

# SIKU and Inuit-led Conservation: How Sanikiluarmit Monitoring Data Can Support Qikiqtait Protected Area Development



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## What This Project is About:

The Belcher Islands Archipelago in southern Nunavut is composed of culturally, ecologically, and biologically important islands. The Qikiqtait Protected Area (QPA) project is an Inuit-led conservation initiative that aims to protect the Belcher Islands and build capacity for a conservation economy in the community of Sanikiluaq, Nunavut. The planning process for the QPA began in 2019 by the Hamlet of Sanikiluaq, the Sanikiluaq Hunters and Trappers Association, and the Arctic Eider Society, in partnership with the Qikiqtani Inuit Association, with the objective of adding levels of protection to the entire Belcher Islands terrestrial and marine region. The QPA Steering Committee identified the need for a harvest resource inventory to support QPA implementation and management decisions. To support this priority, monitoring data for 34 species was collected by Sanikiluarmit (people of Sanikiluaq) for the Qikiqtait Project using the SIKU (the Indigenous Knowledge Social Network) app. The data was compiled and organized for two full seasonal harvest years (April 1, 2020 – Mar 31, 2022). This poster presents an example of the analysis completed for one of the key species of this harvest resource inventory, Arctic char (Iqaluppik, ᐃᑭᑦᑐᑦᐱᑦ).

## What Was Done:

A total of 2584 Arctic char harvesting posts were recorded (Figure 1). The total number of Arctic char harvested in these SIKU posts and trips were graphed to compare harvest seasonality and intensity (Figure 2). The type of harvest location was recorded based on spatial analysis to identify priority habitats for Arctic char harvesting (Figure 3). The distribution of Arctic char harvest in the Belcher Islands was mapped (Figures 4–6) to identify key harvesting areas and changes to the harvesting regions over time. The analysis methodology presented here will be completed for the other species in the harvest resource inventory.



