ARCTIC CORRIDORS AND NORTHERN VOICES

Governing Marine Transportation in the Canadian Arctic
KAPIANGAQIYUQAQ (Our land, sea and ice are very critical):

Paulatuk, Inuvialuit Settlement Region, Northwest Territories

Environment, Society and Policy Group, University of Ottawa www.espg.ca

2018

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Acknowledgements

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Final version will be available at: www.arcticcorridors.ca and www.espg.ca

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Participant Biographies (in alphabetical order)

<table>
<thead>
<tr>
<th>Name</th>
<th>Biography</th>
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</thead>
<tbody>
<tr>
<td>RUBEN GREEN</td>
<td>Inuvialuk, aged 61, and married with 7 children and 10 grandchildren. He</td>
</tr>
<tr>
<td></td>
<td>works for the Hamlet of Paulatuk as the arena maintainer from November to</td>
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<tr>
<td></td>
<td>March 31. He spends the summer at their cabin from July to September when</td>
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<tr>
<td></td>
<td>he isn’t working as a cultural host in Tuktut Nogait National Park.</td>
</tr>
<tr>
<td>JODY ILLASIAK</td>
<td>is a full-time subsistence harvester as well as a Director for the</td>
</tr>
<tr>
<td></td>
<td>Paulatuk Hunters and Trappers and Paulatuk Community Corporation.</td>
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Executive Summary

Ship traffic in the Canadian Arctic nearly tripled between 1990 and 2015.¹ 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 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 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.

PROJECT OBJECTIVES:
- 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 impacts of marine vessels on identified marine use areas and community members; and
- Provide recommendations regarding management of the Low Impact Shipping Corridors and Arctic marine vessels.

KEY FINDINGS OF THE PROJECT:
- 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 Niiqiyuam Marine Protected Area;
- Sewage and garbage should not be dumped into the ocean from any vessel;
- Ships transiting the corridors must respect:
  - 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.

The results of this study should be shared with Western Arctic Marine Protected Areas (WAMPA) Steering Committee, Environmental Impact Steering Committee (EISC), Inuvialuit Regional Corporation (IRC), Inuvialuit Game Council (IGC), Fisheries Joint Management Committee (FJMC), Wildlife Management Advisory Council (NWT) (WMAC(NWT)), Paulatuk Hunters and Trappers Committee (HTC), Paulatuk Community Corporation, Department of Industry, Tourism and Investment and Department of Fisheries and Oceans (DFO).
Background
Ship traffic in the Canadian Arctic nearly tripled between 1990 and 2015. 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 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 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 recommendations for management of the Low Impact Shipping Corridors. The Beaufort Sea Beluga Management Plan, the Paulatuk Char Conservation Plan and the Paulatuk Community Conservation Plan 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 Average Compared to 2011-2015 Average)**

In the Canadian Arctic, when comparing the average number of kilometres of shipping activity from 1990-2000 to the average from 2011-2015, shipping increases have been predominantly focused in the eastern Arctic, particularly around SW Baffin Bay (e.g., Pond Inlet, 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). The Inuvialuit Settlement Region experienced a 6,497 km increase in shipping from 2011-2015 compared to 1990-2000 and Paulatuk experienced a 185 km increase, the smallest increase in the Inuvialuit Settlement Region (*Figure 4*).
Figure 3. Change in shipping activity (km) in the Canadian Arctic: 1990-2000 average compared to 2011-2015 average.

Figure 4. Change in shipping activity (km) near Paulatuk, Northwest Territories: 1990-2000 average compared to 2011-2015 average.
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:

<table>
<thead>
<tr>
<th>Season</th>
<th>Months in which it happens</th>
<th>Ocean condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>Beginning of April to mid-June</td>
<td>Frozen and sea-ice break-up in June</td>
</tr>
<tr>
<td>Summer</td>
<td>Mid-June to mid-August</td>
<td>Open water</td>
</tr>
<tr>
<td>Fall</td>
<td>Mid-August and end of October</td>
<td>Open water</td>
</tr>
<tr>
<td>Winter</td>
<td>November to end of March</td>
<td>Sea-ice freeze-up and frozen</td>
</tr>
</tbody>
</table>

Seasonal cycle of harvesting activities in and near, Paulatuk, Northwest Territories

Figure 5. Seasonal Cycle of harvesting activities in and near Paulatuk, Northwest Territories
Maps of Culturally Significant Marine Areas (CSMAs)

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”.²

Maps include:
1. Location of animals, marine mammals, and fish;
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 (fall).
**Figure 7.** Location of wildlife during open water (fall).

**Figure 8.** Location of wildlife during open water (fall).
**Figure 9.** Location of wildlife during open water (fall).

**Figure 10.** Location of wildlife when the ocean is frozen and around the time of sea-ice break-up (spring).
Figure 11. Location of wildlife when the ocean is frozen and around the time of sea-ice break-up (spring).

Figure 12. Location of wildlife when the ocean is frozen and around the time of sea-ice break-up (spring).
**Figure 13.** Location of wildlife when the ocean is frozen and around the time of sea-ice break-up (spring).

**Figure 14.** Location of community members’ activities during open water (summer).
Figure 15. Location of community member’s activities during open water (summer).

Figure 16. Location of wildlife during open water (summer).
Figure 17. Location of wildlife during open water (summer).

