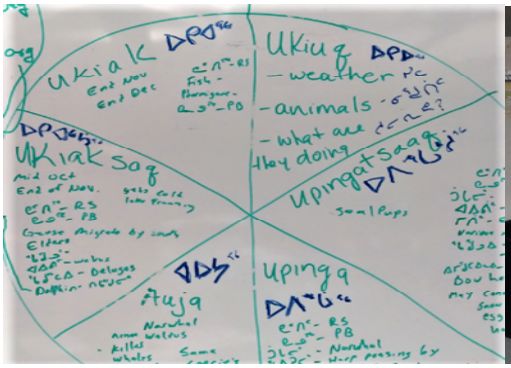
Qikiqtaaluk Inuit Qaujimajatuqangit and Inuit Qaujimajangit Iliqqusingitigut for the Baffin Bay and Davis Strait Marine Environment

This report was prepared for the Qikiqtani Inuit Association. It is the Inuit Qaujimanituqangit and Inuit Qaujimajangit Iliqqusingitigut contribution for the Baffin Bay and Davis Strait oil and gas strategic environmental assessment being prepared by the Nunavut Impact Review Board

November 2018



Cover

Arctic Bay workshop

L to R: Letia Kalluk, Qaumayuk Oyukuluk, Isaac Shooyook, Sakiasie Qaunaq, Steven Lonsdale, Tiivi Qiatsuk, and Jeremy Attagutsiak

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Inuit Qaujimajatuqangit figure credits

Figure 1 is credited to Inuit Heritage Trust Incorporated (2014).

The Inuit Qaujimajatuqangit and Inuit Qaujimajangit Iliqqusingitigut Figures (2-17) generated for this report were developed from the following datasets:

- Baffinland Traditional Knowledge Study dataset (2008)
- Inuit Land Use and Occupancy dataset (1974 – 1975)
- Government of Nunavut Coastal Resource Inventory (2008 – 2015)
- Nunavut Atlas dataset (1992)
- Qikiqtani Inuit Association's Seismic Workshop, Iqaluit dataset (2015)
- Qikiqtani Inuit Association's Seismic Consultations dataset (2015)
- Qikiqtani Inuit Association's Inuit Owned Land Designation dataset (2014 – 2017)
- Qikiqtani Inuit Association's Lancaster Sound Consultations dataset (2012 – 2013)
- Qikiqtani Inuit Association's Strategic Environmental Assessment Consultations dataset (2017 - 2018)

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Letia Kalluk
Isaac Shooyook

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Elijah Panipakoocho
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Pangnirtung ("a place of bull caribou")

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Clyde River (*Kangiqtugaapik*, "nice little inlet")

David Iqaqrialu
Alooloo Kidlapik
Michelle Illauq
Patrick Palituq

Grise Fiord (*Ausuiktuq*, "the place that never thaws")

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Confidentiality and Information Sources

This document contains information from previously published IQ, as well as, harvester knowledge from more recent research. It also contains knowledge collected by the Qikiqtani Inuit Association and Sanammanga Solutions Inc. in 2017 and 2018 specifically for the Baffin Bay and Davis Strait oil and gas strategic environmental assessment. The Qikiqtani Inuit Association has shared select pieces of IQ collected for this project, but not the original community reports.

How to Read this Report

It is accepted that this report will be used in the strategic environmental assessment (SEA) process led by NIRB, which will provide a final report to the Federal Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade. The IQ report is also for Qikiqtaaluk Inuit, and there is an expectation that it be compiled in such a way that the flow and tone is recognizable to community members. Therefore, the references have been kept out of the document for ease of reading. For reviewers interested in the content, the "Reference" section contains all the sources for the content of this report.

Acronyms and Abbreviations

CLARC	Community Land and Resource Committee
CLO	Community Liaison Officer
GN	Government of Nunavut
HTO	Hunters and Trappers Organization
INAC	Indigenous and Northern Affairs Canada
IQ	Inuit Qaujimajatuqangit and Inuit Qaujimajangit Iliqqusingitigut
N/A	Not Available
n.d.	No date
NIRB	Nunavut Impact Review Board
NTI	Nunavut Tunngavik Incorporated
QIA	Qikiqtani Inuit Association
SEA	Strategic Environmental Assessment

Translated Words

Inuktitut	Translation/Description
Aglu	Seal breathing hole
Amitturmiut	Igloolik and Hall Beach Inuit
Arvaaq	Bowhead calves
Auja	Open water with some drifting pack ice, daylight period long but decreasing
Aukkarniit	Polynyas (areas of ocean that do not freeze over that are surrounded by sea ice)
Aulajuq	Moving ice
Iglu	Snow-house
Igunaq	Fermented meat
Ilagiit nunagivaktangat	A place used regularly or seasonally for hunting, harvesting and/or gathering. Special places, such as burial sites of loved ones, or sites with abundant game
Inua	Animal spirit
Inuit Qaujimajangit Iliqqusingitigut	Inuit Qaujimajangit Iliqqusingitigut is what Inuit are familiar with in their culture. It is how Inuit see their culture; their customs; their practices.
Inuit Qaujimajatuqangit	Inuit Qaujimajatuqangit is the ancient knowledge; the original knowledge. Knowledge older than present day elders. It is the core on which Inuit culture was built.
Inukshuk (pl. inuksuit)	Stone landmark or cairn
Inukshuk aiviqtalimmut nalunaikkutaq	Inuksuk signalling a good place to hunt walrus
Inukshuk natsiqtalimmut nalunaikkutaq	Inuksuk signalling a good place to hunt seals
Inummarik	To become a genuine Inuk; a whole human being

Inuktitut	Translation/Description
Iqsinaqtuit	Those that make one frightened Wild animals
Kamaaluit	Old fashioned footwear Long boots such as hip waders
Kamiik (pl. kamiit)	Sealskin or caribou boots Any type of boot
Kangiqtugaapik	Clyde River
Maktaaq	The skin and blubber of a whale
Maligait	Rules; ordinance
Mauliqtuq (pl. Mauliqtut)	Hunting at breathing holes in winter and early spring
Misiraq	A seal oil dip that is made from blubber used for dipping meat to add flavour and nutrients
Mittimatalingmiut	Pond Inlet Inuit
Nagguti	Tidal cracks
Nanurjuk	Like having the spirit of a polar bear
Niiqquluktaq	Sound of ice rubbing
Pikialasorsuaq	North Water Polynya
Piqalujat	Iceberg
Piqujait	Habit, custom Acts, similar to rules (see *maligait* above)
Pisuktiit	Walkers
Pualuuk	Mittens
Puijiit	Sea Mammals
Pukajaak	Crystallized snow on land or sea ice usually under new snow; very cold; good for drinking water Hard snow under soft snow
Qayaq	A narrow hunting boat made of sealskin stretched over a wood or bone frame used for hunting. Considered a man's hunting boat.
Qikiqtaaluk	Baffin region

Inuktitut	Translation/Description
Qingmiqutiksaq	Dog food
Qulliq	Stone lamp Oil lamp
Saluraq	Ice thin enough for seals, walruses and whales to break with their heads only; ice not safe for hunting or travelling
Siku	Sea ice
Sila	Wind and weather spirit; today it means just “weather”
Silaluk	Rain
Silaqqilirtuq	Bad weather
Silaqqiqtuq	Good weather
Silatuniq	Inuit wisdom
Sinaaq	Floe edge or the place where solid ice meets water
Tajjuajuq	Animals that move together, coming all at once as the same time
Tariup Piruqtungit	Sea Plants
Tariup imaq	Sea Water
Tirigusuusiit	Taboo
Tunguniq / Tunnguniq	Literally “water sky” or the dark fog that rises from the floe edge water in the winter time
Tununirmiut	Pond Inlet Inuit
Tusaqtuut	The “news season”. A time of gathering on the ice when people are again able to hear the news from other camps. Month of November
Tuvaq	Landfast ice
Ukiaksaaq	Open water with ice beginning to form late in the season along the shoreline; snow on the land and ice on the lakes; daylight period short and decreasing Fall
Ukiaq	New ice hardens and thickens to form extensive areas of landfast or drifting pack ice; snow on the land and ice; 24 hour darkness Winter

Inuktitut	Translation/Description
Ukiassaaq	When lakes and streams begin to freeze and nights become frosty; open water with ice beginning; snow on the land and ice on the lakes; daylight period short and decreasing Early fall
Ulu	Inuit knife
Umiaq	A large, open boat made of skins stretched over a wooden frame or whale bones that is propelled by paddles and used for transporting goods. Generally considered a women's boat for carrying freight to new camping or hunting grounds
Upirngaarq	Progressive snow melt, widening of ice leads, and disappearance of ice; 24 hour daylight Spring
Upirngasaaq	Period of maximum ice cover and ice thickness; snow on the land and ice; daylight period long and increasing Early spring
Uqalurait	The snowdrifts created by the north by northwest prevailing winds would guide travellers
Uqqurmiut	Pangnirtung Inuit

Species

NB. To the extent possible, the Inuktitut word and the Latin names for the species identified in either the pre-existing research, or during the QIA research were confirmed. Not every researcher noted the Inuktitut or the Latin terms. In some documents, only the common English names were provided.

	Inuktitut		English	Latin
	Syllabics	**Transliteration**		
ᐳᐃᔩᑦ / Puijiit / Sea Mammals	N/A	N/A	Fin whale	*Balaenoptera physalus*
	ᐃᐸᒃ	Ipak	North Atlantic Right Whale	*Eubalaena glacialis*
	ᐃᒃᑮᓇᖅᑐᒥ ᓯᒡᒍᑲᓪᓚᓖᑦ	Ikkiinaqtumi siggukallaliit	Northern Bottlenose Whale	*Hyperoodon ampullatus*
	ᐊᐃᕕᖅ	Aiviq	Walrus	*Odobenus rosmarus*
	ᐋᕐᓗᒃ	Aarluk	Killer whale	*Orcinus orca*
	ᐊᕐᕕᖅ	Arviq	Bowhead whale	*Balaena mysticetus*
	ᑎᑳᒍᓪᓕ	Tikaagulliq	Minke Whale	*Balaenoptera acutorostrata*
	ᑎᑳᒍᓪᓕᒃ ᖃᑯ ᖅ ᑕᓕᒃ ᓴ ᓂᕋ ᒍ ᑦ ᐋᕐ ᓘᔭ ᖅ	Tikaagullik Qakuqtalik saniraagut aarluujaq	Atlantic White-sided Dolphin	*Lagenorhynchus acutus*
	ᑑᒑᓕᒃ	Tuugaalik	Narwhal	*Monodon monoceros*
	ᑕᓕᕈᑯᑖᓖᑦ ᑎᑳᒍᓪᓕᐅᔭᑦ	Talirukutaaliit tikaagulliujat	Finned Pilot Whale	*Globicephala melas*
	ᑭᒍᑎᓕᒃ	Kigutilik	Sperm Whale	*Physeter macrocephalus*
	ᓄᓇᕐᐸᓯᑦᑐᒥ ᑎᑳᒍᓪᓕᐅᔭᐃᑦ	Nunarpasittumi tikaagulliujait	Harbour Porpoise	*Phocoena phocoena*
	ᕿᓚᓗᒐᖅ	Qilalugaq	Beluga	*Delphinapterus leucas*
	ᐅᒡᔪᒃ	Ujjuk	Bearded Seal	*Erignathus barbatus*
	ᓇᑦᑎᖅ	Nattiq	Ringed Seal	*Phoca hispidu*
	ᓇᑦᓯᕙᒃ	Nattivak	Hooded Seal	*Cystophora cristata*
	ᖃᐃᕈᓕᒃ	Qairulik	Harp Seal	*Pagophilus groenlandicus*
	ᖃᓯᒋᐊᖅ	Qasigiaq	Harbour Seal	*Phoca vitulina*

	Inuktitut		English	Latin
ᐱᓱᒃᑎᑦ /Pisuktiit / Walkers	ᓇᓄᖅ	Nanuq	Polar Bear	*Ursus maritimus*
ᐃᒫᓂᒥᐅᑕᐃᑦ ᐆᒪᔪᑦ / Imaanimiutait Uumajut / Underwater Animals	N/A	N/A	Sand Lance	*Ammodytes hexapterus*
	ᐊᒻᒨᒪᔪᖅ	Ammuumajuq	Truncate Softshell Clam	*Mya truncata*
	ᐃᒡᓕᒑᖅ / ᖁᓖᓕᒑᖅ	Igligaq / Quliiligaq	Capelin	*Mallotus villosus*
	ᐃᖃᓗᒃ	Iqaluk	Arctic char	*Salvelinus alpinus*
	ᐃᖃᓗᒃᔪᐊᖅ	Iqalukjuaq	Greenland shark	*Somniosus microcephalus*
	ᑲᓇᔪᖅ	Kanajuq	Sculpin	*Cottoidea sp.*
	ᑲᓇᔪᖅ	Kanajuq	Sculpin	*Myoxocephalus scorpioides*
	ᑭᖑᒃ	Kinguᓄ	Amphipods; Northern Krill; Mysid Shrimp	*Amphipoda; Meganyctiphanes norvegica; Americamysis sp.*
	ᑭᖑᒃᐸᒃ	Kingukpak	Northern Shrimp; Striped Shrimp	*Pandalus borealis; Pandalus montagui*
	ᐊᑯᑭᑦᑐᒥᓐᖓᖅᓯᒪᔪᖅ ᐅᒑᖅ	Ogac	Greenland cod	*Gadus ogac*
	ᓇᐅᓚᖅᓇᖅ	Naularnaq Pujjuuti	Crayfish	*Austropotamobius pallipes*
	ᓇᑖᖅᓇᖅ / ᖃᓕᕋᓕᒃ	Nataarnaq / Qaliralik	Greenland Halibut / Turbot	*Reinhardtius hippoglossoides*
	ᖁᔾᔭᐅᓐᓇᖅ	Qujjaunnat; Qujjaunnaq	Arctic Eelpout	*Lycodes reticulatus*
	ᑕᓪᓗᕈᓐᓇᖅ	Tallurunnaq	Icelandic Scallop	*Chlamys islandica*
	ᐆᒑᖅ	Uugaq	Arctic cod	*Boreogadus saida / Arctogadus glacialis*
	ᐅᕕᓗᒃ	Uviluq	Blue Mussel	Mytilus edulis
	ᐆᒑᖅ	Uuraq	Atlantic Cod	*Gadus morhua*
	ᐃᖃᓗᒃᐱᒃ	Iqalukpik; Kapisalirksoak; Kapisilik;	Atlantic Salmon	*Salmo salar*

	Inuktitut		English	Latin
		Kavisilik; Kebleriksorsoak; Kumaliq; Saama; Saamakutaak; Saamarug; Sama		
	ᐃᒡᓕᒐᖅ; ᐃᒡᓕᓐᓇᖅ	Igligaq	Capelin	*Mallotus villosus*
	N/A	N/A	Grenadier	*Coryphaenoides rupestris*
	ᑲᐱᓯᓕᒃ	Kapisilik	Herring	*Clupea harengus*
	ᓂᐱᓴ	Nipisa; Kerak; Qeraq	Northern wolfish	*Anarhichas denticulatus*
	ᑭᖑ	Kingu	Amphipods	*Amphipoda*
	ᐊᒻᒧᒪᔪᖅ	Ammumajuq	Clams	*Mya sp.*
	N/A	N/A	Squid	??
	ᑭᖑ	Kingu	Krill	*Meganyctiphanes norvegica*
	??	??	Octopus	??
	ᑕᓪᓗᕈᓐᓇᖅ; ᑕᑉᓗᖅᔭᖅ; ᑕᑉᓗᔭᖅ	Tallurunnaq	Scallops	*Chlamys islandica*
	ᑭᖑᒃᐸᒃ	Kingukpak	Shrimp	*Pandalus borealis*
	ᒥᖅᑯᓕᒃ; ᐃᑎᐅᔭ	Miqqulik; Itiuja; Nuvaqqiq Itiq	Urchin	*Strongylocentrotus pallidus*
	ᓯᐅᓐᓇ/ᐅᔾᔪᓐᓇᖅ	Siunna; Ujjunnaq; Siutirluk	Whelk	*Buccinium sp.*
	N/A	N/A	Worms	N/A

	Inuktitut		English	Latin
	Syllabics	Transliteration		
ᑕᕆᐅᑉ ᐱᕈᖅᑐᖏᑦ./ Tariup Piruqtungit./ Sea Plants	ᑯ ᐊᓐ ᓂᖅ	Kuanniq	Edible Kelp, seaweed	*Alaria marginata*
	ᕿᖅ ᑯ ᐊᖅ	Qiqquaq	Hollow Stemmed Kelp	*Saccharina longicrurus*
ᑎᒥᐊᑦ/ᑎᖕᒥᐊᑦ/ Tingmiat / Birds	ᑲᔾᔨᖅᑑᖅ	Kajjiqtuuq	Red breasted Mergansers	*Mergus sp.*
	ᐃᓱᙳᖅ	Isunngaq	Long-tailed Jaeger	*Stercorarius longicaudus*
	ᑲᖑᐃᑦ ᐊᖏᓂᖅᓴᑦ	Kanguit anginirsat	Greater Snow Geese	*Chen caerulescens atlantica*
	ᓴᐅᕌᖅ	Saurraaq	Red-necked Phalarope	*Phalaropus lobatus*
	ᓯᔾᔭᕆᐊᖅ	Sijjariaq	Sandpipers	*Calidris sp.*
	ᐊᒃᐸᐃᑦ ᐊᐃᑉᐸᖏᑦ	Akpait aippangit	Razor Bill	*Alca torda*
	ᑐᕝᕕᑎᑎᖅᑭ ᐅᖅ	Tuvvititiqiuq	Ruddy Turnstone	*Arenaria interpres*
	ᑕᑎᒡᒑᕐᔪᐊᖅ	Tatiggarjuaq	Sandhill Crane	*Grus canadensis*
	ᐊᒡᒋᐊᕐᔪᒃ (ᐊᒡᒋᖅ)	Aggiarjuk (aggiq)	Long tailed Duck (Oldsquaw)	*Clangula hyemalis*
	ᐊᑉᐸ	Appa	Murre (Thick-billed)	*Uria lomvia*
	ᐊᒃᐸᓕᐊᕐᔪᒃ	Akpaliarjuk	Dovekie	*Alle alle*
	ᒥᑎᖅ ᐊᒪᐅᓕᕐᔪᐊ ᖅ	Mitiq Amaulirjuaq	Common Eider	*Somateria mollissima*
	ᓯᔾᔭᕆᐊᖅ	Sijjariaq	Red Knot	*Calidris canutus*
	ᐃᒥᖅᑯᑕᐃᓚ ᖅ	Imiqqutailaq	Arctic tern	*Sterna paradisaea*
	ᑲᒡᓗᓕᒃ	Kaglulik	Arctic Loon	*Gavia arctica*
	ᑲᖑᖅ	Kanguq	Snow Goose	*Chen caerulescens*
	ᒥᑎᖅ ᕿᖕᒑᓕᒃ	Mitiq qingaalik	King Eider	*Somateria spectabilis*
	ᓇᐅᔭᑦ	Naujat	Gulls (various)	

	Inuktitut		English	Latin
	Syllabics	**Transliteration**		
	ᓂᕐᓗᒃ ᐅᓗᐊᔪᓗᒃ	Nirlik uluagullik	Canada Goose	*Branta canadensis*
	ᓂᕐᓗᖏᓐᓇᖅ	Nirlingnaq	Brant Goose	*Branta bernicla*
	ᓂᕐᓗᒃ	Nirlik	White-fronted goose	*Anser albifrons*
	ᐱᖅᑎᐅᓪᓚᖅ	Pittiulaaq	Black Guillemot	*Cepphus grylle*
	ᖃᖅᓴᐅᖅ	Qaqsauq	Red-throated Loon	*Gavia stellata*
	ᖃᖅᔪᓕᓗᒃ	Qaqulluk	Northern Fulmar	*Fulmarus glacialis*
	ᖁᔭᕐᒃ	Qugjuk	Tundra Swan	*Cygnus columbianus*
	ᑎᖅᑎᖏᖅ	Tiratiraaq	Black-legged Kittiwake	*Rissa tridactyla*
	ᑐᓕᓂᕐᐸᖅ	Tuulligjuaq	Common Loon	*Gavia immer*
	ᑐᓕᓂᕐᐸᖅ	Tuulligjuaq	Yellow-billed Loon	*Gavia adamsii*

Spelling of Seasons

Each Qikiqtaaluk community has a preferential spelling for seasonal terms. Below are the spellings for the seasons for each of the consulted communities. For the purpose of the report, one common spelling was used.

	Generic Spelling of the Seasons					
	ᐅᑭᐅᖅ Ukiuq	**ᐅᐱᖏᓪᓗᓴᖅ Upirngasaaq**	**ᐅᐱᖏᓪᓗᖅ Upirngaaq**	**ᐊᔪᐅᖅ Aujaq**	**ᐅᑭᐊᓴᖅ Ukiassaaq**	**ᐅᑭᐊᖅ Ukiaq**
Communities	**winter**	**early spring**	**late spring**	**summer**	**early fall**	**fall, early winter**
Grise Fiord	Ukiuq	Upirngaaq	Upirngu	Auja	Ukiaksaaq	Ukiaq
Arctic Bay	Ukiuq	Upirngasak	Upirngu	Auja	Ukiaksaaq	Ukiak
Pond Inlet	Ukiuq	Upirngasak	Upirngu	Auja	Ukiaksaaq	Ukiak
Clyde River	Ukiuq	Upingatsaaq	Upinga	Auja	Ukiaksaq	Ukiak
Pangnirtung	Ukiu	Upingatsak	Upinga	Auja	Ukiatsuq	Ukiarataq
Qikiqtarjuaq	Ukiuq	Upingatsaaq	Upinga	Auja	Ukiatsaq	Ukiuliqtuq

Foreword

To use Inuit Qaujimajatuqangit (IQ) you must first know what it is and where it came from. There are many different descriptions of it and this is just one. We tried to reflect all the aspects of it in this wording knowing and respecting that other descriptions exist.

"Inuit Qaujimajatuqangit is a morality that is the base for Inuit existence. It is the belief system at the core of Inuit identity and governs Inuit society. It is born through a collective effort to survive in extreme conditions where no one else could and there is no other way to do so but together. Within this ideal lives a great life-affirming admiration to the land and animals. It is about living through helping each other. It is the Inuit way."

This report is a collection of IQ gathered from six communities nearest to the Baffin Bay/Davis Straight marine area and it is more than one year in the making. In the beginning, I often questioned if I was best suited to help with the collection of such precious information. Being in my early 40's and not having full fluency in Inuktitut seemed to present barriers in relating to the elders in the communities. They soon put those doubts to rest and they presented me with profound traditional knowledge through stories, comments, discussions and daily interactions. I was constantly encouraged and I was especially grateful when one elder told me in Inuktitut, "What you are doing is important. Finally someone is hearing us".

