

# Arctic Corridors and Northern Voices

GOVERNING MARINE TRANSPORTATION IN THE CANADIAN ARCTIC

## PAULATUK NORTHWEST TERRITORIES



Natalie Carter  
Jackie Dawson  
Colleen Parker  
Julia Cary  
Holly Gordon  
Zuzanna Kochanowicz  
Melissa Weber  
**2018**



# ACKNOWLEDGEMENTS

The authors wish to thank the Paulatuk Hunters and Trappers Committee; and those who participated in this study as discussion group participants (in alphabetical order): Frank Green, Nolan Green, Ruben Green, Jody Illasiak, Joe Illasiak, Liz Kuptana, and Corey Ruben.

The authors appreciate the technical and general in-kind support provided by Canadian Coast Guard, Canadian Hydrographic Service, Carleton University, Dalhousie University, Government of Nunavut, Kivalliq Inuit Association, Nunavut Arctic College, Nunavut Research Institute, Oceans North, Parks Canada, Polar Knowledge Canada, Qikiqtani Inuit Association, SmartICE, Transport Canada, University of Ottawa Geographic, Statistical and Government Information Centre, University of Ottawa Department of Geography, Environment, and Geomatics, and University of the Sunshine Coast.

The authors are grateful for the financial support provided by ArcticNet, Clear Seas, Department of Fisheries and Oceans Canada (DFO), Irving Ship Building Inc., Marine Environment Observation Prediction and Response Network (MEOPAR), Northern Scientific Training Program, Nunavut Arctic College, Nunavut General Monitoring Program (NGMP), Nunavut Research Institute, Oceans North, Pew Charitable Trusts, Students for Canada’s North, Social Sciences and Humanities Research Council (SSHRC) of Canada, and World Wildlife Fund Canada.

Photos by: ESA (cover); Canadian Coast Guard (cover inset, all ships); Nunavut Tourism (whale tail, polar bears); Luke Copland (iceberg); Destination Nunavut (beluga)

Available at: [www.arcticcorridors.ca](http://www.arcticcorridors.ca)

Recommended citation: Carter, N.A., Dawson, J., Parker, C., Cary, J., Gordon, H., Kochanowicz, Z., and Weber, M. (2018). Arctic Corridors and Northern Voices: governing marine transportation in the Canadian Arctic (Paulatuk, Inuvialuit Settlement Region, Northwest Territories community report). Ottawa: University of Ottawa.  
<http://hdl.handle.net/10393/38040> DOI: 10.20381/RUOR38040

For more information, please contact: Dr. Jackie Dawson – [jackie.dawson\[at\]uottawa\[dot\]ca](mailto:jackie.dawson@uottawa.ca) or Dr. Natalie Carter – [ncarte3\[at\]uottawa\[dot\]ca](mailto:ncarte3@uottawa.ca)



**OCEANS  
NORTH**



**Fisheries and Oceans  
Canada**

**Pêches et Océans  
Canada**

© 1986 Panda symbol WWF-World Wide Fund For Nature (also known as World Wildlife Fund).  
® “WWF” is a WWF Registered Trademark.



## PARTICIPANT BIOGRAPHIES



**Ruben Green** is Inuvialuk, aged 61, and married with 7 children and 10 grandchildren. He works for the Hamlet of Paulatuk as the arena maintainer from November to March 31. He spends the summer at their cabin from July to September when he isn't working as a cultural host in Tukturnogait National Park.



**Jody Illasiak** is a full-time subsistence harvester as well as a Director for the Paulatuk Hunters and Trappers Committee, and Paulatuk Community Corporation.



**Joe Illasiak**



**Liz Kuptana**



**Corey Ruben**



## EXECUTIVE SUMMARY

Ship traffic in the Canadian Arctic nearly tripled between 1990 and 2015.<sup>1</sup> 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 the Canadian Coast Guard, Transport Canada, and Canadian Hydrographic Service.

Key considerations in the current prioritization of the Low Impact Shipping 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 knowledge and opinions gathered through participatory mapping, focus group discussions, and interviews with Paulatuk community members who were identified by local organizations as key knowledge holders. 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 the potential impacts 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...

- Potential impacts of marine vessels transiting through the Low Impact Shipping Corridors include
  - contamination or pollution of Arctic waters;
  - behavioural changes in wildlife;
  - increased expenses incurred by hunters, decreased revenue from pelt sales; and
  - limited income and revenue opportunities.
- Disruption of sea ice formation by icebreakers and marine vessels is especially disruptive to polar bears and seals, and may lead to potential financial losses in the community.

## COMMUNITY-IDENTIFIED RECOMMENDATIONS INCLUDE...

- No icebreaking or winter shipping without prior specific consultation with the community, in addition to Environmental Impact Steering Committee (EISC) assessment;
- A revised corridor location in order to avoid the polynya near Cape Parry and Anguniaqvia Niqiqyuam Marine Protected Area;
- No dumping of sewage and garbage into the ocean, by any vessel;
- Ships transiting the corridors must respect
  - the Beluga Management Plan (with regard to the Eastern Beaufort Sea Beluga Management Zone 1 surrounding Cape Parry): <http://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/Beaufort-Sea-Beluga-Management-Plan-2013.pdf>;
  - the Char Conservation Plan: [https://fjmc.ca/wp-content/uploads/2016/08/Paulatuk-Char-Management-Plan-2003-2005\\_2006-2007-continued.pdf](https://fjmc.ca/wp-content/uploads/2016/08/Paulatuk-Char-Management-Plan-2003-2005_2006-2007-continued.pdf); and
  - the Community Conservation Plan <http://www.screeningcommittee.ca/resources/reports.html>;
- Local Marine Mammal Observers and Environmental Monitors should be on every ship; and
- Equipment and training should be provided for spill response.



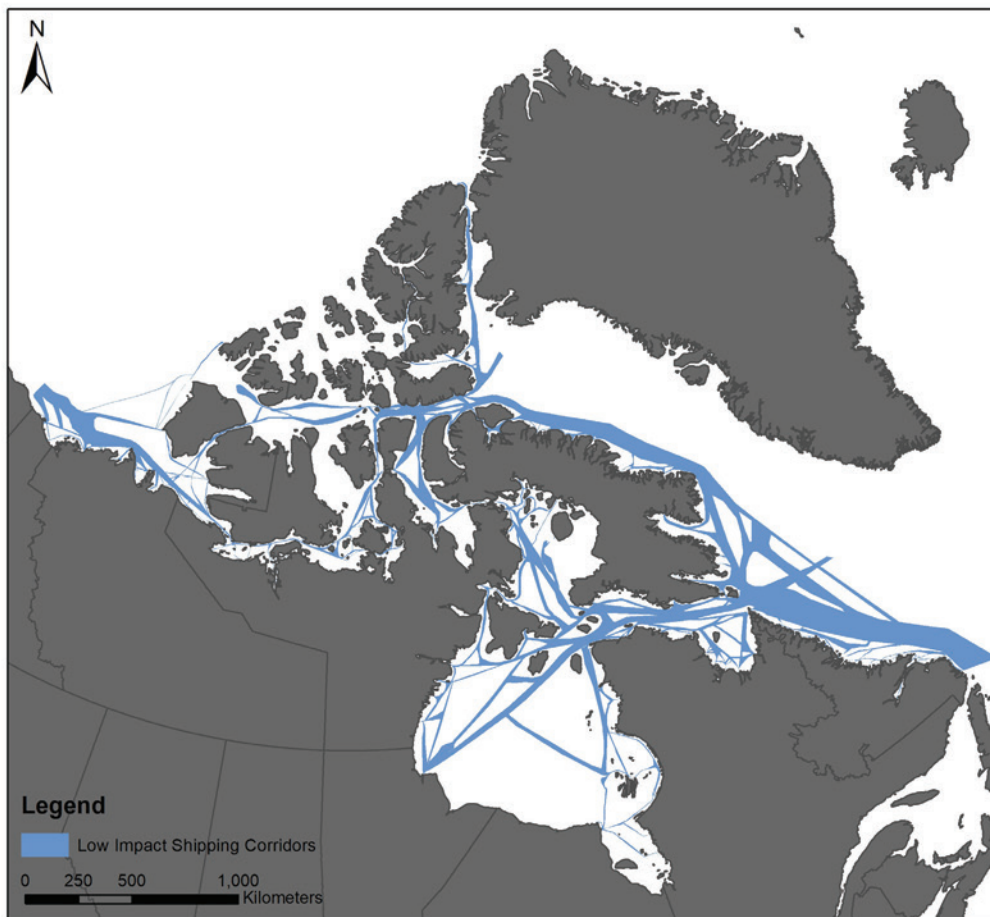


## BACKGROUND

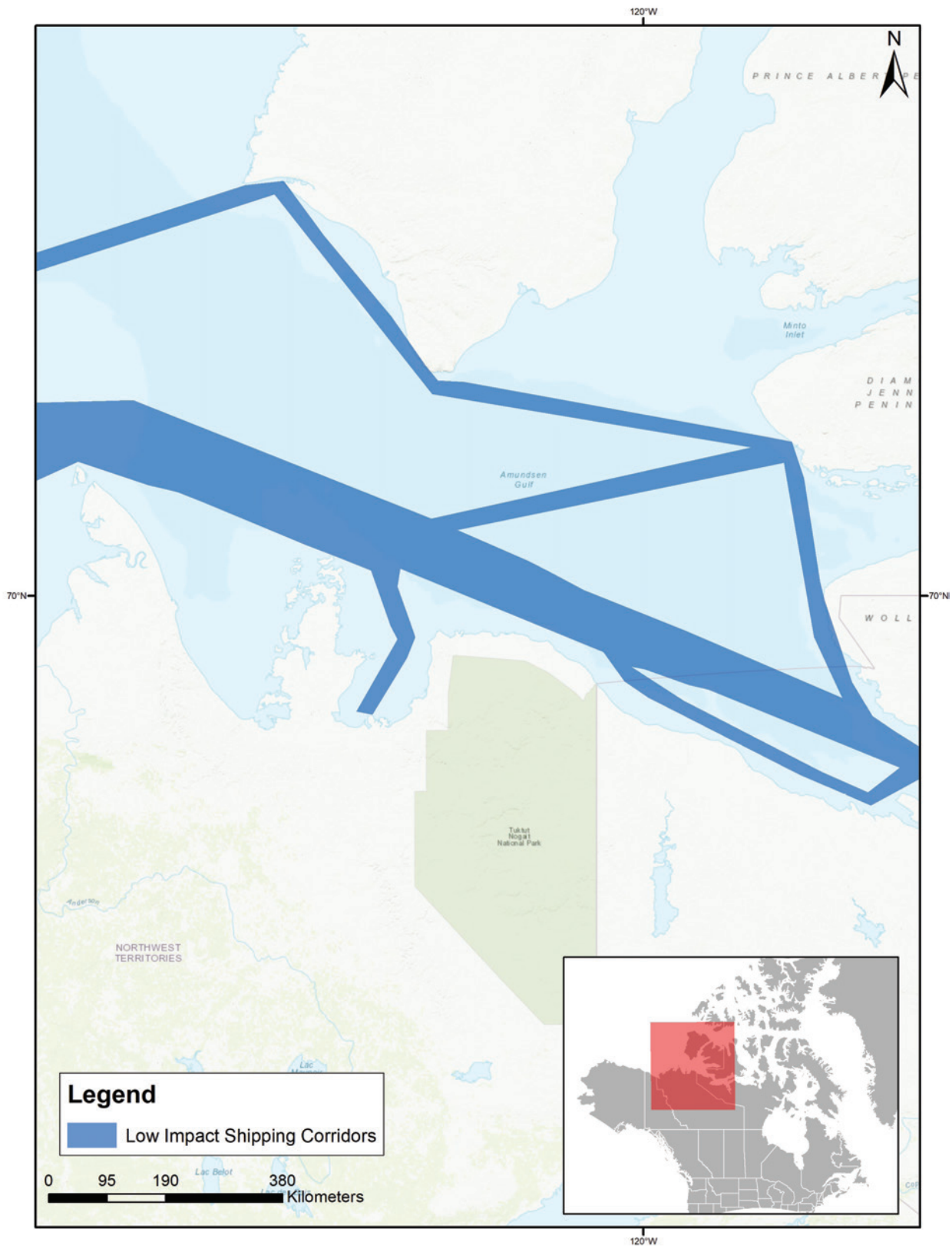
Ship traffic in the Canadian Arctic nearly tripled between 1990 and 2015.<sup>1</sup> The Government of Canada is developing a network of low-impact marine transportation corridors in the Arctic that encourages marine transportation traffic to use routes that pose less risk and minimize the impact on communities and the environment (Figure 1). 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 the Canadian Coast Guard, Transport Canada, 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 documents Paulatuk community members' knowledge and extensive year-round use of important marine areas (ecological, socio-cultural, archaeological, and travel routes), the potential impacts of shipping on those areas and on community members, and potential management strategies for the Low Impact Shipping Corridors. The Beaufort Sea Beluga Management Plan<sup>3</sup>, the Paulatuk Char Conservation Plan<sup>4</sup> and the Paulatuk Community Conservation Plan<sup>5</sup> should be referenced to supplement the findings of this report.



