



Kugluktuk, ᑭᓄᓄᓄᓄᓄᓄᓄ, “Place of moving water”

Introduction

Kugluktuk is the westernmost community of Nunavut, in the Kitikmeot Region. It is located close to the border with Northwest Territories, and where the Coppermine River empties into the Coronation Gulf along the southernmost route of the Northwest Passage. In 2016 the population was 1491. The wildlife economy in Kugluktuk is very important both culturally and economically. Key species include Arctic char and whitefish, ringed seals, caribou, moose, muskoxen, wolverines, foxes, and grizzly bears¹. Some species of raptors such as eagles, falcons, and hawks are also present². Kugluk Territorial Park is located 13km southwest of Kugluktuk and has a long history of use by Dene and Inuit cultures. Onoagahiovik, a traditional campsite area located in the park, is known for being a very good place to fish³.

Community Restoration Priorities

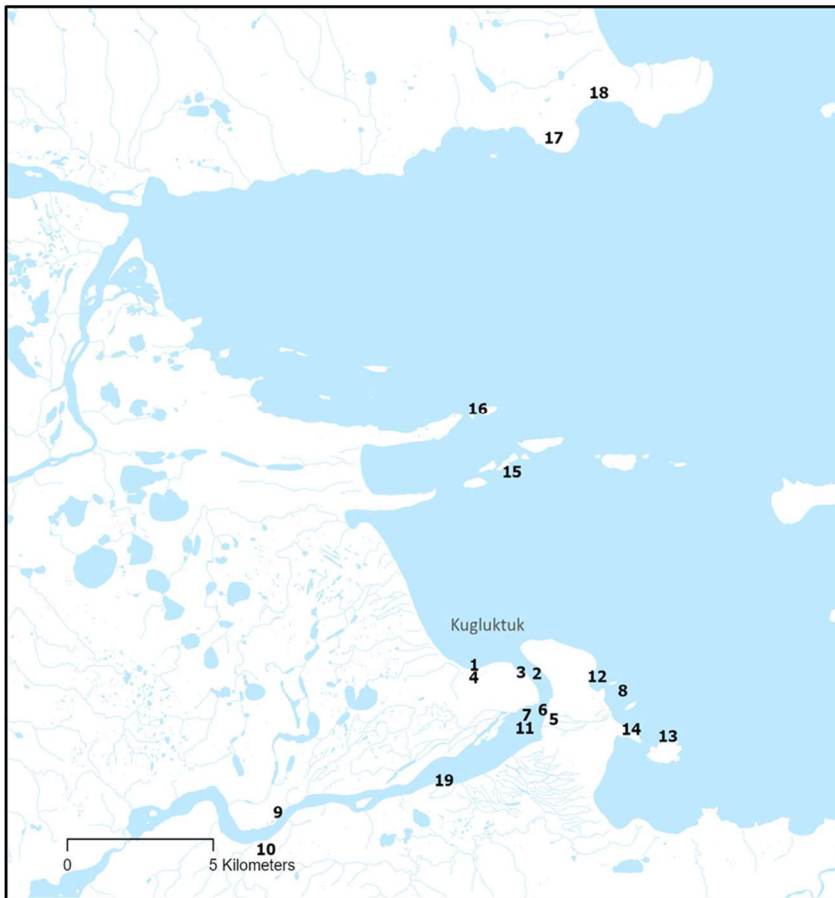
1. A gill net exchange and river restoration work at various sites; and 2. Reducing the impacts of erosion on current and future infrastructure is a priority.

Community Map and Workshop Highlights

The CRN research team visited the community in February 2019.

Kugluktuk

Map Legend



Erosion: 1-2, 6, 18 Erosion, 3-4 Road washed out due to erosion, 9-10 Erosion of riverbanks – Coppermine River, and 17 Erosion – Emnalokyoak.



