

Arctic Corridors and Northern Voices

GOVERNING MARINE TRANSPORTATION IN THE CANADIAN ARCTIC

CAMBRIDGE BAY NUNAVUT



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Canada

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Canada



PARTICIPANT BIOGRAPHIES



George Angohiatok was born and raised in Nunavut, has now retired from the workforce, and is a full-time hunter and guide.



Richard Ekpakohak is originally from Wellington Bay and moved to Cambridge Bay in 1972. He is a hunter and fisherman.



Jimmy Haniliak is very active as a member of the Canadian Coast Guard Auxiliary and the Ekaluktutiak Hunters and Trappers Organization. He is also heavily involved with Search and Rescue. He was born in Bathurst Inlet and moved to Cambridge Bay. He is a family man and a hunter.



Bobby Klengenber is a father, a hunter, and a certified guide.

● **Clarence Klengenber** is a grandfather, father, hunter, carver and guide who lived in Bay Chimo and Daniel Moore Bay.

● **Emma Klengenber** is a grandmother, mother, wife, and sister.



Harry Magsagak is the Government of Nunavut Community Mining Advisor in Cambridge Bay. He is a resident of Cambridge Bay. At every opportunity in all seasons he is out on the land. He is concerned with environmental and socio-economic forward movement, and being aware of what is happening in his community, region, and Nunavut in general.



Jimmy Maniyogina was born on November 4, 1927 near Rymer Point and was raised there. He traveled with his adoptive parents and observed them on hunting trips. He often followed his parents while going trapping for foxes. That is where his father showed him how to trap foxes and hunt other animals. His father taught him hunting, and survival skills on the land for example teaching him how an igloo was made. In 1960, he came to Cambridge Bay from Lady Franklin Point (Tuktutuk). He was employed by the DEW Line in 1960 and retired in 1998. Jimmy has now retired from hunting as well.



EXECUTIVE SUMMARY

Ship traffic in the Canadian Arctic nearly tripled between 1990 and 2015.¹ Most of that increase happened in Nunavut waters. Between 1990 and 2015 Cambridge Bay had the third highest increase in vessel traffic in Nunavut.¹ This increase can be explained by the increasing number of vessels transiting the Northwest Passage, including passenger ships, pleasure craft, tankers, and general cargo ships.¹ The Government of Canada is developing a network of low-impact marine transportation corridors in the Arctic that encourages marine transportation traffic to use routes that pose less risk and minimize the impact on communities and the environment. The Low Impact Shipping Corridors will be a framework to guide future federal investments to support marine navigation safety in the North, including improved charting and increased hydrography, in partnership with Northerners. The corridors initiative is co-led by Transport Canada, the Canadian Coast Guard, and Canadian Hydrographic Service.

Key considerations in the current prioritization of the corridors include identification of Inuit and northerners' perspectives on 1) the potential impact of marine vessels on marine areas used for cultural and livelihood activities, and on community members; and 2) potential management strategies for the corridors.

This report reflects opinions gathered through participatory mapping and focus group discussions with Cambridge Bay community members who were identified by the Ekaluktutiak Hunters and Trappers Organization as key knowledge holders. Analysis was aimed at understanding Inuit and northerners' perspectives on the potential impact of marine transportation on local marine use areas and community members, and on identification of potential management strategies for the Low Impact Shipping Corridors. This report was validated by the research participants.

THE SPECIFIC PROJECT OBJECTIVES WERE TO...

- describe local marine use areas including significant socio-cultural, archaeological and ecological areas, and local travel routes, for integration into the Low Impact Shipping Corridors;
- outline potential impact of marine vessels on identified marine use areas and community members; and
- provide potential strategies regarding management of the Low Impact Shipping Corridors and Arctic marine vessels.





KEY FINDINGS OF THE PROJECT ARE...

- The potential impact of marine vessels transiting the Low Impact Shipping Corridors includes
 - contamination of Arctic waters, animals, and people;
 - behavioural changes in wildlife, and destruction of animal habitat;
 - increased food insecurity;
 - increased incidence of dangerous ice conditions for local travel, and threats to water quality; and
 - limited employment/income opportunities.
- Disruption of sea ice formation by icebreakers and marine vessels is especially disruptive to
 - caribou migration, and may lead to potential food insecurity in the community; and
 - Inuit and northerners' ability to use local travel routes safely, and hunt successfully.
- Existing oil spill/groundings response capacity is not sufficient – locally, federally, on vessels.

COMMUNITY-IDENTIFIED RECOMMENDATIONS INCLUDE...

- The corridors initiative should be discussed with the Nunavut Impact Review Board;
- The federal government agencies involved in the Low Impact Shipping Corridors, the Royal Canadian Mounted Police (RCMP), Canada Border Services Agency (CBSA), and members of the municipal government should be at the Arctic Corridors workshops and community meetings;
- The results of this study should be presented at the next Nunavut Tunngavik Inc. Annual General Meeting (October 2018) and shared with our Members of Legislative Assembly and Ministers;
- Fact-finding using Inuit Knowledge and Western Science should continue in order for the federal government to have a good picture of how to proceed;
- Areas and times of year where there should be no-icebreaking and no-winter-shipping;
- Areas where speed and wake should be reduced;
- Reduced noise pollution;
- Stronger regulations against waste disposal and discharge in the ocean;
- Improved communication between vessels and the hamlet of Cambridge Bay, and within Cambridge Bay;
- More RCMP presence on the ocean;
- More CBSA presence in Cambridge Bay in particular related to pleasure craft (yachts);
- Enforcement of permits, travel plans, and routes for pleasure craft;
- Ships should pay a damage deposit before going through the Northwest Passage. This will create a fund which can be accessed to pay for spill response equipment; and
- Charting of shoals, dangerous areas, and shallow areas.

Inuit and northerners must be and wish to be included on an on-going basis in the development and management of the Low Impact Shipping Corridors.



BACKGROUND

Between 1990 and 2015 Cambridge Bay had the third highest increase in vessel traffic in Nunavut.¹ This increase can be explained by the increasing number of vessels transiting the Northwest Passage, including passenger ships, pleasure craft (yachts), tanker, and general cargo ships.¹ The Government of Canada is developing a network of low-impact marine transportation corridors in the Arctic that encourages marine transportation traffic to use routes that pose less risk and minimize the impact on communities and the environment. The Low Impact Shipping Corridors will be a framework to guide future federal investments to support marine navigation safety in the North, including improved charting and increased hydrography, in partnership with Northerners. The corridors initiative is co-led by Transport Canada, the Canadian Coast Guard, and Canadian Hydrographic Service (**Figure 1**).

Key considerations in the current prioritization of the corridors include identification of Inuit and northerners' perspectives on 1) the potential impact of marine vessels on marine areas used for cultural and livelihood activities, and on community members; and 2) potential management strategies for the corridors.

This report documents Cambridge Bay community members' knowledge and extensive year-round use of important marine areas (ecological, socio-cultural, archaeological, and travel routes), the potential impact of shipping on those areas and on community members, and potential management strategies for the Low Impact Shipping Corridors.

