



## Chesterfield Inlet, ᐱᐱᐭᐭᐭᐭᐭᐭ, Igluligaarjuk, “Place with a few Thule houses”

### Introduction

Chesterfield Inlet, in the Kivalliq region is located on a narrow, fiord like arm of the northwest coast of Hudson Bay that stretches 160 km inland to the Thelon River<sup>1</sup>. In 2016 the population was 437. The economy in Chesterfield Inlet comprises of traditional subsistence harvesting and hunting, and wage-based activities<sup>2</sup>. The waters are home to beluga, seals, walrus, and other aquatic species. Community members seldom travel far because the marine and terrestrial areas adjacent to their area have abundant, productive wildlife populations<sup>3</sup>. Winter leads between land-fast ice and pack ice also restrict eastward travel. Iqalugaarjuup Nunanga Territorial Park is located 90 kilometres from here<sup>4</sup>.

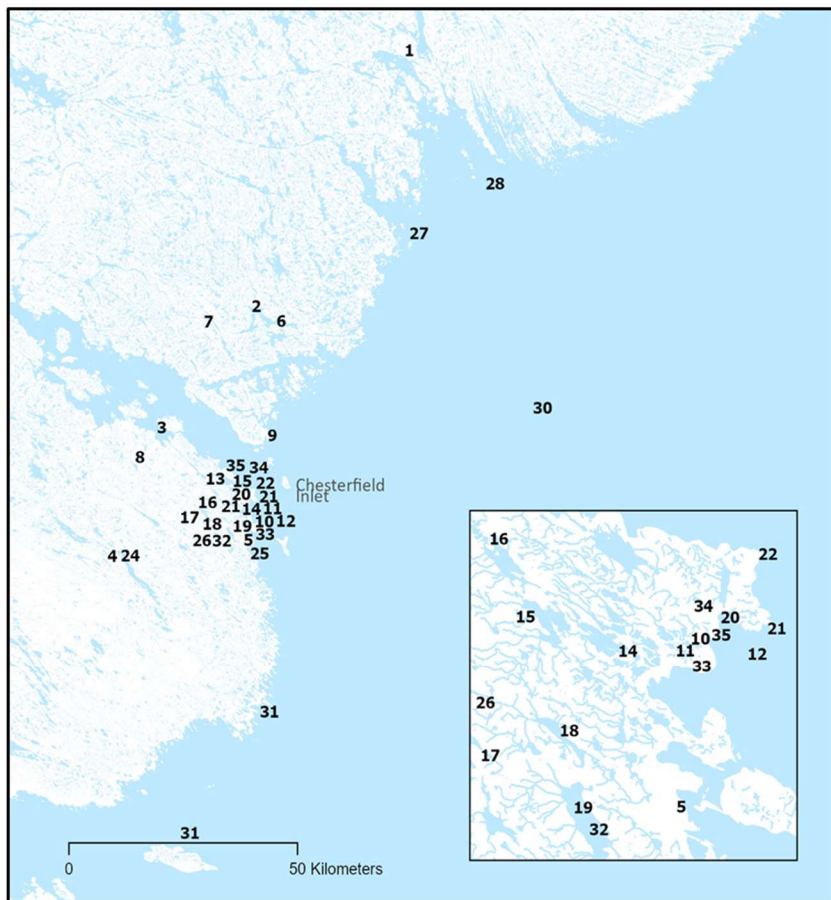
### Community Restoration Priorities

1. A deep seaport for the community; and 2. the mitigation of impacts from shipping.

### Community Map and Workshop Highlights

The CRN research team visited the community in March 2018. According to residents, belugas appear every second year or so, and tend to follow shipping traffic; during shipping season, all the seals leave the bay and move north along the coast to avoid disturbances; fishing is plentiful and accessible (still close to the community); ice is melting from below (currents); and shipping is hard on the community, impacting caribou and pushing them further inland.

### Chesterfield Inlet



### Map Legend

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**Contamination:** 1 Old cannery site, 2 Old DFO Fisheries research site, Freshwater Institute, 45-gallon barrels, 10 & 11 Old military base, construction debris, barbed wire, 20 Suspected old hospital sewage outflow, and 23.
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**Harvesting area:** 3 - 8, 13 - 19, 24 Harvesting sites, and 33 Clams in harbour, mussels everywhere.
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**Mammal Migration:** 9 Seals migrating north to avoid shipping traffic, 26 Table Island - Walrus basking year-round), 27 Walrus migration route), 28 Walrus moving to avoid shipping, and 29 Beluga migrate from Marble island northward in packs.
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**Erosion:** 12 Sock washout with armour rock slipping, and 25 Old washed out culverts, Hamlet trying to build new bridge.
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**Debris and garbage:** 21 Excess seaweed with bad smell, and 30 Checkers Lake - Very muddy as of 2-3 years ago, increased sedimentation.
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**Ice changes:** 31 - 32 Permafrost melting.