Water issues: 5 Exposed rock now, boats no longer anchor here, 7 Boats can't pass channel anymore, too shallow; key char spawning area) 8 (Too shallow to access by boat now – Avalikgonik, 11 Too shallow for navigation by boat), 13-14 Too shallow to access by boat now, 15 Too shallow for navigation by boat – Kakotalik) 16 Too shallow for navigation by boat – Tikigak, and 19 Too shallow for boats to navigate.



Harvesting areas: 12 Netting site for Arctic char.

Literature Review

The area around Kugluktuk is influenced by vertical land movement resulting from the loss of ice sheets from the last glaciation. This uplift is occurring at a slower rate compared to other areas in Nunavut, but a change in sea level is still expected. By 2100, sea level likely will not fall more than 10cm, and likely will not rise more than about 50cm⁴. Given the current elevation of the area, potential sea level changes should be accounted for when assessing coastal vulnerabilities and developing any future infrastructure⁴.

Attributes	Examples of Environmental Changes and Observations
Sea ice	<ul style="list-style-type: none"> Typically, the ice season lasts from late October to July, with the Coronation Gulf often remaining mostly ice-covered into mid-July⁵. This marks a change from the past, where freeze-up used to occur in late August-September and break-up occurred later than it does presently⁶. Overall, reduced ice thickness and a shorter ice season have been observed around Kugluktuk, which has impacts on the ability for people to travel and hunt⁶.
Seasonal events	<ul style="list-style-type: none"> Residents have noted changes in temperatures, as well as an apparent increase of species more typical of southern regions². This impacts seasonal harvest patterns i.e. the timing and distribution of species.
Sea level rise	<ul style="list-style-type: none"> Sea level rise could be exacerbated by storm surges, leading to potential flooding and salt-water intrusion and impacting local water supply⁷.

Attributes	Examples of Ecosystem Changes and Observations
Bears	<ul style="list-style-type: none"> Polar bears are less common but seem to be more abundant around the Beaufort Sea and Amundsen Gulf area where ice conditions allow for productive seal hunting². Grizzly bears are common in the area around Kugluktuk and have become a general nuisance to people. Kugluktuk hunters believe they are gradually moving northward².
Seals	<ul style="list-style-type: none"> Seals are common around Kugluktuk, with ringed seals often found occupying land-fast coastal ice, and bearded seals found in shallower water². Residents thought that some seals were smaller, thinner, and less healthy looking⁶ with some observed as having blisters, or even infections when cut open¹⁰.
Whales	<ul style="list-style-type: none"> Belugas are not abundant in the Eastern Beaufort Sea but occasionally visit the Coronation Gulf⁸.
Fisheries	<ul style="list-style-type: none"> Some species are deteriorating, exhibiting boils, scratches, and parasites. Other changes include being smaller, which was attributed to having many nets in the water, or nets with smaller mesh size than recommended. Changes were also linked to lower water levels in lakes/streams, and pollutants from mining². Arctic cod and herring populations seem to be increasing². Arctic char, often harvested from the lower 16 km of the Coppermine River⁹, used to be moderately large, but, during the CRN 2019 workshop participants noted a decrease in char presence.
Birds	<ul style="list-style-type: none"> Some species, including golden plover, Lapland longspur, and Arctic tern, have been reduced or are no longer present since the arrival of the bald eagle 10-15 years ago².

Based on the Current Gaps in the Literature, Research Needs Include:

- Monitoring studies:** Research on the health and abundance of species such as Arctic char, including an assessment of spawning areas and whether habitat ranges are changing⁹.
- Water quality assessments:** Impacts of pollutants from mining operations on water quality and fish species. Assessments should be guided and informed by cultural knowledge and Inuit Qaujimagatuqangit.
- Coastal erosion studies:** Identification of areas that are susceptible to erosion, especially existing infrastructure, or areas regularly accessed by residents. Previous restoration work to reduce erosion on Kugluktuk's northern shore is now being undercut and destabilized by wave induced erosion¹¹.

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CONTACT

Dr. Lucia Fanning, Principle Investigator -
Lucia.Fanning@Dal.Ca

Ms. Jade Owen, Project Advisor -
jade.britton.owen@gmail.com