Figure 18. Location of significant marine features during sea-ice freeze-up (winter).
Figure 19. Location of wildlife during sea-ice freeze-up (winter).

Figure 20. Location of wildlife during sea-ice freeze-up (winter).
**Figure 21.** Location of wildlife during sea-ice freeze-up (winter).

**Figure 22.** Location of wildlife during sea-ice freeze-up (winter).
Potential Impact of Marine Vessels

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

Table 1. Potential impact of marine vessels travelling through the Low Impact Shipping Corridors and related recommendations for vessel management

<table>
<thead>
<tr>
<th>Potential Impact of Marine Vessels</th>
<th>When it may happen</th>
<th>Related recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>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. Summer is the only time of the year when Beluga whales, seals, Caribou and Polar bear are in their hot spot made up of their</td>
<td>Summer</td>
<td>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 they have been averaging for the past few years, then the community recommends they be compensated. Ships transiting the corridors must respect • the Beluga management plan(^3); • the Char conservation plan(^4) • and the Community Conservation Plan(^5).</td>
</tr>
</tbody>
</table>
offshore staging area (water fowl), in the polynya waters (e.g. Sand lance, krill) and 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. If ships are in krill and prawn areas, that is seal and bearded seal food. Polar bears stay near seals areas and eat the seals. There is a ripple effect.

<table>
<thead>
<tr>
<th>Winter</th>
<th>No icebreaking or winter shipping without prior specific consultation with the community, in addition to Environmental Impact Steering Committee (EISC) assessment.</th>
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</table>

| Ice-breaking 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 means 1. loss of commercial and subsistence revenue. Hunters will have spent money to hunt and time away from paid employment and family; 2. potential loss of snowmobile and gear if hunters have to leave it on the other side of the open water; 3. 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). |

| Year round | 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. Each Hunters and Trappers Committee (HTC) should have contact information for ships and southern responders, and procedures for responding to an oil spill. |

| Community members are highly concerned about oil spills and not being prepared to respond. They do not have boom s, 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). “We are concerned that getting compensated if an oil spill happened, would take up to 20 years”, one community member said. |

| Summer | Clarity is needed about who is responsible locally regarding search and rescue (SAR) leadership and involvement. |

<p>| Leadership and organization of local search and rescue (SAR) efforts are unclear (i.e. individual community members, Canadian Rangers, Royal Canadian Mounted Police (RCMP)). RCMP currently contacts |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>Season</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
<td>No dumping of garbage or sewage in the ocean. 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.</td>
</tr>
<tr>
<td>Microplastics in the ocean are a big concern. Plastics in animals contaminates the animals. Sewage and garbage can contaminate animals which the community members rely on for food.</td>
<td>Year round</td>
<td>Ecotourism guides should be on every ship to ensure tourists do not disturb archaeological sites or take artefacts.</td>
</tr>
<tr>
<td>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. 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.</td>
<td>Summer</td>
<td>Ecotourism guides should be on every ship to ensure tourists do not disturb archaeological sites or take artefacts.</td>
</tr>
<tr>
<td>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.</td>
<td>Summer</td>
<td>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.</td>
</tr>
<tr>
<td>Polynyas are very rich: rich for the ocean and rich for seabirds. The Cape Parry (Magu) Migratory Bird Sanctuary, located about 100km 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 Murres, Mergansers, Canada geese). Moving the corridor further offshore, should alleviate most problems with ships going by the polynya and ANMPA.</td>
<td>Winter</td>
<td>Ships should avoid the polynya, especially in the winter, and let it be naturally open not man-made open. The Low Impact Shipping Corridors should not pass through the polynya (Figure 24).</td>
</tr>
</tbody>
</table>
Ships passing through the ANMPA will disturb feeding, migration, calving, spawning, staging, and nesting of Beluga whales, fish, birds, Polar bears, seals and Bearded seals that rely on that area. Community members do not want the risk of an oil spill happening in that area with no way for them to respond. They do not want dumping of sewage and garbage in that area.

| Summer | Ships should avoid the ANMPA. The corridors should not pass through the ANMPA (Figure 24). This applies to large vessels as community members have no say when it comes to small vessels. |

Maps of community-identified recommendations for Low Impact Shipping Corridors

Maps include
- Areas to avoid including the Cape Parry Polyna and Anguniaqvia Niqiqyuam Marine Protected Area.

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 24. Low Impact Shipping Corridors recommendations.](image)
Additional recommendations and requests

- Community members require government agencies responsible for the Low Impact Shipping Corridors and mariners travelling through this area, to respect their recommendations and understand how much this area means to them, the history 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 the 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 results of this study should be shared with Western Arctic Marine Protected Areas (WAMPA) Steering Committee, Environmental Impact Steering Committee (EISC), Inuvialuit Regional Corporation (IRC), Inuvialuit Game Council (IGC), Fisheries Joint Management Committee (FJMC), Wildlife Management Advisory Council (NWT) (WMAC(NWT)), Paulatuk Hunters and Trappers Committee (HTC), Paulatuk Community Corporation, Department of Industry, Tourism and Investment and Department of Fisheries and Oceans (DFO).
- Community members believe the name ‘Low Impact Corridors’ is misleading. The name should be changed to reflect impacts on the marine environment including marine mammals and waterfowl.

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. 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, Tuktut Nogait National Park, and the Smoking Hills. Paulatuk has experienced a moderate increase in marine vessel activity in recent decades. 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, i.e. in 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 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.