Lately, I have observed a movement within Canada to seek out and use IQ. Ironically, Inuit have been advocating for generations to be heard, for our knowledge base to be recognized. We have always known Inuit Qaujimajatuqangit to have great value and now others are starting to see this importance.

There are attempts to incorporate IQ into the processes of existing western-based institutions- schools, governments, conservation groups, and organized networks of scientists. Understandably, this is something that many groups are struggling with. It is an extremely challenging task and it must be done with Inuit, not only as knowledge keepers but as active decision making partners.

IQ cannot be separated from Inuit. This is something that we were well aware of throughout the entire process. We made sure to keep the information gathered close to the original knowledge holders so that it was not misinterpreted or used in manner that they did not intend. It is theirs to share and we must use it under their terms. IQ is a holistic belief that is deeply personal. The knowledge that people possess have come from generations of families and it is passed through daily interactions with aunts, uncles, parents, grandparents and other family members. With that understanding, it cannot simply be segmented to fit a process.

Mainstream efforts seem to be focussed on molding IQ or taking parts of it to fit when perhaps the effort should be to mold the process. To make one view compatible with another is what we are trying to do together, which is coincidentally the definition of reconciliation. It is our attempt to join IQ and science to make informed decisions that reflect people's priorities and values.

This whole experience has enriched me greatly and I was honored to have built these relationships with the people I met. The gratitude I was given by all the participants was humbling. It was a little intimidating at first to chair meetings with all these elder leaders but as mentioned previously, they put my doubts to rest quickly. I was greeted many times with huge smiles saying, “iksivautaa!” (Mr. Chair). I’d like to thank all the members of the IQ Committees, the CLOs, my co-workers here at QIA, Heidi Klein, numerous community members, HTOs, CLARCs and my working partners at the NIRB, INAC, NTI, and GN.

Steven Lonsdale, QIA, Environmental & Regulatory Affairs Advisor

The greatest peril of life lies in the fact that human food consists entirely of souls. All creatures that we have to kill and eat, all those that we have to strike down and destroy to make clothes for ourselves, have souls, like we have, souls that do not perish with the body, and which must therefore be propitiated lest they should revenge themselves on us for taking their bodies.

Ivaluardjuk, Amitturmiut, Rasmussen 1929:56 as reported in Bennett and Rowley (2004; p. 43)

Not all Inuit have a job. Many Inuit depend on fish and seals in the spring. The animals on land and sea are of great concern. The animals must also have food to survive. If oil were to be spilled in the sea or on the land, animals would not have their food. Therefore they would become scarce. So it is that the danger of oil can be seen.

Leo Ussak, Rankin Inlet, as reported in Land Use and Occupancy, Vol. I (1976; p. 238)

1 Introduction

A person can save another just by giving advice, for example on what is the best way to go while travelling on water, as long as the advice is followed. One should pay attention to sound advice when someone with experience speaks.
Donald Suluk as reported in Bennett and Rowley (2004, p. 115)

In 2017, the Nunavut Impact Review Board (NIRB) was given the responsibility for the completion of a strategic environmental assessment (SEA) related to the potential Baffin Bay and Davis Strait oil and gas development. The findings of the assessment and final report are to be submitted to the Federal Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade. As part of the process, the Qikiqtani Inuit Association (QIA) was identified to collect and contribute the IQ. This report is the public summary of the knowledge.

This report features new and previously published IQ collection. The new work included interviews and mapping with Inuit knowledge holders in the communities of Arctic Bay, Pond Inlet, Clyde River, Pangnirtung, and Qikiqtarjuaq[1]. In addition, Sanammanga Solutions Inc. undertook a literature search to compile a broader record of Inuit knowledge for the region. The approach is summarized in Appendix A.

1.1 Report Organization and Tone

This report has two distinct parts: Inuit worldview and relationship with the environment, and Inuit knowledge of the marine environment specifically marine animals. The report was organized in such a way so as to support the strategic environmental assessment (SEA).

This report will be used by NIRB in the preparation of a SEA report, which will be submitted to the Federal Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade. At the same time, the report is for Qikiqtaaluk Inuit. This report was compiled and edited in such a way that the flow and tone is recognizable to community members, and easy to read. Therefore, the references have been kept out of the document for ease of reading. For reviewers interested in the content, the "Reference" section contains all the sources used for this report.

[1] Interviews in Grise Fiord had to be cancelled due to weather, but Grise Fiord is represented on the Inuit Qaujimajatuqangit Advisory Committee set up for this project.

2 Inuit Qaujimajatuqangit and Inuit Qaujimajangit Iliqqusingitigut

The term of traditional knowledge originated as an explanation for the knowledge systems and cultural traditions of indigenous communities. Non-Inuit needed a definition to capture the knowledge and culture of other peoples, especially those that are not western. *Inuit Qaujimajatuqangit* is the most frequently used translation for the term traditional knowledge, but it is an awkward translation. To Inuit, it is the ancient knowledge; the original knowledge. It is the knowledge on which the culture was built. To present day Inuit, *Inuit Qaujimajangit Iliqqusingitigut* is thought of as a better term and more reflective of how Inuit see their culture; their customs; their practices. It is how the knowledge has come to be applied as seen in stories, legends, rituals, laws, ecological knowledge, navigation, among other elements that define Inuit. To simplify things for this report, both *Inuit Qaujimajatuqangit* and *Inuit Qaujimajangit Iliqqusingitigut* have been considered and documented as might be needed for the SEA.

2.1 Seasonal Travel

Seasonal travel was part of life. Until the middle of the last century, Inuit were semi-nomadic, following the animals and establishing campsites to meet specific needs. Winter camps were located on sea ice to be closer to ringed seals. Spring camps would be near shores to take advantage of both the sea ice hunting for seals and whales, as well as, inland hunting for eggs laid by newly arrived geese and ducks. Fall campsites were situated close to rivers to coincide with the annual Arctic char runs, where char migrate back from the sea to spawn and overwinter in lakes and rivers. These movements were not random. They followed a specific seasonal pattern, taking advantage of seasonal conditions, animal migrations, and cultural exchanges. In order to survive, an intimate knowledge of the land and seasons was needed.

Inuit understood that the land could be used up, and caution had to be exercised not to inhabit an area for too long. While Inuit did not exercise land ownership, individuals and family units had their areas of use. This recognition can be seen in “miut” as in Tununirmiut or Uqqurmiut the people of Pond Inlet or Pangnirtung, respectively. There is no possession of the land *per se*, but due to the intimate and invested knowledge of a particular region, individual family groups were often approached by others for guidance about the safest travel routes. Even today, respect for someone’s knowledge of an area still exists.

2.1.1 Place names, trails and inuksuit

Seasonal travel was supported by place names, trails and inuksuit. Place names, trails, and inuksuit reflect the level of Inuit knowledge about their land and environment. These cultural markers held essential information for survival, such as aids to navigation, location of sacred places, location of trails, or hunting and gathering places. Place names gives the place an identity. Once named, a location can be shared with others. In the Qikiqtaaluk region, marine related place names include *Arviqtujuq Kangiqtua* (i.e., place of bowhead whales), *Naujaaruluit* (i.e., nest place of seagulls), *Uuttualuktalik* (i.e., point of many seals on the ice in the spring) and *Nattiqsujug* (i.e., lots of seals). These names and the information they contain is one of the many ways that knowledge could be shared with others and into the future (Figure 1).

Like place names, inuksuit throughout the Baffin region re-enforce Inuit knowledge of the natural environment, but as a physical marker. Inuksuit, like place names can represent many types of knowledge. There are inuksuit related to hunting, travel, food caching, and navigation. For example, *inukshuk aiviqaijuqarnir* are inuksuit signalling a good place to hunt walrus. An *inukshuk natsiqarnirqaijug* indicates a good place to hunt seals. Finally, *usukjuaq* is an inuksuk that indicates both a rich spawning area, and the travel direction in which to find it.

2.2 *Maligait*, *piqujait,* and *tirigusuusiit* ("What is to be followed")

Inuit values and worldviews arise from the Arctic environment. The Inuit culture is born from the need to survive in the cold, harsh environment with long winters and short summers. This intimate relationship led to rules for successful hunts, inter-personal relationships, sharing, and child rearing. *Maligait*, *piqujait,* and *tirigusuusiit* are all terms referring to what had to be followed, what had to be done, or what should not be done. Today, Inuit continue to operate with these specific rules of behaviour. For example, hard work ethic is key to keeping a healthy society

Inuit still practice *ilagiit nunagivaktangat* and travel to the same places for hunting, fishing, or gathering as earlier generations. According to Inuit, everything has a soul, its "inua". Inuit understood that in order to eat, a soul needed to be taken. Hunting had to be done respectfully, otherwise animals would take their revenge and choose not to share themselves with humans, and report to others the ill treatment at the hand of humans. For humans showing disrespect, hunting would be impossible. Thus, hunting required collaboration between humans and animals. Animals were not only a source of food, but they were part of the common world. Exercising *silatuniq,* or Inuit wisdom was critical. Being in "the respectful state with the world" meant not taking more than you need, and not disrupting animal lives to ensure there would be something for next year. Inuit society did not function on the principle of profit, but on the principles of balanced supply and demand.

> "…if you share among everyone, it [wildlife] will always be around to be shared again. They wanted to share the kill so that it will be replaced quicker. …If the Inuit share the kill among themselves and do not fight among themselves, there will always be plenty of wild game to hunt anywhere."
>
> Levi Nutaralak, QK. BB513 as reported in Hay et al. (2000; p.51)

Figure 1. Inuit places and travel routes (Adapted from IHTI 2014)

For Inuit becoming a hunter means becoming *inummarik*, "a whole human being; a genuine Inuit". To be *inummarik* means that one who knows one's responsibilities to others, to have empathy, to have skills; and equally important knew how to relate to animals. For example, it means knowing the laws related to hunting:

- Do not show disrespect to the animal; do not make fun of wildlife
- Every animal has its own village. Inuit needed to understand that village so they would know where to find animals. As children they were taught the behaviours of animals and how they live
- Leave animals alone unless you are hunting them. They are not to be played or interacted with in any way. It is out of utmost respect for the animal itself that you leave them be
- Animals are to be used, not wasted
- Do not brag about a hunt
- Follow the rules for cutting up and butchering an animal; and how to share
- Dispose of bones according to the animal's habitat
- Animals cannot be treated as domestic animals, but take care of animals.

Living by *silatuniq* is not as common as it used to be. Older Inuit have identified present day practices can run counter to their concept of *silatuniq*. Elders will say that today Inuit do not have the same understanding of animals and how to show them respect. The example frequently provided to the QIA by Elders is the present day practice of hunting of the lead whales when they return in the spring. In the past, the whale leaders were allowed to pass because if their migration was disrupted, the other whales would then disperse. However, today, they mention that the quota system has changed Inuit harvesting practice. It is becoming individualistic, 'First come. First served'. The quota system only allows hunting during a fixed period, and hunting has changed to match the requirements of the quota system. It is no longer the practice of allowing the lead whale to pass without attempting to harvest them. Today, as soon as the season opens, it is a far more rushed hunt. It is 'get what you can'. Other examples of practices that run counter to s*ilatuniq* and not respecting wildlife include:

- Tagging. Invasive tagging or live capture for collaring interrupts natural migrations.
- Wildlife watching. Tourist activities like whale watching that get too close to the animal and disrupt natural animal movements and cause them to expend energy
- Resource Development. Development and encroachment on animal habitat.

2.1 Report Organization and Tone

This report has two distinct parts: Inuit worldview and relationship with the environment, and Inuit knowledge of the marine environment specifically marine animals. The report was organized in such a way so as to support the strategic environmental assessment (SEA).

This report will be used in the preparation of a SEA report. It can be used by the NIRB in their report to the Federal Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade. The IQ report is also for Qikiqtaaluk Inuit, and there is an expectation that it be compiled in such a way that the flow and tone is recognizable to community members. Therefore, the references have been kept out of the document for ease of reading. For reviewers interested in the content, the "Reference" section contains all the sources for the content of this report.

3 Qikiqtaaluk Sharing Culture and Food Security

In this time of hunger, all seals that were caught were shared right down to the last bone and skin. There was no one among the camp members who [was denied some]. These hard times made everyone careful. No one wanted starvation occurring.
James Muckpah, Tununirmiut, 1979:35-6 as reported by Bennett and Rowley (2004; p.93)

The camps that no longer had food, when they heard about that, from the ones that I was camping with, they used to take some food to that camp; our leaders treated us well.
Simon Saimaiyuk, Uqqurmiut, PC-PB as reported by Bennett and Rowley (2004; p.90)

I would catch enough to cache [hunted seal or narwhal] for the winter. It would mainly be in the spring as this area is teeming with seals basking in the sun during springtime. There would be enough seal here to cache for the winter. It wouldn't just be for that either. People coming from this area would expect to have something when they came through our camp. We would try to catch more than we would use as the food would be shared. When I was growing up, I remember my parents catching more than they could use in anticipation that it would be shared with others.
Ipeelie Koonoo, Arctic Bay as reported in Baffinland Iron Ore Corporation (2012; p.25)

The one consistency in the lives of Inuit is adaptation, and the persistence to retain and hone skills needed to survive. Even today, there is an on-going interest to get out on the land whenever possible even if it means leaving work for a few hours. Over 90% of Qikiqtaaluk Inuit still include country foods in their diets, and knowledge of the land is crucial for successful hunts.

Marine animals form a critical part of the country food diet with Arctic char, ringed seal, and narwhal predominating. In the past, these animals would be shared according to customary practices of specific rules for distribution among family members and groups. Success or failure of a hunt would have been a daily preoccupation and dependent on harvester skill and equipment. Good hunters needed to know that they could rely on those around them to complement their own skills and knowledge. Sharing reinforced the bonds. In the past, there were strict and formalized food sharing rules creating lifelong partnerships. For example, the "sharing partnerships" meant that there would be communal effort to watch as many seal breathing holes as possible so that there was always someone watching for a seal and the likelihood of a successful hunt increased. This meant that everyone who participated received a piece of the meat and fat according to custom. While sharing was an essential part of cultural practices, it was not done to the detriment of survival. Sharing had its limits and would not happen if there was a chance for the group to be put at risk due to a lack of food.

The practice of sharing country food remains an important part of Inuit culture even in today's wage economy. For the six communities of focus in this report, an estimated 60% of the marine country food was shared beyond the harvesters' households. The economic value of this food is equivalent to $580 per person or $3.3Million.

4 Environmental conditions

"I know that we did not follow the European months; there was a saying from the people before us: "Tannaguuq mitiqat sajjuraslalippun taimaguuq nunaliannasivuq miqungillu naamasilutik". The eider ducklings have now started for the sea, it is now the right time to head for the inland as the thickness of the hairs on caribou are just right for clothing."
Zacharias Panikpakuttuk, Amitturmuit as reported in Bennett and Rowley (2004; p. 47)

"To [me], not only to [me] but to the hunters, you have to have an association with the sea ice. To [me] it's almost like a gift because you have to depend on the conditions of the ice, and depending on the conditions it will have an effect on how much you're able to bring in terms of food on the table. So, it has an effect on how you live as a person, as a hunter. Because once we notice that the conditions start to deteriorate at any particular spot, the hunter doesn't necessarily become totally helpless but he knows that he's going to have more difficulty in trying to procure the animals that he needs to survive on. So you have to have that association with the ice."
Joanasie Maniapik, Pangnirtung, Nunavut, interviewed May 12, 2004 as reported in ICC (2014)

4.1 Sinaaq ("Floe edge"), Piqalujat ("Icebergs") and Aukkarniit ("Polynyas")

Sinaaq, piqalujat and *aukkarniit* facilitates life in the Arctic. These sea ice open water spaces support marine species, both overwintering and migratory. The ice edge is rich with plankton, copepods, Arctic cod, and other fishes. All of which support the food web that extends to apex feeders like polar bear.

Inuit are a coastal people. Twenty-four of Nunavut's 25 communities are on the coast and a large portion of the traditional Inuit diet consists of marine animals. Language is full of terms specific to Arctic weather and environmental conditions. Inuktitut is rich in words that cannot be matched in English. These words explain the changing seasons and what to expect. Understanding sila was once a life skill crucial to survive in the Arctic. Today, *sila*, is more closely related to day-to-day weather. Common weather words are *silaluk* (rain), *silaqqiqtuq* (good weather) or *silaqqilirtuq* (bad weather).

There are also terms specific to snow, ice, navigation, and life. *Uqalurait*, the snowdrifts created by the north by northwest prevailing winds would guide travellers. Equally, Inuit knew how to live with *siku,* or sea ice. All conditions of ice needed to be understood. For example, *tuvaq*, first-year ice when it is land locked for winter (i.e., landfast ice), *niiqquluktaq,* the sound of ice rubbing, or *pukajaak,* hard snow under soft snow all conveyed information on what was possible at any given time. Was it safe to travel?

What will I find under these conditions? Even wildlife on ice conveyed information. If it bore the weight of polar bears then it was strong enough for humans. Or if ice was still *saluraq* or thin enough for seals, walruses and whales to break with their heads then it was too thin for safe hunting or travelling.

Ice was also critical to socializing. The ice and snow allowed for t*usaqtuut,* "the news season" a traditional time when families would gather on the ice in big camps and visit.

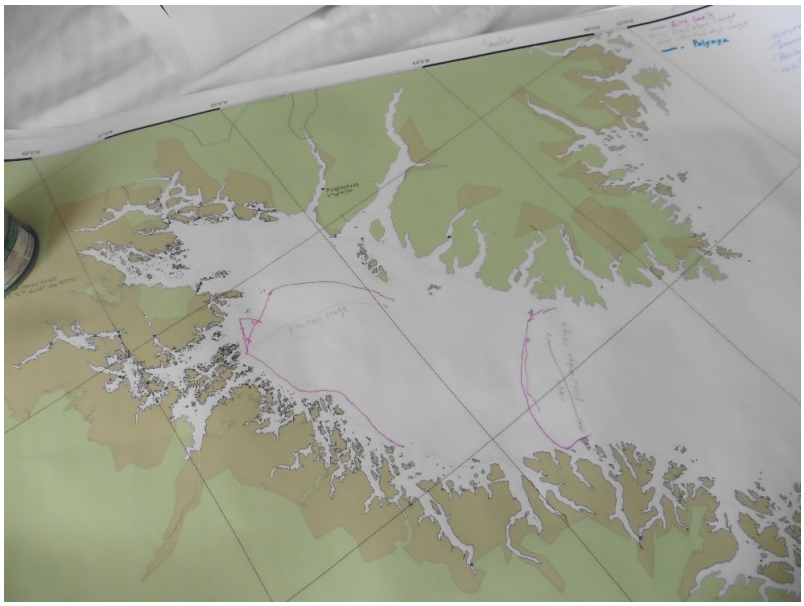

Photo 1. Changing ice edge locations in Cumberland Sound

Siku is not barren to Inuit. It is essential wildlife habitat whether floe edge, landfast ice, or icebergs (Table 1). The floe edge, or *sinaaq,* is where wildlife feed, mate, and give birth (Figure 2). The under ice habitat attracts planktonic species, krill, char, and other fish. This makes it an important hunting destination for seals and whales that serves as a predictable food source location for humans.

Table 1. Wildlife behaviour and ice conditions

Type of ice		**Wildlife**
Aukkarniit	Polynyas (areas of the ocean that do not freeze over)	Ringed and bearded seals over-wintering areas. Beluga and narwhal over-wintering area.
Aulajuq	Moving ice	Walrus and polar bear moving between ice pans. Whales travel in moving ice.
Nagguti	Tidal cracks	Seal breathing holes; open leads in the spring.
Sinaaq	Floe edge	Ringed, bearded, harp, harbour seals, walrus, polar bears, beluga, narwhal, and bowhead whales hunting, feeding, birthing and breeding. Migratory ducks feeding and stopping.
Tuvaq	Landfast ice	Ringed seals on ice or at breathing holes.

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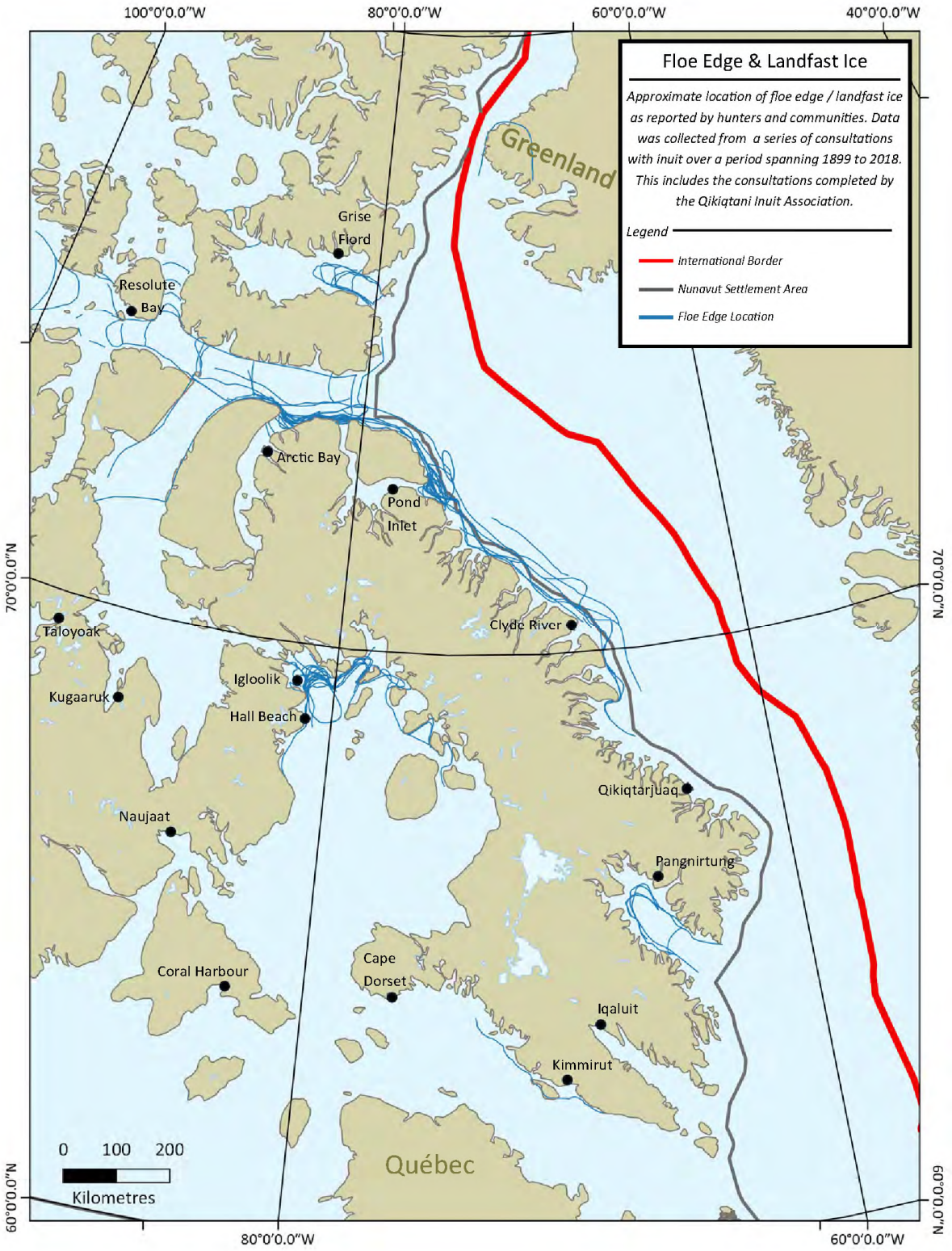

Figure 2. Floe edge and landfast Ice locations in the Qikiqtaaluk

Archaeological studies shows that Inuit have been living and camping along the ice edge for centuries. Polynyas, and other winter time open water areas were favoured (Figure 3). Access to *sinaaq* was critical to winter time hunting. It is at *sinaaq* where harvesters compared conditions year-after-year and could evaluate changing states across the seasons. *Sinaaq* is an important aid to navigation. Traditional trails cover the Baffin coastline and sea ice (Figure 1 above). Travel on ice required special knowledge. Its constancy could be counted on for winter travel. Distance to the floe edge was determined by *tunnguniq* or water sky, where the fog rises from the floe edge in the winter time.