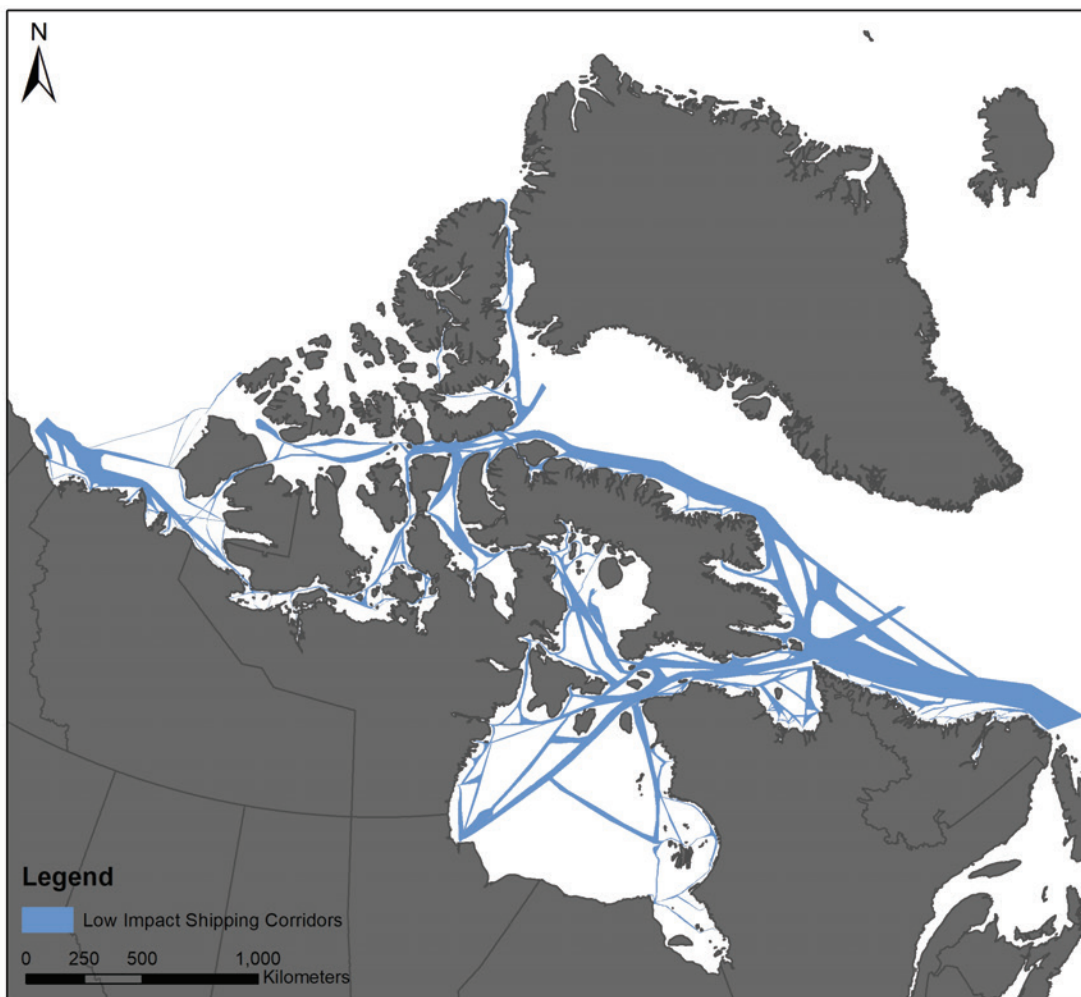


Figure 1. Example of Low Impact Shipping Corridors

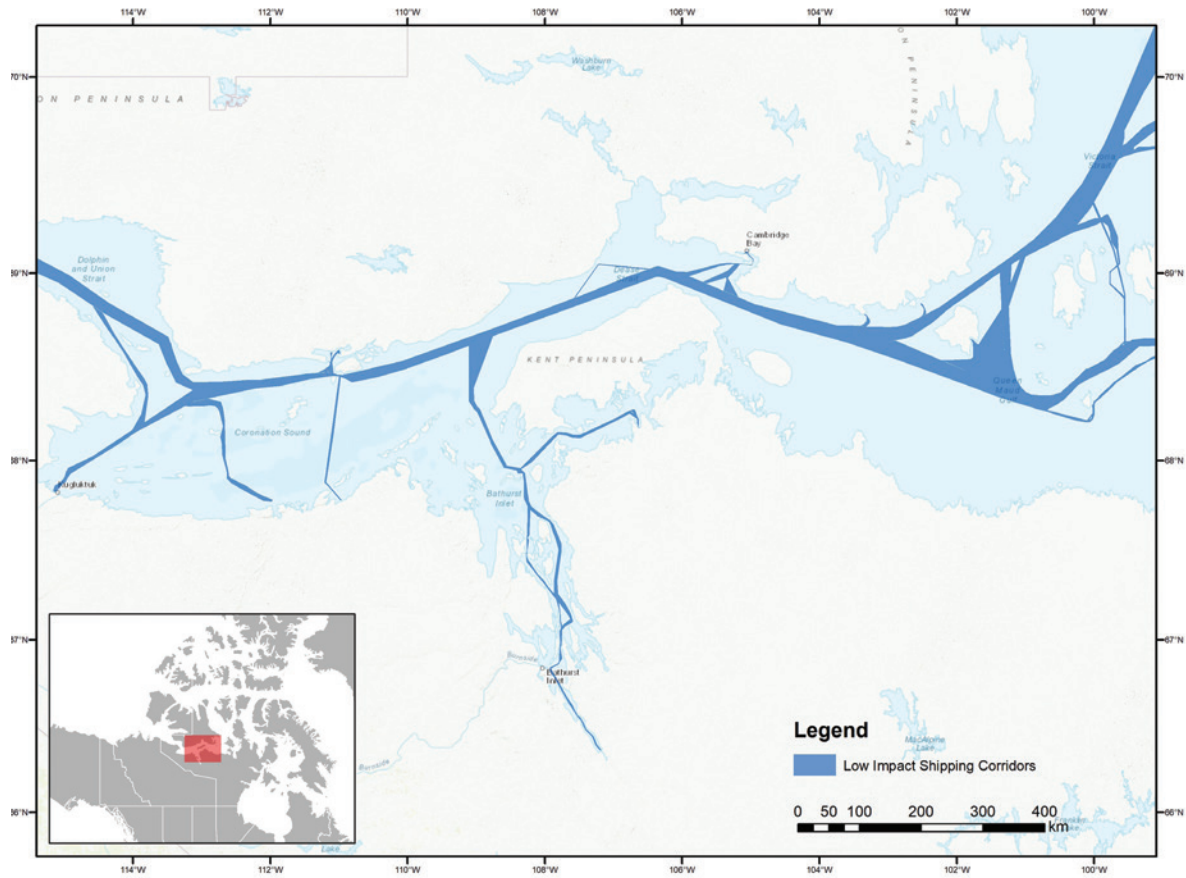
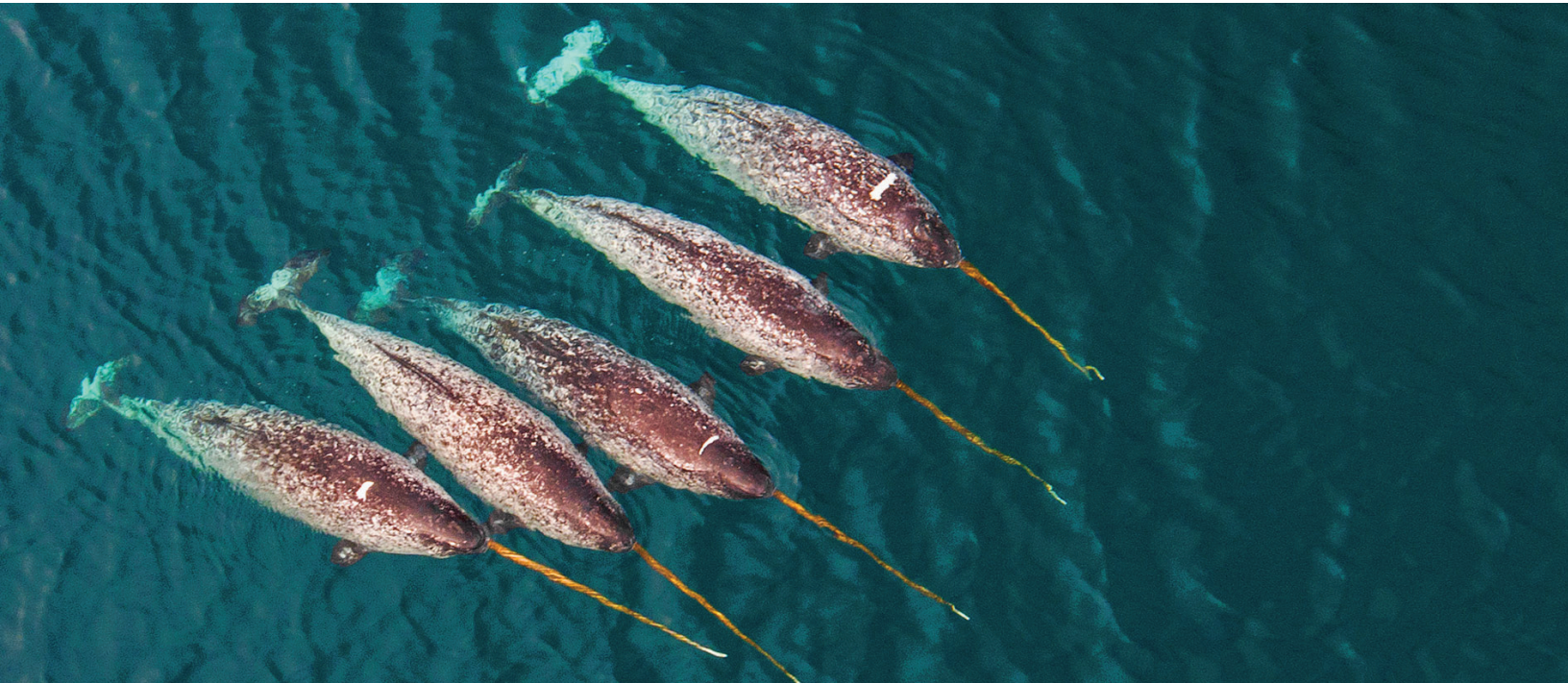


Figure 2. Example of Low Impact Shipping Corridors near Cambridge Bay, Nunavut





CHANGE IN SHIPPING ACTIVITY

(1990–2000 ANNUAL AVERAGE COMPARED TO 2011–2015 ANNUAL AVERAGE)

In the Canadian Arctic, when comparing the average number of kilometres of shipping activity from 1990–2000 to the annual average from 2011–2015, shipping increases have been predominantly focused in the eastern Arctic, particularly around SW Baffin Bay (e.g., Pond Inlet, Clyde River, Qikiqtarjuaq, Iqaluit,) in the Queen Maud Gulf area (e.g., Cambridge Bay and Gjoa Haven), and NW Hudson Bay (e.g., Chesterfield Inlet) (Figure 3). Changes in Hudson Strait have been generally minor (e.g., Cape Dorset, Kimmirut), and changes in the

High Arctic have been negative (e.g., Resolute, Arctic Bay, Eureka). Cambridge Bay experienced a 2,855 km increase in shipping activity when comparing the average annual number of kilometres of shipping activity from 1990–2000 to the annual average from 2011–2015, the third highest increase in vessel traffic in Nunavut (Figure 4). This is due to increasing numbers of vessels transiting the Northwest Passage, including pleasure craft, passenger ships, general cargo, and tanker ships.¹

