



Fisheries and Oceans  
Canada

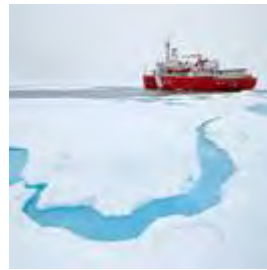
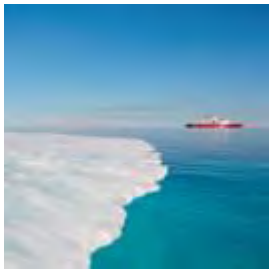
Pêches et Océans  
Canada

Canadian  
Coast Guard

Garde côtière  
canadienne



Safety First, Service Always



## CANADIAN COAST GUARD

### Northern Marine Transportation Corridors Initiative

Warming of the North: Challenges and Opportunities for Arctic Transportation, Supply Chain Management, and Economic Development

March 2-3, 2015

# Background



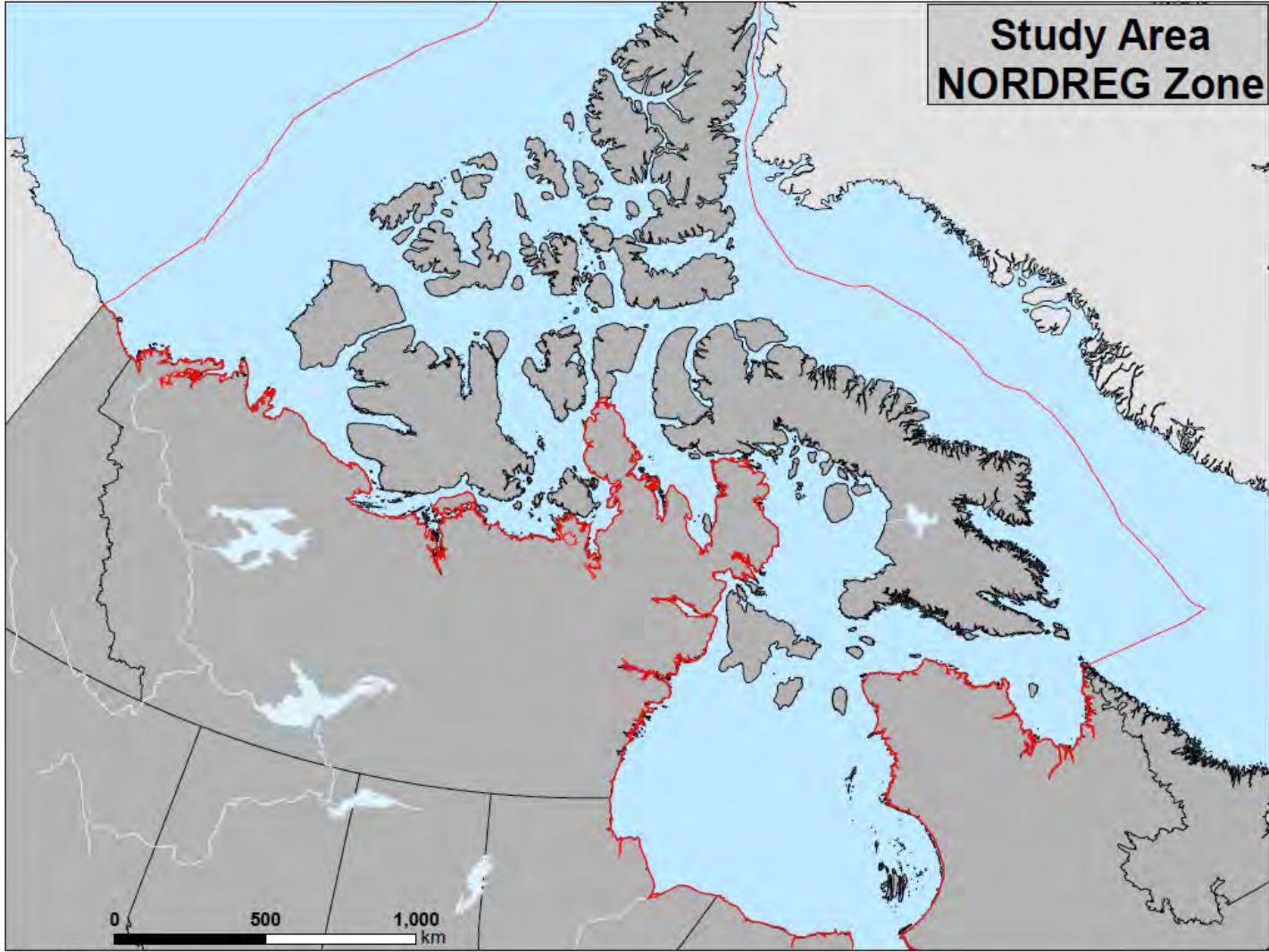
- Northern Marine Transportation Corridors is a collaborative initiative with Canadian Hydrographic Service and Transport Canada.
- The organizations have been working collaboratively on the initiative for the past two years.
- The objective of Northern Marine Transportation Corridors is to enhance marine navigation safety in the North and develop a pragmatic planning framework for future Arctic investments through which the Government of Canada can regulate, prioritize and deploy its services and limited resources in a focused manner that is responsive to the evolving demand in Canada's Arctic waters.
- Key beneficiaries will be mariners and communities as marine navigation is an important enabler of economic development of the North.