**Figure 1.** Example of Low Impact Shipping Corridors



**Figure 2.** Example of Low Impact Shipping Corridors near Paulatuk, Northwest Territories

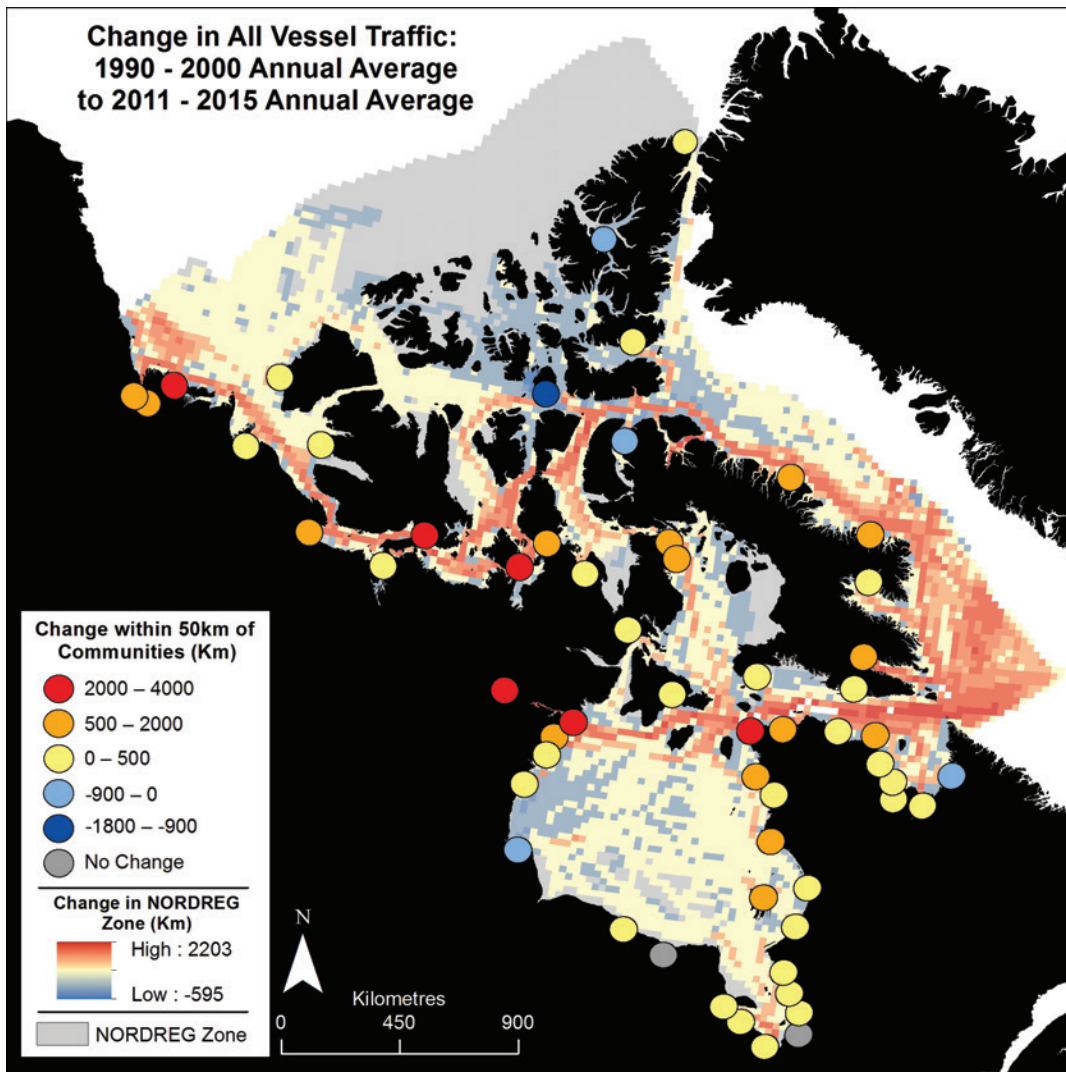


## CHANGE IN SHIPPING ACTIVITY

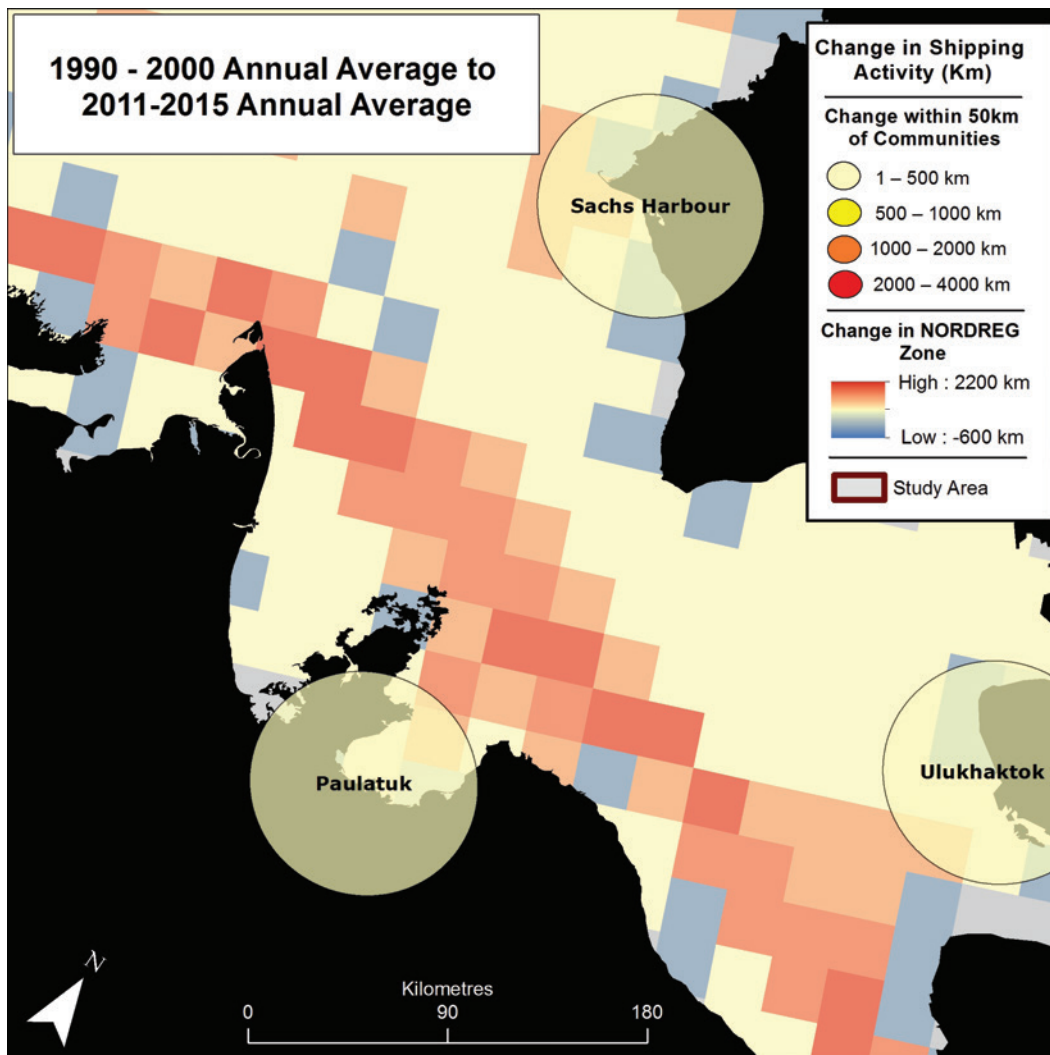
(1990–2000 ANNUAL AVERAGE COMPARED TO 2011–2015 ANNUAL AVERAGE)

In the Canadian Arctic, when comparing the average annual 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 southwest Baffin Bay (e.g., Pond Inlet, Clyde River, Qikiqtarjuaq, Iqaluit), in the Queen Maud Gulf area (e.g., Cambridge Bay and Gjoa Haven), and northwest 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 Bay, Arctic Bay, Eureka). The Inuvialuit Settlement Region experienced a 6,497 km increase in shipping from 2011–2015 compared to 1990–2000; Paulatuk experienced a 185 km increase, the smallest increase in the Inuvialuit Settlement Region (Figure 4).<sup>1</sup>



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



**Figure 4.** Change in shipping activity (km) near Paulatuk, Northwest Territories: 1990-2000 annual average compared to 2011-2015 annual average<sup>1</sup>

## FOUR SEASONS

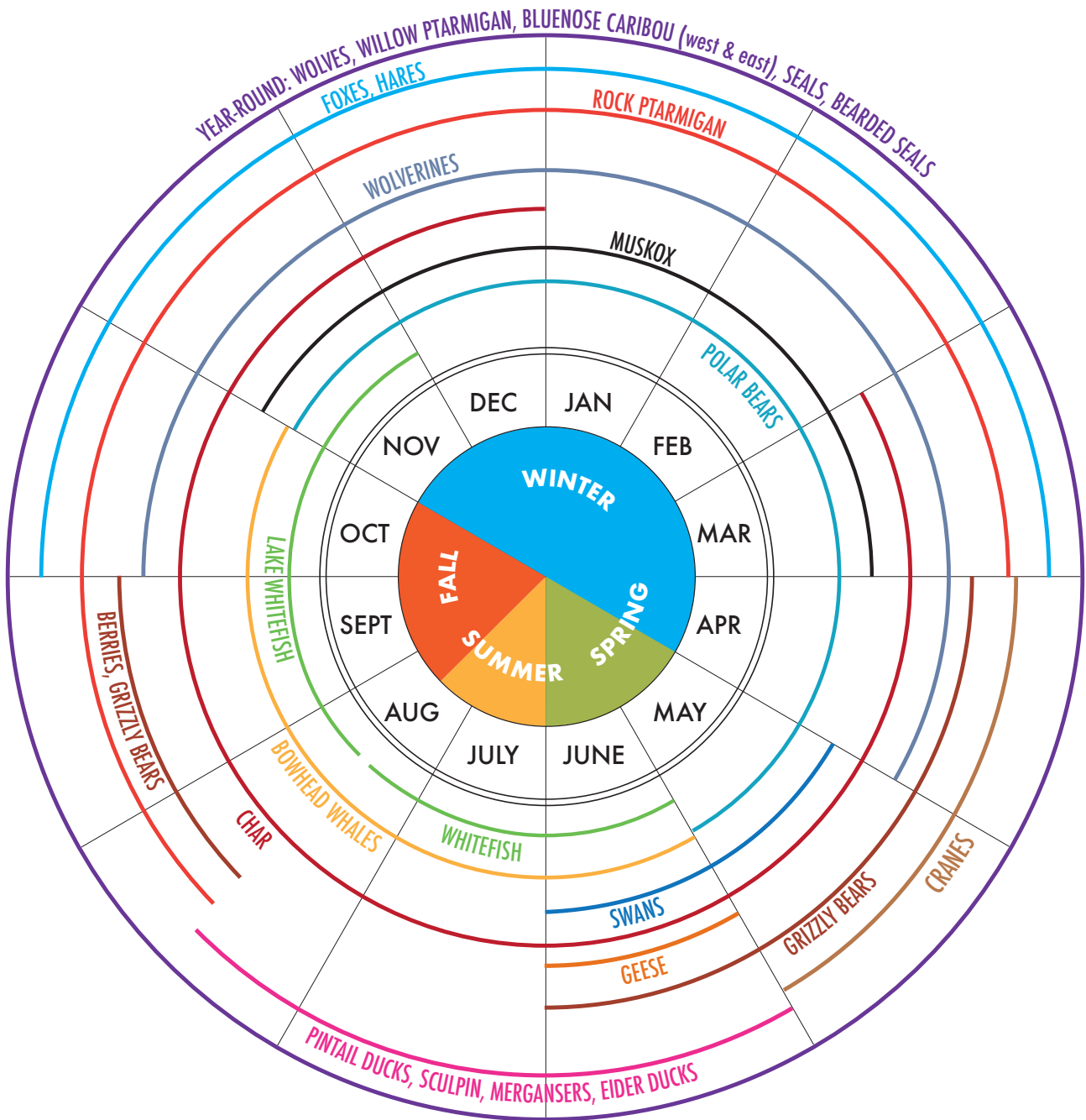
There are 4 main seasons in Paulatuk, Northwest Territories. The seasons are weather and ice dependent; therefore, the months each season happens in can be different each year. However, in general the seasons are:

SEASON	MONTHS IN WHICH THEY HAPPEN	OCEAN CONDITION
Spring	Beginning of April to mid-June	Frozen and sea ice break-up in June
Summer	Mid-June to mid-August	Open water
Fall	Mid-August and end of October	Open water
Winter	November to end of March	Sea ice freeze-up and frozen



## SEASONAL HARVESTING CYCLE

Harvesting happens according to seasons and follows an annual cycle.



**Figure 5.** Seasonal cycle of harvesting activities in and near Paulatuk, Northwest Territories



## MAPS OF CULTURALLY SIGNIFICANT MARINE AREAS

It is important to note that the areas shown on the maps are the “hot spots” or main areas where people go. There are other places that people occasionally go to, as well as burial sites and abandoned cabins all along the coast, which were not mapped.