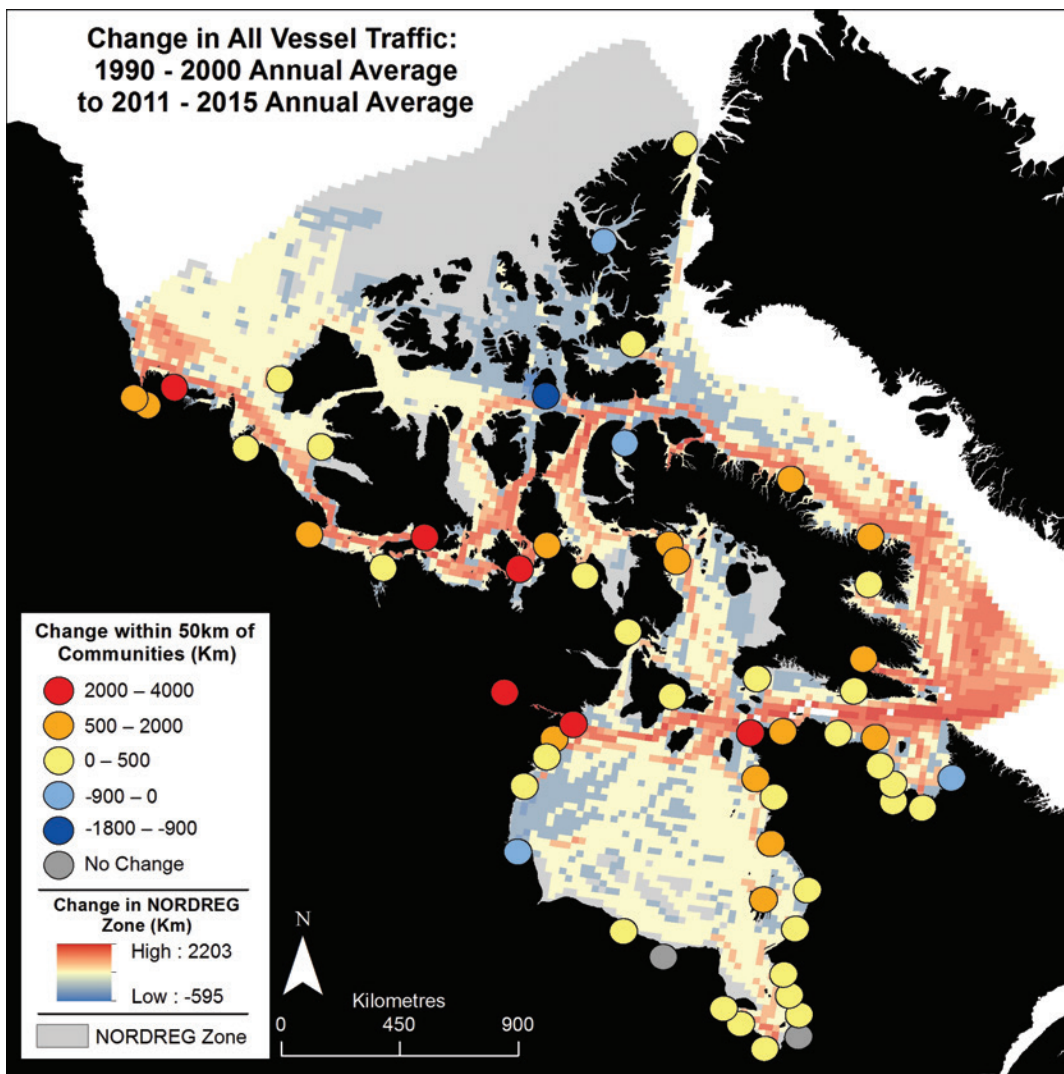


Figure 3. Change in shipping activity (km) in the Canadian Arctic: 1990–2000 annual average compared to 2011–2015 annual average.¹

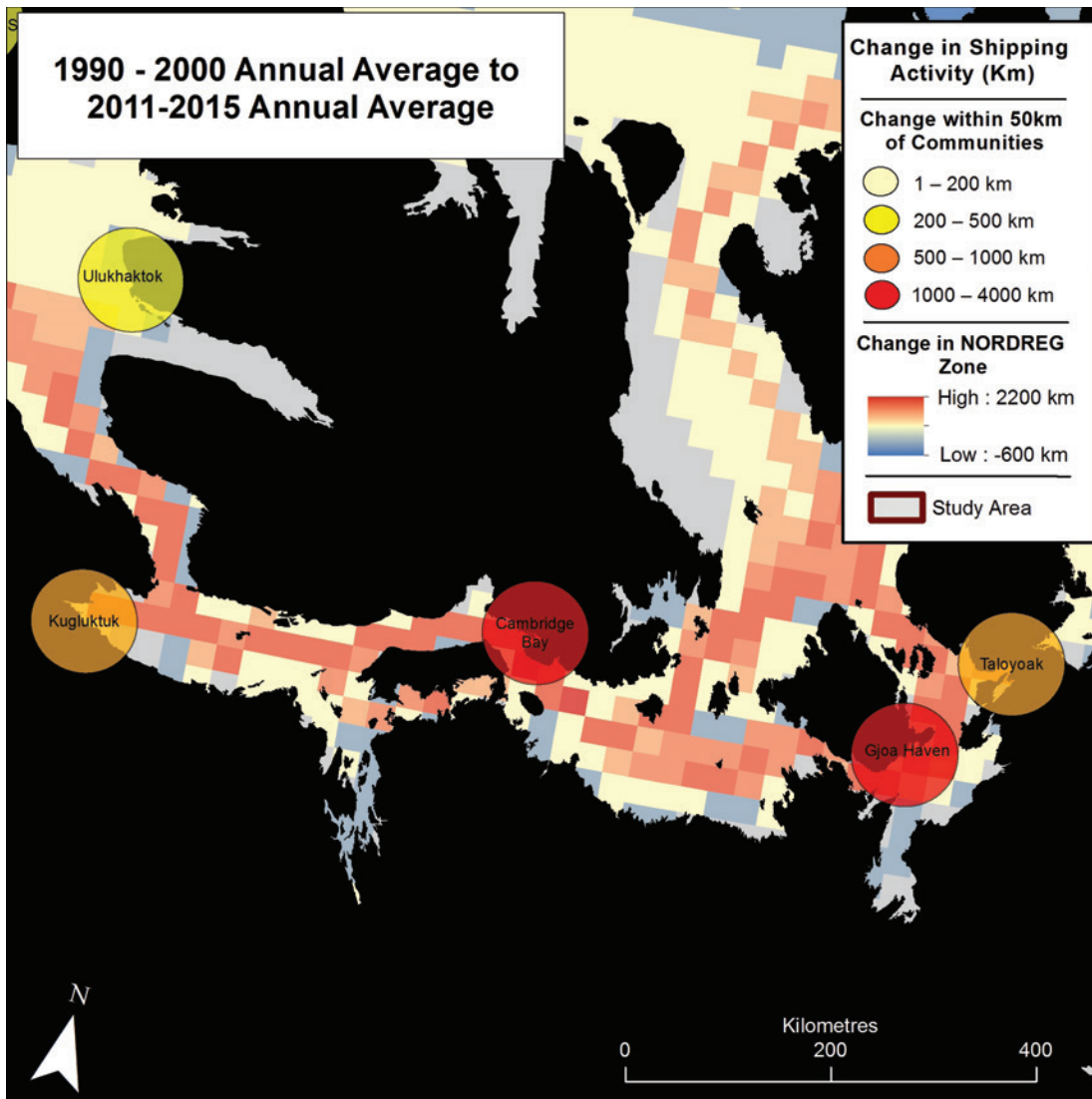


Figure 4. Change in shipping activity (km) near Cambridge Bay, Nunavut: 1990–2000 annual average compared to 2011–2015 annual average.¹

FOUR SEASONS

There are 4 main seasons in Cambridge Bay, Nunavut. The seasons are weather and ice dependent; therefore, the months each season happens in can be different each year. However, in general the seasons are:

SEASON	MONTHS IN WHICH IT HAPPENS	OCEAN CONDITIONS
Spring	May and June	Frozen
Summer	July through September	Break-up (July), open water (August and September)
Fall	October and November	Freeze-up (end of October) then frozen
Winter	December through April	Frozen



SEASONAL HARVESTING CYCLE

Harvesting happens according to seasons and follows an annual cycle.