Photo: Arctic Eider Society

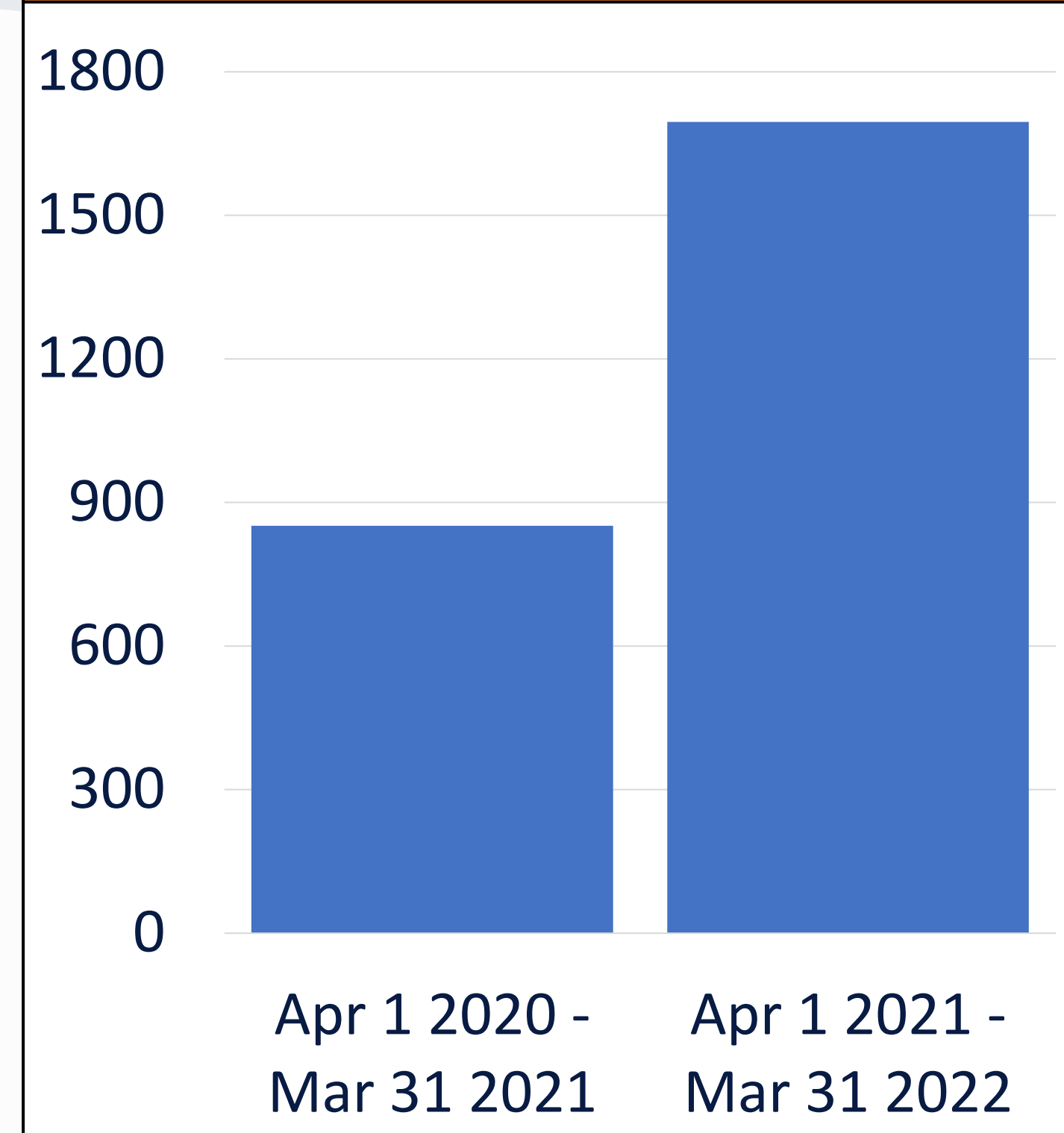


Photo: Joel Heath, SIKU, 2021, <https://siku.org/app/#/map/overlay/m/11119>