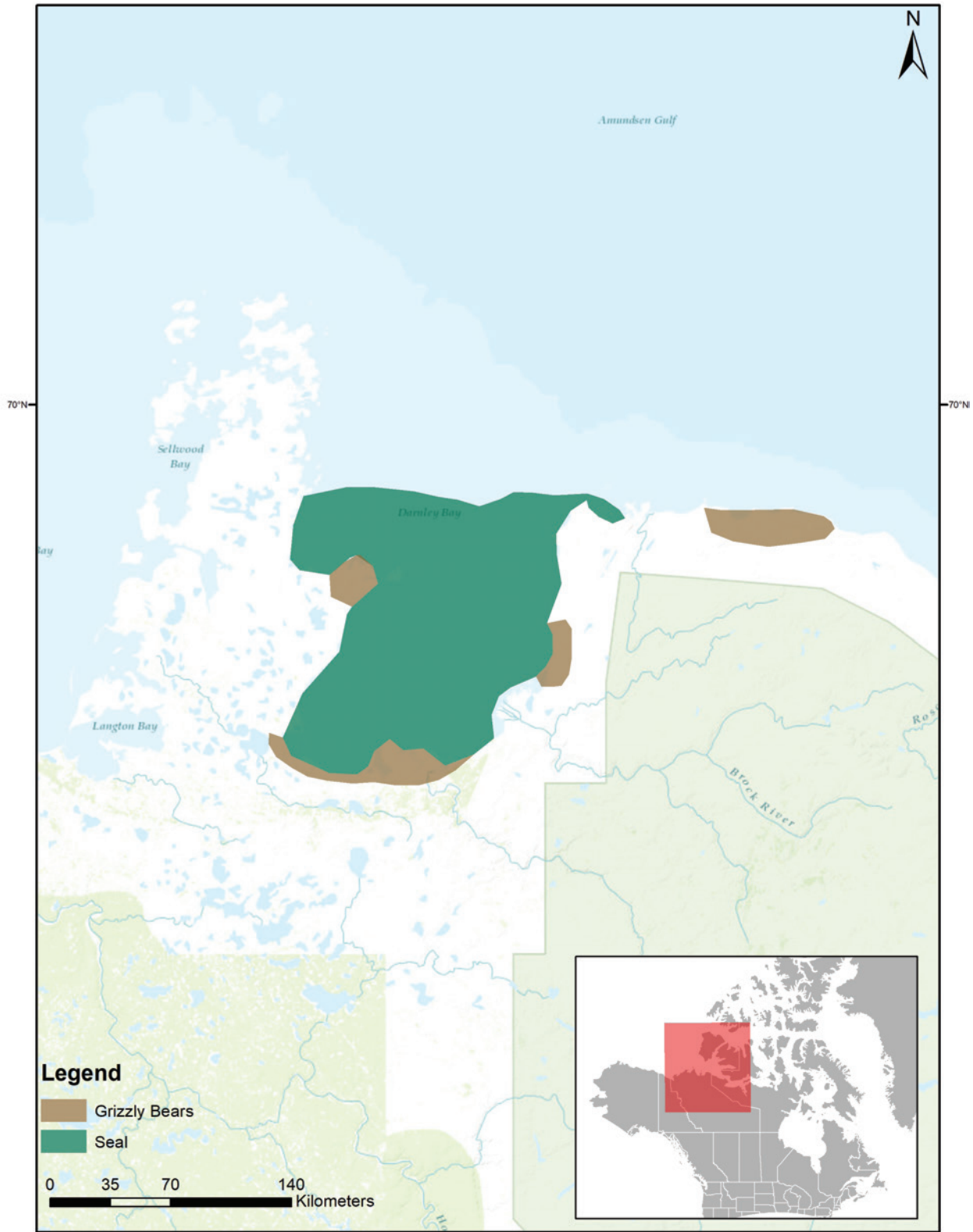
As well, Hairy Braya (*Braya pilosa*) plants, which were designated as endangered in May 2013, grow in the Smoking Hills located on the east coast of Cape Bathurst. “This plant is restricted globally to a very small area in the Northwest Territories. It is endangered by the loss of habitat through very rapid coastal erosion and saline wash resulting from storm surges, and by permafrost melting. These events appear to be increasing in frequency and severity as a consequence of a significant reduction in sea ice cover on the Beaufort Sea and changes in weather patterns.”<sup>2</sup>

Maps include:

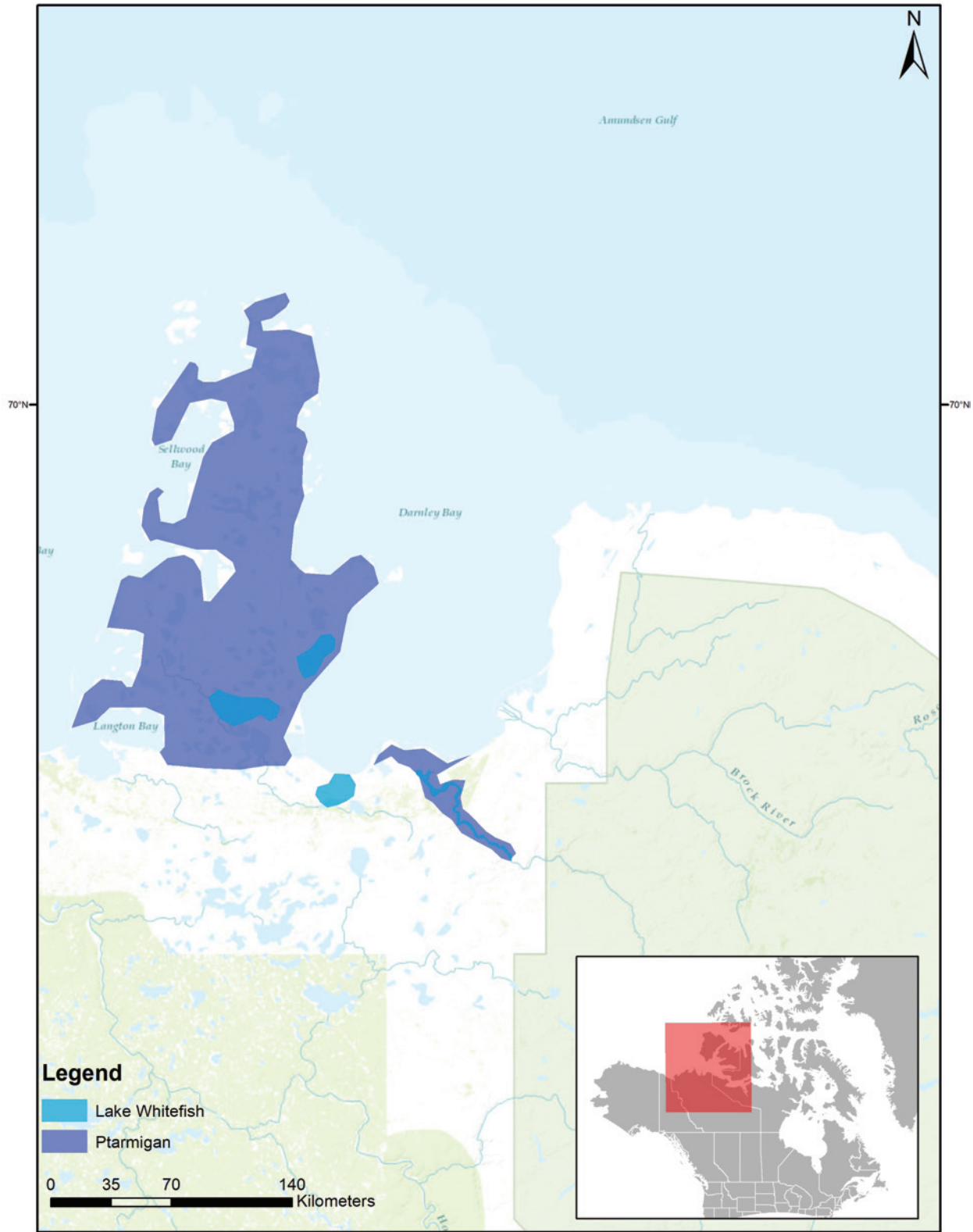
1. Location of terrestrial and marine mammals, fish, and birds;
2. Location of community members’ activities as well as camps and burial sites; and
3. Local travel routes and safe harbours.

Maps will be available at [www.arcticcorridors.ca](http://www.arcticcorridors.ca) and in Paulatuk at the Paulatuk Hunters and Trappers Committee and Paulatuk Community Corporation offices.

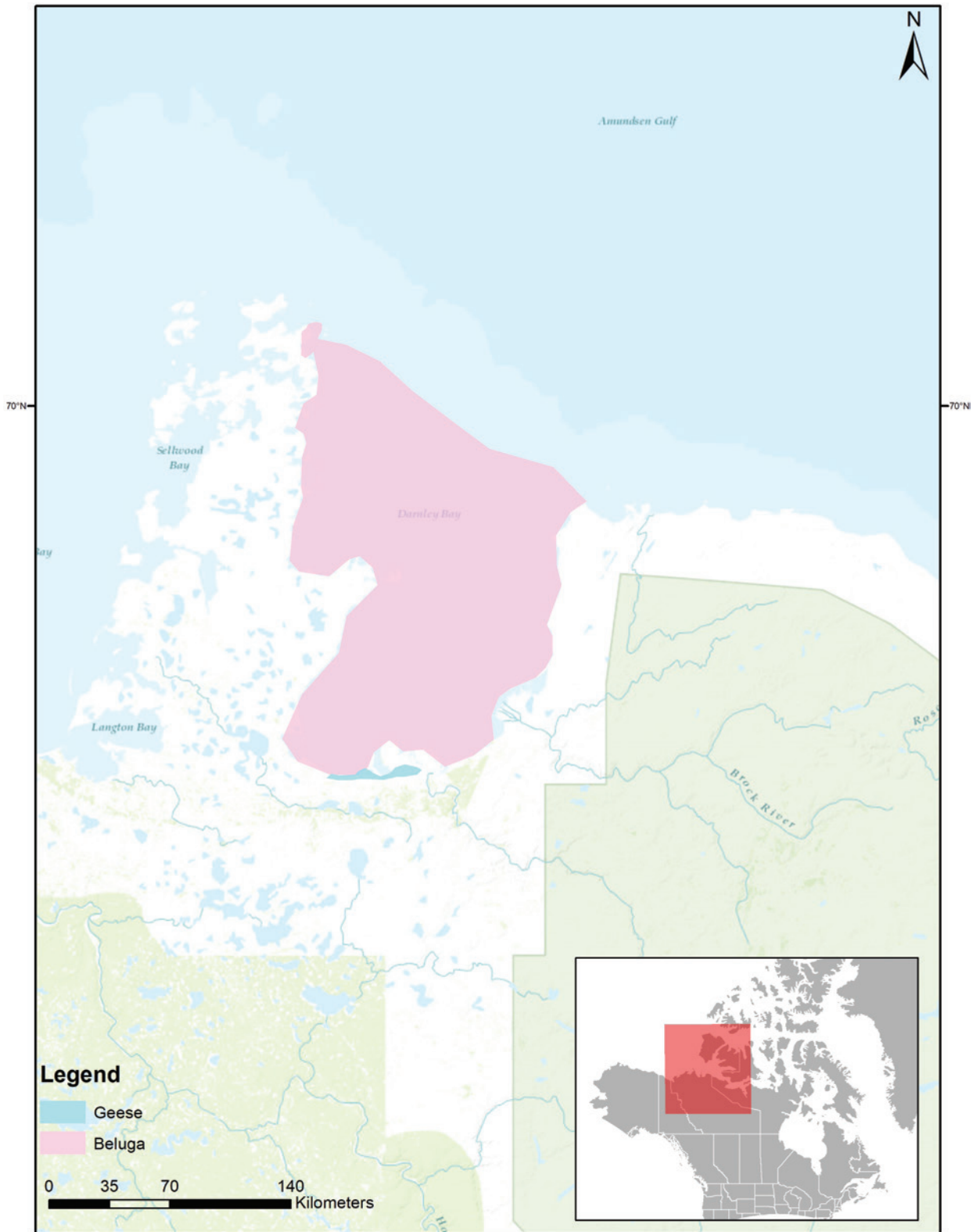




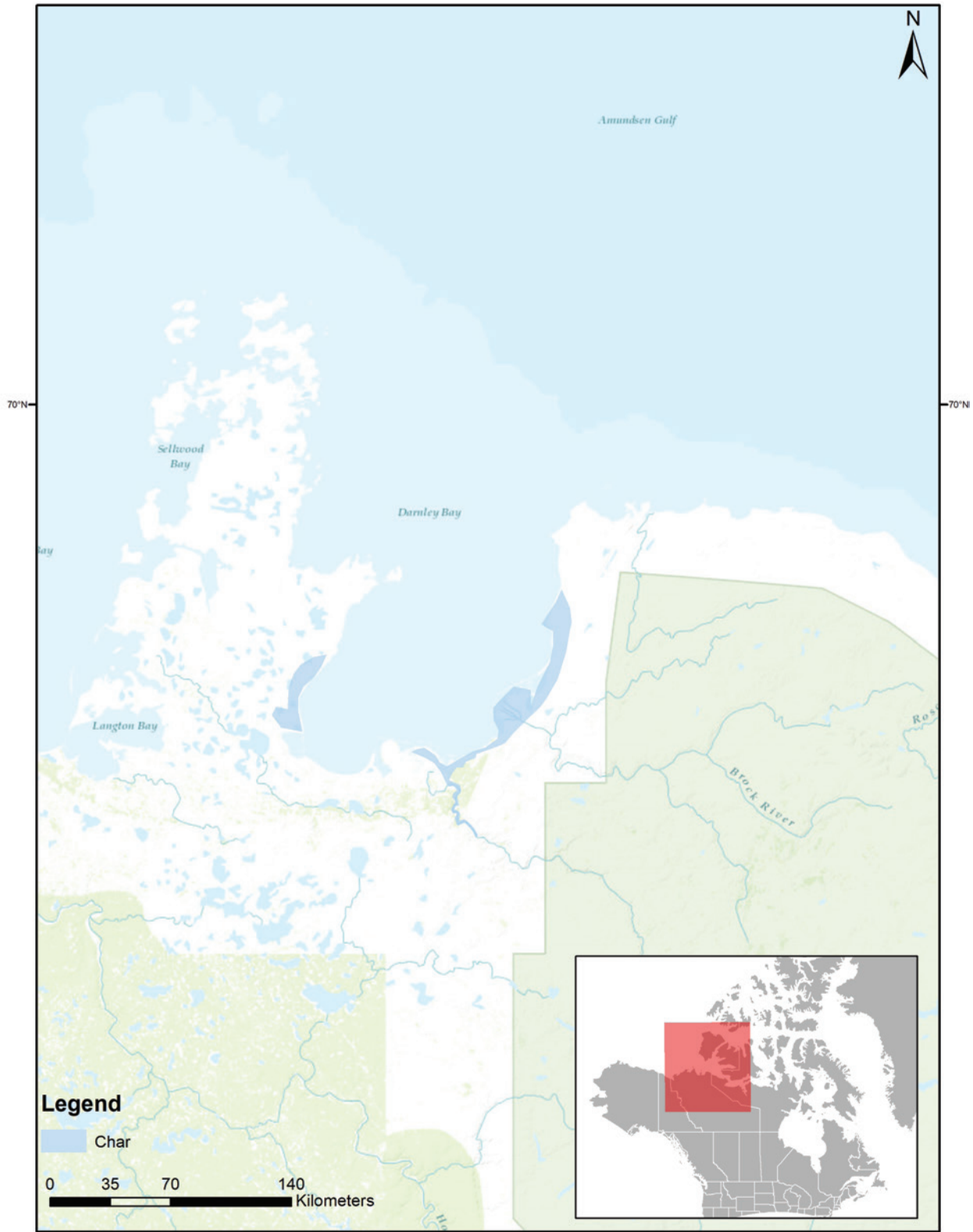
**Figure 6.** Location of wildlife during open water