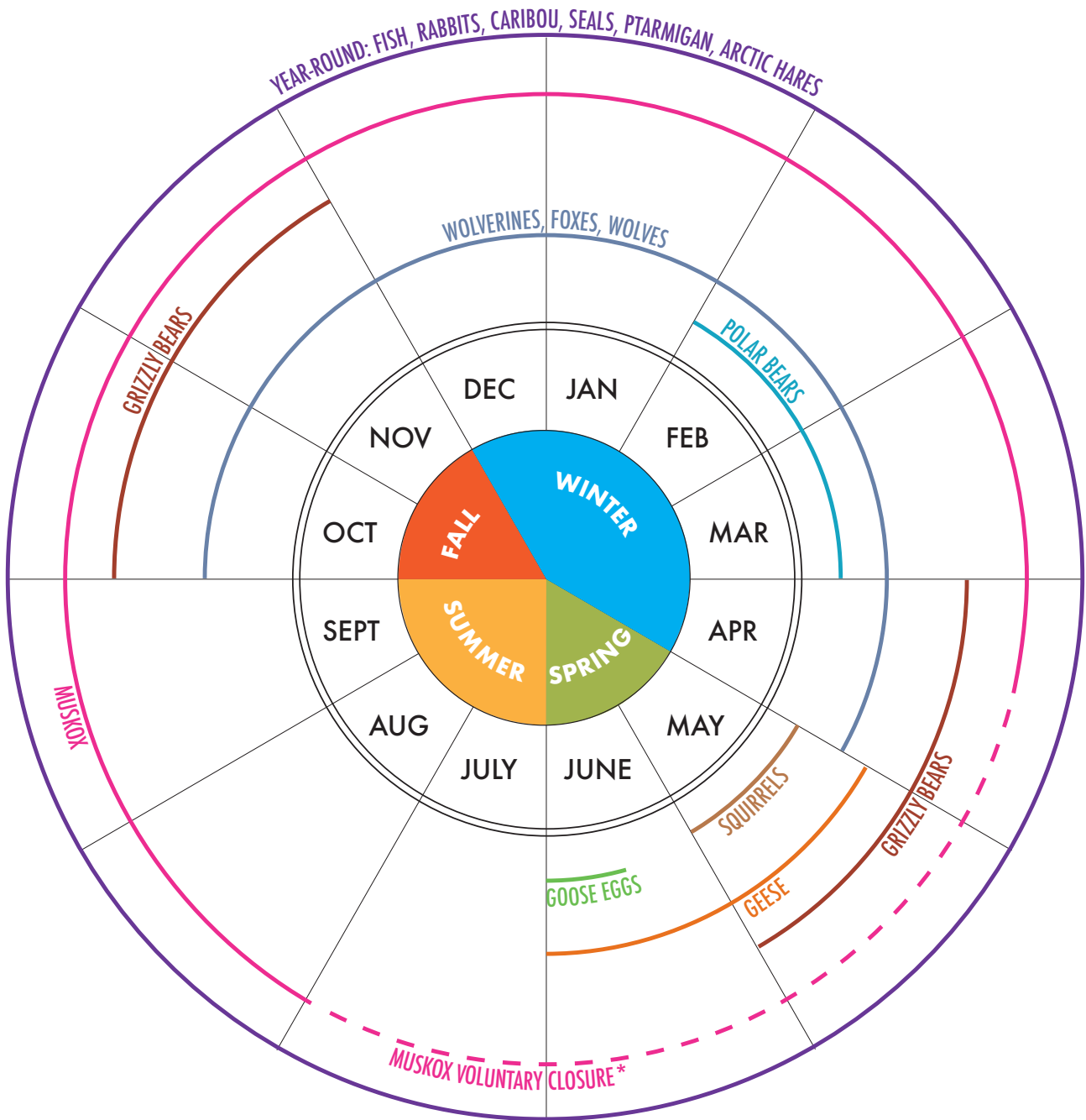


Figure 5. Seasonal cycle of harvesting activities near Cambridge Bay, Nunavut.

* Muskox hunting is legally open every month but at the time of publication Ekaluktutiak Hunters and Trappers Organization has implemented a voluntary closure from mid-April to July so that calves have time to grow and be strong.



MAPS OF MARINE USE AREAS

Maps include:

1. Location of animals, marine mammals, fish, and birds;
2. Location of community members' activities as well as camps, and local travel routes; and
3. Significant marine features such as dangerous areas and year-round open water.

Maps will be available at www.arcticcorridors.ca, and in Cambridge Bay at Ekaluktutiak Hunters and Trappers Organization.

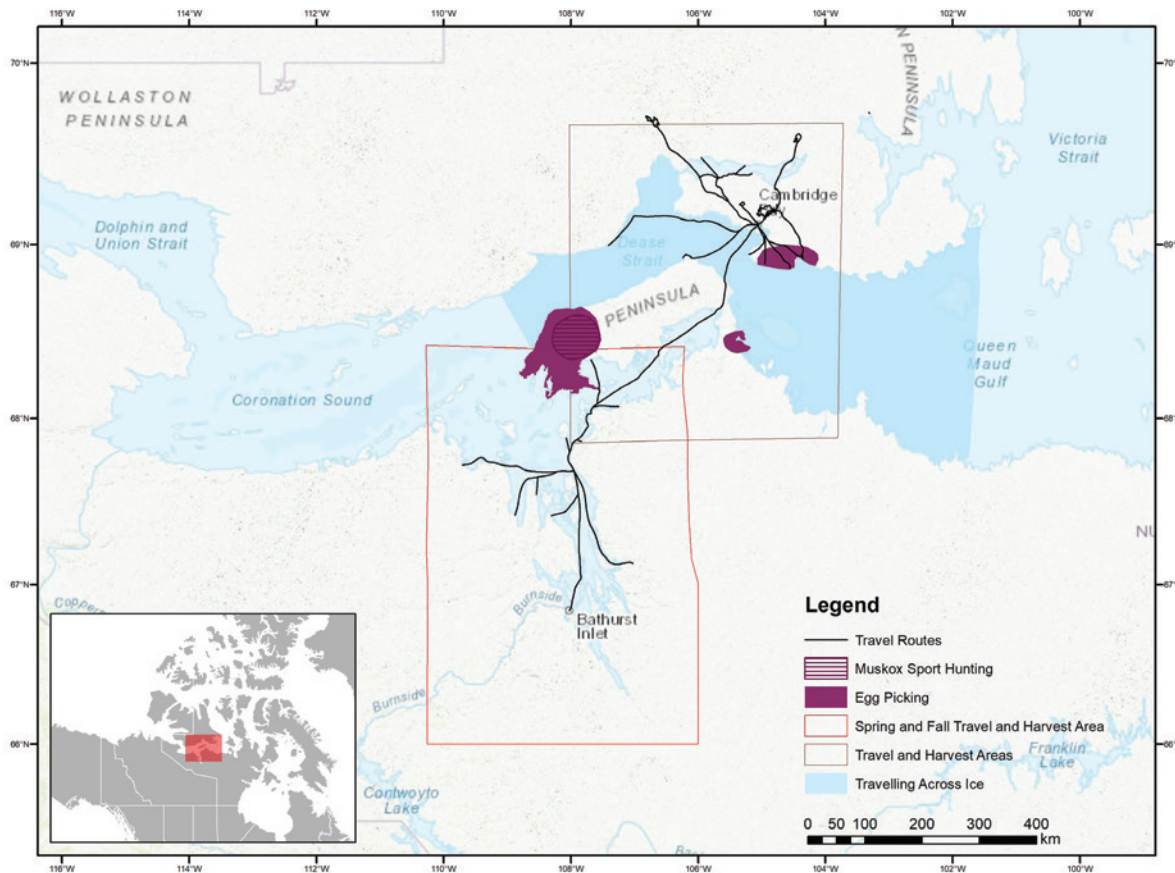


Figure 6. Location of community members' activities when the ocean is frozen (spring)



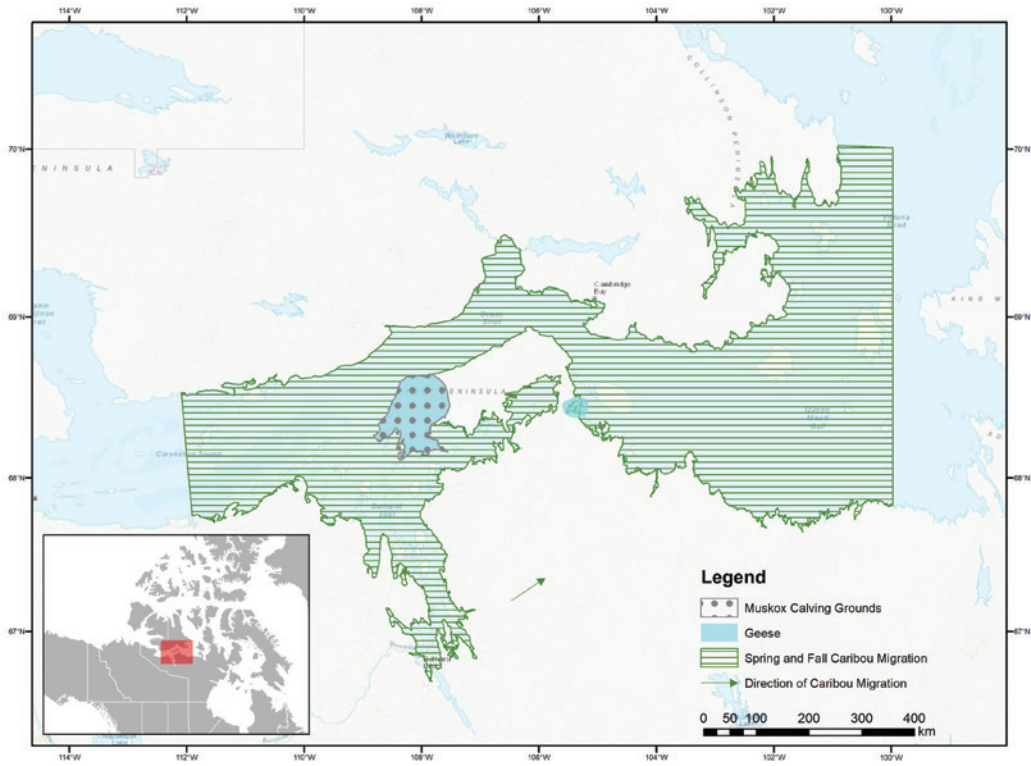


Figure 7. Location of animals when the ocean is frozen (spring)

