



Resolute Bay, ᖃᐅᐱᐅᐅᖃ, Qausuittuq, "Place with no dawn"

Introduction

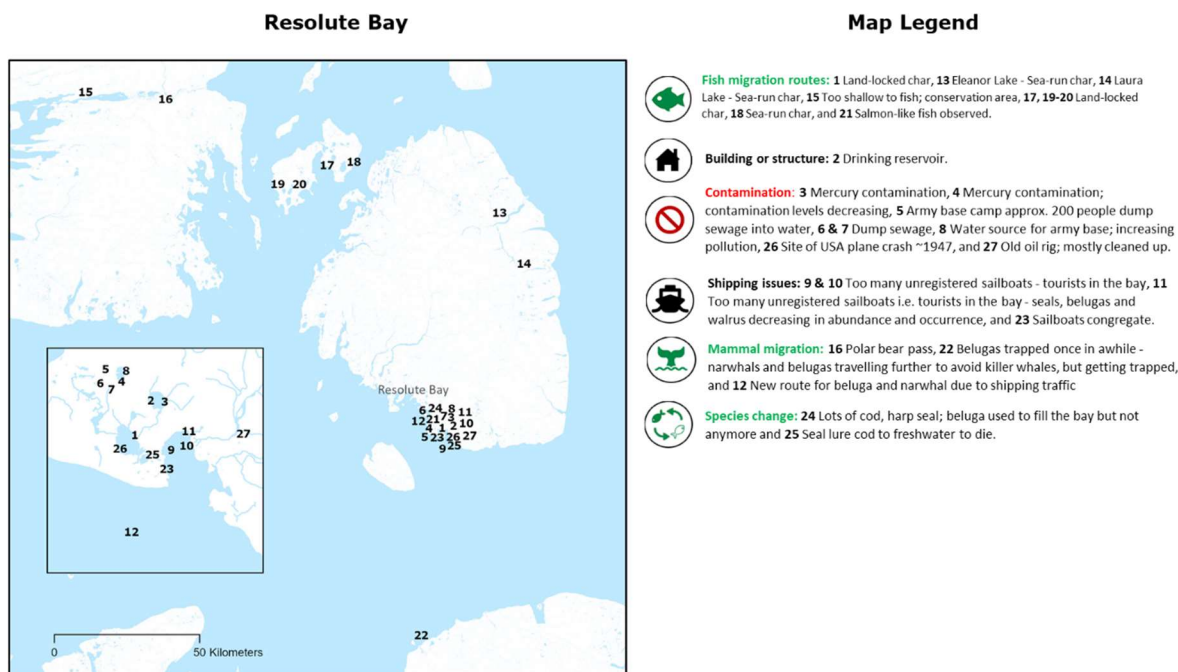
Resolute, in the Qikiqtaaluk Region is the second most northerly community in Nunavut. The Hamlet is named after Resolute Bay, which is the waterway into Parry Channel on the southern coast of Cornwallis Island, and in the middle of the Northwest Passage. In 2016, the population of Resolute Bay was 198. As the gateway to the High Arctic, Resolute Bay is the major stopover for expeditions to the North Pole and to Quttinirpaaq National Park¹. The economy can be characterized as traditional subsistence activities, including hunting, fishing, trapping, and gathering, integrated with wage based economic activities¹. The community's hunting and fishing area includes: Wellington Channel, Barrow Strait, Cornwallis Island, Little Cornwallis Island, Devon Island, Somerset Island, and Griffith Island². National and Territorial parks include Tupirvik Territorial Park, Quttinirpaaq National Park, and the Polar Bear Pass National Wildlife Area on Bathurst island³.

Community Restoration Priorities

1. Regulations for foreign vessels entering the Bay (within the Nunavut Settlement Area);
2. Anchorage regulations for foreign sailboats (must anchor further away from shore);
3. Relocation of the dump (currently beside burial site);
4. Enforcement of waste management policy (Pollution Act) for foreign vessels; and
5. Enforcement of ballast water laws (change ballasts before travelling through Northwest Passage).