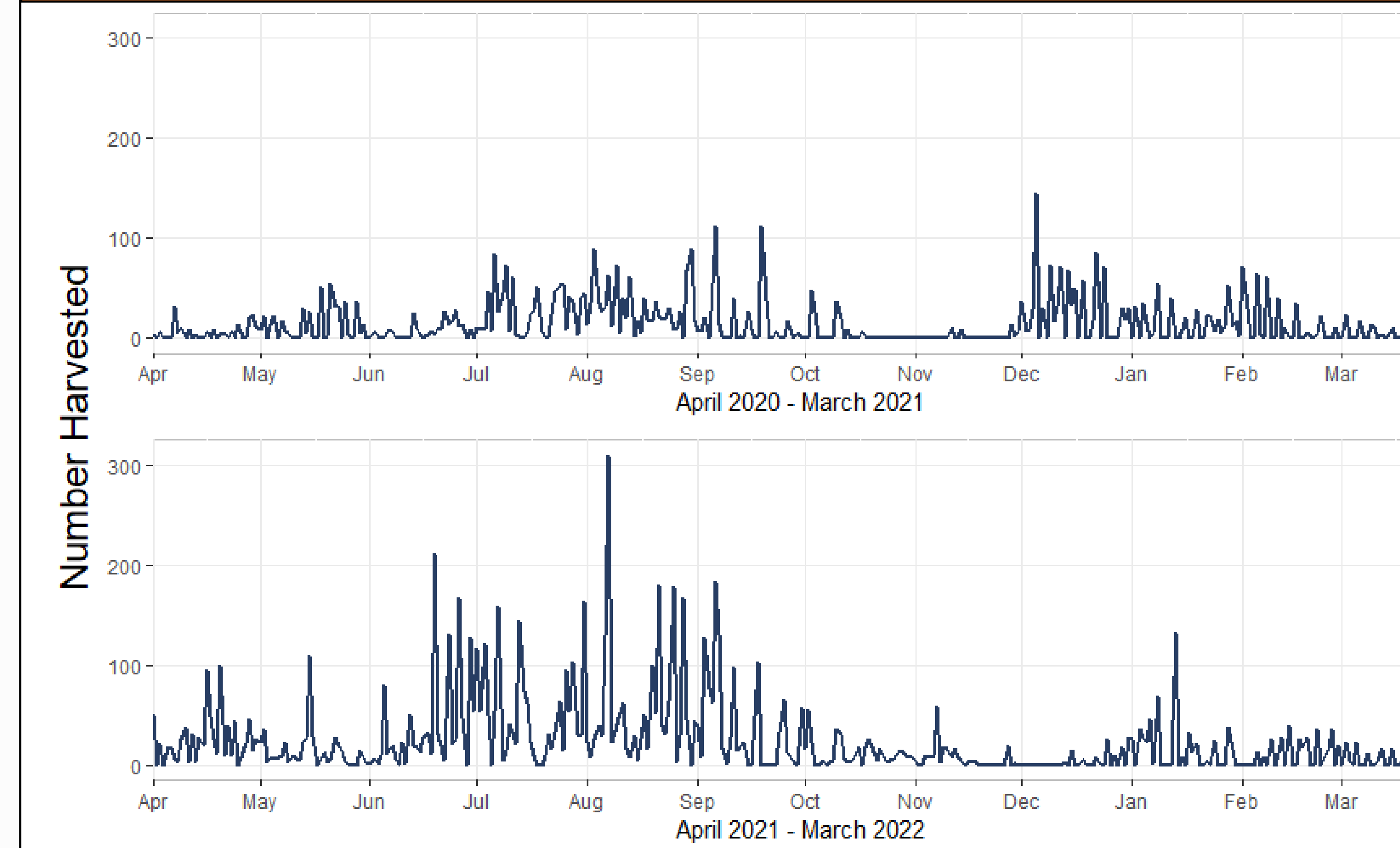


Photo: Johnny Kudluarok, SIKU, 2020, <https://siku.org/app/#/deployment/7387>

