

Kinngait, P™L∆c, "High Mountains"

Introduction

Kinngait is located on Dorset Island, near Foxe Peninsula, at the southwestern tip of Baffin Island in the Qikiqtaaluk region of Nunavut¹. The traditional economy plays an important role, with many residents participating in hunting, fishing, and gathering activities¹. The community's hunting and fishing area spans approximately 300km north to south, 450km east to west including western portions of Hudson Strait and southeastern portions of Foxe Basin and Foxe Channel². Residents are also involved in other occupations, including sales and services, government, and trades¹. Adjacent to Dorset Island is Mallikjuag Island, which is home to Mallikjuag Territorial Park³. The Park preserves several important historical sites and supports many forms of plant and animal life including, wildflowers and nesting birds. The Dewey Soper (Isulijarnik) Migratory Bird Sanctuary is located north of the community and is an important habitat for snow geese and many other nesting birds⁴.

Community Restoration Priorities

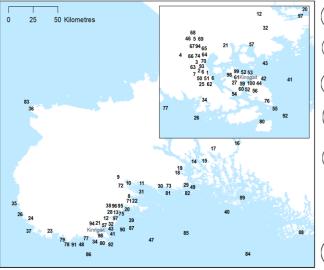
- 1. Ghost net clean-up is required at two lakes close to town; 2. Monitoring of walrus haul-outs (abundance, distribution) so impacts from increased shipping and routing can be better understood. There is also fear of increased shipping due to Baffinland Phase 2 proposal, which will see the volume of ships increasing in key coastal areas and walrus habitat, and
- 3. Coastal clean-up required at two soapstone quarry sites (Aberdeen Bay and Kelt Inlet) to remove 45-gallon drums and naphtha cans.

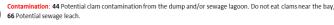
Community Map

The CRN research team visited the community in March 2021.

Kinngait

Map Legend







Debris and garbage: 6 & 7 Clean-up required, 27 Clean-up scheduled; designated territorial park. 52 Dump: no fence, so wind blows garbage all around community, 59 Sewage lagoon, 63 - 66 Old nets (1970s) stuck in ice, 67 - 69 Garbage, needs to be cleaned up; key fishing site, 71 Old nets; cabins in the area (~6). Best char: fatty and bright red.



Building or structure:. 29 Old outpost camp, 30 & 31 Old campsite; lots of garbage, clean-up required, 34 Old campsite; lots of garbage, including snow machines and naphtha cans, 45 Lots of cabins, ~10; clean-up required, 70 Cabins, 100 Site of sunken ship (1960s); potential contamination from metals, 62 Cabins, 73 2-3-hour drive by snow machine. 2 cabins; owners' clean debris from lake every sum



nigration routes: 9, 23 - 25 Migratory corridor for arctic char



Harvesting areas: 50 & 51 Fishing lakes, 57 Fishing site (gill nets and jigging), 75 Old fishing site. Less accessible; far from ocean (cannot access by boat) and not enough snow on trial in recent years to access by snow machine, 76 Land-locked fish, 93 Key fishing sites, 93 & 94 Key fishing sites, 95 & 96 Fish lakes; fishing sites, 97 Beluga harvesting site, 99 Good clam digging, 1 - 5 Key fishing site, 8 Key fishing site; ghost net clean-up required; 4-5 cabins in the area; in the past, safe to travel to area via snow machine until June, but last 5 years ice and trail too dangerous and unpredictable; if more snow, ice thaws faster, **10** Key fishing site; campsite with lots of garbage, **11** Key fishing site, **12** Fishing site; landlocked arctic char; population was in decline but rebounded in recent years; fish smaller and less abundant but overall stabilized again. 13 Fishing site (August); shallow water, 15 - 19 Key fishing site, 35 - 37 Key walrus areas (around islands and points), 38 Fishing lake and popular campsite; clean-up required, 43 Key clam digging site, 46 Popular fish lake and fishing site, 49 Duck eggs,



61 better/safer clam digging (away from sewage outfall), 72 Good fishing lakes, 80 Walrus hunting by boat in winter. reas/routes: 41 Walrus coming closer to community in recent years, 47 Narwhal and beluga migration route. 58 Belugas in the bay in May if no ice obstructing passage; if bowhead whales present in surrounding waters, belugas enter bay to avoid predation, 77 - 79 Lots of walrus in spring and fall, 81 Lots of walrus in summer (over 200), 82 Lots of walrus in summer (over 300); walrus only eat clams, 83 Lots of walrus because lots of clams in and around islands/coastline, 84 & 85 Lots of seal (September), 86 & 87 Seals here in August (move west in spring, east in fall), 88 & 89 Seals everywhere in spring; top of ice; ice critical spring habitat, 98, Beluga in summer when no ice in harbor, 26 Walrus habitat along the coast and towards



Igloolik, present during open water (fall and even winter). Restored area: 21 Previous restoration work completed, 22 Previous restoration work completed; migratory corridor for

arctic char; previous clean-up site (funding provided by HTO), 28 Previous clean-up site (1980s).



ce changes: 42 Floe edge (very thin ice in 2021).