# Northern Marine Transportation Corridors



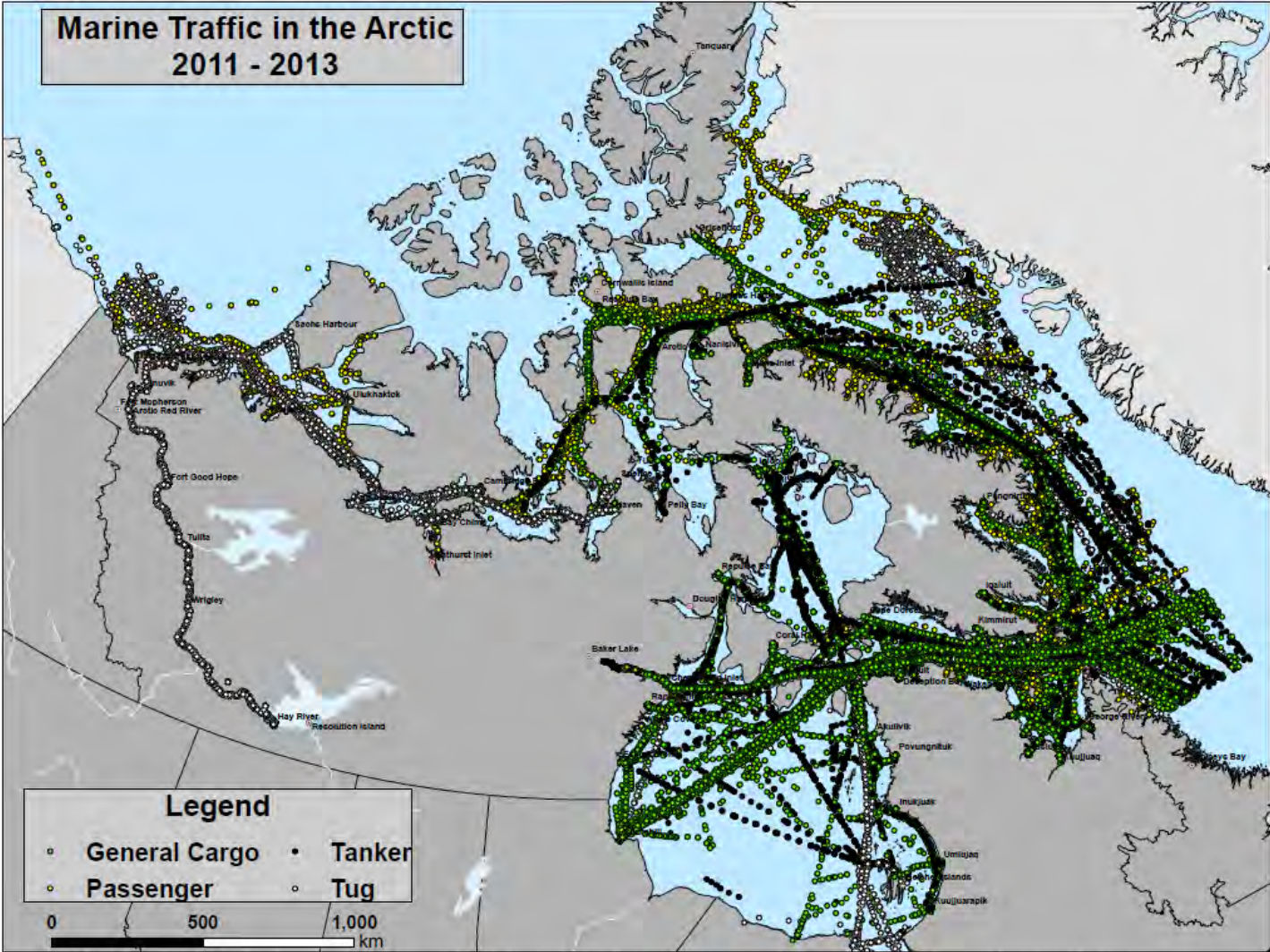
- The concept of Corridors is to provide a framework for the government and others to focus efforts to establish infrastructure to support safe marine navigation along those routes where traffic is already concentrated.
- The by-product of establishing corridors is to provide confidence to mariners across the Arctic as to where they will be able to depend on the infrastructure and services required for safe navigation.
- Navigational services and products will be implemented along strategically identified corridors and only some basic elements of a marine navigation system will be implemented outside of the corridors, based on risk management principles and the need for prudent value-added spending.
- In addition to supporting safe, secure, clean and efficient navigation, marine corridors will facilitate responsible economic development and the provision of essential services to communities in Canada's Arctic.
- Full implementation of a northern marine transportation system will see a hybrid system that includes both conventional asset-based technologies as well as information-based technologies.