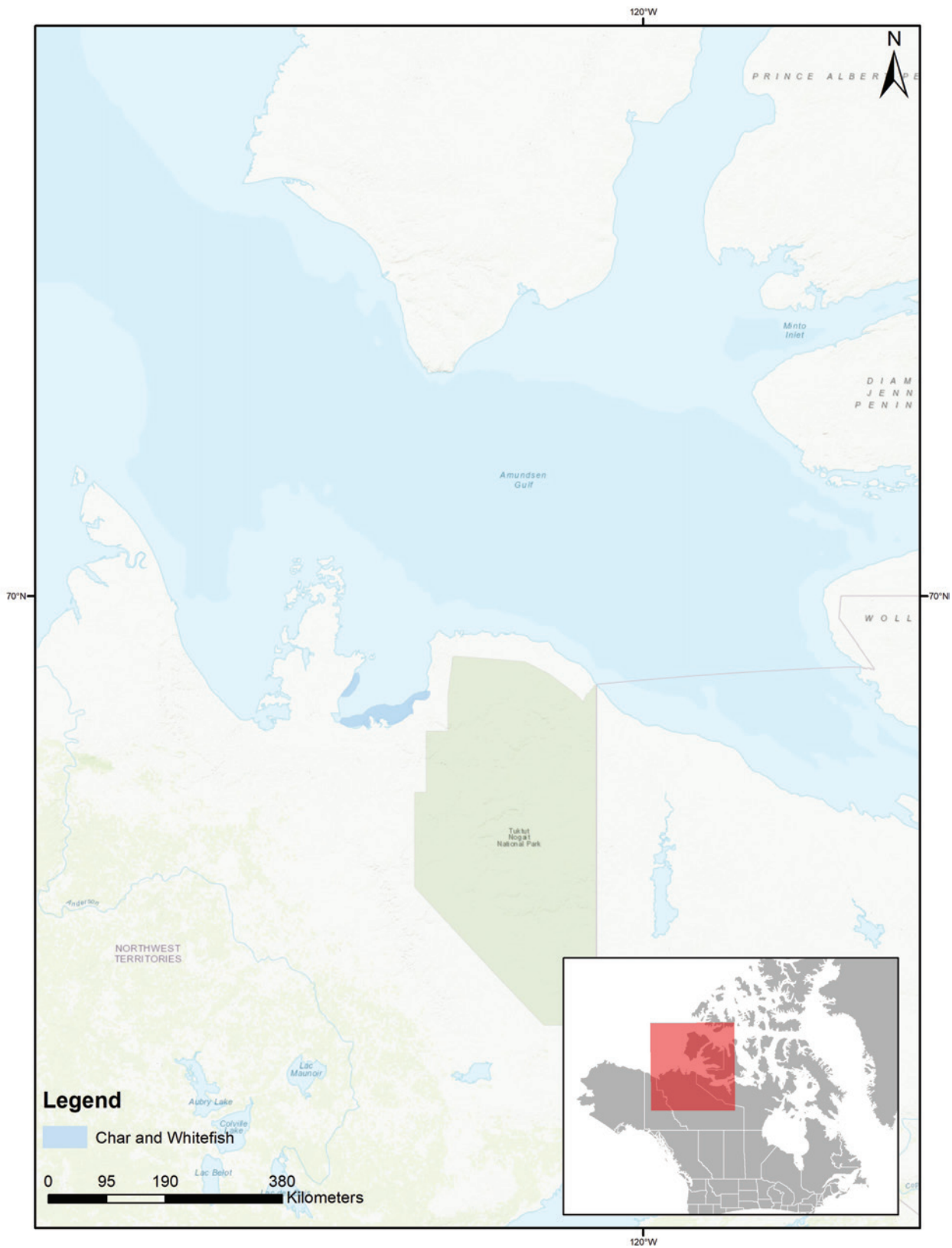
**Figure 7.** Location of wildlife during open water



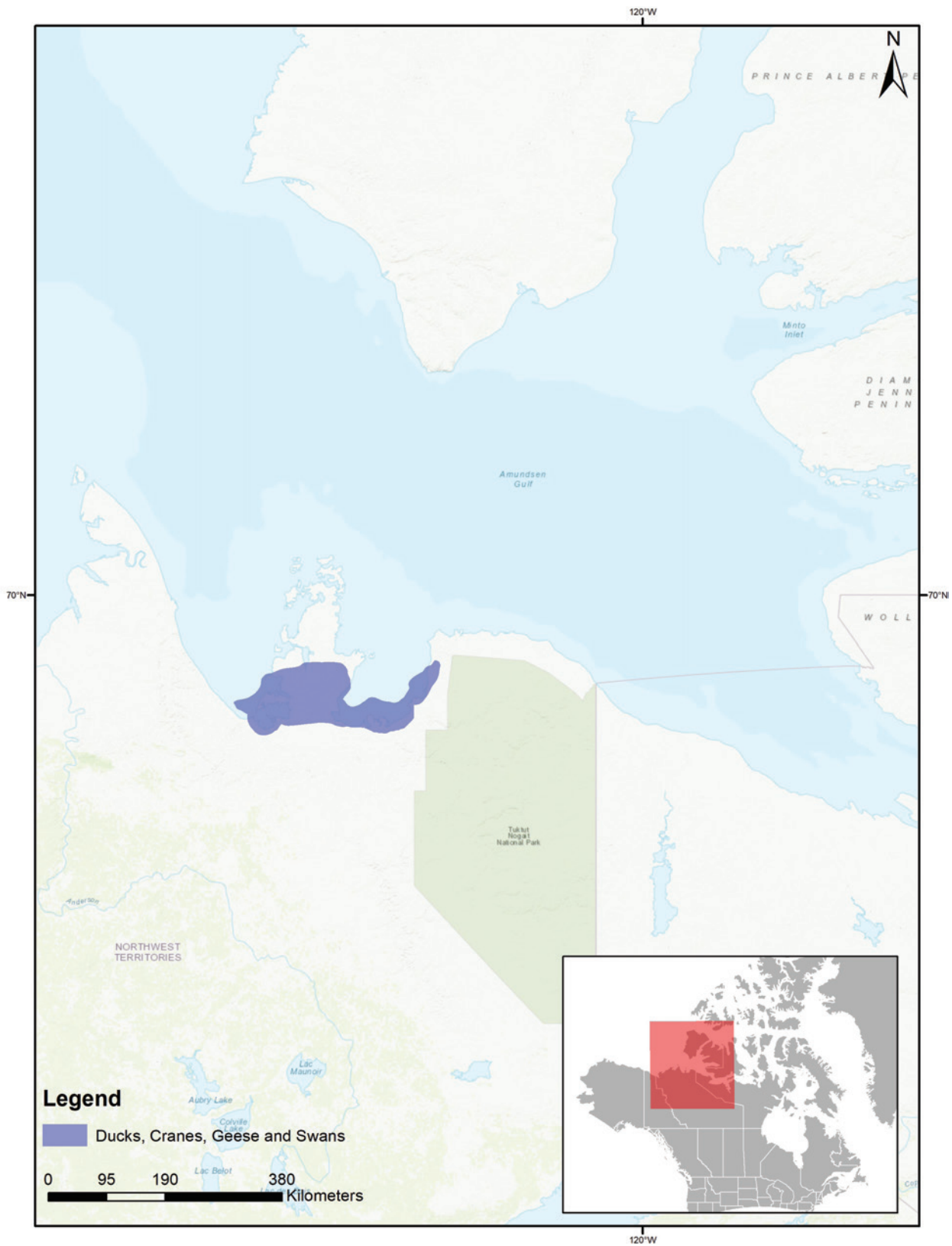
**Figure 8.** Location of wildlife during open water



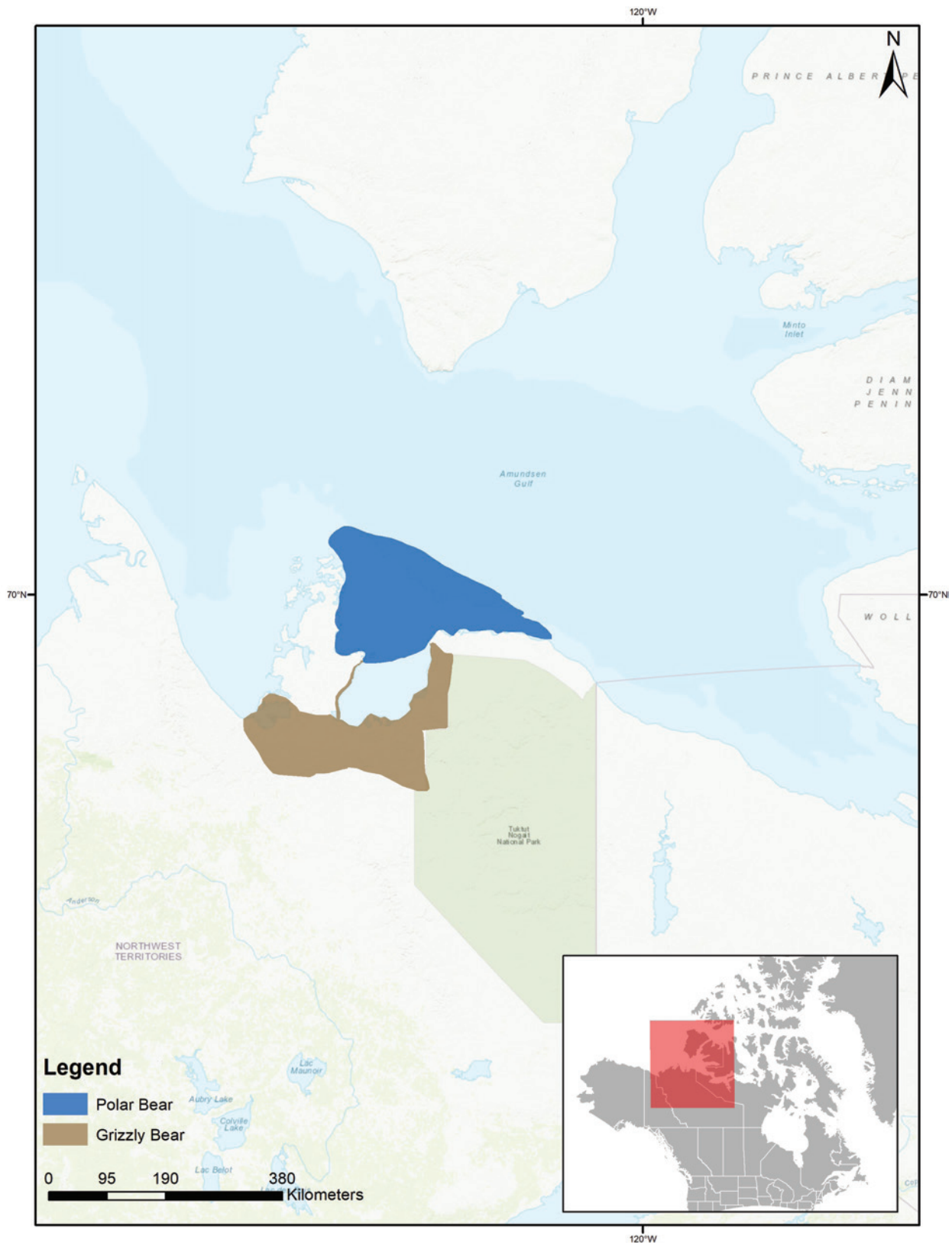
**Figure 9.** Location of wildlife during open water