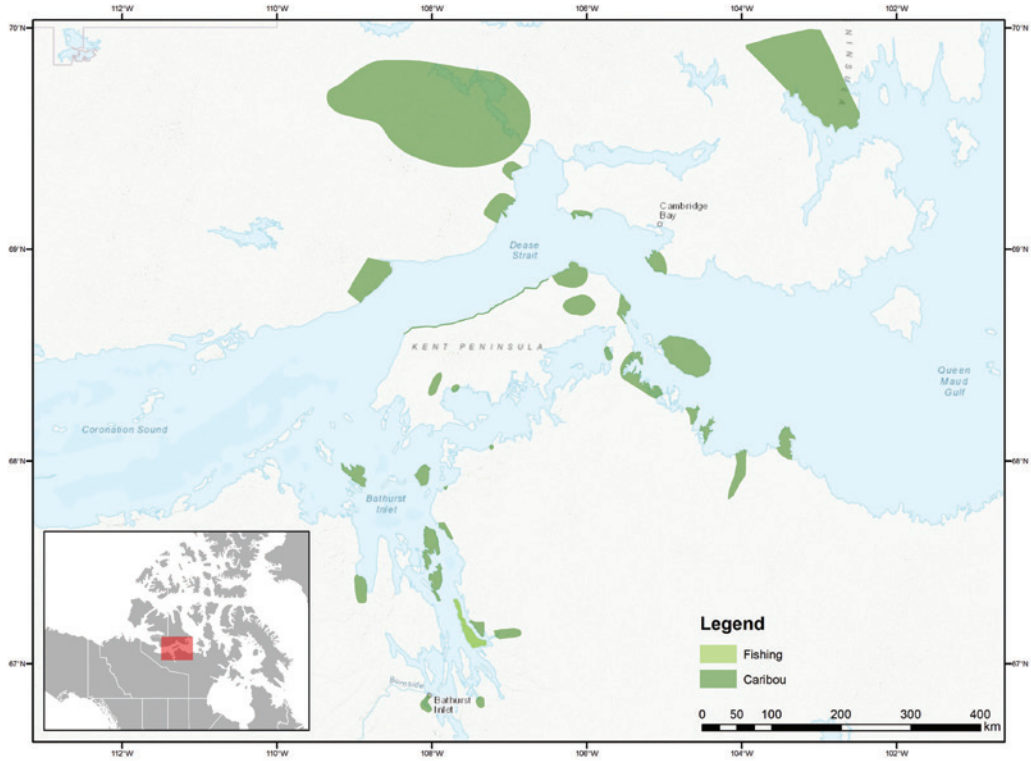


Figure 8. Location of community members' activities and animals around the time of sea-ice break-up and during open water

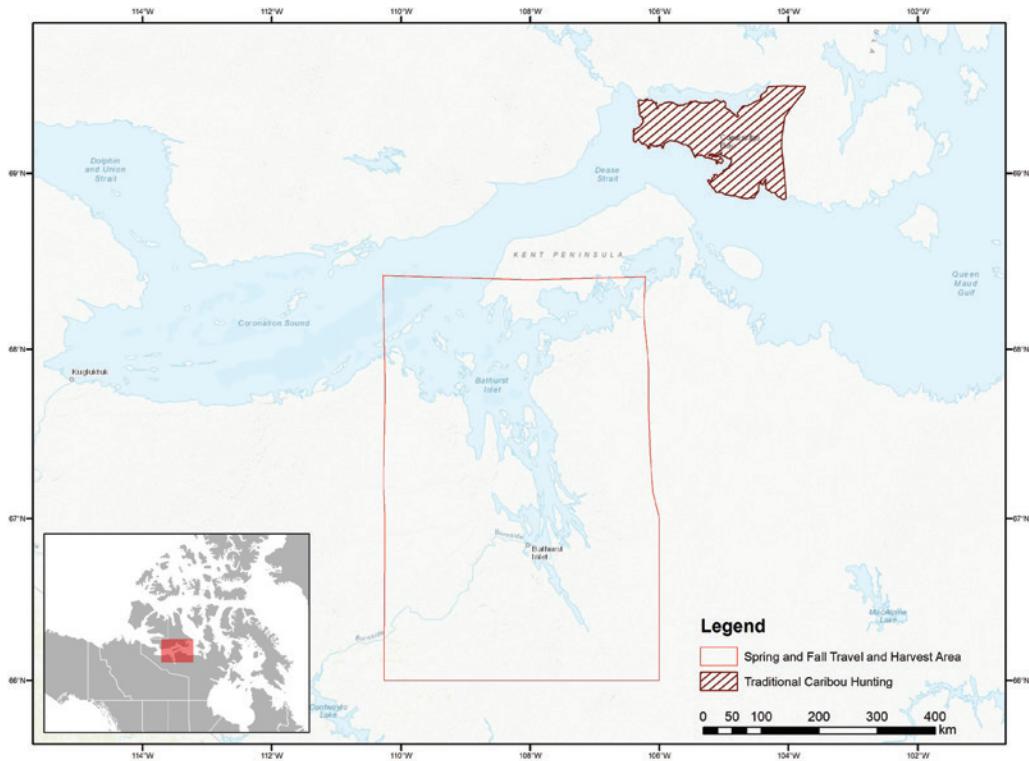


Figure 9. Location of community members' activities around the time of sea-ice freeze-up