Icebergs are also used to locate the floe edge. Icebergs were known as important wildlife habitat and a place to look for seals, walruses, whales, fish, and birds in the wake of moving icebergs. Icebergs stirred up water exposing phytoplankton and krill, and thereby attract marine animals. Harvesting in and around icebergs is not uncommon because of the species richness.

The North Water Polynya or *Pikialasorsuaq* is the largest of the polynyas located between Canada and Greenland. It is a highly productive area that supports migratory and overwintering marine species in northern Baffin Bay. This area was specifically referenced during the QIA community workshops in 2017. The attraction of the North Water Polynya and potential for year-round access to food resources has also been recorded in the archaeological record going back more than 4,000 years. There are seven other documented *aukkarniit* in the Canadian waters of Davis Strait and Baffin Bay. Qikiqtarjuaq residents have reported a new polynya nearby.

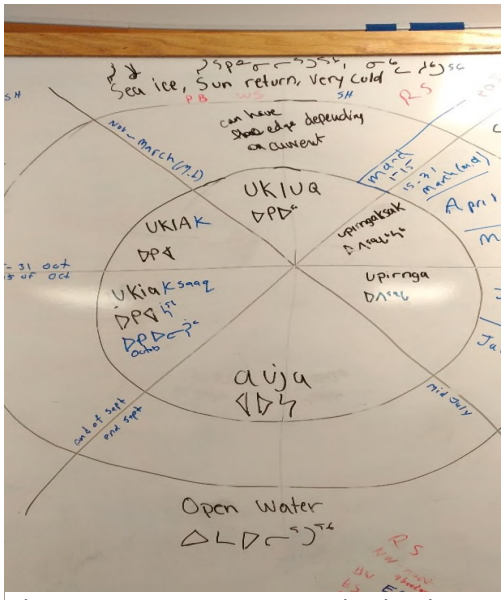

Photo 2. Arctic Bay seasonal calendar

4.1.1 Seasonal Calendar

The Inuit calendar reflects environmental conditions marking the length of day and ice conditions. Seasons are described as daylight and darkness periods, periods of ice and melt, and what foods can be found during each part of the year. Qikiqtaaluk communities organize the calendar year according to six seasons: winter, early spring, late spring, summer, early fall, fall, and early winter. Each season related to specific activities and wildlife (Table 2).

Table 2. Qikiqtaaluk seasonal calendar and related activities

	ᐅᑭᐅᖅ **Ukiuq** **winter**	ᐅᐱᖏᓴᓲᖅ **Upirngasaaq** **early spring**	ᐅᐱᖏᓈᖅ **Upirngaaq** **late spring**	ᐊᔾᔨᕆᖅ **Aujaq** **summer**	ᐅᑭᐊᓲᖅ **Ukiassaaq** **early fall**	ᐅᑭᐊᖅ **Ukiaq** **fall, early winter**
Seasonal descriptions	- extensive sea ice which continues to thicken and coalesce - snow on the land and ice - darkest period of the year - solstice to sun crossing horizon and getting higher in sky	- period of maximum ice cover and ice thickness - snow falls - daylight increasing - vernal equinox	- progressive snow melt - widening of ice leads - disappearance of ice - 24 hour daylight; ability to travel at night	- open water with some drifting pack ice - daylight period long but decreasing	- when lakes and streams begin to freeze and nights become frosty - open water with ice beginning - snow on the land and ice on the lakes; daylight period short and decreasing	- new ice hardens and thickens to form extensive areas of landfast or drifting pack - sun starts to disappear darkness
Traditional activities	- celebration of sun returning - camps on the sea ice - string games cease lest the sun gets tangled in the strings - floe edge hunting	- hunting seal pups	- hunting basking seals at floe edge and breathing holes - move to tents - return of birds and start laying eggs - egg gathering and snaring of nesting ducks and geese - start hunting narwhal and beluga at floe edge	- birds molting - winter clothing cached - coastal hunting of birds, seals, walrus, beluga, narwhal and bowhead - caribou hunting season - fishing at weirs	- velvet falls off caribou antlers - people move back to coast and visit with relatives	- clothing must be finished before darkness - able to travel on ice and hear news from other camps - first news of starvation in other camps; decisions made to share with others

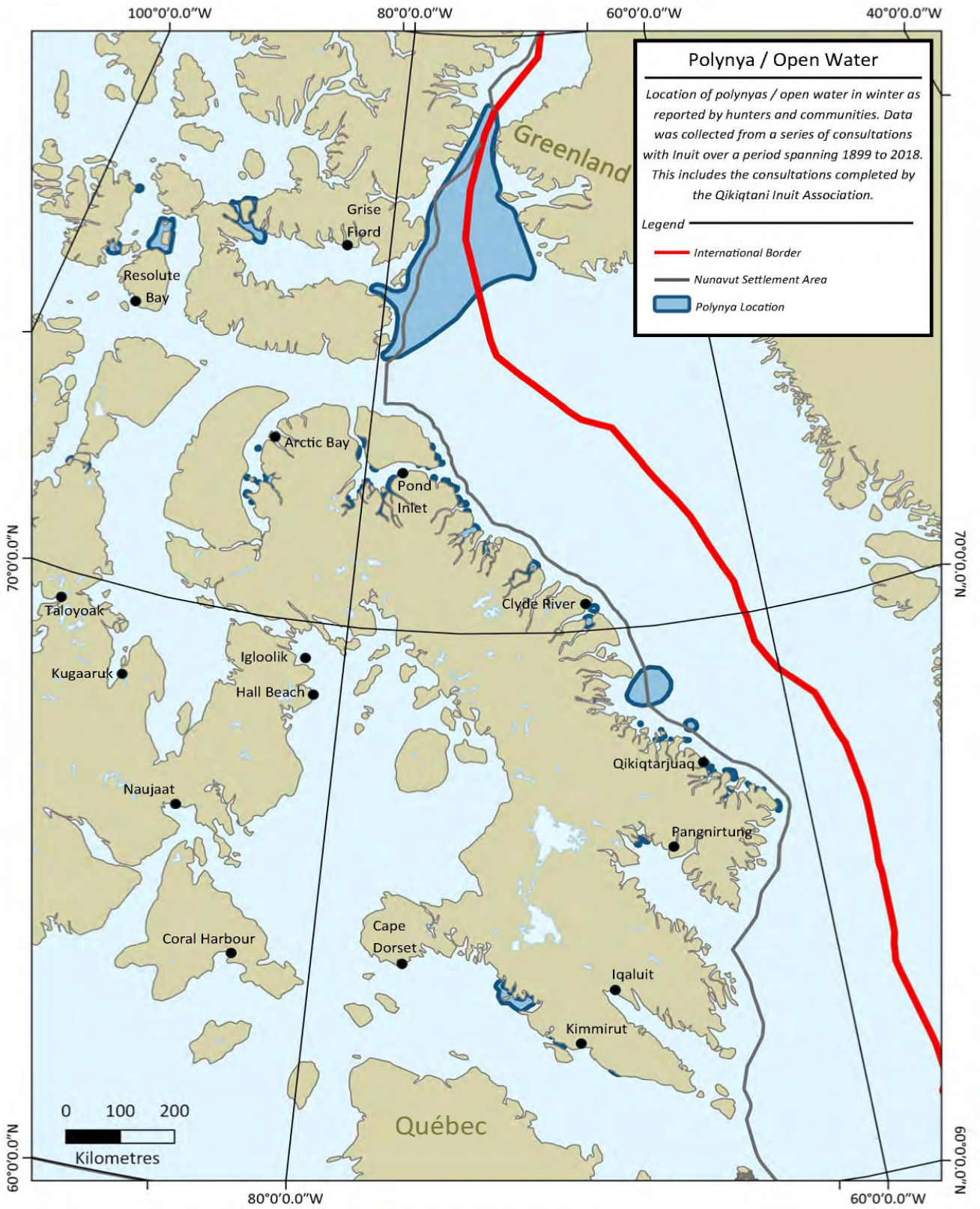

Figure 3. Polynyas of the Qikiqtaaluk

5 Marine Environment

If the cod were to start dying off, other animals, like seals, bearded seals, whales and walruses would be threatened with starvation when their own food, the cod, begins to diminish. That is also the very way we Inuit do not want to be destroyed.
Akeeagok, Grise Fiord as reported in Land Use and Occupancy, Vol. I (1976; p.238)

When you struggle to survive so much, you tend to think all the time about where to get what you need and which place would be the most likely to have game.
Etuangat Aksaayuq, Uqqurmiut, PC-PB as reported by Bennett and Rowley, p. 50

Inuit have observed the behaviour of animals in the Qikiqtaaluk for centuries. The behaviour of animals was shared among harvesters to improve hunting success. This section of the report outlines Qikiqtaaluk Inuit Qaujimanituqangit for the marine environment particularly for animals that are harvested most frequently by community members.

5.1 *Puijiit* ("Sea Mammals")

5.1.1 Whales

Along the Qikiqtaaluk coast, three whales i.e., *qilalugaq* (beluga), *tuugaalik* (narwhal), and *arviq* (bowhead) have been consistently harvested by Inuit for centuries, and are often spoken of together, and often also in relation to seals. *Tajjuajuq* refers to the animals that move together, coming all at once as the same time. This is how Inuit speak of marine mammals as they move north together as the ice starts to melt and the daylight period becomes longer (e.g., *Upirngaaq*). As seen in Figures 4 to 6 showing harvesting locations, the three whales overlap in location.

Inuit do not have a general term for whales. When Inuit talk about whales, they are most likely referring to *tuugaalik* (narwhal), the most commonly hunted whale in the Qikiqtaaluk. Rather, each whale species is referenced by its form and function in society. For example, adult bowhead are *arviq,* while calves are *arvaaq*.

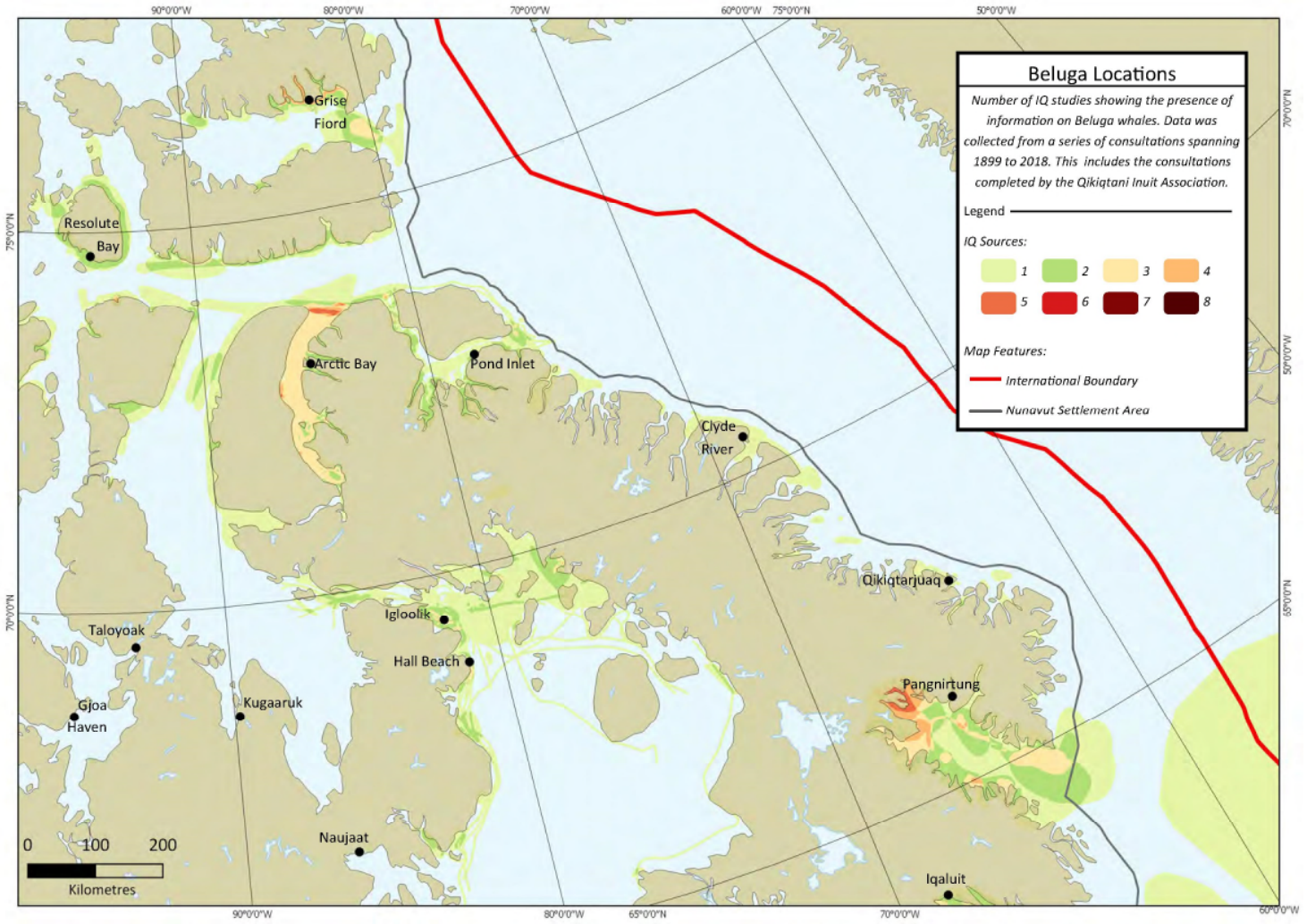

Figure 4. Location of beluga based on Inuit hunting locations

In addition to *qilalugaq* (beluga), *tuugaalik* (narwhal), and *arviq* (bowhead), *aarluk* (killer whales) have a special place in the lives of Inuit even though they were not actively harvested. For most Inuit, *aarluk* were used as a reference marker because they would indicate the location of other whales, and may have driven the other whales into shallower areas where they could avoid capture. This behaviour of driving whales to shallow areas made it easier for Inuit harvesters to access prey. While *aarluk* were generally seen as useful, they were also viewed as a competitor as they also consumed narwhal, beluga and seals.

Beluga and narwhal are actively harvested with a strong preference for narwhal. Bowhead are currently harvested through a quota system administered by Canadian government. Commercial whaling nearly drove bowhead to extinction a century ago and led to the need to control the harvest of bowhead.

In the past, whales were harvested for food, as well, the skin, bones and other parts were used as building materials, ulus, and sled runners. Bowhead baleen was used for kayak frames and dog sleds. Whale blubber (fat) provided oil for the *qulliq* that provided light and ability to heat water. Whale oil was preferred to seal oil as it burned cleaner and hotter. Whale skin was also used to waterproof *kamiik* and clothing. Blubber also soothed sore throats and would be given to family members who had difficulty swallowing. It was also used as a kind of "Band-Aid" for protecting deep cuts.

Narwhal tusk were, and still are an important trade item. In 2005, narwhal tusks were valued at between $80 - $150 / foot. In 2017 - 2018, harvesters stated that tusks could be sold between $250-$500 / foot. Double tusks can be sold for up to $40,000.00.

> *When it was used for the lamp, the flame tended to be higher and it really heated up our dwelling. It really brightened it up. After we used up the whale oil, we would use seal oil. It would be a lot darker and the flame was really red. Our dwelling would not be as warm.*
>
> Illisapi as reported in Ootoova et al. (2001; p.12)

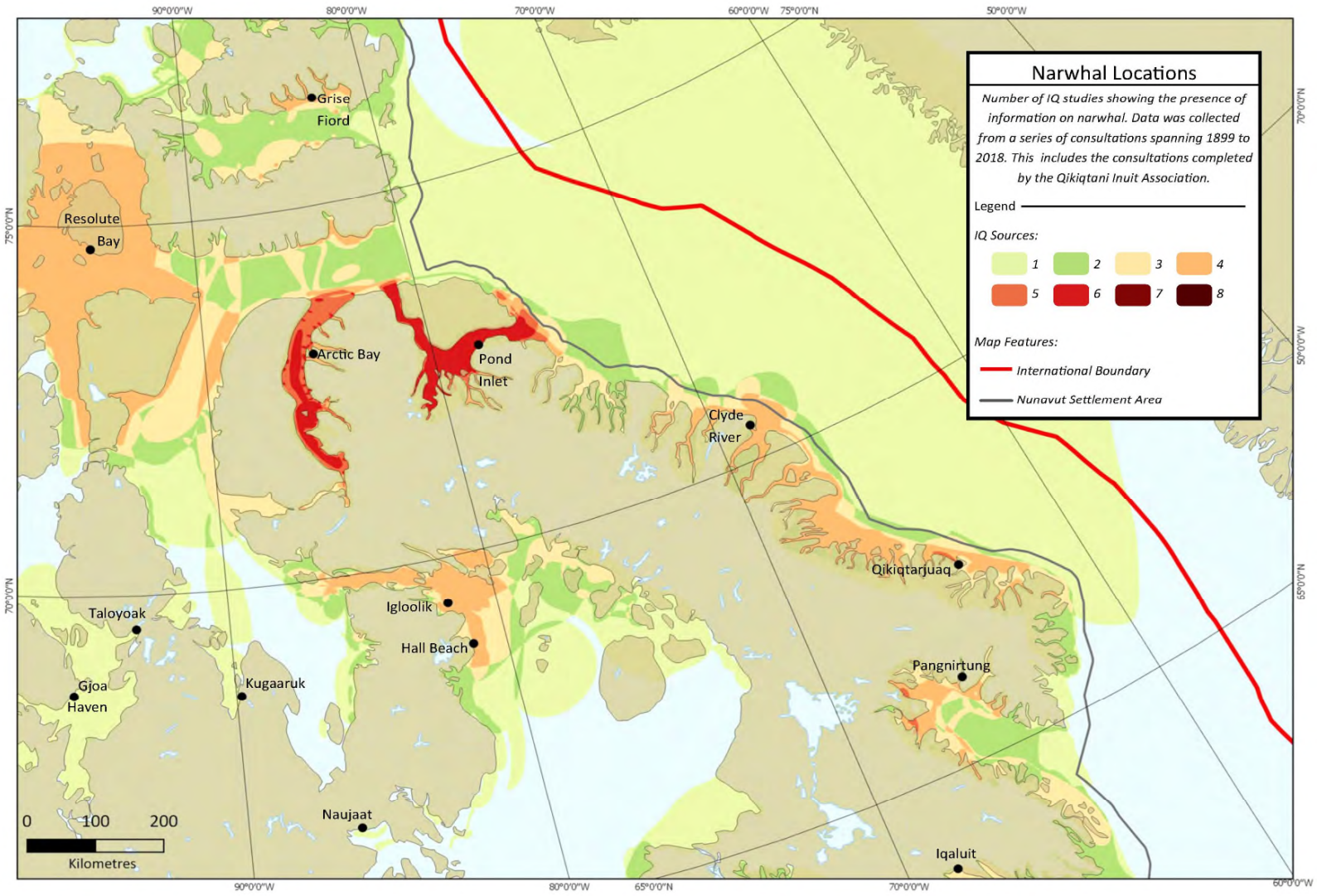

Figure 5. Location of narwhal based on Inuit hunting locations

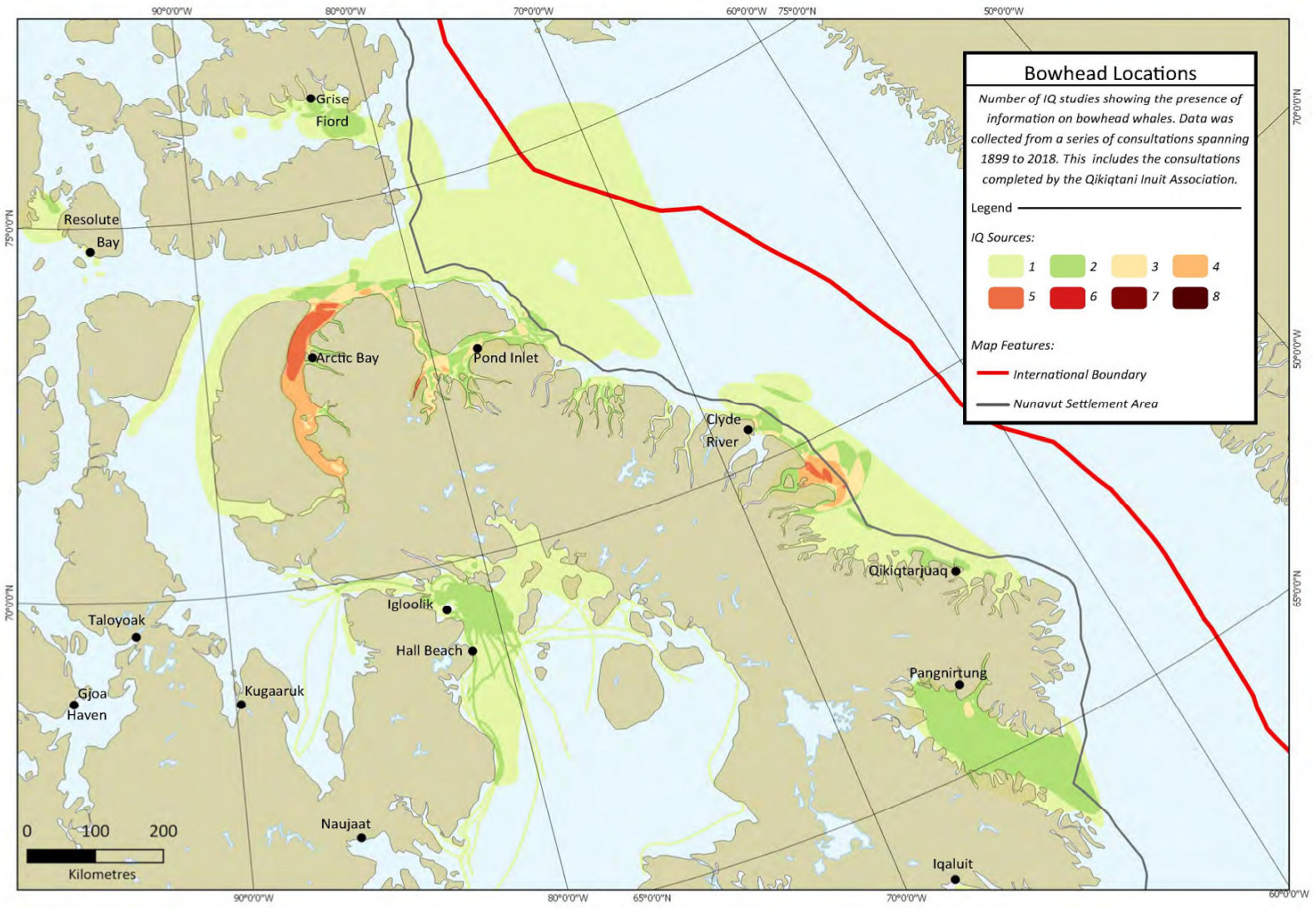

Figure 6. Location of bowhead based on Inuit hunting locations

*5.1.1.1 Qilalugaq ("*Beluga*") and Tuugaalik ("*Narwhal*")*

...different hunters are different in the way they harpoon bowhead whales and belugas… …some whales have a very strong pull when harpooned by certain hunters and some have very little… ...say by chance that they are harpooned by a hunter with a strong pull, chances are the whale could go straight for land. [Participant, CH/ws] HB104 Final report of the Inuit Bowhead Knowledge Study (Hay et al. 2000)

An elder was saying that he used to set nets for beluga at the floe edge but the bowhead whales used to destroy them. The net [mesh] size was 16" x 32". [Peteroosie Karpik, PA/ws] BB144 Final report of the Inuit Bowhead Knowledge Study (Hay et al. 2000)

5.1.1.1.1 Hunting

According to the archaeological record, whales such as narwhal have been hunted for the last 3,000 years along the Baffin shoreline. Today, as in the past, beluga and narwhal hunting takes place along the floe edge and open water periods, primarily between *Upirngaaq* and *Aujaq* (i.e., May and September). Under the right conditions, narwhal may remain into *Ukiassaaq* (i.e., October and November) and harvesters are able to capture late migrating animals. Both species are a critical source of food in the form of *maktaaq* and meat for both human and dog consumption. Past uses included:

- thread (tendons)
- jerky
- dog food (*qingmiqutiksaq*)
- food, the stomach was considered to be a delicacy
- whip handles from the skin
- rope from the top part of the whale skin
- fox bait from uncleaned bones for winter harvesting
- blubber for the *qulliq*
- *misiraq*, aged oil made from rendered down blubber for dipping meat to add flavour and nutrients.