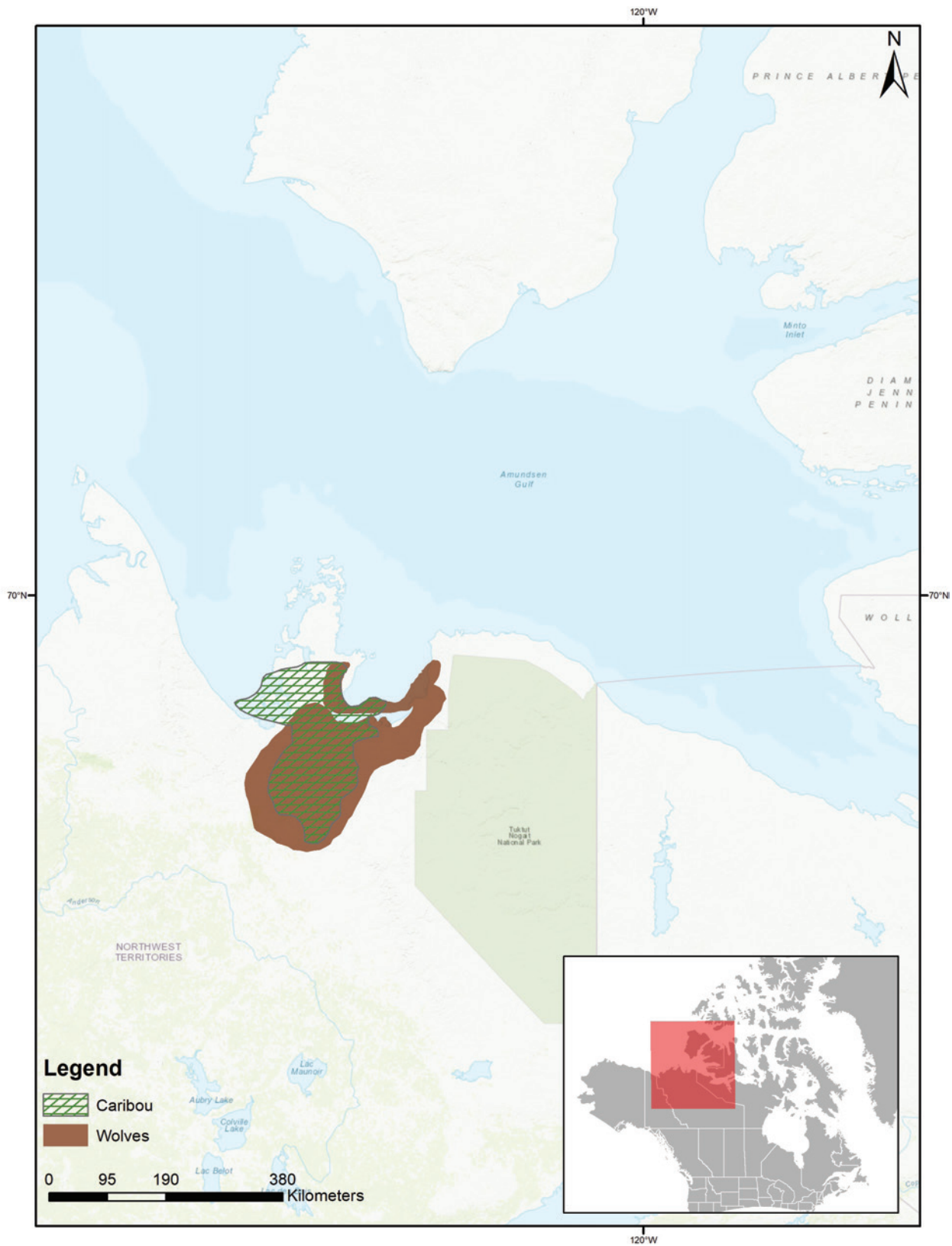
**Figure 10.** Location of wildlife when the ocean is frozen and around the time of sea ice break-up



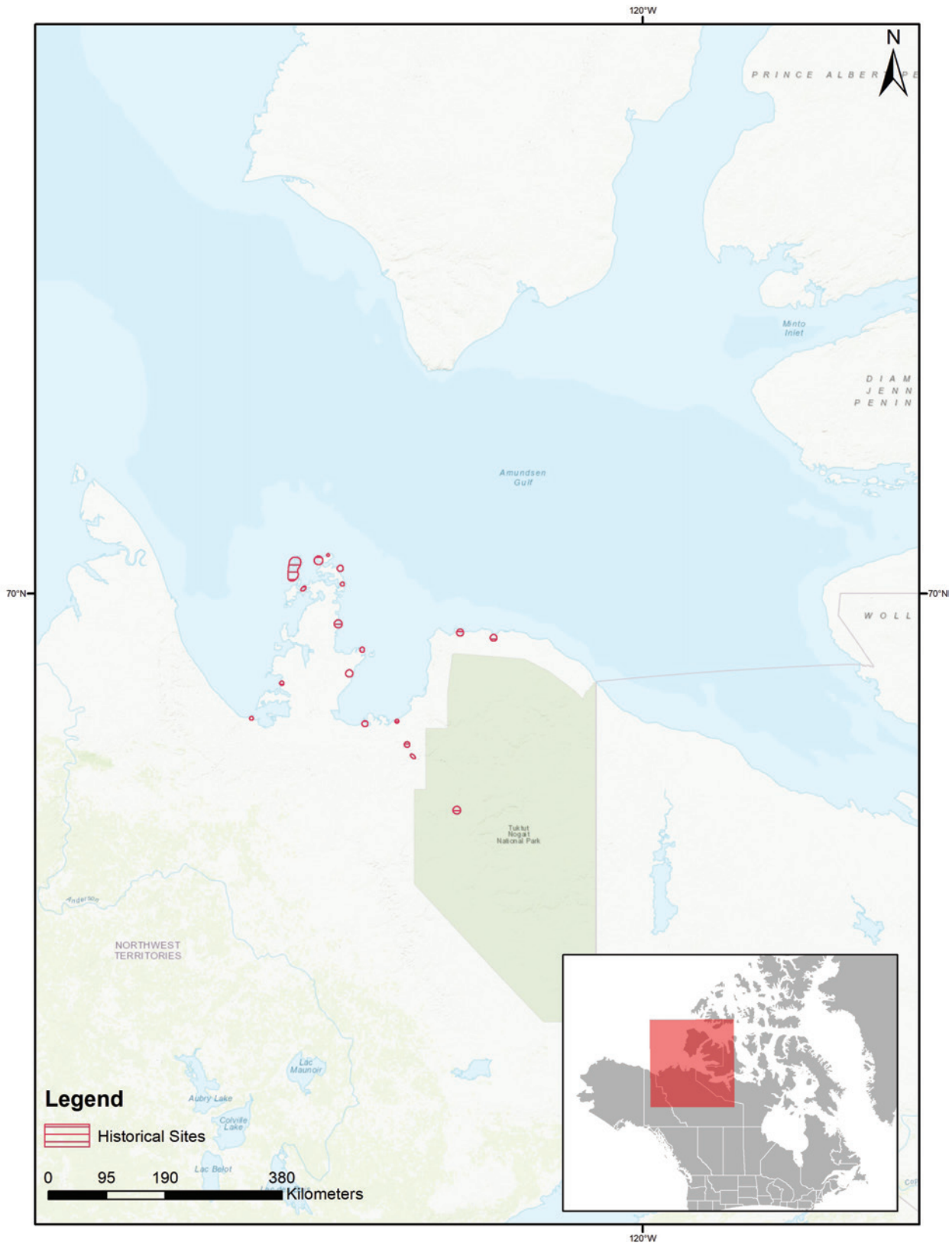
**Figure 11.** Location of wildlife when the ocean is frozen and around the time of sea ice break-up



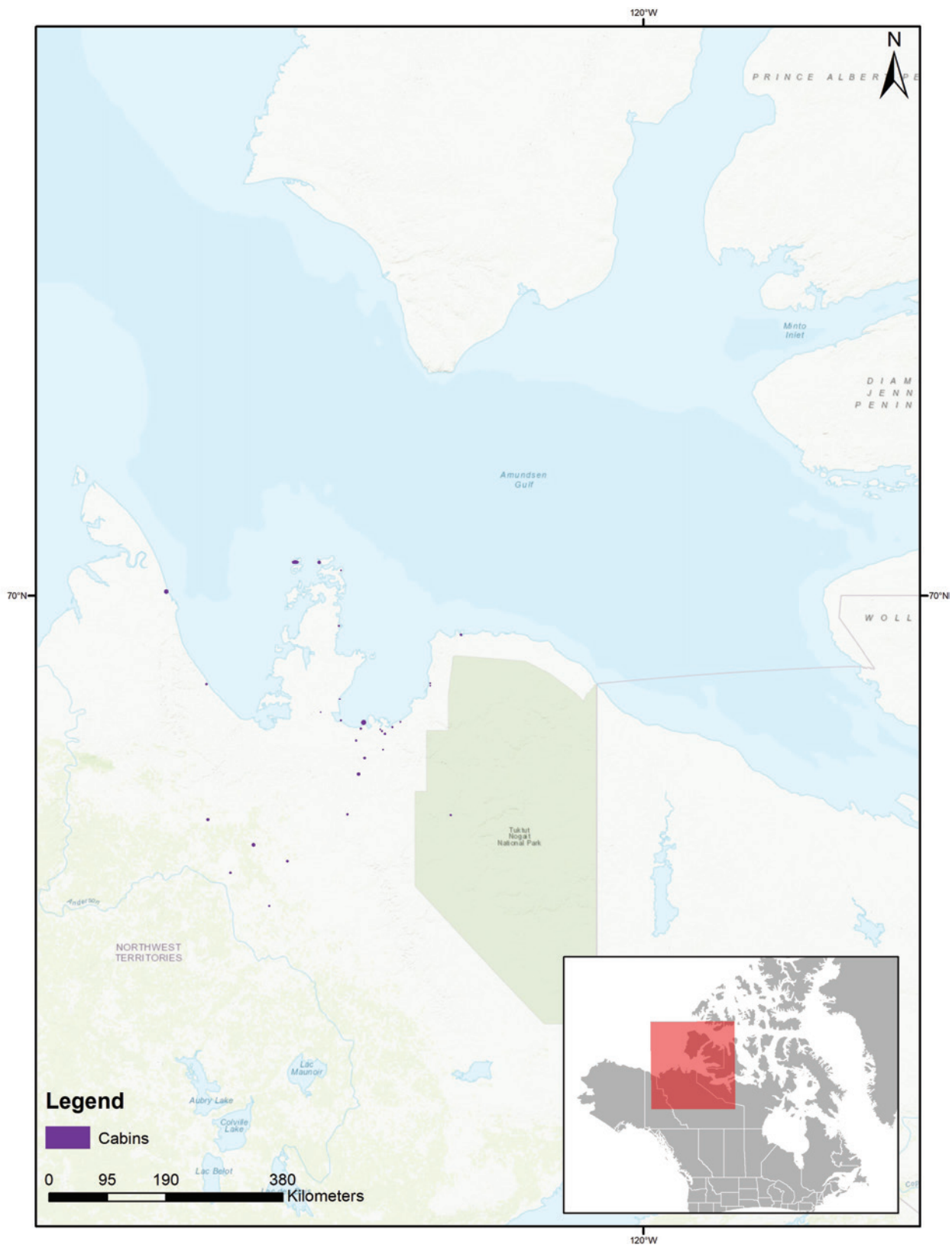
**Figure 12.** Location of wildlife when the ocean is frozen and around the time of sea ice break-up



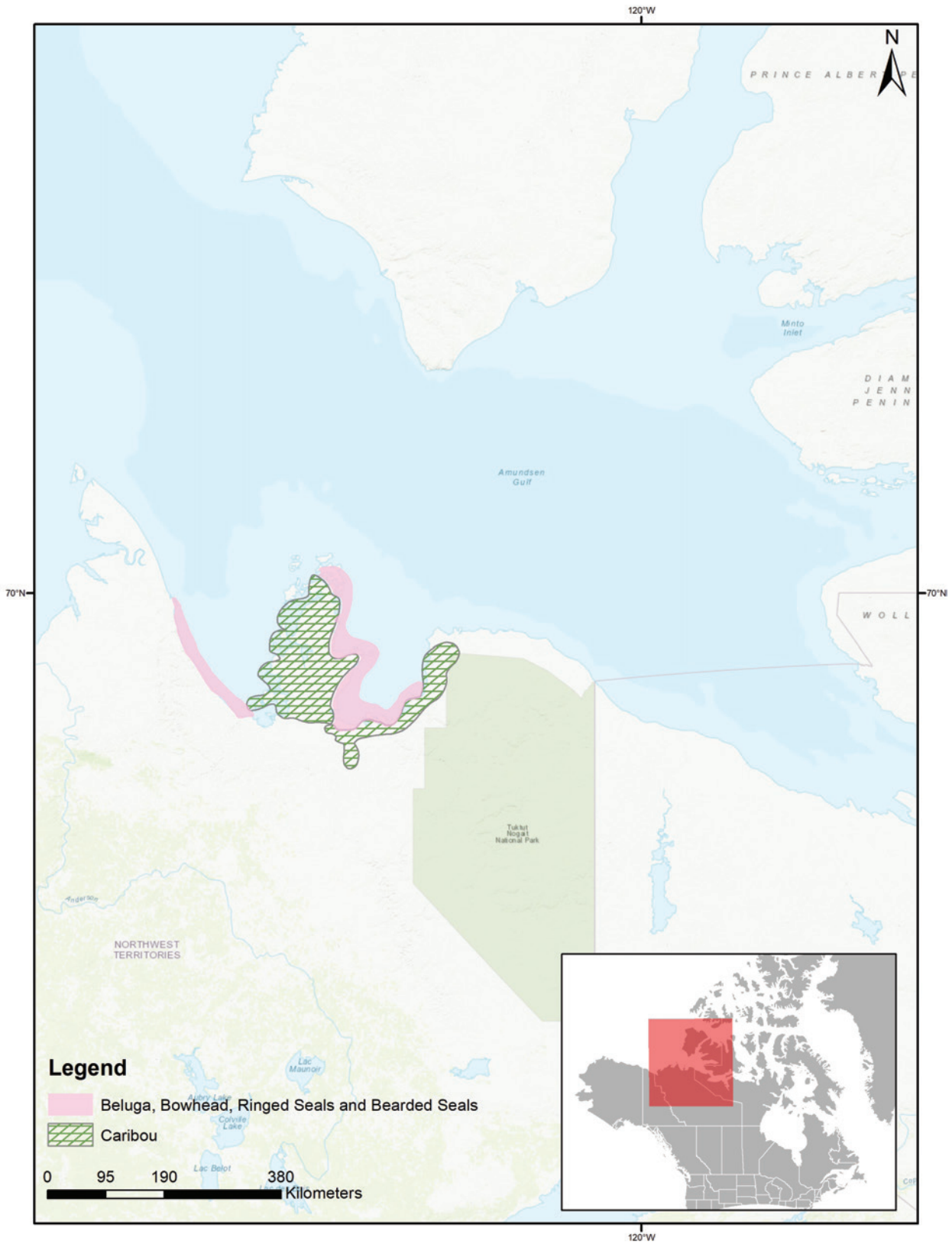
**Figure 13.** Location of wildlife when the ocean is frozen and around the time of sea ice break-up