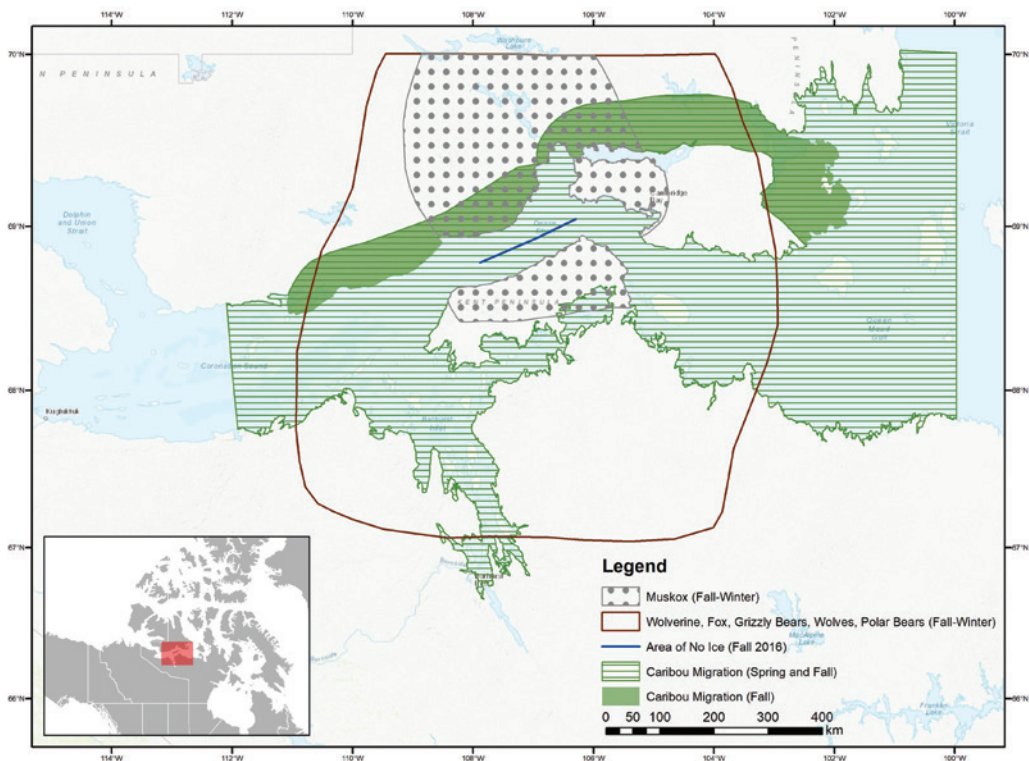


Figure 10. Location of animals around the time of sea-ice freeze-up

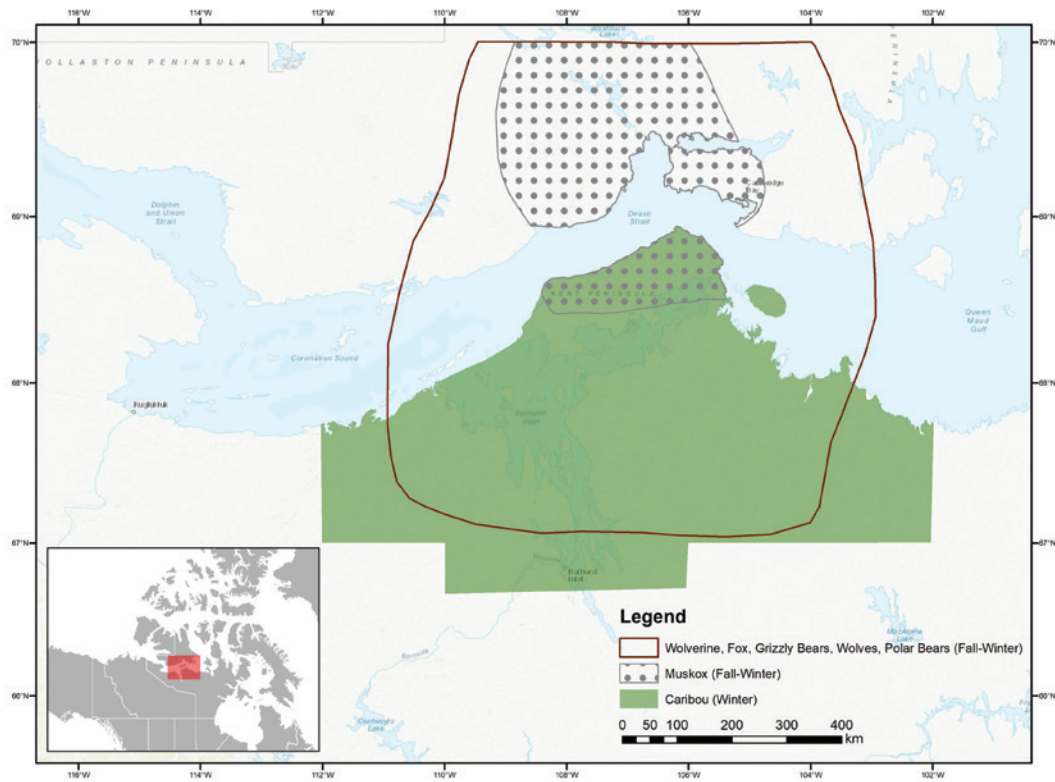


Figure 11. Location of animals when the ocean is frozen (fall-winter)

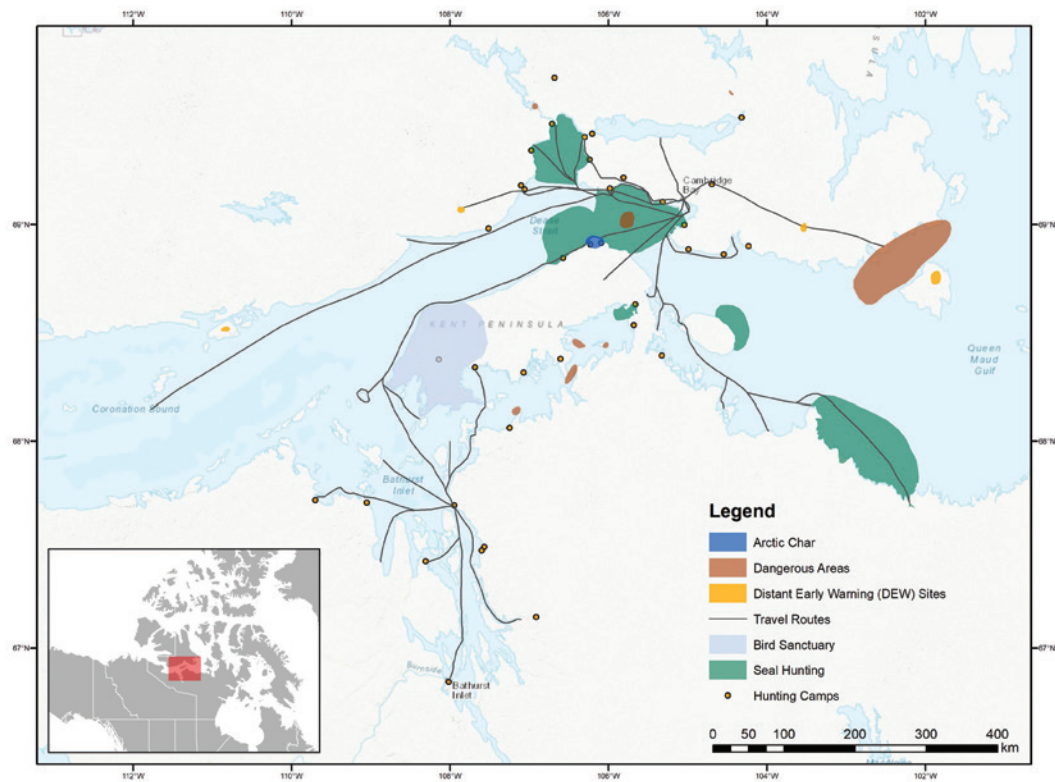


Figure 12. Location of community members' activities and animals year-round



POTENTIAL IMPACT OF MARINE VESSELS

The following factors may impact the ecology, wildlife, and community members.

Table 1. Potential Impact Of Icebreaking And Year-Round Shipping

POTENTIAL IMPACT OF MARINE VESSELS	WHEN IT MAY HAPPEN	RELATED RECOMMENDATION
<p>Icebreaking before or during caribou migration will disturb migration. Caribou may refuse to cross open water, fall through newly formed thin ice, or try to cross and drown. Caribou numbers are declining so this is critical to Cambridge Bay's food security.</p>	<p>Freeze-up and frozen: October 1 through June 30 Especially first freeze-up: October, November, December</p>	<ol style="list-style-type: none"> 1) The shipping season for the Northwest Passage (NWP) should be July, August, and September. 2) No icebreaking or shipping from October 1 through June 30. 3) No ships at freeze-up. 4) Strengthen federal regulations and timelines about when icebreakers and ships can travel. 5) Listen to Cambridge Bay residents about when migration happens. Close the NWP during migration. 6) Penalize ships that do not comply.
<p>As soon as the ice freezes people cross over it to hunt caribou, and set fishing nets before the ice gets too thick. It is very dangerous for hunters to cross without knowing about an icebreaker or ship. Hunters may not be able to get out or home due to rough or thin ice, or open water. In nasty weather people head home. Hunters may think the ice is thick and fall through thin new ice, especially when it is dark outside.</p>	<p>Freeze-up and frozen: October 1 through June 30</p>	<p>Same as above</p>





Table 2. Potential Impact Of Marine Transportation

POTENTIAL IMPACT OF MARINE VESSELS	WHEN IT MAY HAPPEN	RELATED RECOMMENDATION
Marine vessels disturb fish and marine mammals and animals move away.	Open water: July, August, September	Only ships providing essential services should pass by or come in to Cambridge Bay.
Ship noise pollution disturbs marine mammals and fish (e.g. spawning, feeding, and migratory routes).	Open water: July, August, September	Reduce noise pollution. Build quieter ships. Conduct research about the impact of noise pollution on marine mammals and fish.
Ships may disturb and damage fishing nets.	Open water: July, August, September	Provide information about who community members should report this to, and how community members will be compensated.
Cambridge Bay residents live in the Northwest Passage (NWP). Many vessels come through. Modern vessels are huge with a huge carrying capacity. Ships running aground and spilling oil is a very big concern. The land is so delicate that any oil on the shores and in the water, will destroy wildlife. One incident could destroy residents' livelihoods which depend on the water, fish, and seals. This is an area with strong currents so a spill will spread quickly. Even a spill far away would be pulled into this area by the currents.	Open water: July, August, September	<ol style="list-style-type: none"> 1) Provide a standard operating procedure for if an oil spill occurs in the area. 2) Provide information about if there is a spill-response team in the area. 3) Cambridge Bay could be an oil spill response base because it has air service to/from the south, Distant Early Warning (DEW) lines where sea cans could be stored with response equipment, and is centrally located in the NWP. The Northern Warning System could assist since they use ships to haul fuel. 4) Every coastal community in the north should have equipment and training to contain a spill. Faster containment will lessen the magnitude of the spill. It is better to save what little we can instead of losing our livelihood. Training could be done as part of Canadian Coast Guard Auxiliary (CCGA) training. 5) Ships should stay inside the corridors, i.e., the safe zone in the deepest waters, so they do not run aground into shallow areas. 6) Communities, mines, DEW Lines, and federal government should meet to discuss each other's needs and potential contributions. 7) Ships should pay a damage deposit before going through the NWP. This fund will pay for spill response equipment.





Table 2 (continued). Potential Impact Of Marine Transportation

POTENTIAL IMPACT OF MARINE VESSELS	WHEN IT MAY HAPPEN	RELATED RECOMMENDATION
<p>Ships put garbage, sewage, contaminants, oil and lubricants in the ocean. This will increase as shipping increases. The cumulative effects of this happening in the Arctic water system (oceans, rivers and lakes) will negatively affect marine and terrestrial wildlife, and people.</p>	<p>Open water: July, August, September</p>	<ol style="list-style-type: none"> 1) Prevent contamination of Arctic waters. 2) CCGA members inspect the water surface around ships but any disposal below the surface goes undetected therefore <ul style="list-style-type: none"> • Stricter regulations, monitoring, and enforcement are needed about vessel discharge; and • Information about how this can be monitored locally is needed.
<p>Some community members do not know when ships are coming, or where ships are going.</p>	<p>Open water: July, August, September</p>	<ol style="list-style-type: none"> 1) Ships need to communicate schedules, locations, and routes (by phone, email, and fax) to the Hamlet office and other local organizations. Earlier than expected arrivals and delays should be communicated as far in advance as possible. Local organizations need to share the information with residents via posters and Facebook. 2) Vessels with permits must stick to their itinerary and planned route. 3) It would be good to know which type and how many vessels are going by (past and present).
<p>Vessels travelling too quickly create a dangerously large wake which can tip over a small local vessel.</p>	<p>Open water: July, August, September</p>	<p>Reduce speed so that wake is limited enough that no one's life will be in jeopardy. (See Figure 14)</p>