Whale hunting takes place on the water and from the shore. Previously, whales were hunted by *qayaq* or *umiaq.* Shoreline hunting involved dog sleds. When hunting from shore, hunters would remain as quiet as possible so the whales would remain close and not be frightened away. Hunting involved harpooning and the use of drag anchors and seal skin floats to keep the whale from sinking.

Since the 1960s, snow machines and boats have replaced dog sleds and kayaks; and rifles have replaced harpoons for the kill but not for securing the animal before sinking. Mechanization has had an impact. Harvesters remark that whales have learned to move offshore when they hear the noise of boats or snow machines.

Inuit had specific harvesting practices depending on the circumstances. Pond Inlet Inuit use two distinct narwhal hunting methods: active or continuous—scanning of the open water along the floe edge

travelling in one direction; or passive—sit and wait. Sit and wait is the dominant form of hunting behaviour and generally the most successful. In this case, hunters would be camp at floe edge ideally near a point of height in land where harvesters could spot whales approaching. Traditionally, the lead whales would be allowed to pass and harvesting would be from the second wave of whales. In this way, the whales would not be scattered, and there would be leaders in the coming years. Today, with quota systems, harvesters hunt as quickly as possible, even going after the leaders. Other animals such as seals would be taken opportunistically while on whale hunts.

Harvesters pay close attention to the health of whales. In recent years, hunters have observed that narwhal and beluga have become more scattered and thinner. Hunters think the change in behaviour is linked to lack of access to the fish at floe edges, and more energy being spent by whales on travelling and hunting for food.

> *… interviews with both elders and active hunters …… their perception that narwhals were extremely acoustically sensitive to noise. Mittimatalingmiut elders also stated that historically (ca. 1900), there were strict rules on human behaviour while at the floe-edge that were utilized in order to minimize noise disturbance. For example, an Inuk elder stated that while hunting narwhals at the floe-edge during spring, any movement among family members not engaged in hunting was not permitted. Furthermore, several elders mentioned that the contemporary snowmobile noise along the floe-edge had drastically changed narwhal migration behaviour along the floe-edge. Even though active trips by foot created much less noise disturbance along the floe-edge, they offered very limited range beyond the camp deployment area*
>
> *(Lee and Wenzel (2004; pp. 147-148).*

5.1.1.1.2 Ecology

Beluga and narwhal often travel in tandem and frequently inhabit the same area at similar times. Harp seals are also seen with beluga. Inuit call harp seals the dog team of beluga leading the way to summering grounds. In the fall, harp seals follow the narwhal. Both whale species are subject to predation from polar bears and killer whales.

Understanding the behaviour of these species is essential to hunting success. Narwhal are known to have a distinct migratory path and faithfully return to summering grounds in inlets and fiords year after year. Figures 7 and 8 show the migratory paths of the beluga and narwhal respectively. Narwhal have been reported as being highly sensitive to noise. It was found that after earlier seismic work conducted in Baffin Bay and Davis Strait it took 6 to 10 years for the population to return to its original size. Harvesters have also noted the influence of shipping, currents, changes in ice, and more efficient harvesting practices all contribute to changes in narwhal behaviour.

Beluga are found to be influenced by ice and ice conditions, location of food, and killer whales. Beluga tend to inhabit shallower waters where their primary food is Arctic cod, particularly at floe edge and inshore environments. Greenland halibut also make up a substantial part of their diet at the floe edge. In the fall, beluga seek out Arctic char at river mouths as they migrate into freshwater lakes. Other marine species found in beluga stomach contents include Atlantic cod, sculpin, eelpout, capelin, and invertebrates such as shrimp.

Narwhal behavioural influences are similar to beluga though narwhal tend to prefer deeper waters. Narwhal feed on Arctic and Greenlandic cod, Arctic char, Greenland halibut, herring, sculpin, shrimp, squid, planktonic crustaceans, and other invertebrates. Food intake is thought to increase in the fall just before migration to their wintering grounds. Some harvesters think they might fast while migrating since they are seen to be skinnier.

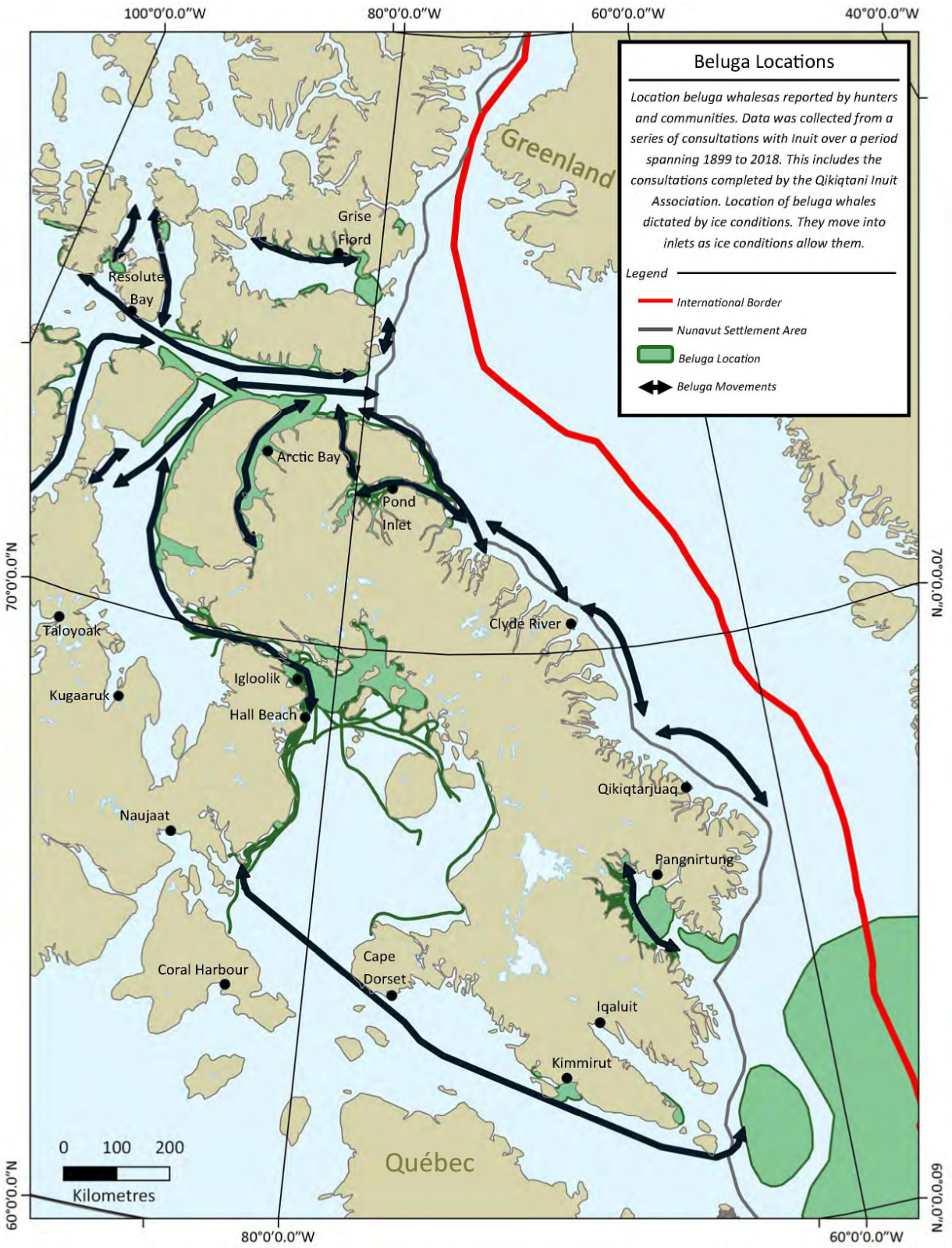

Figure 7. Beluga movement based on IQ

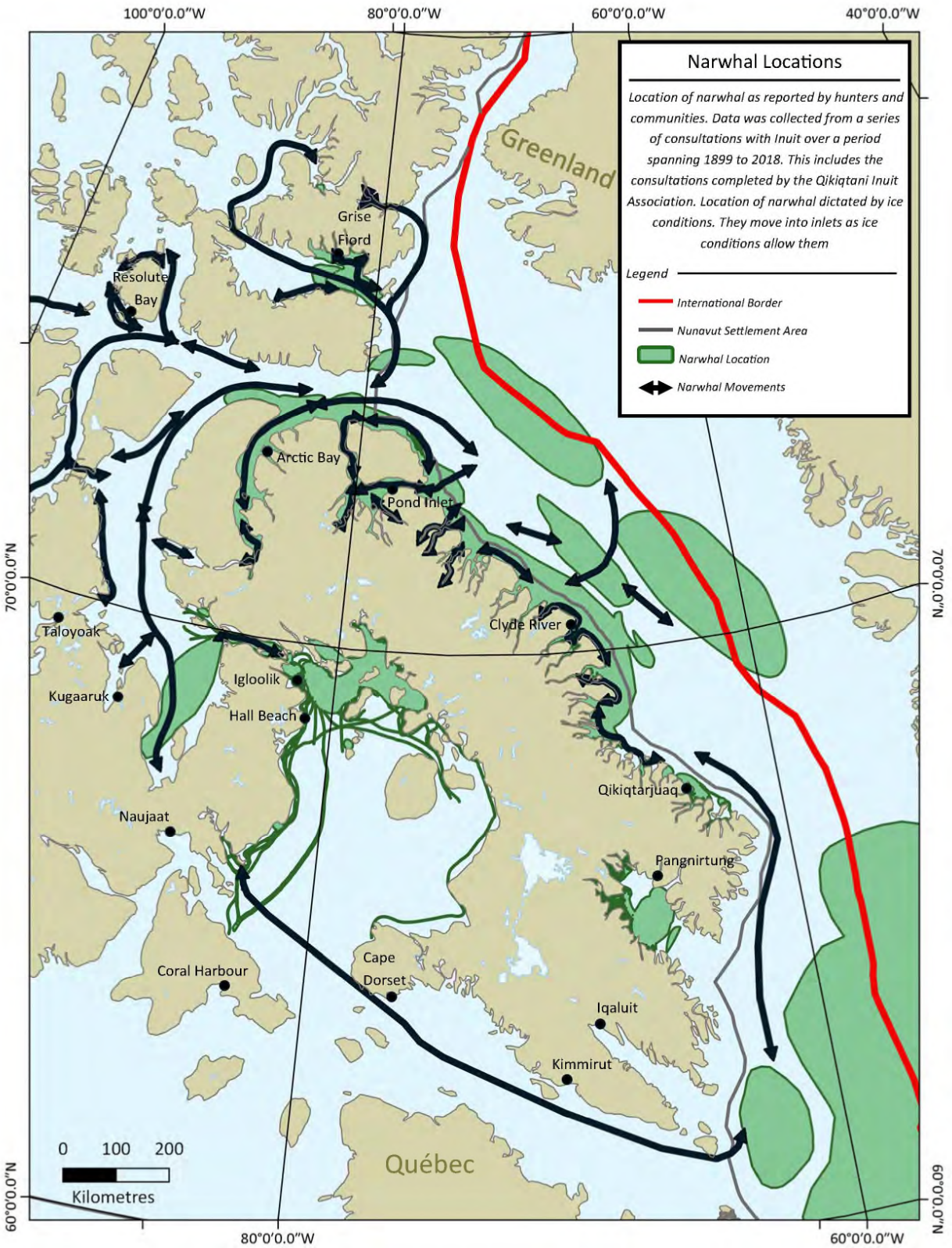

Figure 8. Narwhal movement based on IQ

5.1.2 *Qilalugaq* ("Beluga")

5.1.2.1 Grise Fiord

Beluga presence in and around Grise Fiord is influenced by the North Water Polynya that extends into Jones Sound. The North Water Polynya enables beluga to be present year round. In local knowledge studies, beluga were said to feed along the floe edge and under landfast ice in Jones Sound, keeping to open water in the winter as ice conditions shift. Beluga are found along the east coast of Ellesmere Island travelling northward as the ice dissipates and open water increases, returning to Jones Inlet as ice conditions change and start to freeze over again (Table 3).

Birthing has been noted to take place in Jones Sound during Aujaq (i.e., July to September) along the floe edge. Inuit observe that calves could be seen between February and October suggesting that beluga do not have a single birthing period.

Beluga are subject to predation by killer whale and polar bear, and can become entrapped in ice. When chased by killer whales, they move to shallower waters that cannot be navigated by killer whales. Despite the risk of entrapment, ice is used to avoid killer whales whose dorsal fins interfere with movement in icy waters.

Community members participating in the Nunavut Coastal Resource Inventory (NCRI) study for Grise Fiord reported that beluga numbers had been decreasing in the preceding 2-3 years (2009-2012).

Table 3. Beluga seasonal distribution near Grise Fiord and Jones Sound

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓱᓕᓴᖅ **Upirngasaaq**	ᐅᐱᕐᓂᖅ **Upirngaaq**	ᐊᔾᔨᖅ **Aujaq**	ᐅᑭᐊᓕᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
January and February	**March through to mid-May**	**Mid-May through to early July**	**Early July through August**	**September and October**	**November and December**
Floe edge; eastern Jones Sound keeping to open water as ice conditions change			Coast / open water		Might be around at Starnes Fiord Inlet. Most depart for polynyas

5.1.2.2 Arctic Bay

Beluga are present near Arctic Bay in Admiralty Inlet and Lancaster Sound (Table 4) between *Upirngasaaq* and *Ukiassaaq* (Table 4). The IQ research completed in the 1970s reported that beluga were not common in the northern Baffin Island region and therefore, the Inuit of the region did not have specialized hunting practices for them. Beluga and harp seals arrive in their summering grounds at the same time.

Beluga were generally not present in the region during *Ukiaq* and *Ukiuq*. In May, beluga are known to travel westward and southward along the west coast of Brodeur Inlet spending the summer in Admiralty Inlet. They were observed feeding along the floe edge and open water. Stomach contents observed by hunters contained included cod, shrimp and Greenland halibut. Beluga stomach contents have also been found to include seaweed. By late September, they move out of the region and can get stuck in ice if they stay too late. It has been noted that beluga have been caught in the fall with empty stomachs. Harvesters commented on beluga avoiding areas when ships began visiting the area on a regular basis (i.e., during Nanisivik mine operation, 1976 - 2002), but speculated the beluga might be becoming accustomed to the presence of the ships.

Mating and birthing takes place between *Upirngaaq* and *Aujaq*. Calves have been observed during the same period. Hunters have identified known birthing areas in Admiralty Inlet. Also, they have identified that moulting takes place in the area in *Aujaq*.

Table 4. Beluga seasonal distribution near Arctic Bay, Lancaster Sound, Admiralty Inlet

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓱᓕᖅ **Upirngasaaq**	ᐅᐱᕐᓚᖅ **Upirngaaq**	ᐊᐅᔪᖅ **Aujaq**	ᐅᑭᐊᓕᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
November to mid-March	**Mid-March through end of May**	**June and July**	**Mid-July to end of September**	**End of September to mid-October**	**Mid-October to beginning of November**
Not present	Floe edge		Open water; calving in fiords and inlets Moulting and skin sloughing	Open water; departing fiords and inlets	Not present; observed in Baffin Bay

5.1.2.3 Pond Inlet

Beluga traditionally do not remain near Pond Inlet (Table 5). Rather, they migrate through Eclipse Sound and Navy Board Inlet moving westward and northward. During the community workshop, the Pond Inlet harvesters commented on having observed roughly 25,000 whales passing the community over the period of 3 days.

Photo 3. Beluga migration path near Pond Inlet

During *Upirngasaaq*, the whales gather at the floe edge waiting for the break-up of ice. Beluga have been known to birth in southern Navy Board Inlet, southern Milne Inlet, and Koluktoo Bay.

While moving northward, beluga feed on Arctic cod especially at floe edge and inshore. Greenland halibut also make up a substantial part of the diet at the floe edge. In the fall, Arctic cod are pursued at river mouths before they migrate into the freshwater.

Table 5. Beluga seasonal distribution near Pond Inlet

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓚᓴᖅ **Upirngasaaq**	ᐅᐱᕐᓗᖅ **Upirngaaq**	ᐊᐅᔪᖅ **Aujaq**	ᐅᑭᐊᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
December to mid-March)	**Mid-March through end of May**	**June and July**	**Mid-Mid-July to end of September**	**End of September to mid-October / November**	**November**
Not present.	Floe edge; moving northward		Seen in area	Seen in area	Migrating past before freeze up

5.1.2.4 Clyde River

Beluga are rare in the fiords and inlets near Clyde River (Table 6; Figure 3). Clyde River harvesters say beluga travel northward along the floe edge between April and June and generally stay in open water until break-up. Given the condition of the sea ice in the spring where it is buckled by the tide, beluga hunting is not actively pursued. It is too difficult to travel to the floe edge during *Upirngasaaq*. There have been some observations that beluga are disturbed by shipping and have moved off their migratory path, sometimes closer to Clyde River.

Table 6. Beluga seasonal distribution near Clyde River

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓚᓴᖅ **Upirngasaaq**	ᐅᐱᕐᓗᖅ **Upirngaaq**	ᐊᐅᔪᖅ **Aujaq**	ᐅᑭᐊᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
End of December to end of March	**April to beginning of June**	**mid-June to end of July**	**August to mid-October**	**Mid-October to end of November**	**December**
Not present	Floe edge; moving northward	Rare. Moving northward in summer and southward in fall			Not present

5.1.2.5 Qikiqtarjuaq

Beluga presence near Qikiqtarjuaq has been changing from historical sightings. Today, beluga are rarely seen in *Upirnqasaaq* and *Aujaq* in the waters off Qikiqtarjuaq (Table 7). Hunter speculation is that shipping in Davis Strait has caused them to stay offshore compared to 50 years ago.

Table 7. Beluga seasonal distribution near Qikiqtarjuaq

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓚᓴᖅ **Upirngasaaq**	ᐅᐱᕐᓗᖅ **Upirngaaq**	ᐊᐅᔪᖅ **Aujaq**	ᐅᑭᐊᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
January to mid-March	**Mid-March through third week of May**	**End of May to mid-July**	**Mid-End of July to mid-September**	**End of September to October / November**	**End of November and December**
Not present. In deep water		Moving northward past Qikiqtarjuaq in mid-June	Seldom seen. Maybe be seen in Merchants Bay and Padle Fiord.		Not present

5.1.2.6 Pangnirtung

Cumberland Sound and its various fiords and inlets are home to at least three different beluga populations. They frequent the floe edge, Clearwater Fiord, and the west side of Cumberland Sound. Migrating floe edge animals are smaller than those present in Clearwater Inlet in the summer. The Clearwater Fiord whales have more fat and float when killed. Some harvesters also noted that the present day Cumberland Sound population is smaller than in the 1940s and 1950s. The stop of the commercial hunt has not seen an increase in the population according to the recorded comments of elders who recall populations continuing to shrink even after commercial hunts in Clearwater Sound stopped in the early 1900s.

Cumberland Sound and associated fiords provide critical habitat for belugas. At the top end of the Sound, especially in Clearwater Fiord, beluga calve and moult. The top of Clearwater Fiord links to rivers and lakes from which anadromous char migrate. Beluga also frequent the west side of the Cumberland Sound. Beluga move to the fiords and inlets as quickly as possible following cracks in the ice as early as June wanting to get ahead of the killer whales to calve (Table 8). Clearwater Fiord is generally ice free by the end of *Upirngaaq* (i.e., July). Beluga will also take advantage of the holes in ice created by bowhead whales to get into the area as early as possible. While at the floe edge, they feed on Arctic cod and Greenland halibut where currents meet. Beluga leave the area in August. Current observations vary from observations in the late 1960s when they left in October.