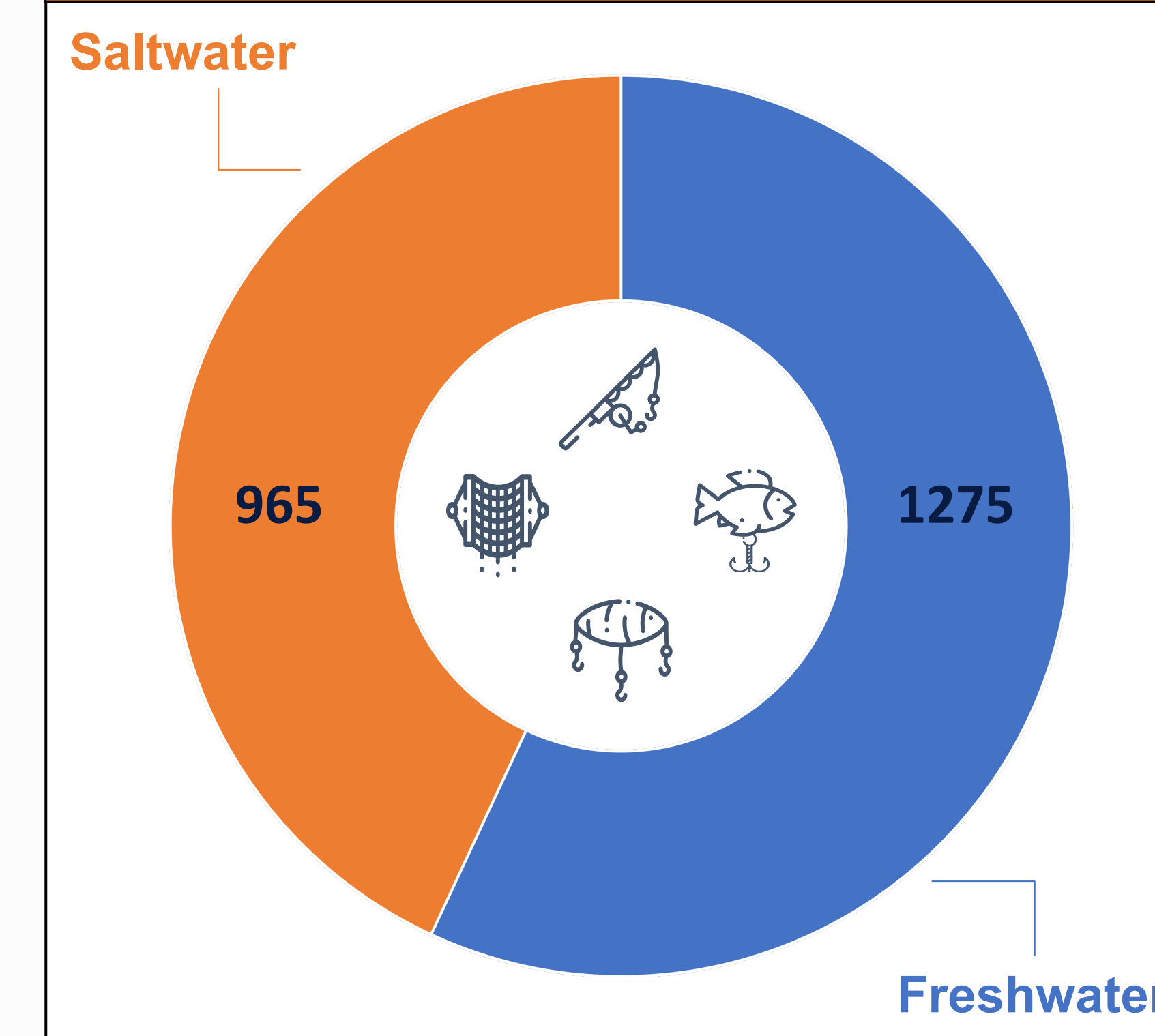
**Figure 1. Total Arctic Char Harvest SIKU Posts** (Created using Microsoft Excel ver 2210)