Table 3. Financial Impact Of Marine Transportation

POTENTIAL IMPACT OF MARINE VESSELS	RELATED RECOMMENDATION
Delivery of materials and equipment by ships is less expensive than by air. This is a benefit of shipping.	n/a
Development in the area can bring benefits. Not everyone has a paying job. Many are hunters and rely heavily on country food for survival.	Any development must happen carefully and with consideration of all potential impacts. Then it can be a win-win situation.
Increased opportunities for work on ships may increase community members' interest in related training (e.g. deck hands, fuel transfer).	<ol style="list-style-type: none"> 1) Increase opportunities for community members to work on ships. 2) Continue to support related training.
The CCGA currently has 6 members and 2 vessels and will expand in 2018 when they will have 3 vessels.	Continue to support the expansion of the CCGA.
<p>Some people are dead set against having cruise ships come through the NWP because ships put livelihoods at risk.</p> <p>There is little monetary benefit for the community since ships come with their own staff. Income from cultural demonstrations or sales of locally made goods is minimal. Research ships are the only exception. Cruise ship operators benefit but there is no benefit to the North. There is a risk every time they come through and eventually a disaster will happen. Northerners will pay a very high price when it does.</p>	<ol style="list-style-type: none"> 1) Alter the passage of cruise ships through the NWP. They should not even be here. 2) Closely monitor any ship coming through the NWP. i.e., Transport Canada, CBSA, or CCGA. 3) Ships must stay in the Low Impact Shipping Corridors or be penalized. Any ship that does not, is at risk of running aground. Protect our waters through enforcement. 4) If cruise ships donate funds for Elder care or schools, they would benefit the North.



Any development must happen carefully and with consideration of all potential impacts. Then it can be a win-win situation.



Table 4. Safety, Security and Sovereignty

POTENTIAL IMPACT OF MARINE VESSELS	RELATED RECOMMENDATION
<p>Ships have run aground nearby in the past (e.g., the merchant vessel <i>Nanny</i> in 2010).</p>	<p>Conduct proper charting and hydrography of the shoals, shallows, and dangerous areas.</p>
<p>Vessels bootleg, deal drugs, and bring illegal products into the community. With the July 2018 legalization of marijuana this is of particular concern for youth. Vessel operators do not listen to CCGA members.</p>	<p>People in the Canadian South have police protection. Northern residents are entitled to the same degree of protection. Canada needs to ensure Northerners' safety.</p> <ol style="list-style-type: none"> 1) Increase RCMP presence on the water. The Cambridge Bay RCMP boat is not operational. 2) Have armed peace officers accompany CCGA members on their missions. 3) Increase CBSA regulation of pleasure craft.
<p>Yacht operators make local purchases that are illegal to take out of Canada, claiming that because they are on a yacht they can take anything they want out of the country.</p>	<p>Increase RCMP and Wildlife Officer presence on the water to enforce export laws.</p>
<p>Scuba divers may take things from the ocean. No one is monitoring them after they get permits from Kitikmeot Inuit Association. <i>The Maud</i> is gone. Residents wonder what else may disappear.</p>	<ol style="list-style-type: none"> 1) Monitor divers. 2) Enforce permits and export laws.
<p>The sovereignty of Cambridge Bay residents is being broken by other countries, passing through the NWP.</p>	<ol style="list-style-type: none"> 1) Prohibit other countries from passing through the NWP without permission. 2) "Inuit need to speak up for our land and our waters. This is our land!"





MAPS OF RECOMMENDATIONS FOR THE LOW IMPACT SHIPPING CORRIDORS

Maps include:

- Areas where there should be no shipping or icebreaking October 1 through June 30;
- Areas where reduced-speed, no-wake and limited-wake are required;
- Areas where spill equipment is required; and
- Areas where charting is needed.

Maps will be available at www.arcticcorridors.ca, and in Cambridge Bay at Ekaluktutiak Hunters and Trappers Organization.

PHOTO: JENNIE KNOPP



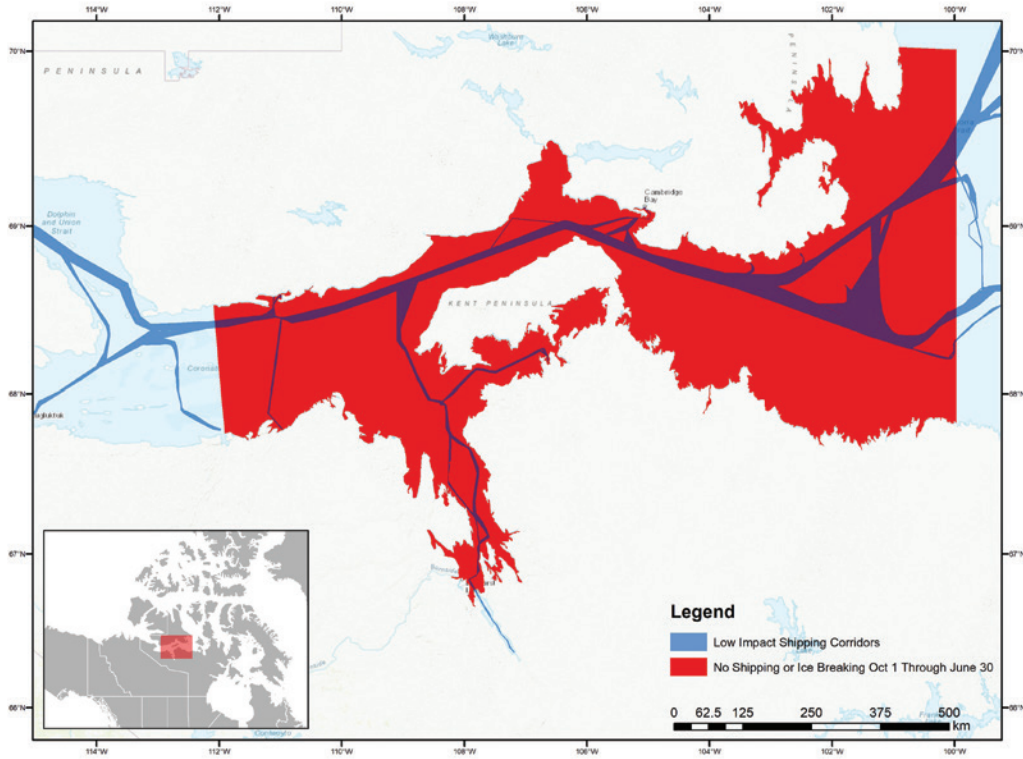


Figure 13. Recommendations for Low Impact Shipping Corridors – no shipping or icebreaking October 1 through June 30