Table 8. Beluga seasonal distribution near Pangnirtung

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓚᓴᖅ **Upirngasaaq**	ᐅᐱᕐᓚᖅ **Upirngaaq**	ᐊᐅᔨᖅ **Aujaq**	ᐅᑭᐊᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
January and February	**March through April**	**May and July**	**August and September**	**October and November**	**December**
Not present	Arriving in Cumberland Sound in deeper water	Near Pangnirtung in May/ June heading to Clearwater Fiord to calve; slough skin	Calving in Clearwater Fiord in August; Still in area	Gone by October	

5.1.3 *Tuugaalik* (“Narwhal”)

Narwhal are known by several names, *tugaalik* (with tusk), *qirniqtaq qilalugaq* (black whale), and *allanguaq* (with black and white dots). Two forms of narwhal have been identified in Baffin Bay, large and small. Narwhal are considered a shared species with Greenland by Inuit in Arctic Bay and Grise Fiord. Arctic Bay harvesters distinguish the populations by the scars from Greenlandic harpoons, and chipped tusks and other wounds from being in shallow waters as compared to the deep waters of Admiralty Inlet. Narwhal are found throughout Davis Strait and Baffin Bay waters (Figure 8).

Narwhal feeding behaviour is similar to beluga, but they may be less opportunistic. Like beluga, they feed on a variety of marine fishes and invertebrates including Arctic and Greenland cods, char, Greenland halibut, herring and sculpins, shrimp, squid, and planktonic crustaceans. Narwhal have been

observed not to feed when killer whales are present. Harvesters have observed that they do not always feed during their fall migration.

Narwhal give birth during *Upirngaaq* (i.e., between mid-June and September) in fiords and inlets, even along the floe edge. Narwhal calving is known to occur in Navy Board Inlet, Eclipse Sound, Baffin Bay, Home Bay, and Cumberland Sound. They have also been observed mating while in their summering grounds.

Narwhal are at risk from a number of sources. Ice entrapment of narwhal has been noted by harvesters in Arctic Bay, Lancaster Sound, and Pond Inlet. Scars on narwhal indicate that they are vulnerable to killer whales, polar bear, and sharks.

5.1.3.1 Grise Fiord

Narwhal do not stay year round in Grise Fiord. Narwhal are only in the area between May and October in Jones Sound, and the coastal waters off of Ellesmere Island. In October, they move to the North Water Polynya. Three to four years may elapse when they are not seen in and around Grise Fiord (Table 9). Calves are seen from *Upirngaaq* through to *Ukiaksaaq* (mid-June through September). As with beluga, harvesting takes place along the floe edge and the coast.

During their time in the area, narwhal feed on Arctic cod, krill, squid, and Greenland halibut. Narwhal are hunted by polar bear in and around Grise Fiord. Killer whale and shark predation has not been observed.

Table 9. Narwhal seasonal distribution near Grise Fiord based on IQ

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᖏᓪᓗᓴᖅ **Upirngasaaq**	ᐅᐱᖏᓪᓗᖅ **Upirngaaq**	ᐊᔾᔨᖅ **Aujaq**	ᐅᑭᐊᑦᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
January and February	**March through to mid-May**	**Upirngu (Mid-May through to early July)**	**Auja (Early July through August)**	**Ukiaksaaq (September and October)**	**Ukiaq (November and December)**
Not present		Floe edge	Coast / open water		Not present

5.1.3.2 Arctic Bay

Narwhal are observed near Arctic Bay and Brodeur Inlet from May to the end of September (Table 10). They enter Lancaster Sound in May with peak migration in mid-July. Narwhal do not move into fiords and bays until after ice break-up. They spread throughout Admiralty Inlet, Navy Board Inlet, Prince Regent Inlet, and Peel Sound. During late summer, narwhal move eastward towards Baffin Bay. Their stomachs are empty when they migrate. Narwhal have become entrapped in ice near Arctic Bay when they stayed too long. Narwhal feed on Arctic and Greenland cod, char, Greenland halibut, herring, krill, squid, plankton and shrimp and other shrimp-like invertebrates. Narwhal are prey to Killer Whales, Polar Bear, and Greenland sharks.

Photo 4. Summer narwhal hunting travel routes

Harvesters reported that the narwhal were not using the same areas as they had in earlier times. They were entering inlets later in *Upirngaaq* and leave inlets during *Ukiassaaq*. The harvesters speculated that the changes may be the result of noise from ship and boat traffic and the narwhal are avoiding these areas. The later arrival of narwhal means that floe edge hunting is more precarious because the ice is less stable. Though this has not been confirmed directly with hunters.

The harvesters observed that narwhal both mated and gave birth in Admiralty Inlet and fiords from *Upirngaaq* to *Aujaq* when the water is warm and silty. They are thought to give birth every year. Males were generally bigger than females and were more likely to have tusks, though some females also had tusks.

Table 10. Narwhal seasonal distribution near Arctic Bay based on IQ

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᖃᓐᓇᓴᖅ **Upirngasaaq**	ᐅᐱᖃᓐᓇᖅ **Upirngaaq**	ᐊᔾᔨᖅ **Aujaq**	ᐅᑭᐊᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
November to mid-March	**Mid-March through end of May**	**June and July**	**Mid-July to end of September**	**End of September to mid-October**	**Mid-October to beginning of November**
Not present	Floe edge		Coast	Moving to open water	Not present

5.1.3.3 Pond Inlet

"I hunted narwhal – just as they do now. But I will tell you that our days were different from today. When I was young the practice was the same but different hunting equipment and techniques, we didn't use outboard motors like they do today. The narwhal would arrive earlier than they do now, when I was younger, things are different now. There is so much noise that disturbs the narwhal, people at the floe edge, disturbing the natural process – hunters waiting for them at the floe edge, it is noisy for them since it has been years since Inuit started using engines to hunt. Back then the narwhal could arrive to this area before ice break up. Narwhal would come even when the ice was thick that we could dog team, and they would arrive to that point just before Mount Herodier, but these days things are so different now."

Cornelius Nutarak of Pond Inlet, Baffin Island, Nunavut (Narwhal.org; 2017)

Narwhal migrate to Pond Inlet from southeast Baffin Bay before turning northward along the floe edge in mid-April (Table 11). They arrive in the area around mid-May. Inuit note that narwhal travel northward or into Eclipse Sound as sea-ice breaks up and they migrate to their summer feeding ground. The migration takes place in *Upirngaaq* (June and July). By *Aujaq*, open water means that narwhal have moved north and west of the community—some into Eclipse Sound and some north towards Lancaster Sound and Navy Board Inlet. Based on stomach content, Inuit noted that narwhal feed on cod, Arctic char, Greenland halibut, and shrimp.

While in the region, narwhal give birth and mate. Given the various ages of calves, Inuit think narwhal breed in any season. Narwhal take advantage of the rich food supplies in Milne Inlet, Eclipse Sound, Tay Sound, and Koluktoo Bay. Young whales tend to stay in the inlets while older ones travel between inlets. The whales leave the inlets for Baffin Bay in *Ukiassaaq* (i.e., September / October) when ice starts forming. Narwhal take advantage of shallow areas in inlets to avoid killer whales. Killer whales follow narwhal only after the ice has cleared in the fiords. During *Ukiuq*, narwhal can be found in open water beyond the floe edge, as well as, in Tremblay Sound and occasionally Milne Inlet where they are at risk of entrapment.

Table 11. Narwhal seasonal distribution near Pond Inlet based on IQ

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᖏᓪᓗᓂᖅ **Upirngasaaq**	ᐅᐱᖏᓪᓚᖅ **Upirngaaq**	ᐊᐅᔪᖅ **Aujaq**	ᐅᑭᐊᓂᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
December to mid-March	**Mid-March through end of May**	**June and July**	**Mid-July to end of September**	**End of September to mid-October / November**	**November**
In deep water at floe edge in Baffin Bay. Occasionally, Tremblay Sound and Milne Inlet	Arrive at floe edge in April / mid-April	Moving towards Arctic Bay	In inlets and fiords	Moving back to open water before freeze up	Not present

5.1.3.4 Clyde River

Clyde River harvesters commented that narwhal stay offshore in southern Baffin Bay and northern Davis Strait in the winter. They continue to stay away until ice break-up in the spring when they move into the fiords and inlets. They stay in the area until late summer and fall. They give birth in the fiords during the summer. While in the area, narwhal feed on codfish, Greenland halibut, shrimp, herring, Arctic char, sculpin, krill, urchin, and squid (Table 12).

Table 12. Narwhal seasonal distribution near Clyde River based on IQ

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᖏᓪᓗᓂᖅ **Upirngasaaq**	ᐅᐱᖏᓪᓚᖅ **Upirngaaq**	ᐊᐅᔪᖅ **Aujaq**	ᐅᑭᐊᓂᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
End of December to end of March	**April to beginning of June**	**mid-June to end of July**	**August to mid-October**	**Mid-October to end of November**	**December**
Not present.	Floe edge; breathing holes and other openings in the ice; some birthing noted as there are young in the area	Moving into inlets and fiords	Inlets and fiords	Leaving for open water; Also see Pond Inlet whales	Not present

5.1.3.5 Qikiqtarjuaq

Narwhal travel in pods arriving at Broughton Island during *Upirngaaq* (Table 13). Present day harvesters indicate that narwhal come closer to shore today than in the past. During the fall, they migrate south to wintering areas in Baffin Bay, Davis Strait, and southeastern Baffin. Some narwhal do remain near Qikiqtarjuaq and calve in the inlets and fiords of Home Bay.

Narwhal diet consists of codfish, halibut, shrimp, herring, Arctic char and sculpin, krill and squid. At the ice edge, they primarily consume Arctic cod and to a lesser extend copepods and amphipods. Harvesters report that narwhal are healthiest during *Ukiassaaq*. Narwhal themselves are preyed upon by killer whales.

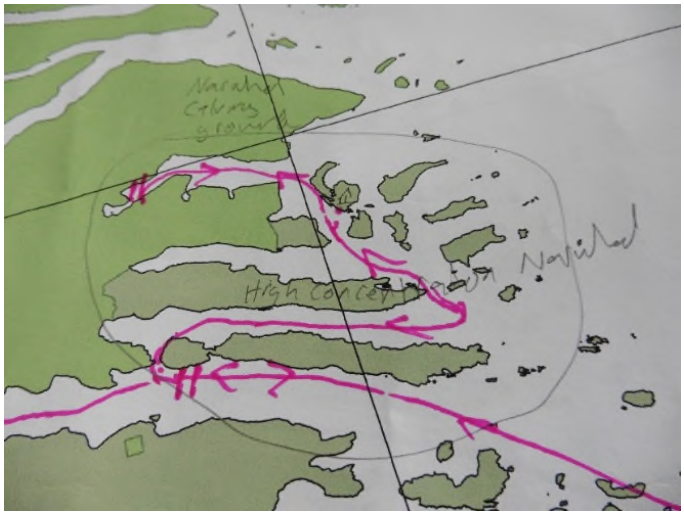

Photo 7. Narwhal calving locations

Table 13. Narwhal seasonal distribution near Qikiqtarjuaq based on IQ

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᖃᓐᓇᓴᖅ **Upirngasaaq**	ᐅᐱᖃᓐᓇᖅ **Upirngaaq**	ᐊᔾᔨᖅ **Aujaq**	ᐅᑭᐊᓴᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
January to mid-March	**Mid-March through third week of May**	**End of May to mid-July**	**Mid-End of July to mid-September**	**End of September to October / November**	**End of November and December**
Not present. In deep water at floe edge in Baffin Bay	Migrating north in April	At floe edge; near Qikiqtarjuaq mid-June migrating northward	Migrating south along with other whales	Migrating south along with other whales; Gone by November	Not present; Offshore northern Davis Strait and southern Baffin Bay

5.1.3.6 Pangnirtung

Narwhal are found throughout Cumberland Sound and its inlets, bays, and fiords[2] during *Upirgaaq* and *Aujaq* with most near the mouth of the Sound (Table 14). Harvesters interviewed remarked that the floe edge is moving closer to Pangnirtung, which is changing whale behaviour in Cumberland Sound. They are fewer in number than beluga. Narwhal migrate south out of Cumberland Sound during the fall to wintering areas in Baffin Bay, Davis Strait, and southeastern Baffin locations.

As narwhal move into Cumberland Sound, they feed on Greenland halibut under the ice. Harvesters think they feed less as the summer goes on. They leave the Sound skinnier than when they arrived. Harvesters speculate that the whales are travelling more and expending more energy to avoid areas where they hear motorboats. Boat avoidance has been observed since the 1960s. Some harvesters remark there are fewer narwhal in the Sound since there is more harvesting at the floe edge now than the past. Harvesters believe females give birth anytime in *Upirngaaq*. Narwhal are protective of their calves. They will slap their tails to ward off danger.

Killer whales will prey on narwhal after they arrive in *Aujaq* once the ice has dissipated. To avoid killer whales, narwhal move to shallower areas.

Table 14. Narwhal seasonal distribution near Pangnirtung based on IQ

ᐅᑭᐅᖅ **Ukiuq**	ᐅᐱᕐᓱᓂᖅ **Upirngasaaq**	ᐅᐱᕐᓚᖅ **Upirngaaq**	ᐊᐅᔭᖅ **Aujaq**	ᐅᑭᐊᓂᖅ **Ukiassaaq**	ᐅᑭᐊᖅ **Ukiaq**
January and February	**March and April**	**May and July**	**August and September**	**October and November**	**December**
Not present	Cluster at floe edge under the right conditions in April	Move from floe edge into fiords, especially north side of Cumberland Sound	Occasionally seen. Starting to leave.	Not present	Not present

[2] Merchants Bay, Millut Bay, Shark Fiord, Kangerk Fiord, Nettilling Fiord, Irvine Inlet, Opingivik and Padle Fiord

5.1.4 Aarluk ("Killer whale")

The only ones hunting for the bowhead [since the ban on whaling] were the killer whales… Like most of all the animals on land are scared of wolves, it is like that too in the ocean with the killer whales. When the mammals are scared of killer whales they tend to go very close to the land, that even happens to beluga whales, perhaps the killer whales are very noisy for they travel at a great speed. Since they live off all the mammals of the sea, they can kill a bowhead whale, that is very well known by the Inuit.

[Lucassie Nutaraaluk, IQ] HS46 Final report of the Inuit Bowhead Knowledge Study (2000)

Aarluk are found throughout Baffin Bay and Davis Strait and have a unique place in the lives of Inuit (Figure 9). Killer whales were generally feared and were thought to have long memories and hold grudges. In the past, they were not so much hunted, but used as sentinels or hunting aids for the location of other whales and prey species such as seals. Whales and seals avoiding killer whales made it is easier for harvesters to hunt them because they generally moved into shallower areas inaccessible to killer whales.

Killer whales hunt all whales, including bowhead. Killer whales are called the "wolves of the sea", described as being "like wolves". Seals seem to be the most common food. Fish do not seem to be a major prey item for the Arctic populations. The same harvesters reported that all prey species employed avoidance techniques such as heading to shallow waters and the shoreline, or diving deep. Diving deep is also used by whale species to escape harvesters. Bowhead whales will "run-away" towards ice and are known to jump out of the water when pursued.

While killer whales are generally not harvested, when they have been captured, their uses are similar to that of other whales:

- *Maktaaq*
- Dog food or bait for fox traps
- Bone for sled runners
- Blubber for *qulliq*
- Teeth and bones for carving.

Killer whales are generally not noted at floe edge or leads. Their dorsal fins interfere with ice travel. They normally do not arrive until *Aujaq* (i.e., July; Table 15). Further, killer whales have been observed leaving before freeze up so that they will not be trapped in ice. As with other whales, harvesters have indicated that killer whales seem to avoid areas with too many boats and that they may be sensitive to noise.

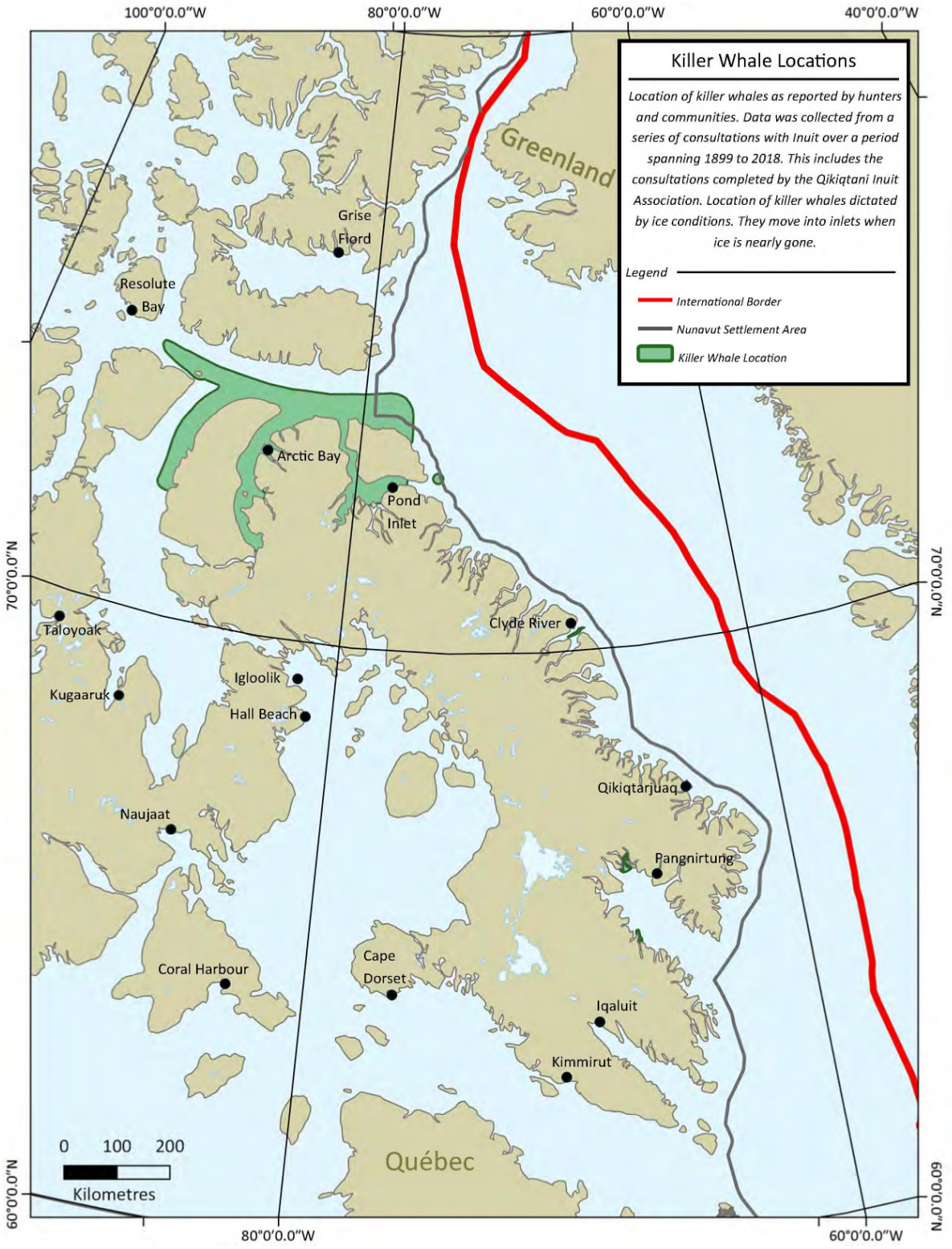

Figure 9. Killer whale locations based on IQ

Table 15. Seasonal location of killer whale based on IQ

		ᐅᑭᐅᖅ Ukiuq winter	ᐅᐱᖏᓪᓗᓂᖅ Upirngasaaq early spring	ᐅᐱᖏᓂᖅ Upirngaaq late spring	ᐊᔾᔨᖅ Aujaq summer	ᐅᑭᐊᓂᖅ Ukiassaaq early fall	ᐅᑭᐊᖅ Ukiaq fall, early winter
Study area communities	**Grise Fiord**	Not present	Not present	Arriving in July	Present	Leave the area in September	Not present
	Arctic Bay	Not present	Not present	Arriving in July	Present and leave by September	Not present	Not present
	Pond Inlet	Not present	Not present	August / mid-August	Present and leave by September	Not present	Not present
	Clyde River	Not present	Not present	Arriving in July	Present and leave by September	Not present	Not present
	Pangnirtung	Not present	Not present	Arriving in July	Present and leave by September	Not present	Not present
	Qikiqtarjuaq	Not present	Not present	Arriving in July	Present	Leave the area in September	Not present

5.1.5 *Arviq* ("Bowhead whale")

Bowhead whale had a critical nutritional role in Inuit communities. One whale could provide a community with enough meat, blubber, and *maqtaaq* for a year. Preference was for juvenile whales whose skin was easier to penetrate and tastier.

In the early 1900s, bowhead whales were nearly exterminated from the eastern Arctic. Pangnirtung harvesters have said that as youths they hardly saw any whales though they recall their elders saying there were so many bowhead whales in the past that it was scary to travel. Commercial harvesting nearly drove the species to extinction and traditional harvesting ceased. Harvesters reported few sightings until the 1990s when numbers were reported as increasing.

Photo 8. Bowhead mating locations near Clyde River

Bowhead whales, like narwhal and beluga, travel to the eastern Baffin coast as ice recedes. The general behaviour is to arrive at the floe edge in *Upirngaaq* (i.e., May/June) and make their way into inlets and open areas between July and September. The first whales to arrive at the floe edge are bowheads without calves. Bowheads with calves arrive some weeks later. By the first signs of freeze-up, the whales begin moving away from inlets and fiords and back to open water. Depending on location, that is around *Ukiassaaq* (i.e., October; Table 16).

Bowhead have been noted as being sensitive to noise, but perhaps not as sensitive as beluga and narwhal. They do not react to small boats and outboard engines in the same manner as they do for larger ships. Harvesters noted that bowheads move inshore in Lancaster Sound when ships started arriving. They were also noted to move away from shipping activities and away from preferred feeding areas. The move may be short-term. Once the ship has passed, bowheads come back to the same location.

Table 16. Seasonal location of bowhead whales based on IQ

		ᐅᑭᐅᖅ **Ukiuq** **winter**	ᐅᐱᖏᓚᐃᓴᖅ **Upirngasaaq** **early spring**	ᐅᐱᖏᓐᓇᖅ **Upirngaaq** **late spring**	ᐊᔾᔨᖅ **Aujaq** **summer**	ᐅᑭᐊᓂᓴᖅ **Ukiassaaq** **early fall**	ᐅᑭᐊᖅ **Ukiaq** **fall, early winter**
Study area communities	**Grise Fiord**	Not present	Not present	Arrive at floe edge and movement in Jones Sound	Present in small numbers	Move out of area. Some winter in North Water Polynya	Some winter in North Water Polynya
	Arctic Bay	Not present	Floe edge off Admiralty Inlet		Coast. Congregate in open water and throughout Admiralty Inlet	Moving to open water before freeze	Not present
	Pond Inlet	Not present	Not present	Present at flow edge; mating	Present in Eclipse Sound and Navy Board	Most move southward, but some move northward	Not present
	Clyde River	Not present	Floe edge	Deep water preparing to enter inlets	Feeding in Isabella Bay before heading south	Not present	Not present
	Pangnirtung	Not present	Arrive in March at floe edge	Southern shore to Cumberland Sound. Break thin ice to make breathing holes.	In Cumberland Sound are dispersed into small groups	Departing; may stay until early December depending on ice conditions	Not present
	Qikiqtarjuaq	Not present	Not present	Arrive in the area	Abundant in near shore waters, and fiords and inlets	Whales from the north passing by Qikiqtarjuaq. Leave before ice forms	Not present

5.1.6 Other whales, dolphins and porpoises

While narwhal, beluga, and bowhead are closely linked to Inuit culture and frequently discussed in IQ studies, harvesters have made mention of other species being observed in *Aujaq*, and maybe *Ukiaqsaaq*. Collectively, they are summarized in Table 17. They are not primary food species for Inuit.