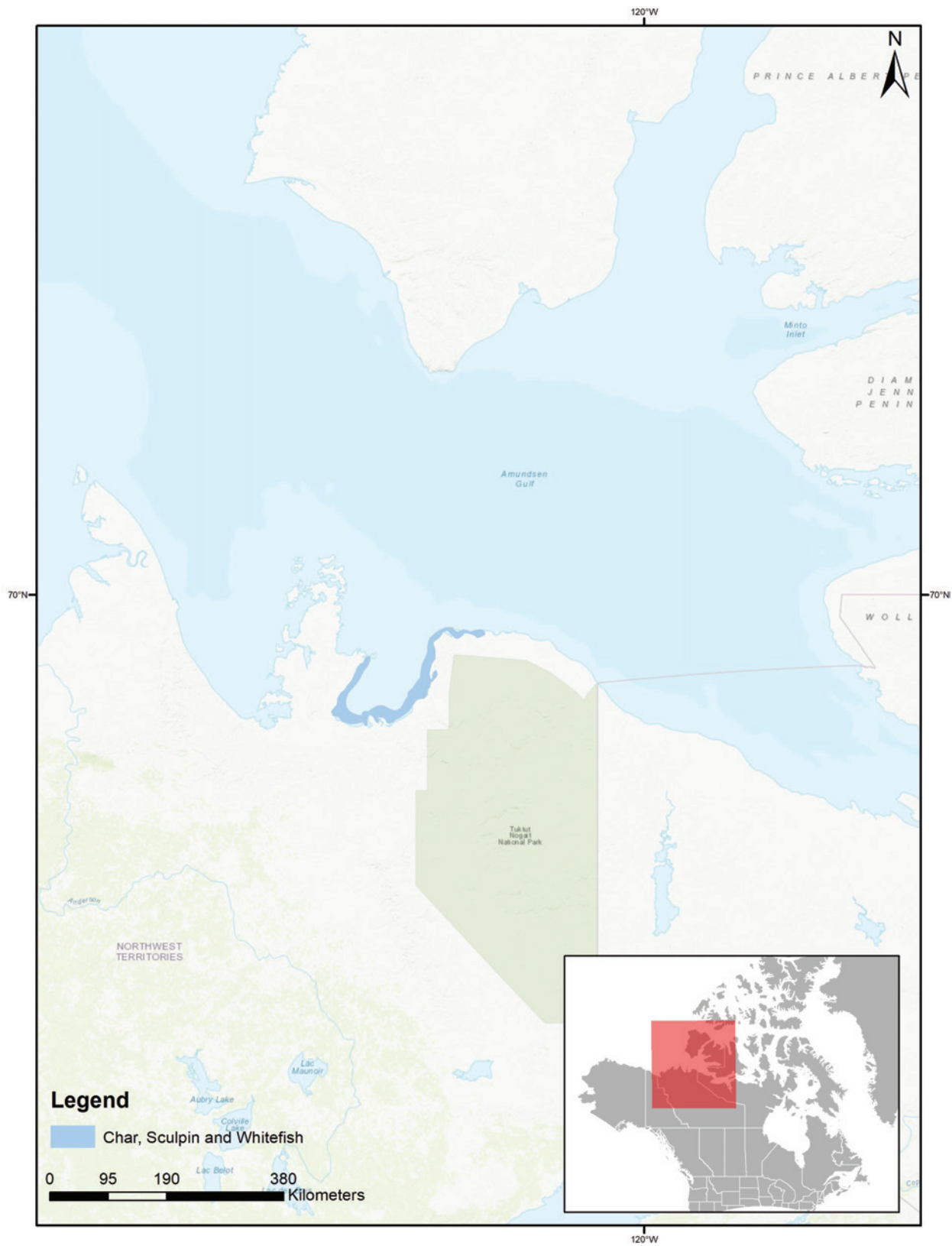
**Figure 14.** Location of community members' activities during open water



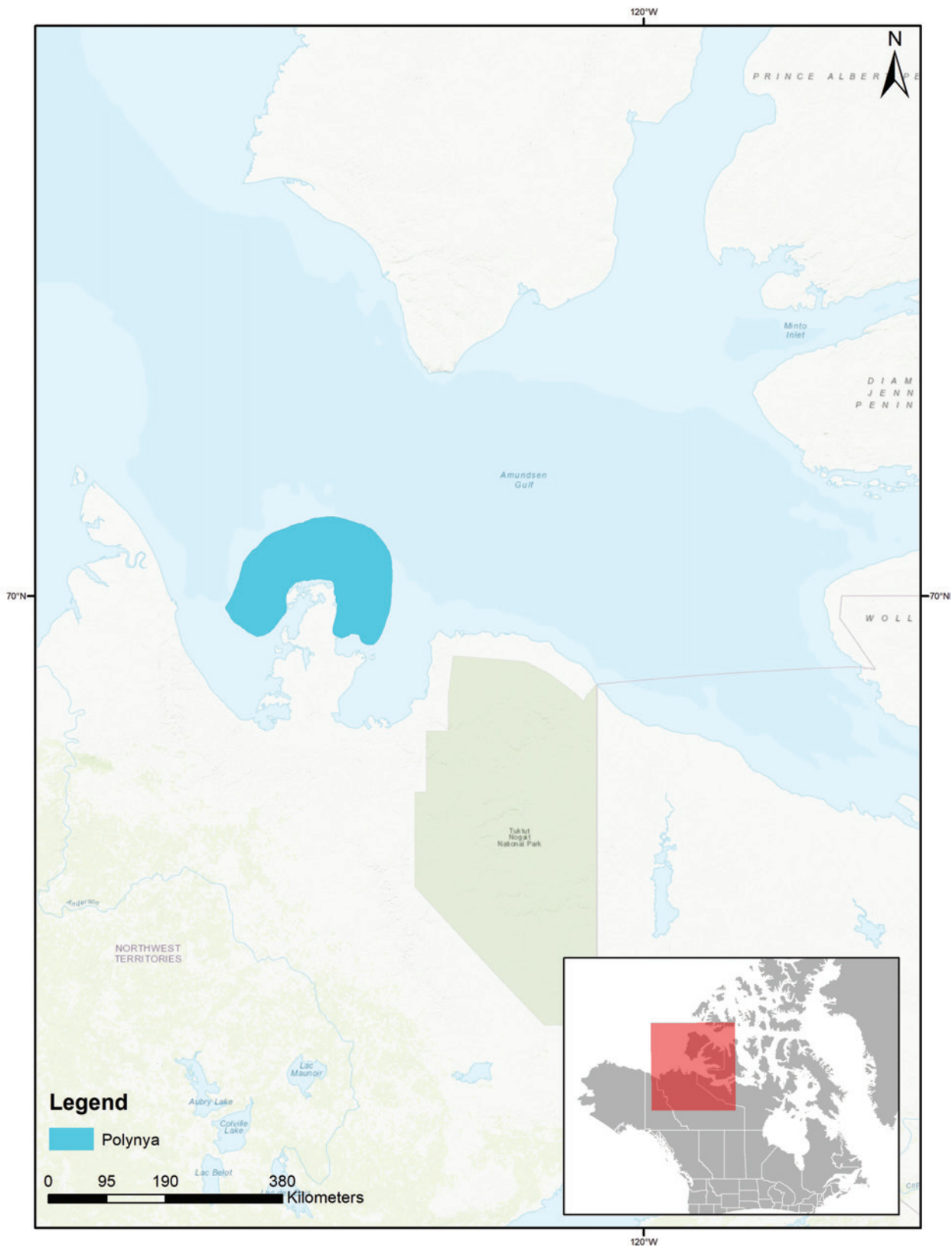
**Figure 15.** Location of community members' activities during open water



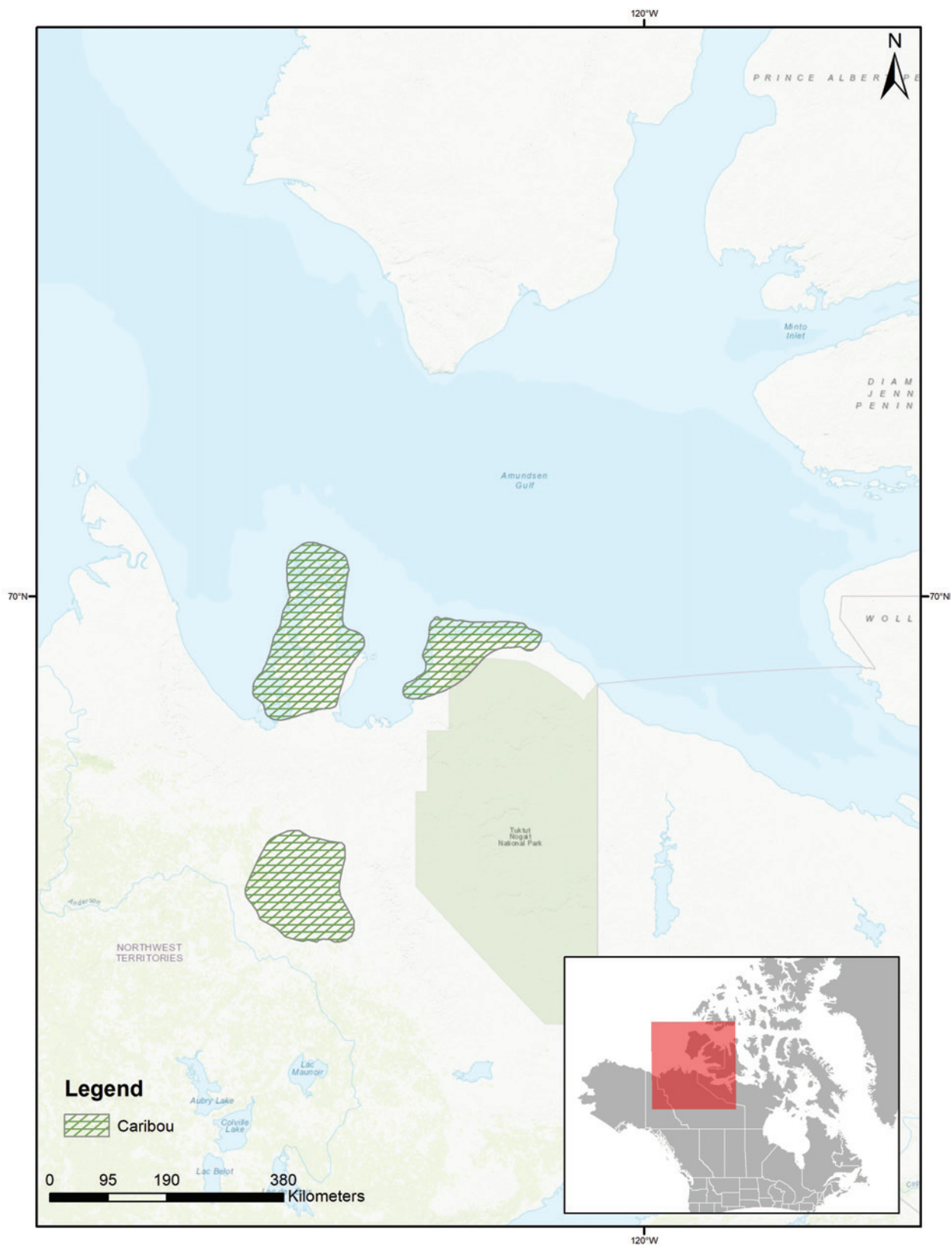
**Figure 16.** Location of wildlife during open water



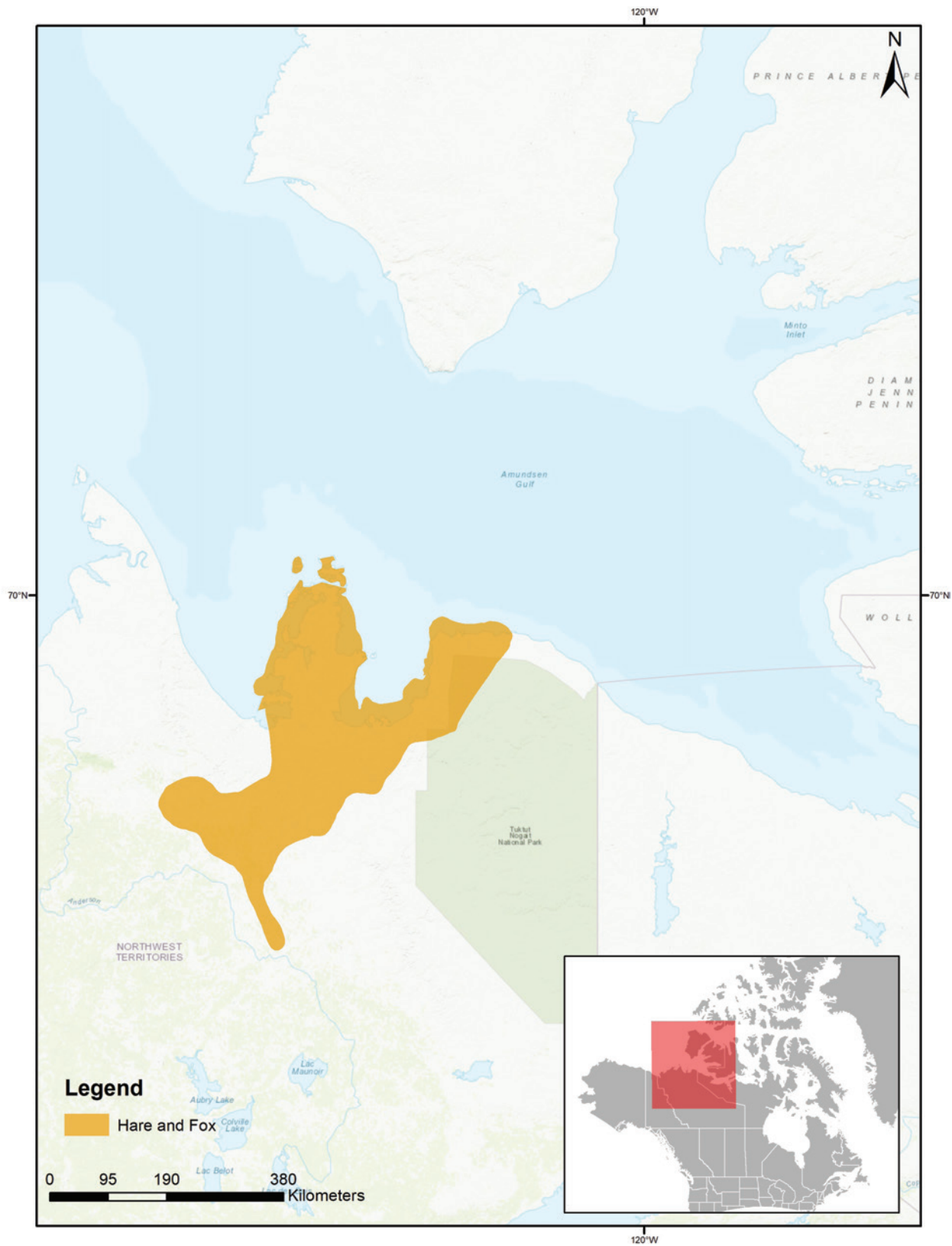
**Figure 17.** Location of wildlife during open water