Community Map and Workshop Highlights

The CRN research team visited the community in March 2018. Areas of concern were marine pollution including the seismic testing in the 1970s that left a powder on top of the land; abandoned oil barrels that are leaching contaminants; and increased shipping traffic in the Northwest Passage every summer (C3- container vessels? and private yachts). Worsening ice conditions are a problem for fishing in Lancaster Sound, as the ice in the channel is thinning (due to changes in currents and wind direction) and too dangerous. There are also issues with killer whales and their predation on seals and narwhals in deeper waters and an increase in rain, flies, and mosquitoes, thought to be due to climate change. Artic char is too cheap, making it commercially unviable, e.g. a 2000 lb char quota on Somerset Lake is not used.



Literature Review

From 2011-2015 an annual average of 4,542 kilometres of shipping activity occurred within 50 km of Resolute Bay: making it the community with the fourth highest annual average vessel traffic in Nunavut during that period⁴. Where ships anchor is the number one concern because it disturbs marine mammals resulting in fewer being seen in the area⁵. In 2018 residents observed large masses of green plankton travelling with the current toward Baffin Bay once the ice was gone². A study also highlighted similar observations of massive under-ice blooms in the Arctic and called for a re-evaluation of light conditions prevailing under ice during the melt period⁶. The timing of the bloom initiation with melt onset suggests a strong link to climate change where sea ice is both thinning and melting earlier⁶.

Attributes	Examples of Environmental Changes and Observations
Sea ice	<ul style="list-style-type: none"> Residents noted that the ice did not form on the west side until January that year, and it was still there in July². Some thought that this was due to less current, as in 2016 when the ice left faster. There was also thinner ice in 2017 and it was slower to freeze.
Seasonal events	<ul style="list-style-type: none"> On 8 January 2017, a strong earthquake with Mw 6.1 occurred 8° north of the Arctic Circle and 90 km southeast of Resolute, Nunavut, Canada⁷. Residents noted the breakup of sea ice after this event⁴. Residents also noted that it seemed the earth had shifted causing southern and northern winds to form different kinds of snow and ice formations. One of the consequences of changing environmental factors was people could no longer find their way home based on ice and snow formations². From 1960s to the 1980s snow was year-round, but only comes later in the year, and the ice melts later and faster².

Attributes	Examples of Ecosystem Changes and Observations
Polar bears	<ul style="list-style-type: none"> There were more polar bears than there used to be and that their fat had changed, but populations fluctuate annually².
Seals	<ul style="list-style-type: none"> Ringed, bearded seals, and harp seals (in the summer) have been reported throughout Jones Sound. Other important areas include Lancaster Sound and Barrow Strait, where seals are present year-round⁸.
Whales	<ul style="list-style-type: none"> Beluga whales occur in summer along the south coast of Devon Island. During July, August and September, large numbers are sometimes seen in Erebus and Terror, Radstock and Maxwell Bays, which could be important feeding grounds⁸. Small numbers of bowhead whales move west through Lancaster Sound in June and July and return along the same route in September and October⁸.
Fisheries	<ul style="list-style-type: none"> Community members fish for Arctic char in the lakes and rivers along the south and east coasts of Cornwallis Island annually. Eleanor Lake is the most fished lake on the island⁸.
Birds	<ul style="list-style-type: none"> important breeding areas include Cape Liddon and Prince Leopold Island⁹ for northern fulmars, thick-billed murrelets, black-legged kittiwakes, guillemots, and glaucous gulls nesting between late April and September⁸. Canada geese appeared to be travelling further north than in the past. Owls, snow buntings, gulls, sandpipers, and plovers were also observed more often now². Ravens were also being seen².

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

- Economic development:** Studies to assess a fishery in the area that would be community managed. Other residents⁴ suggested sports hunting might be a better opportunity¹⁰.
- Low impact shipping corridors project:** This study will be a framework to guide future federal investments to support marine navigation safety in the North, including improved charting and increased hydrography, in partnership with Northerners¹¹.
- Community-based permafrost monitoring sites:** In 2008, the Geological Survey of Canada collaborated with six communities (Arctic Bay, Clyde River, Igloolik, Pangnirtung, Pond Inlet, and Resolute Bay), and the Nunavut Departments of Environment and Community and Government Services to establish new permafrost monitoring sites. The new monitoring sites provide information to improve the characterization of permafrost thermal state and terrain sensitivity in the communities¹².

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