Table 17. Other whales, dolphins and porpoises based on IQ

		Atlantic White-sided Dolphin	Finned Pilot Whale	Harbour Porpoise	Minke Whale	North Atlantic Right Whale	Northern Bottlenose Whale	Sperm Whale	Fin Whale
Study area communities	**Grise Fiord**				X				
	Arctic Bay					X			
	Pond Inlet				X			X	X
	Clyde River		X	X			X	X	
	Pangnirtung			X	X		X	X	
	Qikiqtarjuaq	X		X	X	X	X		

5.1.7 Seals and Walruses

Seals and walruses have been and continue to be critical to Inuit survival and culture. Seal has traditionally been used for food for humans and dogs, as well as, clothing, ropes, floats, kayak skins, tents, blankets, games, fuel for the *qulliq*, and medicines. For some communities, stomach contents of seals are considered a delicacy depending on the contents and degree of digestion.

Today, many uses have been replaced with modern materials and products, but seal is still critical for food for humans and dogs, *kamaaluit* (boots), and coats and *pualuuk* (mittens). Ringed seals were so important that they featured in Inuit place names. For example, near Clyde River there is a coastline, *Nattiqsujuq*, known for its seals. A nearby cape, *Nattiqsujuup Nuvua*, specifically identifies with ringed seals, as well.

Ringed seals have a unique place in Inuit culture as it is the most common marine mammal and a mainstay in the diet. Unlike other seals with the exception of select bearded seal populations, ringed seals are available year-round as they are able to create breathing holes (Figure 10). Inuktitut has developed specific terms for ringed seal and its life cycle. When Inuit speak about seals, they are referring to ringed seals or "*nattiq*". There is no general term for seals. This is important because it speaks to the relationship with the animal and their importance in Inuit life. For example, "*avunnit*" is the month "when premature baby seals are being born", and "*nattian*" is the month "when the seal pups are born".

5.1.7.1 Hunting

Seal[3] hunting takes place year round in the east Qikiqtaaluk communities (Table 18). Hunting takes place at *aglu* (breathing holes), the floe edge, on *quasiarqtut* (newly formed ice), or in open water depending on the seasons. The location of the communities dictates the type of hunt. The kind of seal also dictates the type of hunt. For example, ringed seals maintain breathing holes at which harvesting can take place. The entire ringed seal life is spent in and around ice, and they rarely come on land. They hunt, breed, and give birth, moult, and rest in and around ice. Harp, hooded, and harbour seals arrive with ice break-up when leads start to form. They do not have the same association with ice. Bearded seals will be found in locations where there are polynyas, but they are fewer in number than ringed seals. They do not have the capacity to make breathing holes, but will use open water areas or the holes of ringed seals.

Seal hunting requires unique skills. Even though technology has changed and guns have replaced harpoons, hunting at breathing holes still requires patience and stealth. Seals will avoid holes where they suspect a predator. Winter hunting traditionally has harvesters watching 6-12 active breathing holes. As breathing hole conditions vary with the ice conditions, skilled harvesters need to understand how a seal might approach a breathing hole. For example, land fast older ice means that the holes are vertical. New ice means that the holes are horizontal. Once shot, seals have to be harpooned quickly before they sink or float away. How quickly they sink is an indication of the amount of body fat they have.

[3] Usually ringed seal unless otherwise mentioned in the literature.

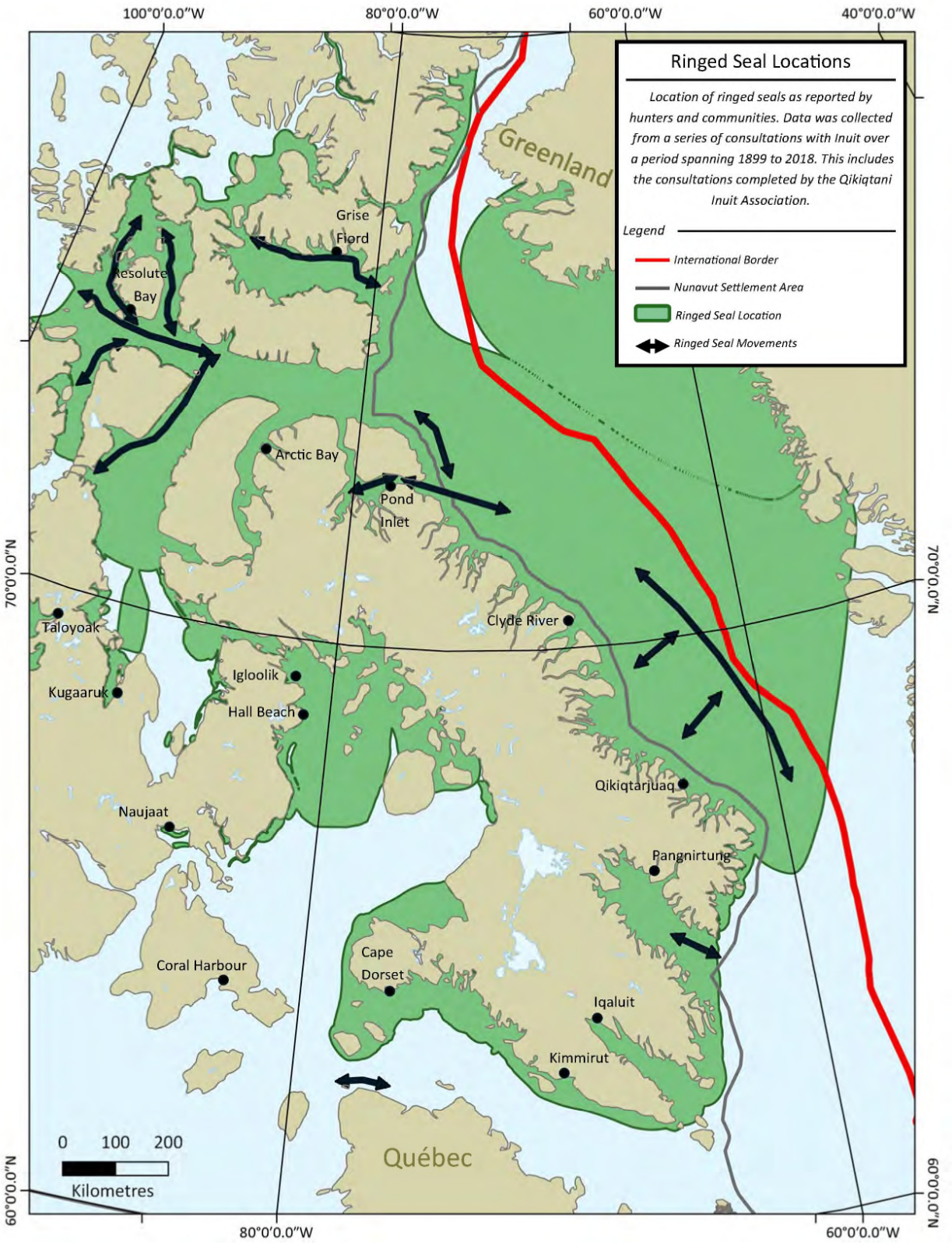

Figure 10. Ringed seal locations and movement based on IQ

Table 18. Observations of seals and walruses in the Qikiqtaaluk, NU

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Pangnirtung												
bearded seal	X	X	X	X	X	X	X	X	X	X	X	X
harbour seal (rare)		X	X	X								
harp seal	X	X	X	X	X	X	X					
hooded seal	X	X	X	X	X	X	X	X	X	X	X	X
ringed seal	X	X	X	X	X	X	X	X	X	X	X	X
walrus	X	X	X	X				X	X	X	X	
Qikiqtarjuaq												
bearded seal	X	X	X	X	X	X	X	X	X	X	X	X
harbour seal (rare)			X	X								
harp seal	X	X	X	X	X	X						X
hooded seal	X	X	X	X	X							X
ringed seal	X	X	X	X	X	X	X	X	X	X	X	X
walrus	X	X	X	X	X	X						
Clyde River												
bearded seal	X	X	X	X	X	X	X	X				
harbour seal (rare)		X	X	X	X							
harp seal	X	X	X	X	X	X						X
hooded seal (rare)		X	X	X								
ringed seal	X	X	X	X	X	X	X	X	X	X	X	X
walrus	X	X	X	X	X							X
Pond Inlet												
bearded seal		X	X	X	X	X						
harp seal		X	X	X	X	X						
hooded seal	X	X	X	X	X							
ringed seal	X	X	X	X	X	X	X	X	X	X	X	X
walrus	X	X	X	X					X			
Arctic Bay												
bearded seal	X	X	X	X	X	X	X	X	X	X	X	X
harp seal		X	X	X	X							
ringed seal	X	X	X	X	X	X	X	X	X	X	X	X
walrus	X	X	X	X	X	X	X	X	X	X	X	X
Grise Fiord												
bearded seal	X	X	X	X	X	X	X		X	X	X	X
harp seal		X	X	X	X							
harbour seal (rare)		X	X									
hooded seal (rare)			X									
ringed seal	X	X	X	X	X	X	X	X	X	X	X	X
walrus	X	X	X	X	X	X	X	X	X	X	X	X

5.1.7.2 Habits and Behaviours

5.1.7.2.1 Grise Fiord

Ringed seals are abundant year round in Jones Sound (Table 19). There is a resident population, which is augmented by migratory seals from Baffin Bay. Migratory ringed seals return to the region in *Upirngasaaq* (i.e., April) during breeding season. Ringed seals are found in the fiords near Grise Fiord during the open water season.

Bearded and harp seals return when leads start opening up in June. Bearded and harp seals summer near Coburg Island in the mouth of Lancaster Sound and elsewhere.

Table 19. Grise Fiord seasonal seal distribution based on IQ

	ᐅᑭᐅᖅ Ukiuq	**ᐅᐱᖏᓪᓗᓂᖅ Upirngasaaq**	**ᐅᐱᖏᓪᓚᖅ Upirngaaq**	**ᐊᔾᔨᕐᖅ Aujaq**	**ᐅᑭᐊᓂᖅ Ukiassaaq**	**ᐅᑭᐊᖅ Ukiaq**
Species	**January & February**	**March – mid-May**	**mid-May – early July**	**Early July of August**	**September & October**	**November & December**
Ringed seal	breathing hole	breathing hole; birthing lair; pupping	breathing hole; floe edge; birthing lair	open water	open water	floe edge
Bearded seal	not present	breathing hole	leads	open water	open water	not present
Harbour seal				rare		
Harp seal	not present	not present	not present	travel in herds. Arrive during open water	open water	not present
Hooded seal				rare		

5.1.7.2.2 Arctic Bay

Ringed seals are present year round in Arctic Bay (Table 20). Harvesters have commented on periods when seals were scarce in the 1950s and 1960s in Admiralty Inlet, but no clear explanation was provided.

Seals can be found in landfast ice and pack ice during the winter, especially in areas where cracks appear within Admiralty Inlet. These open areas influence the distribution of seals. The same harvesters noted a size difference in the seals depending on location and ice conditions. The difference was also attributed to the quality and types of food available in different locations. Seals in the polynya north of the community were considered good tasting. Seals were noted to eat shrimp, Arctic cod, and Arctic char. Consumption of cod makes seals taste like cod.

Bearded seals are found on the western side of Admiralty Inlet in *Aujaq* (i.e., June and July) following ice leads. They can be seen at the floe edge. They are not as numerous as ringed seals. They consume prey similar to ringed seal, but will also feed along the bottom for bugs, worms, invertebrates, and eels. The skin of bearded seals was preferred for the making of *kamaaluit*. Arctic Bay hunters favour Harp seals skin for their clothing.

Harp seals arrive with narwhal. They are referred to as "the dog team of the narwhal". They leave by September. Their diet is similar to that of narwhal, such as cod and Greenland halibut.

Table 20. Arctic Bay seasonal seal distribution based on IQ

Species	ᐅᑭᐅᖅ Ukiuq	ᐅᐱᖏᓪᓗᓴᖅ Upirngasaaq	ᐅᐱᖏᓪᓗᖅ Upirngaaq	ᐊᒃᑐᖅ Aujaq	ᐅᑭᐊᓴᖅ Ukiassaaq	ᐅᑭᐊᖅ Ukiaq
	Mid-November – mid-March	**Mid-March - May**	**June & July**	**Mid-July - September**	**September – mid-October**	**October to beginning of November**
Ringed seal	breathing hole	breathing hole; birthing lair	breathing hole; floe edge; birthing lairs	open water	open water	floe edge
Bearded seal	not present	present	present; shoreline	open water	open water	not present
Harp seal	not present	present; floe edge	present; shoreline	open water	open water	not present

5.1.7.2.3 Pond Inlet

Four species of seal can be found in and around Pond Inlet: ringed seals, bearded seals, harp seals, and hooded seals (Table 21). Ringed seals can be found year round. They are a primary part of the local diet along with bearded seals.

Harp seals and hooded seals are only present when the sea ice is gone during *Upirngaaq*, arriving the first week of July. Harp seals are also harvested while in the area.

Table 21. Pond Inlet seasonal seal distribution based on IQ

Species	ᐅᑭᐅᖅ Ukiuq December – first 2 weeks of February	ᐅᐱᖏᓪᓗᓴᖅ Upirngasaaq mid-March – end of May	ᐅᐱᖏᓪᓗᖅ Upirngaaq June and July	ᐊᒎᕐᓴ Aujaq mid-July – end of September	ᐅᑭᐊᑦᓴᖅ Ukiassaaq end of September – mid-October	ᐅᑭᐊᖅ Ukiaq November
Ringed seal	breathing hole	breathing hole; birthing lair and pupping	breathing hole; floe edge; males prepare dens for females; females in birthing lair and pupping	open water	open water	floe edge
Bearded seal	breathing hole	breathing hole; birthing lair	breathing hole; floe edge; males prepare dens for females; females in birthing lair	open water	open water	floe edge
Harp seal	Not present	Not present	Arriving when sea ice disappears at the beginning of July.	open water	open water; move towards Greenland when sea ice return	move towards Greenland when sea ice returns
Hooded seal	Not present	Not present	Arriving when sea ice disappears at the beginning of July.	open water	open water; move towards Greenland when sea ice return	move towards Greenland when sea ice returns

5.1.7.2.4 Clyde River

Five seals species are resident in and around Clyde River. Ringed seal is found year round while bearded, harp, hooded, and Harbour seals are present for a portion of the year (Table 22).

When present in the area, the seals are found in the fiords and inlets such as Isabella Bay, Patricia Bay, Eglinton Fiord and around Cape Henry Kater. Winter harvesting of ringed seals is at *aglu*. There are no polynyas or major tides breaking the winter ice meaning that ringed seal will only be found at breathing holes.

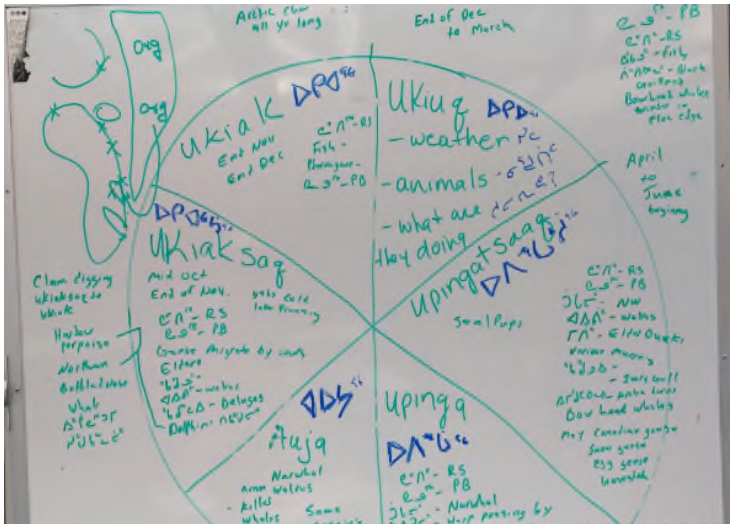

Photo 9. Clyde River Seasonal Calendar

Table 22. Clyde River seasonal seal distribution based on IQ

Species	ᐅᑭᐅᖅ Ukiuq end of December – end of March	ᐅᐱᖏᓪᓗᓂᖅ Upirngasaaq April – beginning of June	ᐅᐱᖏᓪᓗᖅ Upirngaaq mid-June – end of July	ᐊᒃᐅᔪᖅ Aujaq August – mid-October	ᐅᑭᐊᓂᖅ Ukiassaaq mid-October - November	ᐅᑭᐊᖅ Ukiaq December
Ringed seal	breathing hole	breathing hole; birthing lair; start having pups	breathing hole; floe edge; birthing lair; pupping	open water	open water	floe edge
Bearded seal	not present	not present	returning to the area	open water	open water	moving out of region; open water
Harp seal	not present	Floe edge; not common	passing by the area but not staying	open water	not present	not present
Hooded seal	not present	not present	return to area; not common	open water	not present	not present
Harbour seal	not present	not present	not present	open water; not common	not present	not present

5.1.7.2.5 Pangnirtung

Ringed seal can be found year round in and around Pangnirtung and Cumberland Sound (Table 23). The tides create open water areas in inlets and fiords. Harvesters time their seal hunting with tides. Strong tidal currents can sweep seals away and hunters can also get swept under ice. Bearded and harp seals are also found in Cumberland Sound. Bearded seals are the second most commonly harvested seal for the community. On rare occasions, Grey seals have been spotted.

Ringed seals are known to consume Greenland halibut, amphipods, cod, and other small fish that resemble cod. Based on stomach contents, bearded seals are also known to eat shrimp.

Table 23. Pangnirtung seasonal seal distribution based on IQ

	ᐅᑭᐅᖅ Ukiuq	**ᐅᐱᖏᓱᓴᖅ Upirngasaaq**	**ᐅᐱᖏᓂᖅ Upirngaaq**	**ᐊᔾᐅᕐᖅ Aujaq**	**ᐅᑭᐊᓴᖅ Ukiassaaq**	**ᐅᑭᐊᖅ Ukiaq**
Species	**January - February**	**March-April**	**May-July**	**August-September**	**October - November**	**December**
Bearded seal	breathing hole; floe edge	floe edge	floe edge	open water	open water	floe edge
Grey seal	not present	not present	open ocean	not present	not present	not present
Harbour seal	not present	not present	open ocean; river mouths	open water	not present	not present
Harp seal	not traditionally present; starting to stay around in Ukiuq recently	not present	not present	open water; starting to leave	remain until ice is formed	not present
Hooded seal	not present	floe edge	birthing on pan ice	basking on ice; open water	remain until ice is formed	
Ringed seal	breathing hole; floe edge	breathing hole; floe edge; birthing lair where ice is stable; pups growing and losing their initial fur	breathing hole; floe edge; birthing lair; pups getting shiny silver coat	open water	open water	floe edge

5.1.7.2.6 Qikiqtarjuaq

Ringed and bearded seals are present year round along the coast near Qikiqtarjuaq (Table 24). Hooded and harp seals have been observed passing by the community during open water periods. They move north in *Upirngaaq* and south in *Ukiaqsaaq*.

Both ringed and bearded seals are known to eat shrimp, plankton, prawns, sculpin, and Greenland halibut. Seals that eat primarily Greenland halibut were thought to be fatter and tenderer. Seal is the primary food in the community between March and May, especially Ringed seal. Baby seal liver is considered a delicacy.

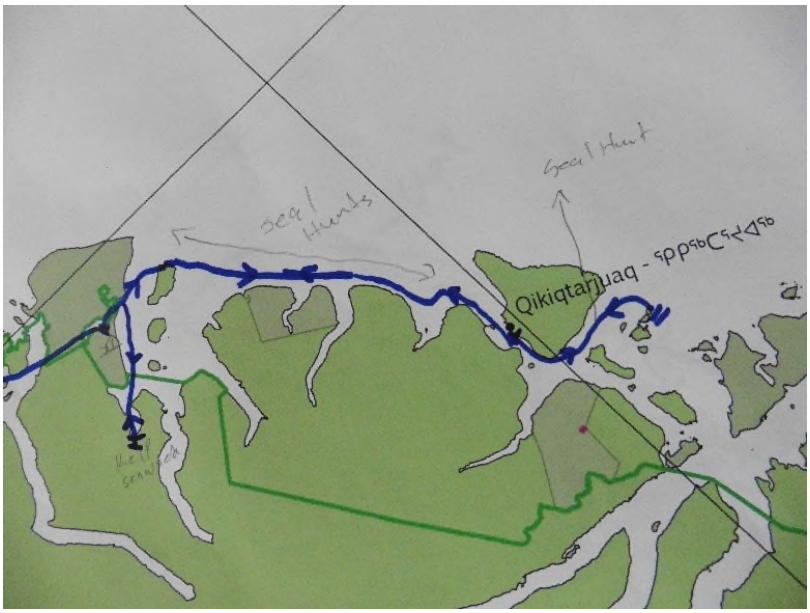

Photo 10. Seal hunting near Qikiqtarjuaq

5.1.7.3 Fur seals

Both Clyde River and Qikiqtarjuaq harvesters mentioned single observations of an eared seal in the past decade. They thought it was a sea lion. The eared seal near Qikiqtarjuaq was spotted in October 2011. The general description provided was an animal with brown fur, small teeth and small ears. It was described as the same size or larger than harp seals. It was thought to be following capelin.

Table 24. Qikiqtarjuaq seasonal seal distribution based on IQ

Species	ᐅᑭᐅᖅ Ukiuq January to mid-March	ᐅᐱᖏᓪᓗᓴᖅ Upirngasaaq mid-March to third week of May	ᐅᐱᖏᓪᓗᖅ Upirngaaq end of May to mid-July	ᐊᒍᕐᔪᖅ Aujaq end of July / beginning of August to mid-September	ᐅᑭᐊᓴᖅ Ukiassaaq end of September to November	ᐅᑭᐊᖅ Ukiaq end of November to end of December
Ringed seal	breathing holes (maybe at floe edge but harvesting is not done there. Ice too rough)	breathing hole; birthing lair; pupping starts at the end of March, but most born in April	present	present	present	present
Bearded seal	breathing holes (maybe at floe edge but harvesting is not done there. Ice too rough)	breathing hole; birthing lair; pupping starts at the end of March, but most born in April	floe edge; skins best this time of year for boots	present	present	present
Harp seal			floe edge	passing through	passing through following capelin. If there are no capelin then they are not seen	
Hooded seal				passing through	passing through; becoming more common	being spotted in winter

*5.1.7.4 Aiviq (*Walrus)

Aiviq are found throughout Baffin Bay and Davis Strait year round (Figure 11). The third largest population in Nunavut, after Southampton Island and Foxe Basin populations, can be found along the east side of Ellesmere Island in Baffin Bay. Walrus are feared and admired by Inuit because of their powerful strength. Walruses are known by several names. They are commonly referred to as "*aiviq*", but they have also been known as "*tiqlaralik*", the animal that has something to pierce with or "*kauligjuaq*", the big one with thick skin.