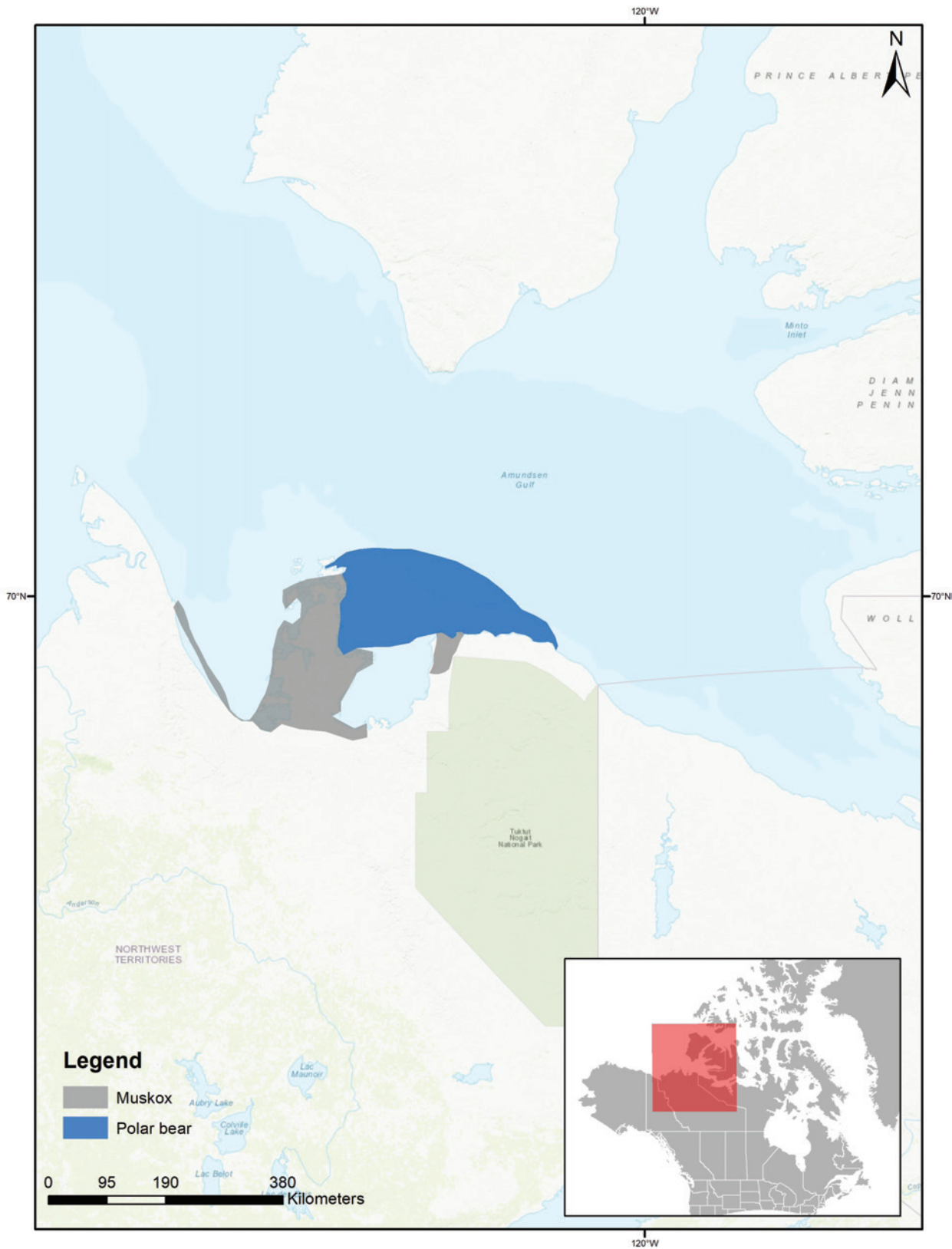
**Figure 18.** Location of significant marine features during sea ice freeze-up



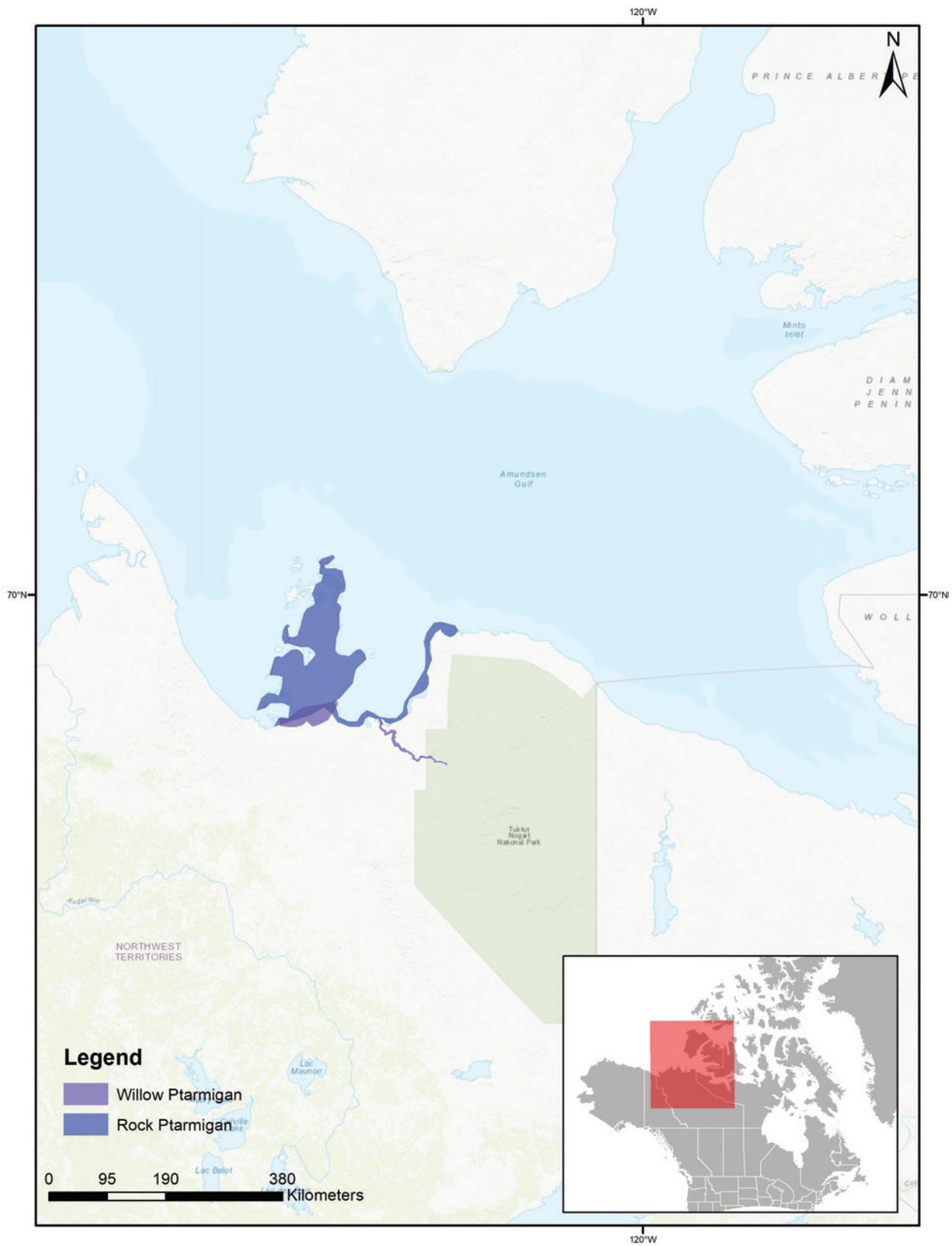
**Figure 19.** Location of wildlife during sea ice freeze-up



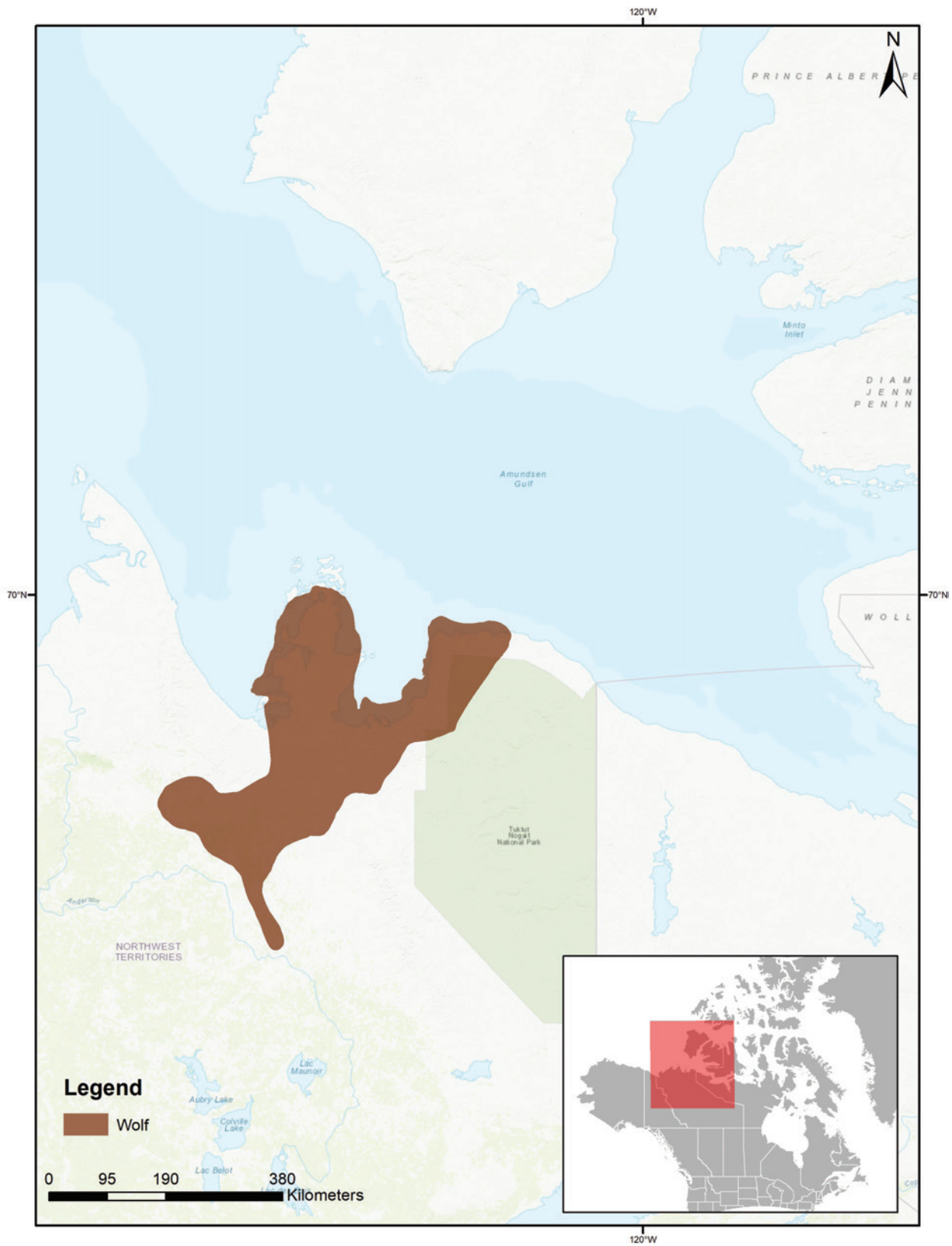
**Figure 20.** Location of wildlife during sea ice freeze-up



**Figure 21.** Location of wildlife during sea ice freeze-up



**Figure 22.** Location of wildlife during sea ice freeze-up



**Figure 23.** Location of wildlife during sea ice freeze-up



## POTENTIAL IMPACT OF MARINE VESSELS

Potential impacts of marine vessels travelling through the Low Impact Shipping Corridors, and related recommendations, are described in Table 1.