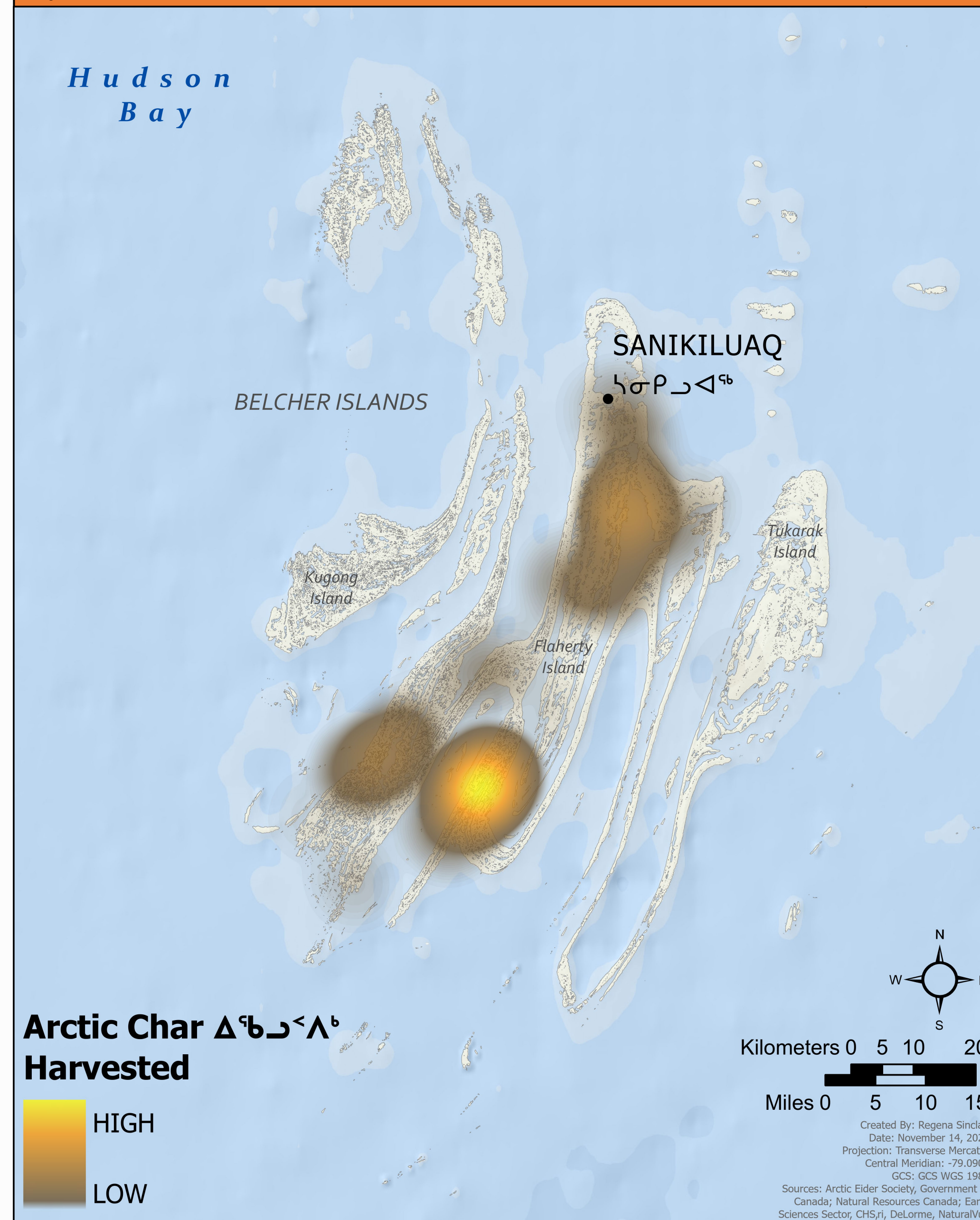
**Figure 2. Arctic Char Harvest Intensity and Seasonality from SIKU Posts** (created using RStudio 2022.02.3, tidyverse package)