> *Hunters in boats are able to protect themselves against killer whale packs by at least two devices, both of which depend on the respect that killer whales show towards walruses……a white enamel mug is lowered over the side into the water. When the killer whales glimpse the flash of white, they move away, for it suggests the tusks of the walrus…….hunter lowers a paddle or an oar in the water and then bellows with the voice of the walrus….the paddle, acting as a resonator*….(Brody 1976).

5.1.7.4.1 Hunting

Traditionally, walrus were a prized food and resource, and could be hunted year around. They would be hunted from the floe edge in *Ukiuq* through *Upirngaaq*, and in open water in *Aujaq*. In the past, hunting was done as a group effort from boats and kayaks. It was considered too dangerous to hunt alone as the tusks could puncture boat and kayak hulls. Qikiqtaaluk harvesters still actively harvest walrus. Each of the study area communities have harvesters that hunt walrus for food, ivory, and dog food.

Walrus would be put to a variety of uses. The kidney membranes were used as containers. The skin would be used for waterproof clothing such as mitts. The meat would be fermented ("*igunaq*") and put in caches for consumption in early winter. Other meat would be fed to the dogs. When *iglu* were still in active use, the intestines would be used as windows. The tusks are also valued for carving.

5.1.7.4.2 Habits and Behaviours

While walrus are found throughout Baffin Bay and Davis Strait, their particular dietary preferences and need for haul outs means that their distribution is quite localized and specific. Popular inshore locations are shallow with molluscs and other bottom dwelling organisms predominant in walrus diets. Similar to other marine species in Davis Strait and Baffin Bay, walrus move inshore from open water to pack ice wintering grounds. Table 25 summarizes the seasonal distribution of walrus, and Figure 12 shows the broad distribution. They typically give birth at the end of *Upirngasaaq* and early *Aujaq*. Females are more likely to come inshore than males. Males will typically stay offshore in deeper waters.

Table 25. Seasonal distribution of walrus based on IQ

		ᐅᑭᐅᖅ **Ukiuq** **winter**	ᐅᐱᖏᓪᓗᓴᖅ **Upirngasaaq** **early spring**	ᐅᐱᖏᓪᓗᐊᖅ **Upirngaaq** **late spring**	ᐊᔪᐅᖅ **Aujaq** **summer**	ᐅᑭᐊᓴᖅ **Ukiassaaq** **early fall**	ᐅᑭᐊᖅ **Ukiaq** **fall, early winter**
Study Area Communities	**Grise Fiord**	north water polynya; pack ice in Davis Strait; breathing holes	north water polynya; pack ice in Davis Strait; breathing holes	floe edge	open water; inlets and fiords, haulouts	departing for wintering grounds	north water polynya; pack ice in Davis Strait
	Arctic Bay	pack ice in Davis Strait	pack ice in Davis Strait	floe edge	open water; inlets and fiords	departing for wintering grounds	pack ice in Davis Strait
	Pond Inlet	pack ice and open water	pack ice and open water	floe edge	open water; inlets and fiords; start birthing in July	departing for wintering grounds	pack ice and open water
	Clyde River	not present	start spotting walrus with pups south of Clyde Inlet; floe edge	floe edge	open water; inlets and fiords; haul-out in Isabella Bay	departing for wintering grounds	not present
	Qikiqtarjuaq	not present	not present	not present	haul-outs to the north and south of Qikiqtarjuaq	not present	not present
	Pangnirtung	outside Cumberland Sound in Davis Strait	floe edge; will create breathing holes in areas of thin ice	move to west side of Cumberland Sound as ice disappears; clamming areas	haul-outs and open water in Cumberland Sound	departing for wintering grounds	outside Cumberland Sound in Davis Strait

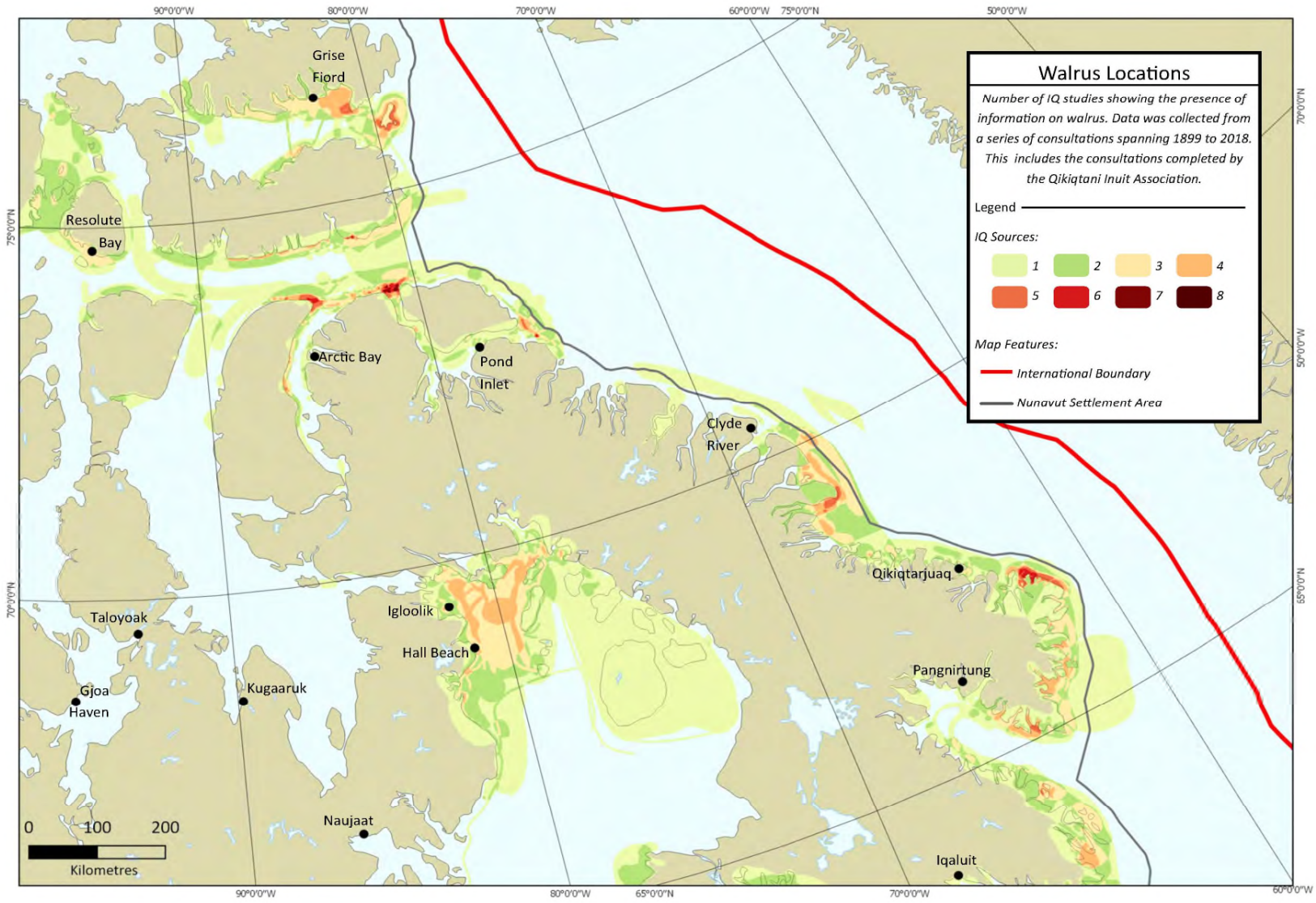

Figure 11. Walrus locations and movement based on IQ

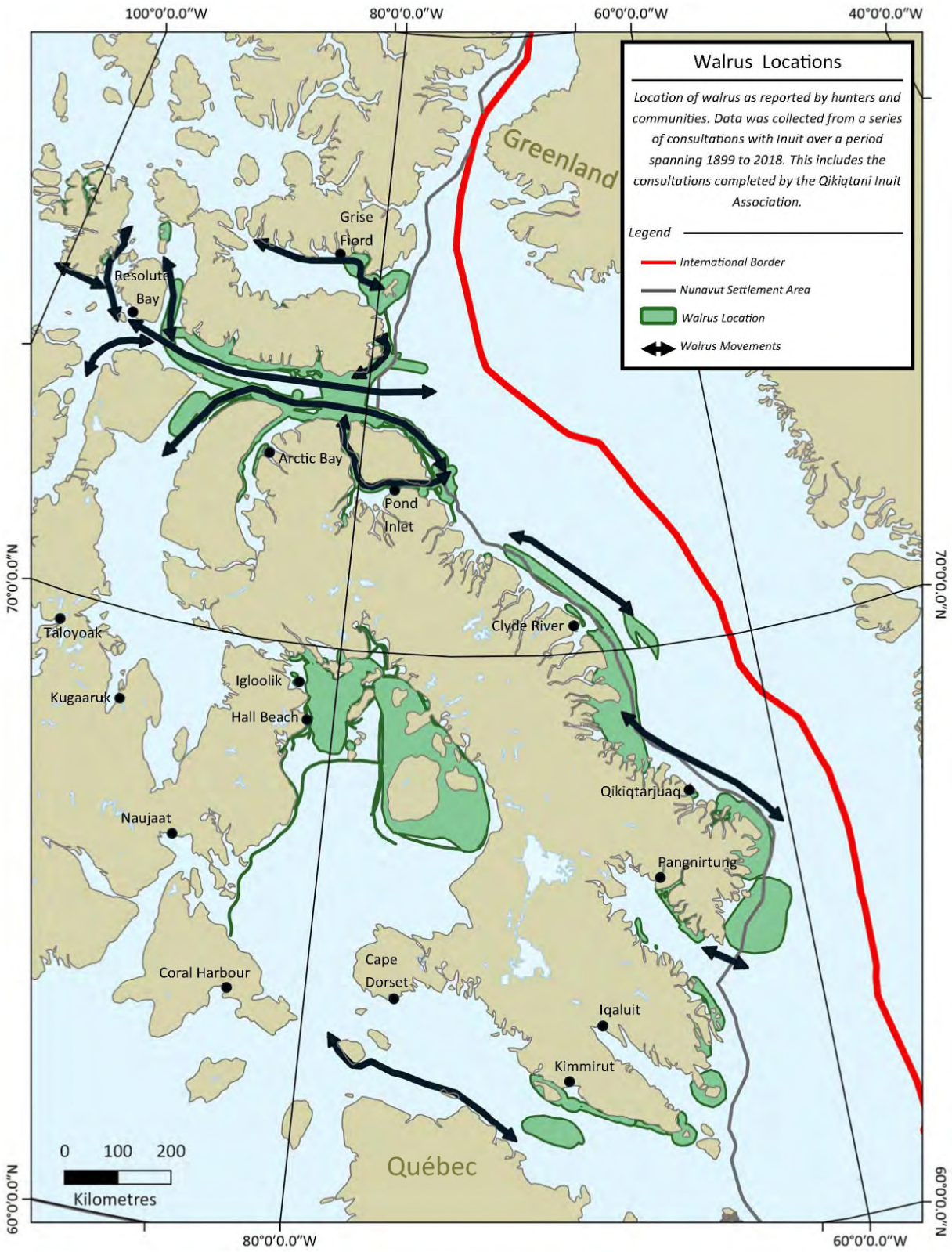

Figure 12. Walrus movement based on IQ

5.2 *Pisuktiit* (Walkers)

5.2.1 *Nanuq* ("Polar Bear")

Polar bears are ubiquitous in the Arctic and despite this, there is limited Inuit knowledge documentation for Baffin Bay and Davis Strait (Figure 13). *Nanuq* are spoken of for their strength and bearing. They feature in Inuit lore and mythology. They are at the top of the *iqsinaqtuit*, or "those that make one frightened".

> *…[Polar bears] should not be bothered … don't make fun of them or you know, traditionally we were told 'no don't talk about animals in a negative way' … and never say that you're a great hunter too. Because if you say 'oh I can get a bear' the bear will teach you a lesson … so they told us 'no don't brag about polar bears, that you're able to hunt them' … even questions about hunting bears is kind of very touchy too, for elders especially. I could tell that they don't want to answer … because they're afraid … because it's not something that Inuit talk about, just bragging about it, [you know] it's … vital … important subject, animals. Any animal. Not to talk about them, not to bother them … leave them be, you know.*
>
> Source: Wong et al 2017

Polar bear are also referenced in the sky. Inuit lore and legend feature *Nanurjuk* as a principle star in the Pleiades star cluster. *Nanurjuk* means "like having the spirit of a polar bear". Within the Pleiades cluster, it is said to be a polar bear held at bay by dogs. Other legends say that Orion is a sled being pulled by dogs towards the bear.

5.2.1.1 Hunting

Polar bears are hunted in each of the study area communities according to a quota management system established by the Government of Nunavut. Some of the quotas are used for trophy hunts where the hunts can bring in $25,000 or more per bear. Traditionally, bears are hunted for their skins and meat. Polar bear skin was used for pants and mitts. Today, it is more likely that the whole skin is sold as an income source. Polar bear meat is considered a delicacy. Bears are generally hunted on landfast ice and the floe edge.

5.2.1.2 Habits and Behaviour

Polar bears can be found along the entire Baffin, Devon, and Ellesmere islands coastlines (Figure 14). Their lifestyle is closely linked to the ringed seal, which is their primary food source followed closely by bearded seals. They have their cubs in dens before ringed seals give birth. Polar bear hunt ringed seal pups in their dens, or out on the open ice. Polar bear are also known to kill walrus, but it is just as likely that walrus will kill polar bear.

Polar bears have distinct behaviours. Qikiqtaaluk harvesters have consistently commented on the same behaviours:

- bears moving inland by as much as 25 km in the summer as the ice disappears, but still seeking out areas where the ice might last into the summer so as to continue sealing
- hunting seals on landfast ice, pack ice, and at the floe edge in winter and spring; and
- denning in snow in the fall and winter.

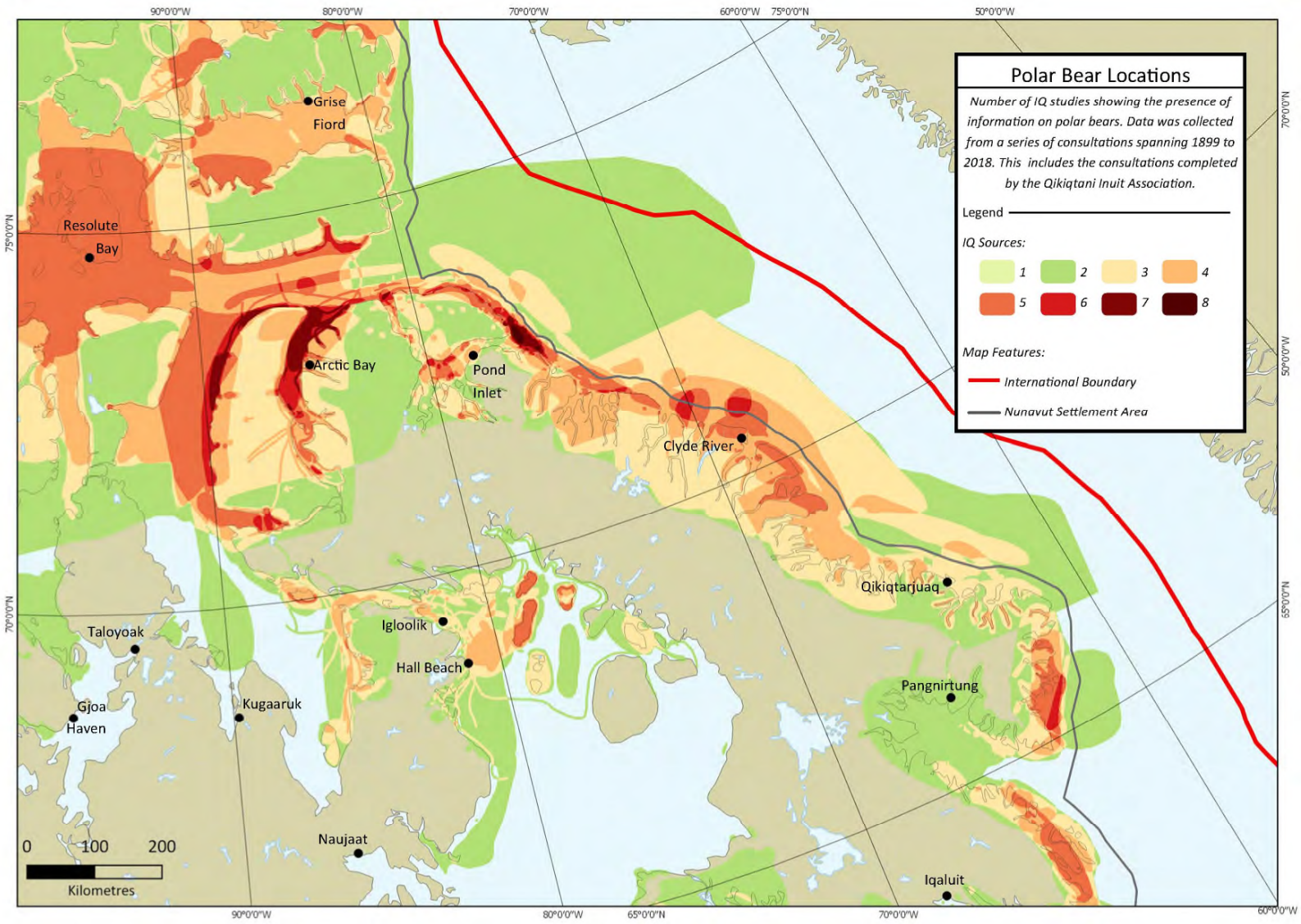

Figure 13. Location of polar bear based on Inuit hunting locations

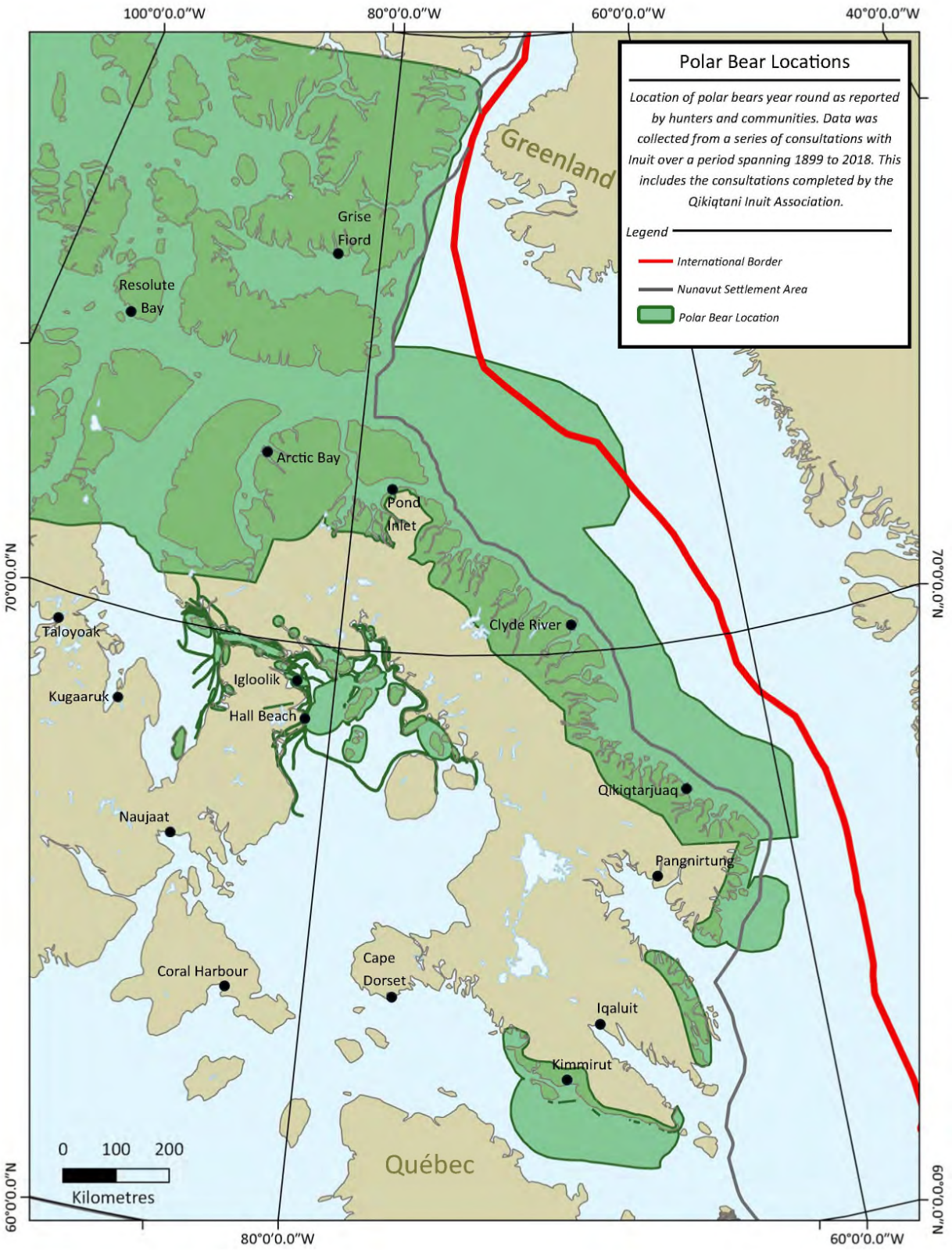

Figure 14. Polar bear locations based on IQ

5.3 *Tariup imaq* (Sea water)

If the fish were not going to be eaten right away or if it was not really summer, they would dry it to prevent it from rotting. Only by having them dried they did not turn bad. The fish were covered up so that they did not rot. The people made certain that the rocks covering the fish did not touch them. They would be elevated and the fish would be in bags…Those were always edible…even if they were caught in the summer. The ones that have been dried, you want to eat them

Pauloosie Angmarlik, Uqqurmiut as reported in Bennett and Rowley (2004; p. 251)

Preparing fish at the saputi [weir] was tiring. In a good year the number of fish caught would exceed the women's ability to process them. Sometimes a woman even fell asleep from exhaustion in the middle of cleaning a fish! At this point fish were cached whole. Only the guts and gills were removed, as the gills of the fish make the fish age very fast.

Sowdloo Shukulak, Uqqurmiut as reported in Bennett and Rowley (2004; p. 252)

Life under water in Baffin Bay and Davis Strait is rich. Fish, invertebrates, and seaweeds are found within marine waters. This marine life forms a critical food source for Inuit, and for the other marine animals on which Inuit rely. Inuit have been noting marine life for millennia.