# Study Area



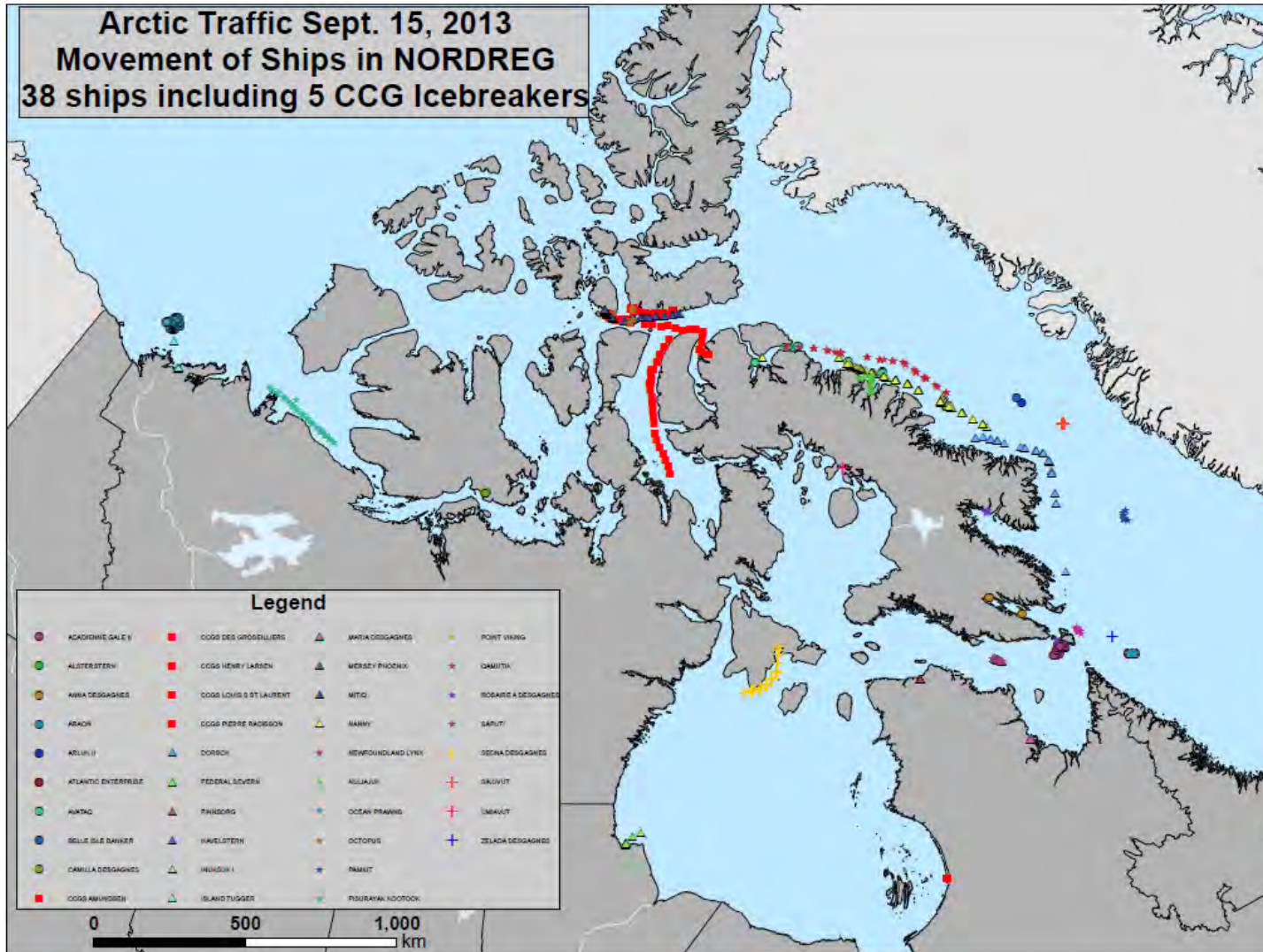
Source: CCG  
Base map: ESRI

# Traffic Data Analyzed



Source: AIS Data, ExactEarth & Canadian Coast Guard, LRIT data and INNAV, Canadian Coast Guard. Other contributors: DND, provincial airlines, Transport Canada and Radarsat. Compilation: Peter J. Bartlett, Canadian Coast Guard. Basemap: ESRI.

# Traffic Data in a Single Day



Data source: AIS data, ExactEarth & Canadian Coast Guard. LRIT and INNAV data, Canadian Coast Guard. Other contributors, DND, Provincial airlines, Transport Canada and Radarsat.  
 Data compilation: Peter J. Bartlett, Canadian Coast Guard  
 Base map: ESRI.

# Findings: General Review of Service Results



## Traffic Patterns

- 77% of marine traffic in 2011-2013 occurred either within or at a distance of 5NM of the Corridors.

## Bathymetry

### Beaufort Sea Area

- Primary corridors = 89.5%
- Secondary corridors = 90.2%
- Tertiary corridors = 72.8%

### Eastern Arctic

- Primary corridors = 45.6%
- Secondary corridors = 38%
- Tertiary corridors = 51.1%

## Icebreaking 2006-2013 (NORDREG only)

- 87.3% of escorts provided were within the Corridors or at a distance of 5NM.

## Aids to Navigation (NORDREG only - 340 aids in 2013)

- Assuming a theoretical but realistic range adapted to each type of fixed aids, 96.2% were aligned to provide services for the Corridors.