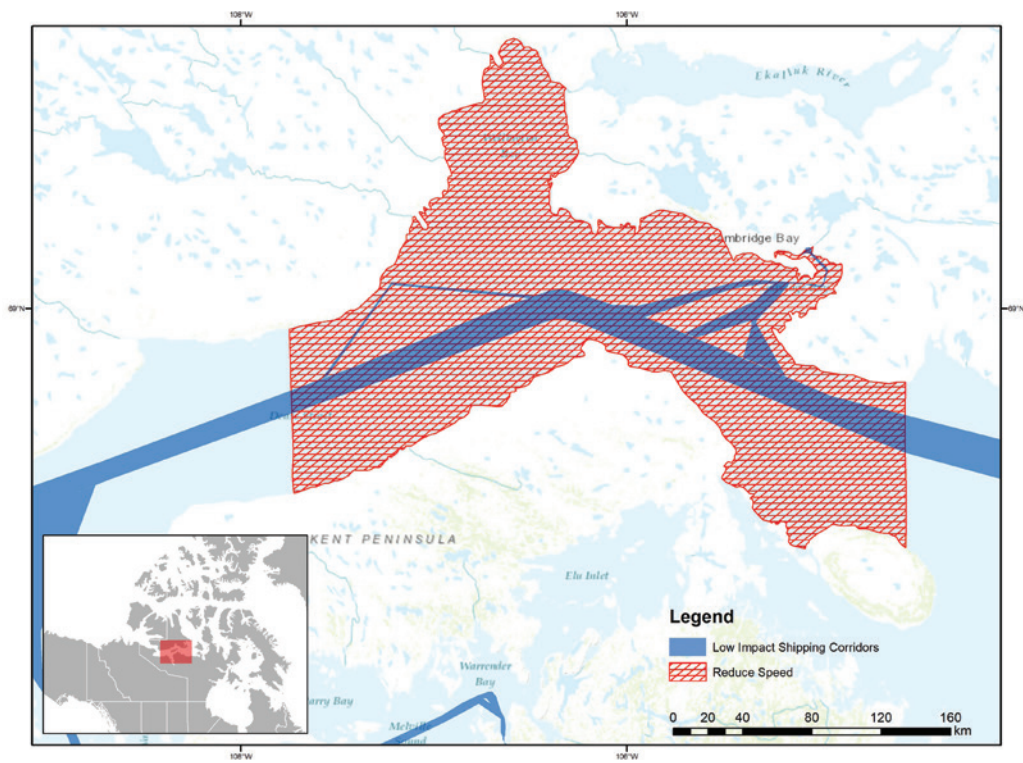


Figure 14. Recommendations for Low Impact Shipping Corridors – reduce speed zone

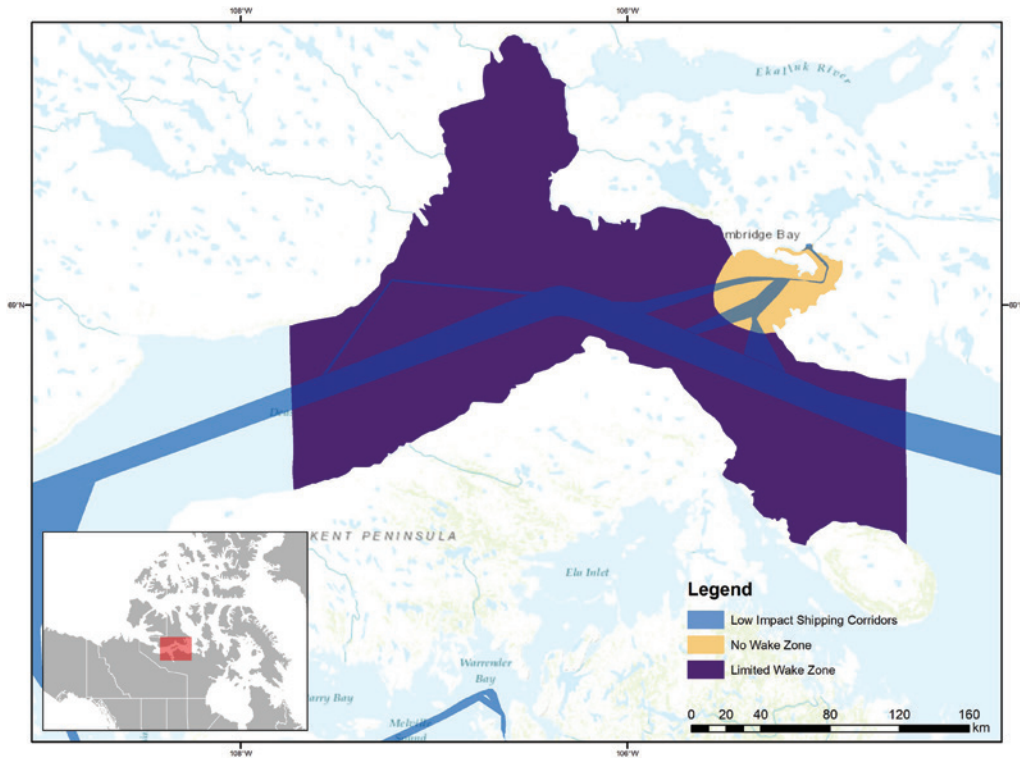


Figure 15. Recommendations for Low Impact Shipping Corridors – no wake zone and limited wake zone

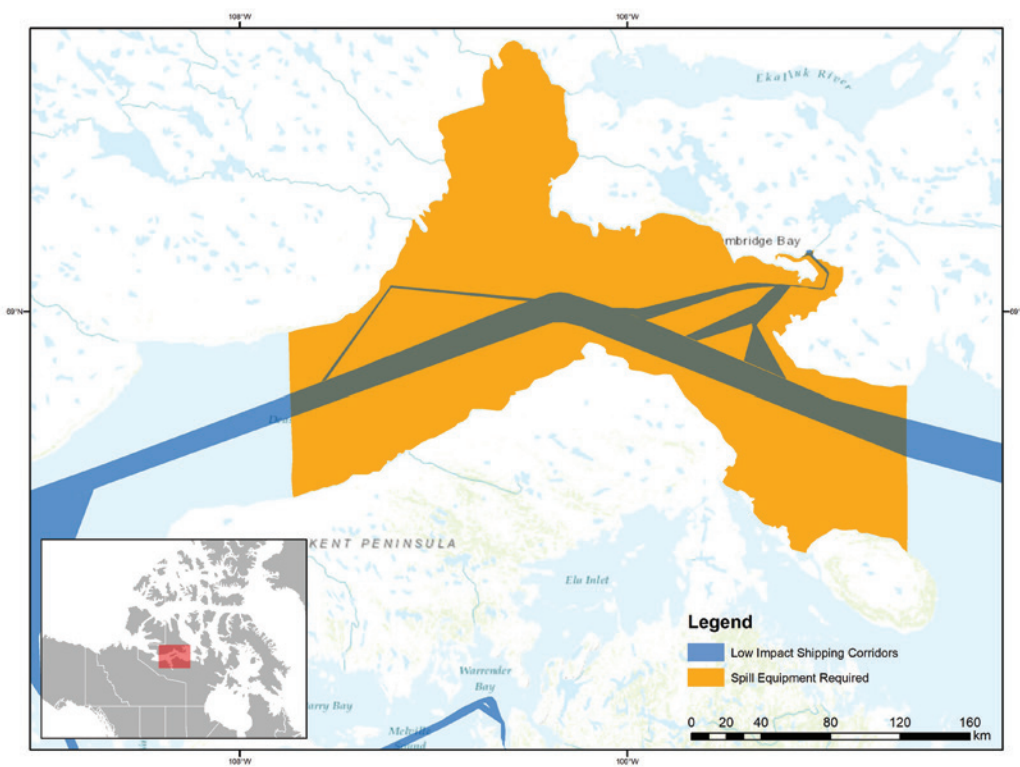


Figure 16. Recommendations for Low Impact Shipping Corridors – areas where spill equipment is required

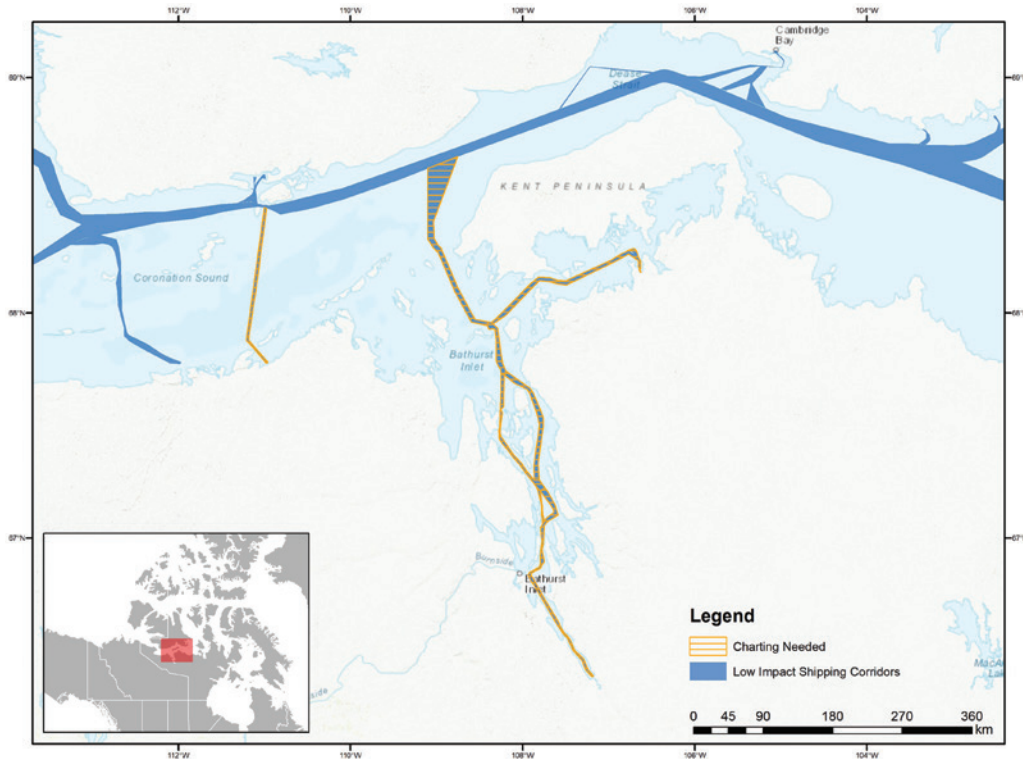


Figure 17. Recommendations for Low Impact Shipping Corridors – areas where charting is needed





CONCLUSION

The number of marine vessels in Canadian Arctic waters continues to grow. At the same time, the Northwest Passage is receiving unprecedented international attention related to sovereignty, interest from tourism operators, and the immense cost savings that a commercially navigable Arctic route would present. Cambridge Bay has experienced the third highest increase in vessel traffic in Nunavut in recent decades.¹ This study has documented that the marine areas that are most significant to community members' subsistence harvesting and livelihood activities, are located in the heart of the Northwest Passage – exactly where ship traffic has increased. Given community members' concerns about this attention and growth, and its implications for the ecology, environment, and Inuit way of life, the perspectives of Cambridge Bay community members and all communities, should be a

fundamental consideration during the implementation and management of Low Impact Shipping Corridors. The consequences of a marine incident would have deep, lasting, and potentially irreversible ecological, environmental, and cultural impact. Combining scientific and Inuit knowledge will provide the most effective approach for pro-active vessel management through a corridors approach. Infusing Inuit and northerners' voices in the continued development of Low Impact Shipping Corridors is critical to ensuring safe marine transportation near Cambridge Bay, Nunavut and throughout the Canadian Arctic.

¹ Dawson J., Pizzolato, L., Howell, S.E.L., Copland, L., & Johnston, M.E. 2018. *Temporal and Spatial Patterns of Ship Traffic in the Canadian Arctic from 1990 to 2015*. *Arctic*. 71(1):15-26. <https://doi.org/10.14430/arctic4698>