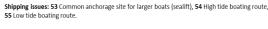


in killer whales, 90-92 Seal population declining in recent years; increase in killer whales. Water issues: 14 Current too strong in recent years: difficult to access as a travel route. 32 Boulders in river obstructing fish passage; rehabilitation required, 23 Fish get stuck due to boulders along pathway; river drying up.



Geographic feature: 21 Walrus island.





ecies change: 20 Less seal spotted more and more every winter in recent years due to decreasing

ice presence and thinner ice, 39 Seal numbers declining in the area, 40 More walrus/polar bears seen

around the little islands in recent years; polar bears eating all the bird eggs, 56 Land-locked fish; no







Fisheries and Oceans

Pêches et Océans

Literature Review

Sea ice is an essential part of Inuit culture and way of life in Kinngait. Old sea ice, grounded icebergs, or the surface of certain ice formations are sometimes used as a source of drinking water by residents⁵. Sea ice is also critically important for travel and accessing hunting grounds.

Attributes	Examples of Environmental Changes and Observations
Sea ice	• Sea ice is becoming thinner and is breaking up earlier in the spring and the melting process is faster, which poses safety risks to the community ² . There has also been an increase in the number of areas that no longer freeze over ⁵ .
Seasonal changes	 Warmer temperatures are the most observed weather change in Kinngait⁵. Residents have noticed fewer days of extreme cold, indicated by the lack of ice fog present; more overcast conditions; warmer winds; and a decreased need to wear caribou skin clothing. Others have also noted that snow is melting faster than before².
Multi-year sea ice	• The timing of sea ice freeze-up is occurring later than in the past; sea ice is becoming thinner; and there is less multi-year ice ⁵ .
Weather	• Community members note that it is getting colder later and warming up earlier ⁵ . There are fewer blizzards and less snow accumulation in the area ⁵ . An increase in unpredictable weather and cloud formations formerly used to predict weather conditions, is no longer reliable ⁵ . It is also windier in the fall, which does not allow for ice formation. Warmer winter temperatures are shortening the ice season, and hunters have less time to utilize the ice, posing a threat to food security for the community ² .

Attributes	Examples of Ecosystem Changes and Observations
Polar bears	 Community members have noted that polar bears seemed to be increasing in abundance but are not seen around the community as often as before².
Walrus	 Walruses are an important food source for residents and the Hudson Strait provides an important overwintering area for them². However, residents have noted that walrus meat is potentially more dangerous to eat now than in the past due to worms found in the meat².
Whales	 Kinngait is situated near a major migration route for belugas that pass in the spring and fall, and numbers seem to be increasing. Bowhead whale abundance also appears to be increasing. Other species such as minke whales and orcas have also been observed in the area².
Seals	• There are not as many ringed seals compared to the past and their population appeared to be declining ² . Some hunters believe the decline is due to polar bears eating too many seal pups or due to an increased presence of orcas in the area ² . Bearded seal populations appear to be healthy but are not typically hunted by community members ² .
Fisheries	 Arctic char appears to be increasing in abundance and are present in many lakes and rivers near the community on Foxe Peninsula². Community members have noted that the lakes with existing commercial char quotas are too far away from the community and can only be accessed two months of the year².
Birds	 Many birds are present throughout the Kinngait region including several varieties of ducks and geese, gulls, ravens, owls, and ptarmigan².
Invertebrates	• Community members note that there appeared to be more clams in the area ² . Blue mussels can be found all along the coast at low tide and were brought to the region in 1999/2000 from Northern Quebec. ²

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

- 1. **Monitoring and testing**: More research on the health and population status of animals that are consumed in the community such as seals, caribou, and fish².
- 2. **Feasibility studies:** Commercial harvests for species including cod, clams, lobster, shrimp, and snow geese². Residents believe there is enough char in lakes that could sustain a commercial quota ².
- 3. **Inuit Qaujimajatuqangit and Western science studies:** Methods to foster traditional knowledge transfer. More Inuit knowledge and Western science studies on sea ice change and impacts on marine and coastal resources⁶.

Selected references

- 1. Aarluk Consulting Inc. (2011). Infrastructure for a Sustainable Cape Dorset. Volume One: Community Priorities. A report prepared for the Government of Nunavut. Retrieved from https://bit.lv/3wzgKeG.
- 2. Government of Nunavut (2018). Nunavut Coastal Resource Inventory Cape Dorset. (unpublished).
- 3. Travel Nunavut (n.d.). Cape Dorset. Retrieved from https://bit.ly/3ilQ8AD.
- 4. Government of Canada (2019). Dewey Soper (Isulijarnik) Migratory Bird Sanctuary. Retrieved from https://bit.ly/3z9n2tU.
- 5. Laidler, G. (n.d.). Sea ice changes, Inuit Siku Atlas. Retrieved from https://bit.ly/3z6iVii.
- 6. Laidler, G. J., & Elee, P. (2008). Human geographies of sea ice: freeze/thaw processes around Cape Dorset, Nunavut, Canada. Polar Record, 44(1), 51-76.

CONTACT

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

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