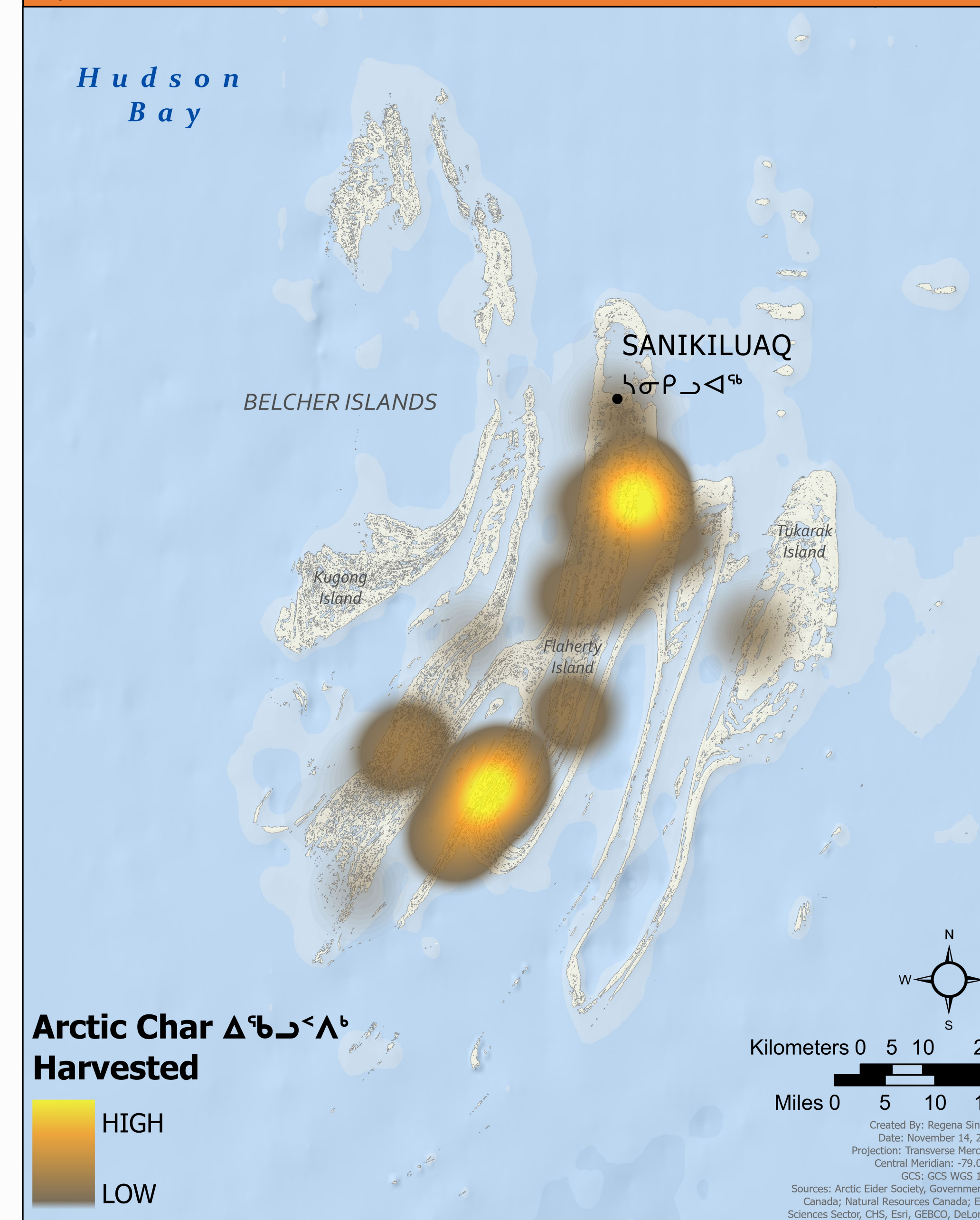
**Figure 3. Arctic Char Post Harvest Location\*** (Created using Microsoft Excel ver 2210)