## Literature Review

Shipping has increased in recent years due to mining activities inland. Community members have voiced their concerns in 2016 about impacts of ship traffic on the marine environment near the community. Concerns were raised in 2010 and 2013 regarding gold mining at Meliadine and the potential exploitation of uranium between the Thelon and Kazan rivers<sup>3</sup>. Hunters have reported that the increase in shipping from Agnico Eagle's Meadowbank gold mine near Baker Lake is one of the reasons they are seeing fewer marine mammals<sup>5</sup>.

Attributes	Examples of Environmental Changes and Observations
Freshwater levels	<ul style="list-style-type: none"> <li>The summer 2008 was considered to have been relatively dry, leading to lower water levels in lakes and rivers, and within the Inlet. This caused some warming in lake temperatures and considered unhealthy for cold-adapted fish. Lower river levels also reduced spawning by limiting upstream migration<sup>3</sup>.</li> <li>There have been reports that some rivers dry up to the point that fish are caught in pools that continue to dry up. People get together to harvest fish from these areas so the resource is not wasted<sup>3</sup>.</li> </ul>
Winds	<ul style="list-style-type: none"> <li>The area is noted for its windiness, since the inlet is aligned with the prevailing winds from the northwest, which are remarkably strong in winter (mean velocity 8.7 m/s, reaching 36 m/s) and constant, blowing on average 20% of the time<sup>4</sup>.</li> </ul>

Attributes	Examples of Ecosystem Changes and Observations
Polar bears	<ul style="list-style-type: none"> <li>Polar bears were very abundant at the Chesterfield Inlet in mid-November 2008. This may have been due to incomplete freezing of the Inlet and lack of sea ice, which inhibited the bears' northern migration<sup>3</sup>.</li> </ul>
Walrus	<ul style="list-style-type: none"> <li>Some community members consider it unhealthy to eat walrus killed in the vicinity of Rankin Inlet, due to runoff from mining activities in that area<sup>3</sup>.</li> </ul>
Seals	<ul style="list-style-type: none"> <li>Ringed seals were decreasing in number and appeared to be in poor body condition. According to community members they were also not as tasty as in the past<sup>3</sup>.</li> </ul>
Whales	<ul style="list-style-type: none"> <li>Beluga whales were decreasing in numbers. The decrease was thought to be related to shipping noise and near-shore blasting<sup>3</sup>.</li> </ul>
Fisheries	<ul style="list-style-type: none"> <li>Some people consider fish numbers are decreasing, while others noted that aside from some yearly variability, there have been no change. Personal observations may reflect specific events relating to places and times, such as the color of char flesh varies depending on the river system where it is caught<sup>3</sup>.</li> </ul>
Birds	<ul style="list-style-type: none"> <li>Ptarmigan were reported to be less abundant, and they were disappearing. Tundra swans were also noted to be decreasing in number; however, snow geese seem to be increasing greatly<sup>3</sup>.</li> </ul>
Invertebrates	<ul style="list-style-type: none"> <li>Cockles and clams were abundant, based on remains in the stomachs of walrus, from siphon holes noted on the sea floor, and from the presence of empty shells in the intertidal zone. Sea cucumbers were also recorded in the stomachs of bearded seals<sup>3</sup>.</li> </ul>

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

- Fisheries development:** Community members recall an experimental fishery for scallops approximately 10 years ago (2000?). Supporting surveys show a fan-shaped distribution radiating out from the area, with higher numbers of this mollusc in deeper water. Information from this earlier study should be reviewed and revisited<sup>3</sup>.
- Community engagement:** In August 2019, the Minister of Fisheries, Oceans, and the Canadian Coast Guard, noted that progress was being made on the Southampton Island Area of Interest. Working in partnership with the Kivalliq Inuit Association, Fisheries and Oceans Canada identified the area as a priority for protection through community consultations, a peer-reviewed science advisory process and Indigenous knowledge<sup>6</sup>.
- Economic expansion:** Tourism would be a welcomed and a needed industry in the community, providing opportunities for outfitters and possibly bringing people in for sport fishing<sup>3</sup>.

### Selected references

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