5.3.1 *Iqaluk* (Fish)

Iqaluk is a general term for fish, and a specific word for "char". Traditionally, fish were a source of sustenance and would be cached either raw or dried. Fish oil would also be cached. Fish oil was used when seal oil was not available for waterproofing, or used in lamps for light. The Nunavut Wildlife Harvest Study identified four species consistently harvested and the seasons when they were taken. The key species are Arctic char, Arctic cod, sculpin, and Greenland halibut. While fish were traditionally critical for survival, today they also represent an important economic and commercial opportunity for communities.

5.3.1.1 Fish Harvesting

Fisheries have sustained Inuit for millennia, especially char. Arctic char is harvested year-round and is considered both a freshwater fish and a marine fish (Figure 10). The most critical harvesting periods are when the fish move from the lakes to the sea and back again. Char would be harvested during the spring at the mouths of rivers where they would be speared or hooked. In the fall when char are returning to lakes to spawn, weirs would be used to catch them in greater numbers. This pattern of harvesting has not changed, only the technology used. During the middle of winter, char is harvested via nets placed under the ice.

5.3.1.2 Fish Habits and Behaviours

Noting fish habits and behaviours are part of the Inuit seasonal harvesting cycle. Inuit have always noted upon which fish marine mammals fed by looking at stomach contents and watching where animals congregate (Table 26). As stated at the beginning of Chapter 4.0, "animals go where their food is". Inuit used fish as an indicator to find marine mammals.

For example, Arctic char have complex behaviours, and char lakes are well documented in place names and through inuksuit (see Chapter 3). Spawning season in the fall is as closely marked as is the spring migration to the ocean. Char can be found in the inlets and fiords linking to the rivers that lead to their spawning lakes (Figure 16). Not surprisingly, their predators are also found in these same locations e.g., ringed seal, bearded seal, harp seal, walrus, narwhal and beluga. There is no region along the east coast of Baffin Island that does not have this combination of animals.

Cod at the floe edge is an essential part of the food web especially during spring migration. Three types of cod are indigenous to the waters of Baffin Bay and Davis Strait: Arctic cod, Atlantic cod, and Greenland cod with Arctic cod being the most common. Cod congregate at the ice edge just below the landfast and first year ice where they find amphipods and krill.

Other Inuit food sources following their prey include whales and seals. The capelin migration is an indication of the return of whales. Capelin travel northward on the east side of Baffin Island in the spring, and return south in the fall. Similarly, seals are attracted by congregations of Greenland halibut.

Table 26. Fish and marine animal relationships as identified during 2017-2018 QIA IQ Research

Fish	Marine Animals
American eel	- eaten by seals
Arctic char	- eaten by seals, narwhal
Arctic cod	- eaten by seals, narwhal, beluga
Atlantic cod	- eaten by seals, beluga
Atlantic salmon	- eaten by seals
Capelin	- eaten by seals, narwhal, beluga
Greenland cod	- eaten by seals, beluga
Greenland shark	- prey on seals
Grenadier	- eaten by seals
Herring	- eaten by seals
Northern wolfish	- eaten by seals
Sand lance	- eaten by seals, walrus, Thick-billed murre, Arctic char
Sculpin[4]	- eaten by seals, noted in bowhead stomachs
Greenland Halibut	- eaten by seals, narwhal, walrus

[4] Species not defined by harvesters

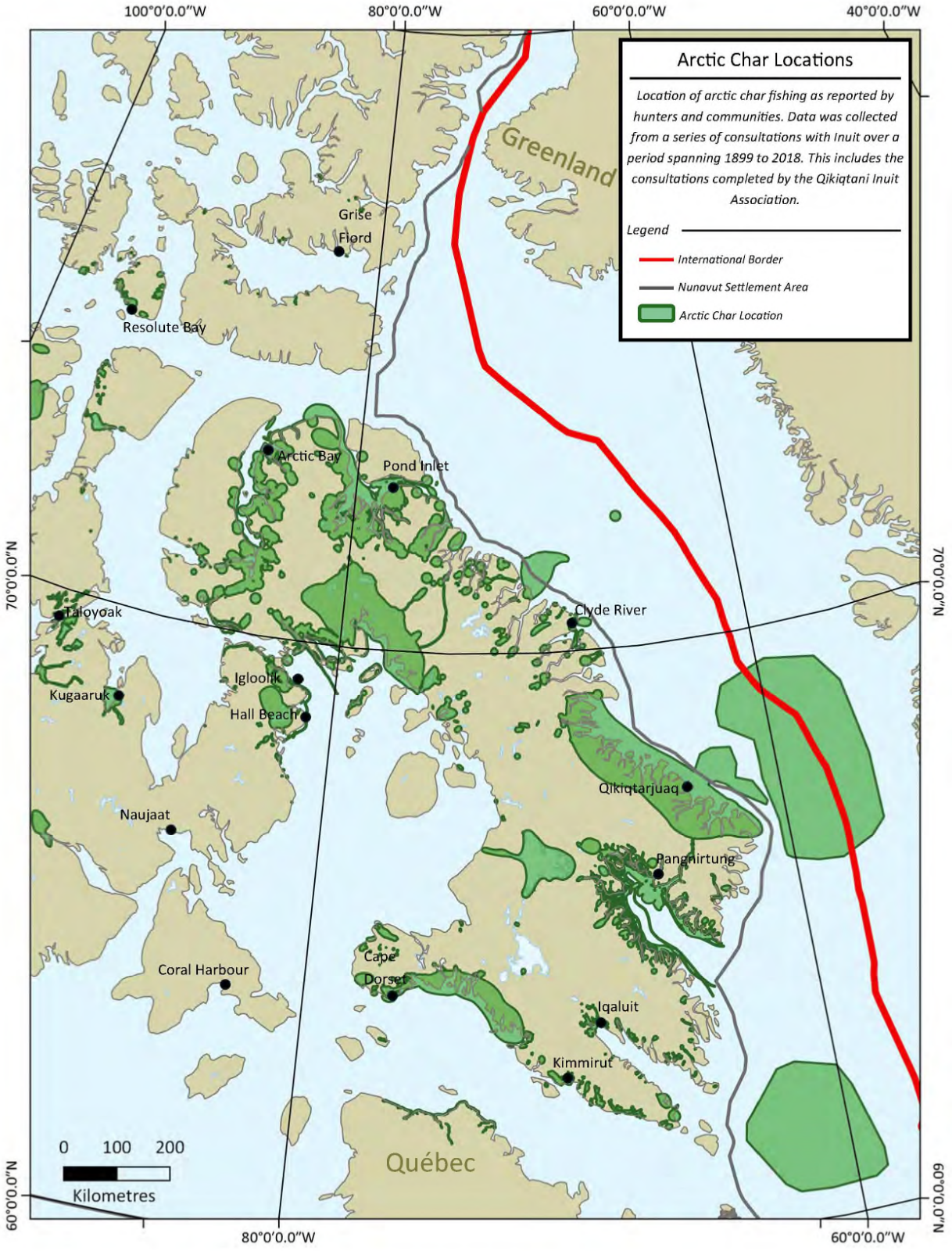

Figure 15. Arctic char locations based on IQ

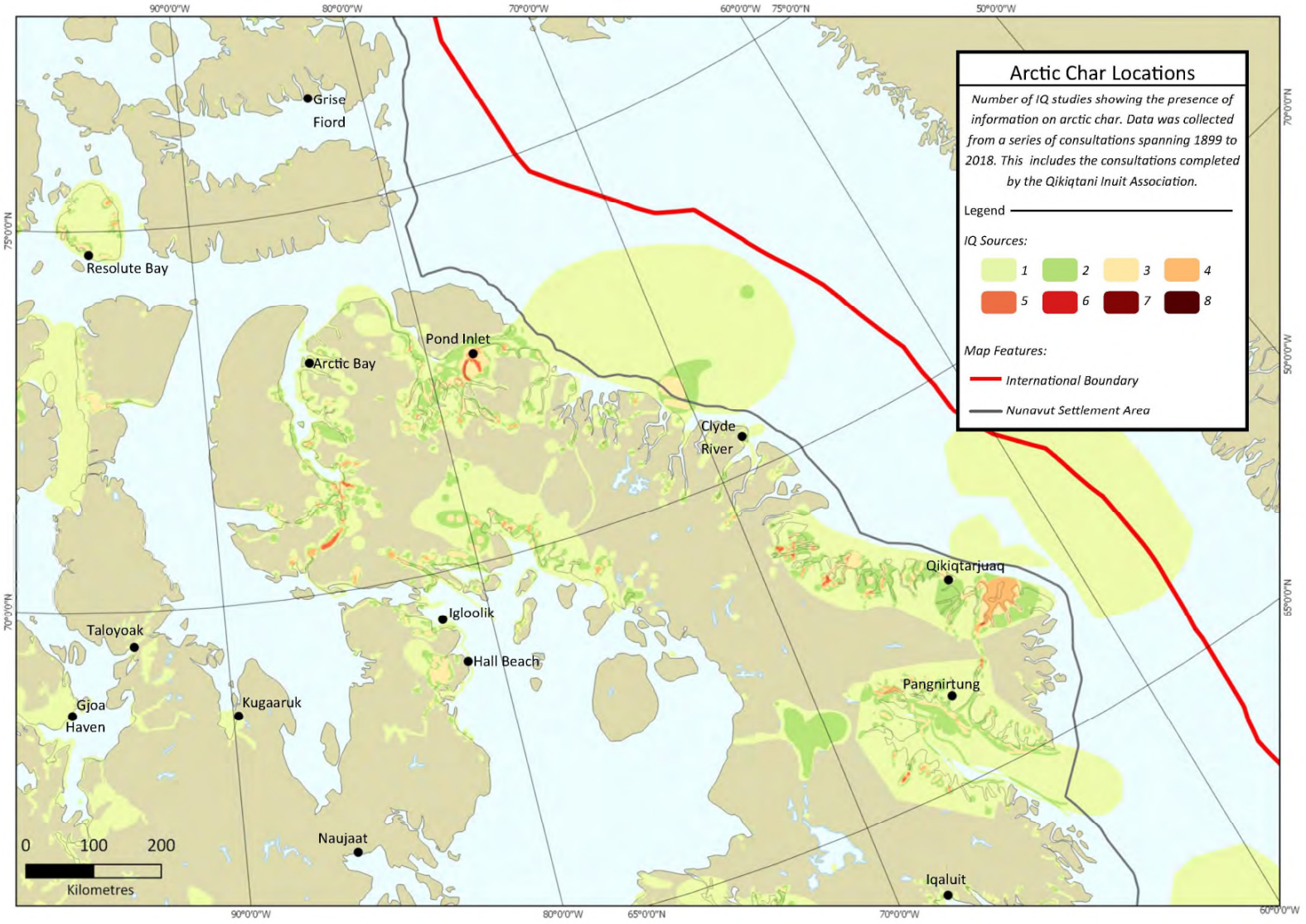

Figure 16. Location of Arctic char based on hunting locations

5.3.2 *Iqqarmiutat* (Sea Floor Dwellers)

Sea flood dwellers form part of the Baffin Bay and Davis Strait food cycle. Qikiqtaaluk Inuit have commented on the fact that these species form part of their own diet and their medicinal treatments (e.g., barnacles, clams, crabs, crayfish, jellyfish, shrimp, starfish and urchins). Sea floor dwellers are also a critical part of the diet of seals, walruses, fish, birds, and whales (Table 27). For a complete list of animals mentioned in the QIA workshops see Species list.

Table 27. Sea Floor Dwellers and Their Relationship in the Food Chain

Sea Floor Dwellers	Marine Animals
Amphipods	- eaten by fish, seals, bowhead
Clams[5] and mussels	- eaten by walrus
Crab	- birds
Squid	- beluga, narwhal
Krill	- eaten by fish, seals, narwhal
Octopus	- beluga, narwhal
Scallops	- eaten by walrus
Shrimp	- eaten by fish, seals, beluga
Urchins	- eaten by narwhal
Whelk	- eaten by walrus
Worms	- eaten by seals, waterfowl

5.3.3 *Tariup Piruqtungit* (Sea Plants)

The Baffin Island shoreline is rich in *kuanniq* (edible kelp) and *qiqquaq* (hollow stemmed kelp), dulse, and other seaweeds. Every community rely on seaweeds to flavour food and provide salt. Some have also been used medically. Traditionally, it was harvested seasonally and stored for winter, except where the shoreline is open during the winter months in which case it would be harvested throughout the year. The most common kelp harvested is *kuanniq* or edible kelp.

[5] The harvesters called clams, “Mya”, which is the Latin term of clams.

5.4 *Tingmiat* (Birds)

Marine associated birds also feature in IQ and in Inuit food security (Table 28). Black guillemot and thick-billed murre remain in Baffin Bay and Davis Strait year-round, keeping to open waters during the winter. Both were considered essential foods when other food was scarce. Harvesters have also mentioned that they are not particularly good tasting; and therefore, not preferred if other food was available.

5.4.1 Hunting and egg collecting

The eggs of various geese and ducks are collected during *Upirngasaaq*, especially those of Greater Snow geese and King eider (Figure 17). Critical egg collecting areas have been noted with specific place names (e.g., *Qaqulluit* (Northern fulmar), *Naujavaat* (Ivory gull nesting). Egg collection was a task that women and children performed.

5.4.2 Habits and behaviours

The majority of marine related birds arrive on Baffin Island during *Upirngasaaq* and depart towards the end of *Aujaq.* The exceptions are Thick-billed murre and Black guillemots. They can be found in open water areas in the winter and move towards land, following fish as the ice disappears. Eider ducks can be found year round near Pangnirtung.

Table 28. Common birds of Baffin Bay and Davis Strait as Identified during 2017-2018 QIA IQ Research

	Upirngasaaq	Upirngaaq	Aujaq
Arctic Loon			
Arctic Tern		X	X
Black Guillemot*	X	X	X
Brant Goose		X	X
Canada Geese		X	X
Common Loon			
Red breasted Merganser		X	X
Dovekie		X	X
Eider duck*	X	X	X
Greater Snow Geese		X	X
Gulls		X	X
Harlequin duck		X	X
King Eider		X	X
Black-legged Kittiwake		X	X
Long-tailed Jaeger		X	X
Northern Fulmar		X	X
Long-tailed duck (Oldsquaw)		X	X
Red-necked Phalarope		X	X
Plovers		X	X
Razor Bill		X	X
Red knot		X	X
Ruddy Turnstone		X	X
Sandhill Crane		X	X
Sandpiper		X	X
Shorebirds		X	X
Thick-billed murre*	X	X	X
Tundra Swan		X	X
White-fronted goose		X	X
Yellow-billed Loon		X	X

*These birds remain year round wintering in open water areas

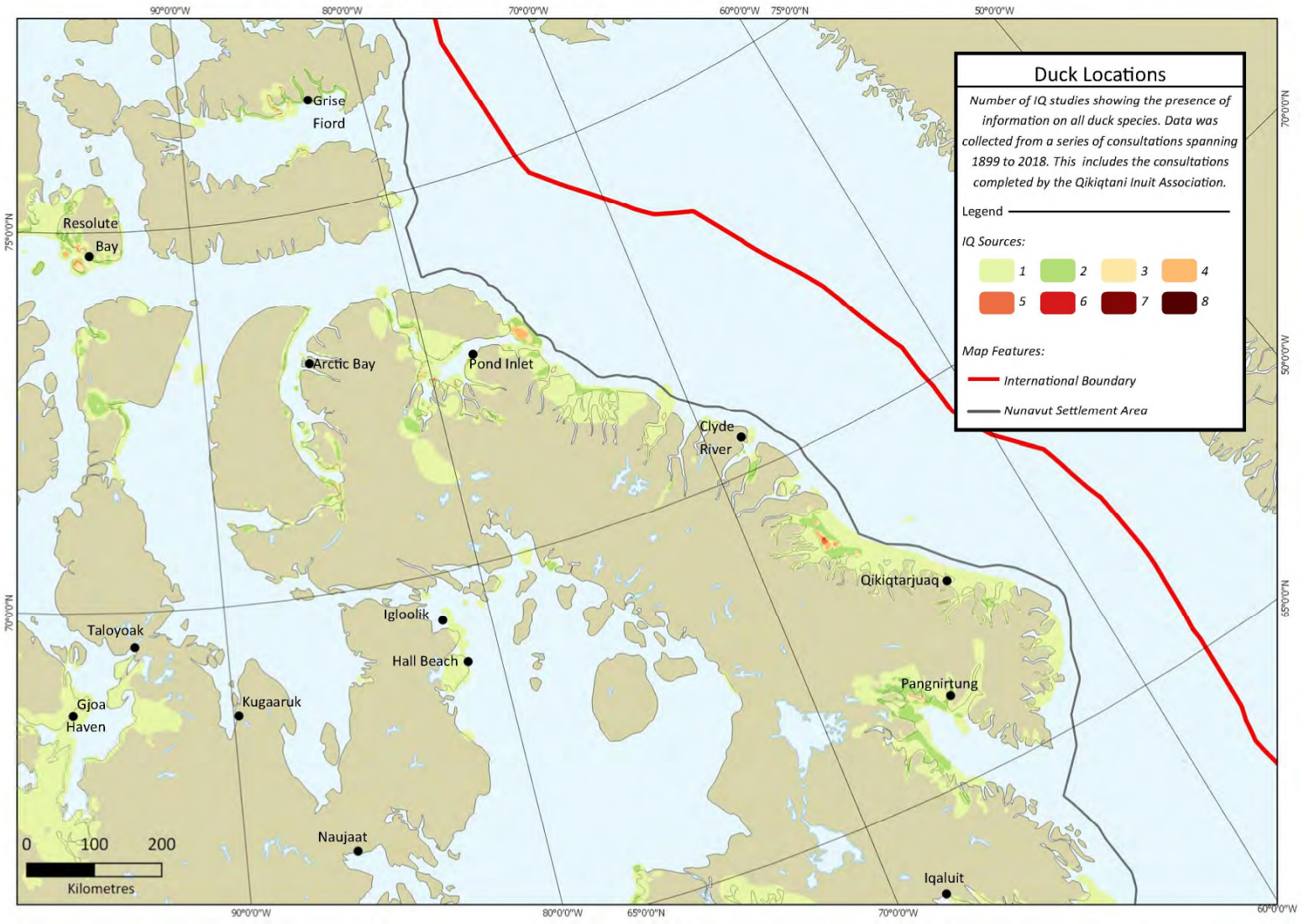

Figure 17. Location of ducks based on Inuit hunting locations

6 Conclusion

In 2017, the QIA committed to gather and contribute IQ for the marine environment of Baffin Bay and Davis Strait for the oil and gas SEA. This report is the outcome, and was intended to capture what the marine environment means to the Qikiqtaaluk today, and what it meant to the ancestors who made their life in the Arctic. The running theme through the report is the Inuit calendar of the seasons. The seasonal calendar links the knowledge of animal species with the climate. The calendar became a direct line back to the ancestors and what was needed to survive in the Arctic.

No single study or report can encapsulate the expanse of knowledge held by Inuit about the marine environment off Baffin Island. Nor can it adequately capture the cultural depth of that knowledge. That said, the QIA asked that the "bar be moved" in the use of IQ in environmental decision-making, and this report is the first step. The QIA wanted to make sure that the NIRB had the information needed to understand and convey in its SEA report the Qikiqtaaluk worldview when it comes to the marine environment and give it the same consideration as that of western science in its report.

The knowledge shared in this report whether collected by the QIA, or by others was shared freely. The wisdom here is a mere glimpse. It needs to be noted that 400 documents were reviewed in the making of this document, of which over 100 are featured. The one salient point is the constancy of the knowledge shared no matter the documenter.

In conclusion, it is hoped that the picture drawn of the marine environment and Inuit relationship to the marine environment is a fair and reasonable picture of the relationship, and the culture that arose from that connection. The report begins with laying the cultural foundations and how IQ is still part of day to day life, and continues into a full reporting what is known of the marine environment and what is known. The Inuit seasonal calendar ties all the pieces together.

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Appendices

Appendix A: QIA Community Research Approach

The information presented in this report was sourced from original research commissioned by the Qikiqtani Inuit Association and from research previously completed and reported. The context of the compilation was food (in)security. A focus on food (in)security provided an opportunity to feature Inuit culture along with cultural knowledge of species most important to them. The documentation of the IQ was framed by the following considerations:

- What marine animals have been critical to Inuit survival? What behaviours in these animals have been critical to survival?
- What is the food chain?
- What environmental conditions are needed for the marine animals?
- What kinds of ecological patterns exist in the marine environment of Baffin Bay and Davis Strait?
- What kind of trends and patterns, and changes to trends and patterns have been observed in the marine environment?
    - Seasons?
    - Ice conditions?
    - Light and dark conditions?

The research was also informed by the NIRB scoping finding summarized in Appendix B.

Methodology

Previously documented IQ

The preparation of this report took a broad scan of the literature and previously documented IQ and related subject matter. Qikiqtaaluk IQ in this report comes in two forms: 1) direct collection of IQ by other researchers and 2) indirect collection where Inuit are participating in research for purposes other than collection of traditional knowledge. The information in this document is from publicly available information. The search also extended to IQ related to studies of food (in)security and harvesting projects.

The document search methodology consisted of the following:

1. ***Snowball Research Method:*** Snowball methodology requires examining the references within documents that are then used to help identify others of relevance (Bernard 2006: 192-193[6]). Titles and authors encountered in the references of pertinent documents were investigated in Google, Google Scholar, or university library search engines and databases. Titles that referenced or were referenced by these documents were also identified and reviewed.
2. ***Broad Literature Search:*** Search terms related to the NIRB scoping document (NIRB 2018) were used to search university library databases, and governmental agency online document repositories in order to source a variety of publicly available documents (academic journal articles, government reports, and other grey literature). Sources that were not available electronically were not examined due to time constraints of this project.

[6] Bernard, H. Russell. 2006. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Fourth Edition. Toronto: Altamira Press.

New IQ Research

The Qikiqtani Inuit Association commissioned the collection of IQ in the six Qikiqtaaluk communities most proximate to the NIRB study area on the east coast of Baffin Island. The communities are:

- Grise Fiord
- Arctic Bay
- Pond Inlet
- Clyde River
- Qikiqtarjuaq
- Pangnirtung

IQ was collected from five of the six communities. Weather related delays prevented collection in Grise Fiord.

The collection of IQ took place between November 2017 and March 2018. Participants were selected by the Hunters and Trappers Organizations in each of the communities, and through an open call for community members to self-identify an interest in participating. Youth were also asked to participate so that there would be an on-going sharing of knowledge. Every participant signed a consent form.

The research was organized according to the Inuit seasonal calendar, and animals were identified according to the season. The knowledge holders discussed the animals observed in each season, their behaviour, and what they were observed to eat. Individual mapping was completed documenting harvesting locations and trails. Group mapping was also done for the location of animals and their behaviour. Individual reports were prepared for each community. Each participant was given a copy of the workshop report.