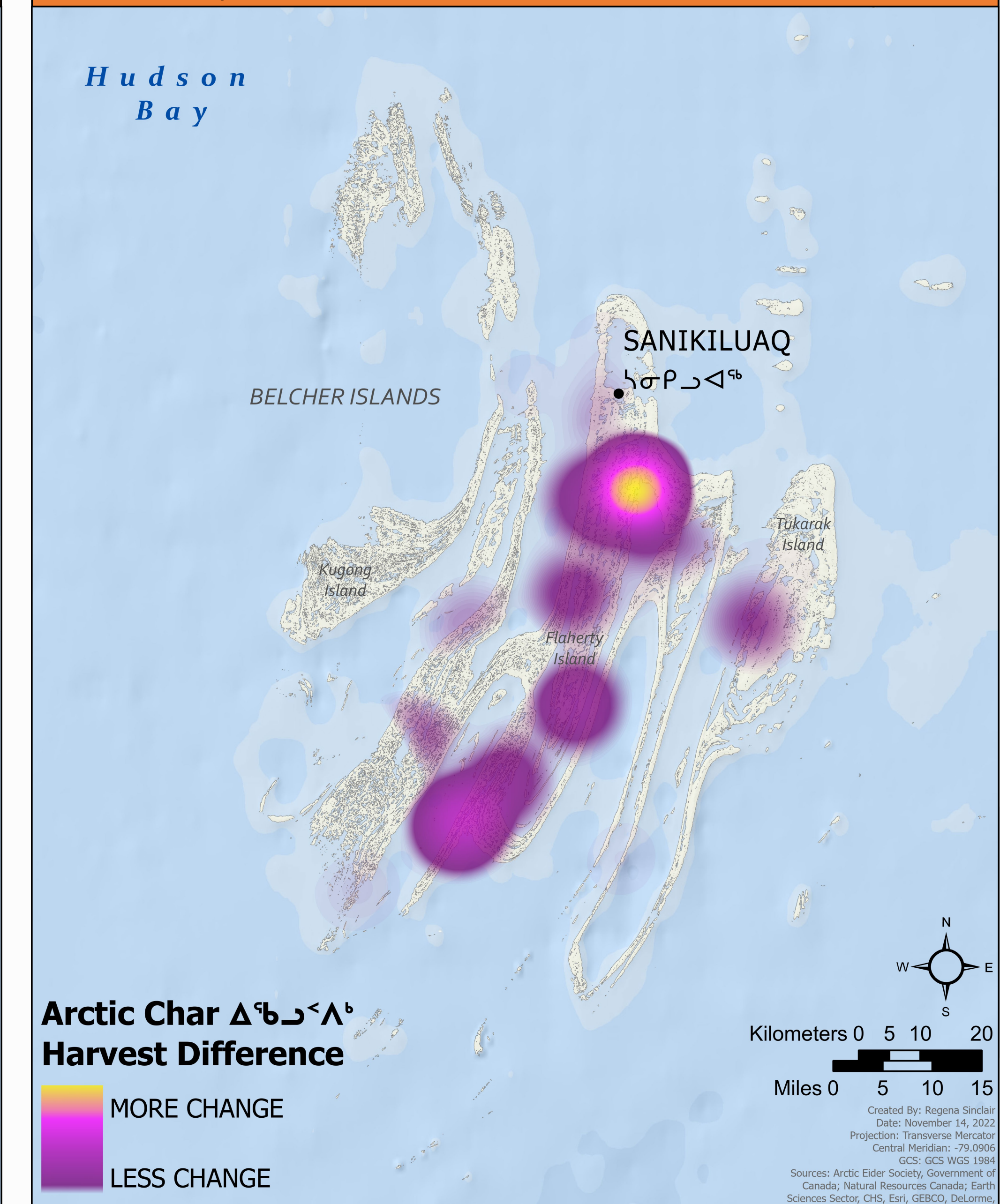
**Figure 4. Map of Arctic Char Harvest Distribution April 1 2020 - March 31 2021\*\*** (Created using ArcGIS Pro 3.0.2)



**Figure 5. Map of Arctic Char Harvest Distribution April 1 2021 - March 31 2022\*\*** (Created using ArcGIS Pro 3.0.2)



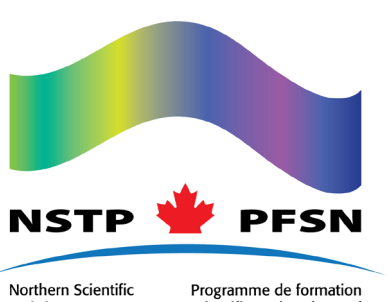
**Figure 6. Map of Arctic Char Harvest Distribution Change Between April 1 2020 - March 31 2022** (Created using ArcGIS Pro 3.0.2)



\*Posts within 50m of shore considered saltwater location \*\*Trips and posts with hidden locations and within 200m of Sanikiluaq not mapped

## What Was Learned:

- Graphs of the seasonality and intensity of Arctic char harvesting can be used and expanded upon in the future to track patterns in Arctic char seasonal migration timing, harvest locations, and harvesting numbers. This data could be used to monitor changes in fish population health and habitat.
- Mapping Arctic char harvest distribution documented with SIKU can help identify priority areas for harvesting and monitoring within the QPA.
- Figure 6 shows a slight change in Arctic char fishing intensity and locations over the two-year period. As additional years of data are collected, these types of results can be evaluated to see how this is related to changes in SIKU use (such as an increase of users) and to long-term climate change.
- The QPA harvest resource inventory will grow with each new year of data collected using SIKU, supporting a knowledge base of harvesting within the QPA.
- The Sanikiluarmit monitoring data collected on SIKU for this resource inventory shows the capacity of SIKU as a tool to support QPA priorities and other Indigenous-led conservation planning and management initiatives.



<https://straightupnorth.ca/qikiqtait-protected-area-development/>

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