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 Asp		
Aboriginal Affairs and Northern Development Canada (AANDC)	Canadian Polar Commission		×			×		×	×		
Adventure tourists		×		×	×		×				
	Arctic Contaminants Action Program (ACAP)										
	Artic Monitoring & Assessment Programme (AMAP)										
	Conservation of Antic Flora and Fauna (CAFF)										
Arctic 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		×	×	×	×	×				
	PM Cubs										
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	American Bureau of Shipping										
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	Korean Register										
	Lloyd's Register										
	RINA Services, SpA										
nuise industry	Association of Arctic Expedition Cruise Operators (AECO)		×	×	×	×	x		×		
	Ship owners, operators and crew										
	Ship owners, operators and crew						x				
	Cargo owners				×	×					
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	Canadian Rangers										
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	Inuit Circumpolar Council (CC)					×	×	×	×		
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	Oceans North										
	World Wildlife Fund (WWF)										
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The Databases

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Stakeholder Group	Stakeholders Included in Group	International	National	Local	Climate & Environment	Economics	Safety, Security & Defence	Health & Social	Inuit-Specific Aspec	
Aboriginal Affairs and Northern Development Canada (AANDC)	Canadian Polar Commission		×		×	х		×	х	
Adventure tourists		x		×	×		×			
	Arctic Contaminants Action Program (ACAP)									
	Arctic Monitoring & Assessment Programme (AMAP)				x	×	×	×	x	
	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			×	×	×	х			
Banks/Insurance market	Lawyers		×							
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Canadian Northern Economic Development Agency (CanNor)		x	×	×		×		×		
	American Bureau of Shipping					x	x			
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Goal: Create user-friendly tools

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International Maritime Organization (IMO)	Maritime Safety Committee (MSC)	×			×				
	Ship owners, operators and cnew								
	Cargo owners								
International shipping industry	Shipbuilders	×	×		×	х	x		
	Classification societies								
Inuit commercial fisheries				×	×	×	x	×	×
Inuit population	Communities			×	×	×	x	×	×
Mining industry		x	×		×	×	×	×	×
	Canadian Rangers								
	Defence Research and Development Canada (DRDC)								х
National Defence (DND)	Joint Rescue Coordination Centre (IRCC)	x	×	×			×		
	Joint Task Force North (JTFN)								
	National Search and Rescue Secretariat (NSRS)								
Natural Resources Canada (NRCan)	Geological Survey of Canada		×		×	×			
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	Oceans North								
	World Wildlife Fund (WWF)								
Non-Inuit commercial fisheries		x	×	×	×	×	×		
Non-Inuit population				×	×	×	×	×	
Oil & Gas industry		x			×	×	x	×	x
Parks Canada Agency			×	×	×		×	×	×
	Canadian Border Service Agency (CBSA)								
Public Safety Canada (PSC)	Canadian Security Intelligence Service (CSIS)		×	×	×		×		
	Royal Canadian Mounted Police (RCMP)								
	Centres of Excellence								×
Research community	National Research Council of Canada	x	×	×	×	×	×	×	
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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