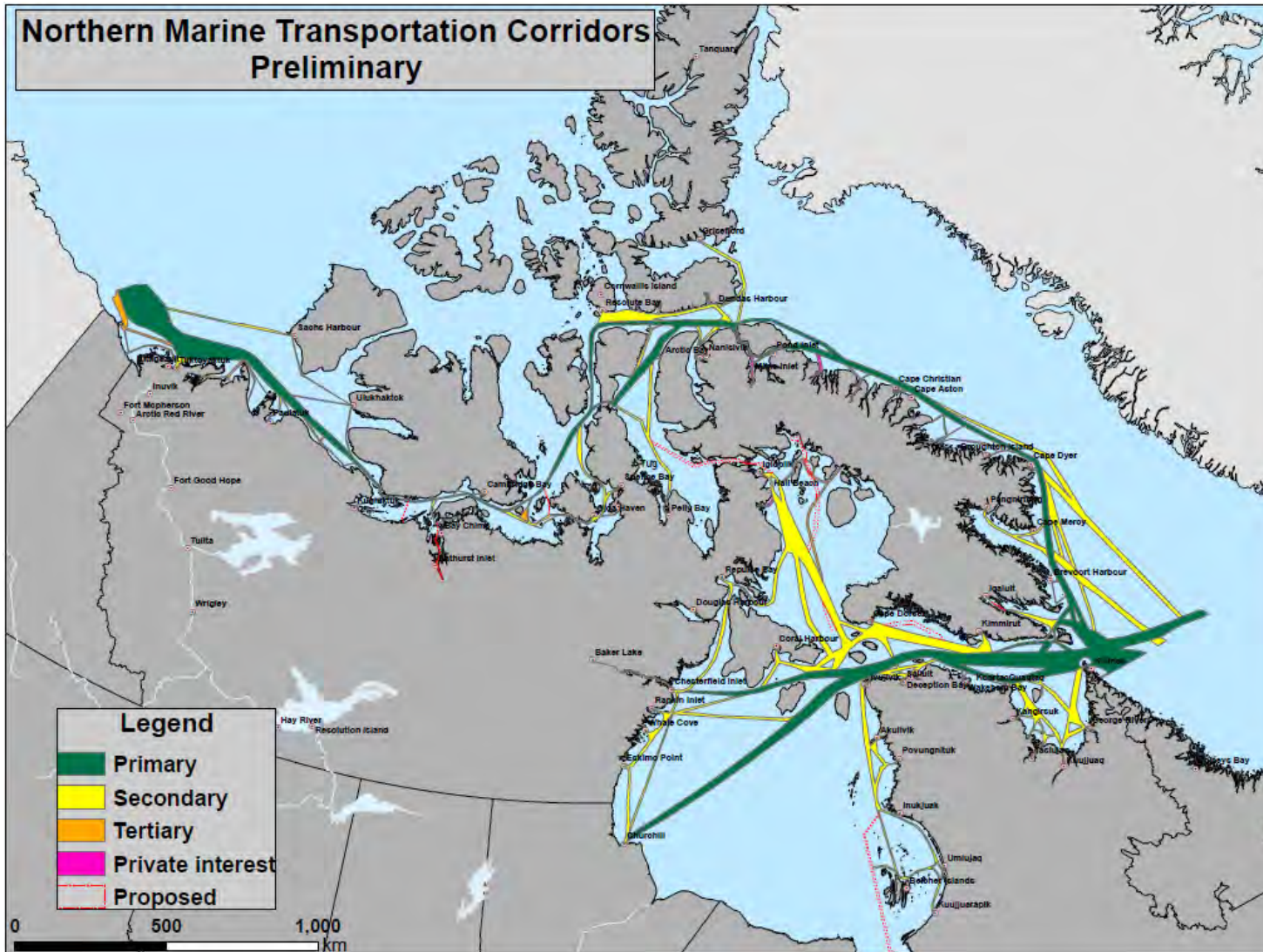
## Environmental Response 2002-2013 (NORDREG only)

- 73.4% of marine pollution Incidents were within the Corridors or at a distance of 5NM.

## Search and Rescue 2000-2013 (NORDREG only)

- 57.5% of SAR incidents for which CCG provided assistance were within the Corridors or at a distance of 5NM.

# Findings: Corridors Identified



Base map: ESRI.



# Strategic Context



The Commissioner of the Environment and Sustainable Development released its performance audit on Marine Navigation in Canada's Arctic on October 7, 2014.

The audit concluded that Transport Canada, Fisheries and Oceans Canada and Environment Canada currently have many key mechanisms in place to support safe marine navigation in the Arctic. However, the audit offered several areas for improvement including improved charting, review of aids to navigation system, and increased icebreaking services; changes to ice information service; and the development of a long-term vision and strategy.

Tanker Safety Expert Panel concluded a Review of Canada's Ship-Source Spill Preparedness and Response. The report is expected to be released early 2015.

It is anticipated that the need for prevention services in the Arctic will feature prominently in the Report. The Northern Marine Transportation Corridors initiative has the flexibility and depth as a framework to guide federal investments in Canada's Arctic waters, beginning with prevention services.

# Next Steps: Engagement



To date, the concept of Corridors has been presented both within the federal family and among key external stakeholders including marine industry, academics and some aboriginal communities.

Stakeholders have been receptive to the initiative and support further advancement. CCG will continue to engage on the concept.

The focus of future engagement is inform a broader audience on the initiative including the engagement of Territories , Aboriginal communities in the Arctic; non-government organizations and academia.

# Questions and Comments?