**Table 1.** Potential impacts of marine vessels travelling through the Low Impact Shipping Corridors and related recommendations

POTENTIAL IMPACT OF MARINE VESSELS	WHEN IT MAY HAPPEN	RELATED RECOMMENDATION
<p>The corridors are located right where beluga whales, ringed seals, char, and polar bears migrate, feed, and are hunted. Shipping can impact the hunting season – especially cruise ships and cargo ships near Cape Parry Peninsula. Ship traffic might already be interfering with whale hunting. There were very few sightings of whales this year (2017). Maybe whales are being pushed off their main route and out of their main area.</p> <p>Summer is the only time of the year when beluga whales, seals, caribou and polar bears are in their hotspot, i.e., in their offshore staging area, in the polynya waters, and in the Anguniaqvia Niqiyuam Marine Protected Area (ANMPA). Beluga, ringed seals, and char may be affected. Once anything, such as ship traffic, interferes with one thing, such as krill and prawns, the whole ecosystem is affected. Seals and bearded seals eat krill and prawns. If ships affect krill and prawn areas, seals and bearded seals will be affected. Polar bears stay near seal areas and eat the seals, so they will be affected too. There is a ripple effect.</p>	<p>Summer</p>	<p>Ships should stay within the newly recommended corridor (Figure 24) to avoid wildlife areas and harvesting areas at all times of the year (this covers migration). If a ship comes by at polar bear harvesting time or whaling time, and the community is unable to harvest the amount that they have been averaging for the past few years, then the community should be compensated.</p> <p>Ships transiting the corridors must respect</p> <ul style="list-style-type: none"> <li>• the Beluga management plan,<sup>3</sup></li> <li>• the Char conservation plan,<sup>4</sup></li> <li>• and the Community Conservation Plan<sup>5</sup>.</li> </ul>
<p>Icebreaking would impact polar bears and ringed seal pup dens, and therefore impact hunters. Hunters would have to wait for the ice to freeze-up before they could cross to where polar bears are. This would mean</p> <ol style="list-style-type: none"> <li>1. loss of commercial and subsistence revenue;</li> <li>2. hunters will have spent money to hunt and time away from paid employment and family;</li> <li>3. potential loss of snowmobile and gear if hunters have to leave them on the other side of the open water; and</li> <li>4. potential loss of life due to unsafe ice that people travel on (i.e., open water or very thin ice hidden by snow. When the ice moves it will be a fragile, dangerous spot to cross).</li> </ol>	<p>Winter</p>	<p>No icebreaking or winter shipping without prior specific consultation with the community, in addition to Environmental Impact Steering Committee (EISC) assessment.</p>



**Table 1 (continued).** Potential impacts of marine vessels travelling through the Low Impact Shipping Corridors and related recommendations

POTENTIAL IMPACT OF MARINE VESSELS	WHEN IT MAY HAPPEN	RELATED RECOMMENDATION
<p>Community members are highly concerned about oil spills and are not prepared to respond. They do not have booms, or equipment to deal with a spill, and no experience in the clean-up process; therefore, community members would have to let the spill spread. The impacts would be catastrophic. It would push out or kill the wildlife in the hotspots and other areas (e.g., staging areas for birds).</p> <p>Community members are concerned that it would take up to 20 years to receive compensation if an oil spill happened.</p>	Year-round	<p>Equipment and training should be provided to the community to support first response in case of a spill. It is important to continue community-based monitoring and collecting baseline information about the ecosystem in case compensation is required.</p> <p>Each Hunters and Trappers Committee (HTC) should have contact information for ships and southern responders, and procedures for responding to an oil spill.</p>
<p>The role of individual community members, Canadian Rangers, and Royal Canadian Mounted Police (RCMP) in leadership and organization of local search and rescue (SAR) efforts is unclear. RCMP currently contacts Canadian Rangers and pays for Rangers' gas while performing SAR operations. However, SAR is not the Canadian Rangers' responsibility. Some other individual community members with expert local knowledge also perform SAR operations.</p>	Summer	Clarity is needed about who is responsible locally regarding search and rescue (SAR) leadership and involvement.
<p>Microplastics in the ocean are a big concern. Plastics contaminate animals. Sewage and garbage can contaminate animals which the community members rely on for food.</p>	Year-round	No dumping of garbage or sewage in the ocean. The community must be notified about anything that is put in the ocean in their general area. Environmental monitors must be on-board every ship to monitor this.
<p>Up to 1500 tourists can be on each ship. When they go on land they might disturb archaeological sites and take artefacts. They may also affect birds when they are nesting, and may create trails where nothing grows (just like a caribou track) because so many people are walking there.</p> <p>Community members are concerned about whether or not people coming through on ships, care for the land or not. It would be a benefit for the community if the tourists cared about the local culture. Going to archaeological sites is a no-no.</p>	Summer	Ecotourism guides should be on every ship to ensure that tourists do not disturb archaeological sites or take artifacts.



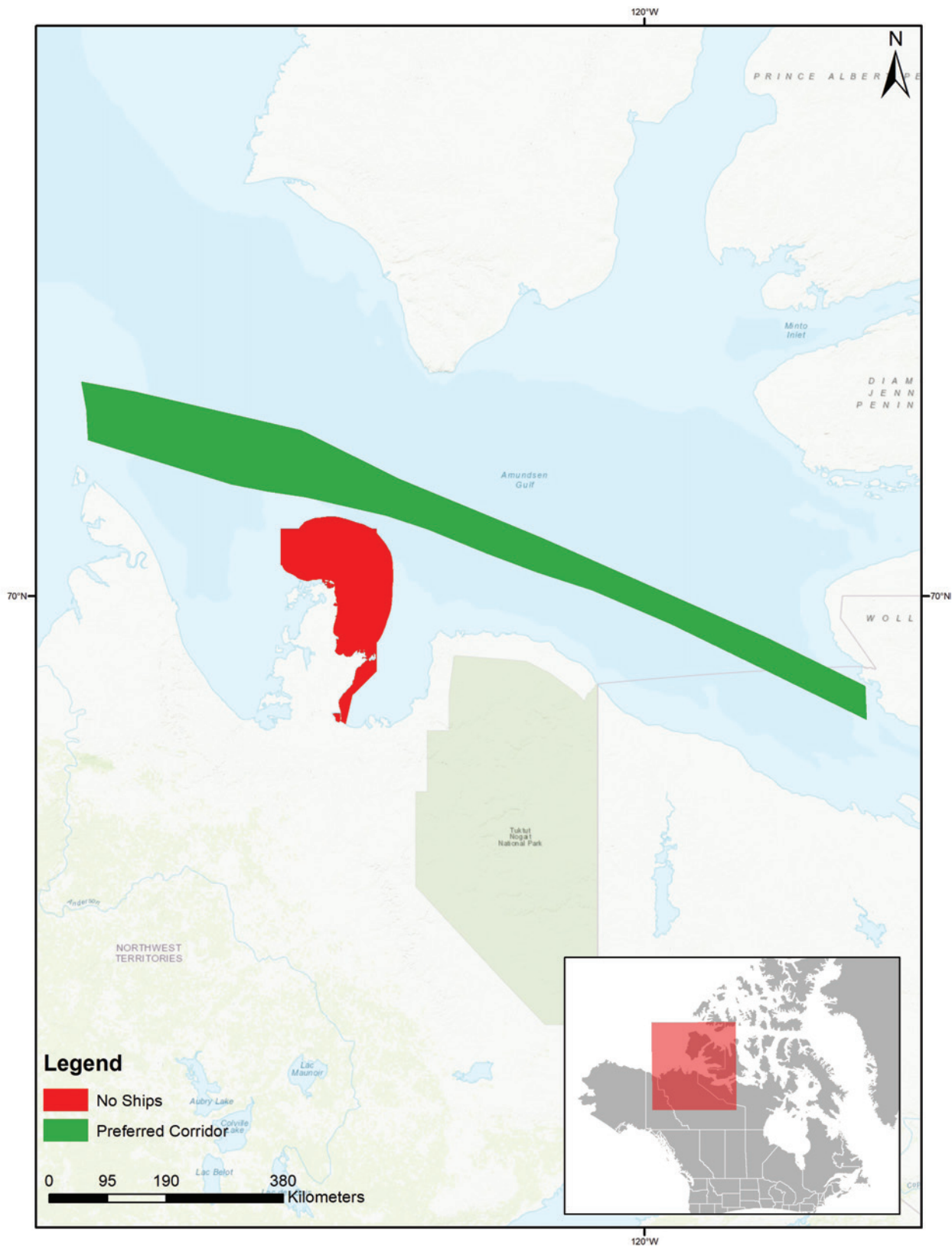
**Table 1 (continued).** Potential impacts of marine vessels travelling through the Low Impact Shipping Corridors and related recommendations

POTENTIAL IMPACT OF MARINE VESSELS	WHEN IT MAY HAPPEN	RELATED RECOMMENDATION
Marine mammal observers' (MMO) time on ships is currently split between scientific work and observing. MMOs have the right to shut down operations when marine mammals are in the area. If an MMO is in the scientific area of the ship, they may miss marine mammals going by.	Summer	Local MMOs (i.e., from each community as ships pass through their area), should be on every ship. Just as there are harbor masters in the south, people from Paulatuk should be the officials responsible for enforcing the regulations of this area.
Polynyas are very rich: rich for the ocean and rich for seabirds. The Cape Parry (Magu) Migratory Bird Sanctuary, located about 100 km north of Paulatuk, is right alongside the polynya. The corridors pass right through the polynya. Ships passing through the polynya will disturb the birds that are nesting and feeding on the sides of the cliffs and the beaches (e.g., thick-billed murre, mergansers, Canada geese).	Winter	Ships should avoid the polynya, especially in the winter, and let it be naturally open. The Low Impact Shipping Corridors should not pass through the polynya (Figure 24).  Moving the corridor further offshore, should alleviate most problems with ships going by the polynya and ANMPA.
Ships passing through the ANMPA will disturb feeding, migration, calving, spawning, staging, and nesting for beluga whales, fish, and birds, respectively. Polar bears, seals and bearded seals rely on that area. Community members do not want the risk of an oil spill happening in that area with no way to respond. They do not want sewage and garbage dumped in that area.	Summer	Ships should avoid the ANMPA. The corridors should not pass through the ANMPA (Figure 24). This applies to large vessels because community members have no decision-making ability when it comes to small vessels.

## MAP OF RECOMMENDATIONS FOR THE LOW IMPACT SHIPPING CORRIDORS

The map (Figure 24) includes

- Areas to avoid including the Cape Parry Polynya and Anguniaqvia Niqiqyuam Marine Protected Area; and
- A preferred revised corridor.



**Figure 24.** Recommendations for Low Impact Shipping Corridors



## ADDITIONAL RECOMMENDATIONS AND REQUESTS

- Community members require government agencies that are responsible for the Low Impact Shipping Corridors, and mariners travelling through this area, to respect their recommendations and understand the history of this area, how much this area means to them, and the important activities associated with this area.
- Ships should be following Canadian regulations in Canadian waters as the Arctic Archipelago and Northwest Passage are not international waters.
- A mandatory tracking system should be required for canoers and kayakers because they are very hard to keep track of.
- Community members wish to review their recommendations and corridor locations, with the possibility of modifying them in the future.
- Community members wish to know which of their recommendations will be adopted.
- The name 'Low Impact Corridors' is misleading. The name should be changed to reflect impacts on the marine environment, marine mammals and waterfowl.
- The results of this study should be shared with Western Arctic Marine Protected Areas Steering Committee, Environmental Impact Steering Committee, Inuvialuit Regional Corporation, Inuvialuit Game Council, Fisheries Joint Management Committee, Wildlife Management Advisory Council, Paulatuk Hunters and Trappers Committee, Paulatuk Community Corporation, Department of Industry, Tourism and Investment, and Department of Fisheries and Oceans.



## CONCLUSION

The number of marine vessels in Canadian Arctic waters continues to grow.<sup>1</sup> 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. Paulatuk, located near the western mouth of the Northwest Passage, is a small, traditional Inuvialuit community with deep roots in hunting, trapping and Arctic char fishing. It is also a base camp for trips to the Cape Parry Migratory Bird Sanctuary, Tukut Nogait National Park, and the Smoking Hills. Paulatuk has experienced a moderate increase in marine vessel activity in recent decades.<sup>1</sup> However, the marine areas that are most significant to community members' subsistence harvesting and livelihood activities are located in Darnley Bay and the Amundsen Gulf – 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 Paulatuk 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 impacts. 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 Paulatuk and throughout the Canadian Arctic.

<sup>1</sup> 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>

<sup>2</sup> COSEWIC. 2013. COSEWIC assessment and status report on the Hairy Braya (*Braya pilosa*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 30 pp.

<sup>3</sup> Fisheries Joint Management Committee. 2013. Beaufort Sea Beluga Management Plan. 4th Amended Printing Inuvik, Northwest Territories.: <http://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/Beaufort-Sea-Beluga-Management-Plan-2013.pdf>.

<sup>4</sup> Paulatuk Char Working Group. 2006. Paulatuk Char Management Plan. [https://fjmc.ca/wp-content/uploads/2016/08/Paulatuk-Char-Management-Plan-2003-2005\\_2006-2007-continued.pdf](https://fjmc.ca/wp-content/uploads/2016/08/Paulatuk-Char-Management-Plan-2003-2005_2006-2007-continued.pdf).

<sup>5</sup> Community of Paulatuk, the Wildlife Management Advisory Council (NWT) and the Joint Secretariat. 2008. Paulatuk Community Conservation Plan. A plan for the conservation and management of renewable resources and lands within the Inuvialuit Settlement Region in the Vicinity of Paulatuk, Northwest Territories. [http://www.screeningcommittee.ca/pdf/ccp/Paulatuk\\_CCP.pdf](http://www.screeningcommittee.ca/pdf/ccp/Paulatuk_CCP.pdf).

