# Navigating the Operational & Permitting Requirements for Shipping in the Canadian Arctic A Visualization Tool

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## Introduction

## The PASSAGES Project

Protection & Advanced Surveillance System for the Arctic: Green, Efficient, Secure

### Purpose:

Improve monitoring and risk analysis of vessel traffic in the Canadian Arctic Airbus Defence & Space, Fraunhofer FKIE, exactEarth Ltd., Dalhousie University

- Observations:
  - The regulations can be fragmented and confusing
  - The jurisdictions and authorities are not always clear
  - There is not an overview of the regulations and stakeholders
- Goal: Create a database of the stakeholders and legal aspects

## The Databases

### **STAKEHOLDERS**

			SCALE				INTERESTS		
Stakeholder Group	Stakeholders Included in Group	international	National	Local	Climate & Environment	Economics	Safety, Security & Defence	Health & Social	Inuit-Specific Aspe
Aboriginal Affairs and Northern Development Canada (AANDC)	Canadan Polar Commission		×			×		×	×
Idventure tourists		×		×	×		x		
	Arctic Contaminants Action Program (ACAP)								
	Actic Monitoring & Assessment Programme (AMAP)								
	Conservation of Antic Flora and Fauna (CAFF)								
rctic Council	Sconomic Council	x			×	×	x	×	×
	Emergency Prevention, Preparedness and Response (EPPR)								
	Protection of the Arctic Marine Environment (PAME)								
	Sustainable Development Working Group (SDWG)								
	Underwriters								
Banks/Insurance market	Cawyers		×	×	×	×	x		
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	American Bureau of Shipping								
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	Korean Register								
	Lloyd's Register								
	RINA Services, SpA								
Cruise Industry	Association of Arctic Expedition Cruise Operators (AECO)		×	×	×	×	x		×
	Ship owners, operators and crew								
	Ship owners, operators and crew								
	Cargo owners		×		×	×	×		
Domestic shipping industry	Chartering companies								
	Shipbuilders								
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	Canadian Coast Guard (CCG)								
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Non-Inuit commercial fisheries				×	×				
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Non-Inuit population				×	×	×	x	×	
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Parks Canada Agency			×	×	×		x	×	×
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## **LEGAL ASPECTS**

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		SCALE			INTERESTS				
Stakeholder Group	Stakeholders Included in Group	International	National	Local	Climate & Environment	Economics	Safety, Security & Defence	Health & Social	Inuit-Specific Aspect
Aboriginal Affairs and Northern Development Canada (AANDC)	Canadian Polar Commission		×		×	х		×	×
Adventure tourists		x		×	×		x		
	Arctic Contaminants Action Program (ACAP)								
	Arctic Monitoring & Assessment Programme (AMAP)				×		х	×	х
	Conservation of Antiic Flora and Fauna (CAFF)								
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	Emergency Prevention, Preparedness and Response (EPPR)								
	Protection of the Arctic Marine Environment [PAME]								
	Sustainable Development Working Group (SDWG)								
	Underwriters								
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## Goal: Create user-friendly tools

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	Maritime Safety Committee (MSC)								
	Ship owners, operators and crew								
international shipping industry	Cargo owners	x	×		×	×	×		
	Shipbuilders								
	Classification-societies								
Inuit commercial fisheries				×	×	×	×	×	х
Inuit population	Communities			×	×	×	×	×	х
Mining industry		x	×		×	×	×	×	×
	Canadian Rangers								
	Defence Research and Development Canada (DRDC)								
National Defence (DND)	Joint Rescue Coordination Centre (JRCC)	x	х	ж			×		×
	Joint Task Force North (JTFN)								
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# The Visualization Tools

Platform: d3.js

passages.ie.dal.ca/Arctic\_Legal\_Framework.html passages.ie.dal.ca/Stakeholders Wheel.html

## A Specialized Tool

Canadian Marine Advisory Council - Prairie & Northern Region Meeting
May 2015, Iqaluit NU

- Observations:
  - Communication between and knowledge of other stakeholders is not ideal
  - No single open-access pool of information on the stakeholders, interactions, and legal aspects
- Goal: Produce an open-access visualization tool that is interactive and user-friendly
- Methods:
  - Advance the stakeholder database
  - Develop a visualization tool

# The Visualization Tool for Navigating Domestic Shipping in the Canadian Arctic

# **Applications**

- Industry:
  - Facilitate in-house training
  - Best practices within the industry
- Public:
  - Knowledge mobilization
- Research applications:
  - Framework for working with other industries (e.g., cruise)
    - Comparisons / best practices shared between industries
  - Opportunity for collaboration and crowd-sourcing
- Governance:
  - Create and strengthen interactions



# Thank you

Fednav, NEAS, and Desgagnés for their ongoing participation.

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## Links

PASSAGES website:

http://passages.ie.dal.ca



Legal aspects visualization tool:

https://jsfiddle.net/xhxe97vh/51/embedded/result/

Stakeholder visualization tool:

http://passages.ie.dal.ca/Stakeholders Wheel.html

Specialized visualization tool:

http://passages.ie.dal.ca/Stakeholders analysis.html

Stakeholder database:

http://passages.ie.dal.ca/Appendix/Appendix 1.pdf