Logger housings will be made of metal and will be bolted into bedrock. Loggers and housings will be removed at the end of the project. No materials will be left on the land following the research project. Biological samples will be collected from char captured through the subsistence fishery in Kugluktuk, so no disposal or waste of char carcasses is required. The majority of project transportation will be by boat or snow machine, so terrestrial impacts will be limited. All ATV travel will be on durable surfaces and using pre-existing trails. Helicopter travel will maintain a minimum altitude of 500 m, except for take-off and

landing, to avoid disturbing wildlife. All sampling will be conducted by local harvesters and land users, who will avoid activities that impact wildlife and harvesting practices. Some sampling locations may require overnight travel and camping (typically 1-4 nights). Camps will typically have 1-3 tents with 2-4 individuals, so impacts of the camps will be minimal. Greywater will be disposed of on-site, and waste from the camps will be transported back to Kugluktuk for disposal.

### **Tamatkiumayunik Ihuikgutivaktunik**

Project activities are expected to have minimal impacts, so no cumulative effects are expected.

# 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>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Aulapkaininnga</b>																									
Scientific/International Polar Year Research		U	-	-	-	-	P	-	-	-	-	-	-	-	-	M	P	-	P	-	U	P	P	-	P
<b>Piiqtauniq</b>																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

# Havaariyauyukhamut Nayugaa



## List of Project Geometries

- |    |          |  |
|----|----------|--|
| 1  | polygon  | Aptalok Lake   |
| 2  | polygon  | Upstream lake at Bernard Harbour                                       |
| 3  | polygon  | Dismal Lakes   |
| 4  | polygon  | Lakes on Melville Creek  |
| 5  | polygon  | Upstream lakes at Nakyoktok  |
| 6  | polygon  | Ocean areas  |
| 7  | polyline | Coppermine River   |
| 8  | polyline | Tributaries of the Coppermine River (Kendall River and Melville Creek) |
| 9  | polyline | Rivers flowing into Grays Bay (Anialik River, Wentzel River)           |
| 10 | polyline | Kugaryuak River  |
| 11 | polyline | Nakyoktok River  |

12 polyline Nulahugyuk Creek

13 polyline Tree River