

The International Joint Commission

IJC Perspectives - Hydrocarbon Transport and Potential Great Lakes Basin Water Quality Impacts

2017 Annual Meeting of the Great Lakes Legislative Caucus
Toronto, Ontario
September 23, 2017



Transboundary Basins

US – Canada Boundary: 8,900km/5,500 miles
43% of it in ~330 Lakes, Rivers and Streams

Great Lakes drainage
basin area > 295,000
mi² (765,000 km²),
Surface Area: 94,000
mi² (243,459 km²)
Population: ~ 39 million
people.



Boundary Waters Treaty Negotiated in 1909 at a time of industrialization and urbanization of the Great Lakes and other boundary waters



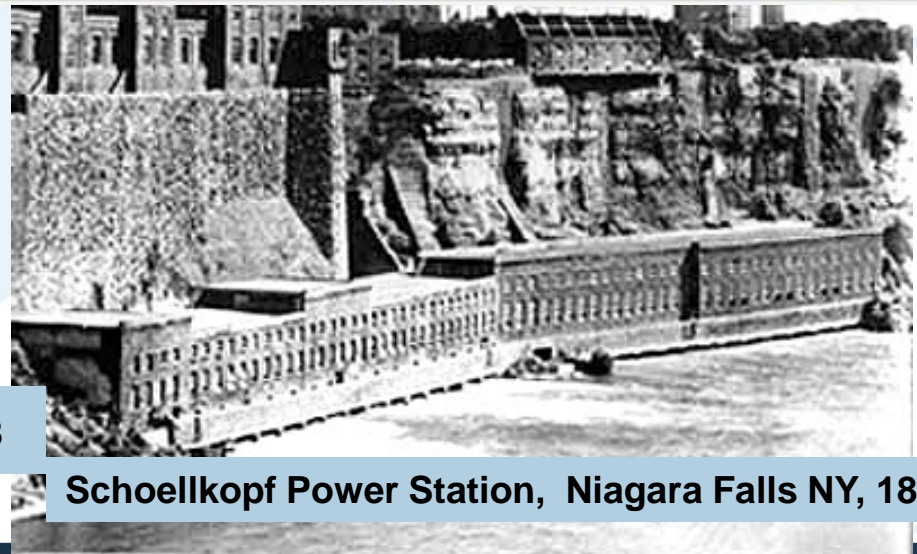
Cleveland Ohio Water Works Plant 1903



Toronto, Ontario 1896



Digging the St. Mary Canal Montana, 1908



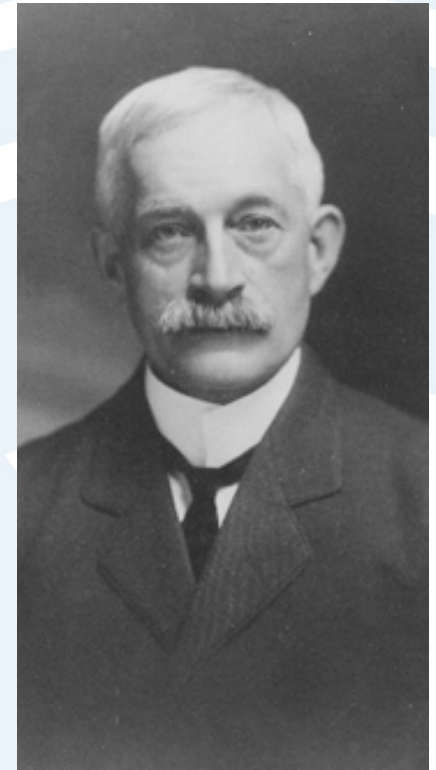
Schoellkopf Power Station, Niagara Falls NY, 1895



THE BOUNDARY WATERS TREATY (1909)

- ORIGIN – border disputes over use of transboundary waters.
- PURPOSE – provides the principles and mechanisms to help prevent and resolve disputes along the boundary
- The IJC was created by the Treaty and remains a key part of the US-Canada relationship.

Sir George Gibbons



SOME KEY PRINCIPLES OF THE TREATY

- Equal and similar rights to the use of boundary waters;
- Order of precedence of use – sanitary/domestic, navigation, power generation/irrigation;
- Structures/diversion not to affect levels and flows on the other side; and,
- Must not pollute water on either side to the injury of health or property on the other side.

THE
INTERNATIONAL
JOINT
COMMISSION
AND
THE
BOUNDARY
WATERS
TREATY
OF 1909



THE COMMISSION'S STRUCTURE

- Six Commissioners (three from Canada, three from the U.S.; two of whom are co-chairs)
- A creation of the treaty, but not a creature of governments. The IJC is a permanent, binational, objective, independent, unitary body
- Sectional offices in Ottawa and Washington DC
- Regional office in Windsor, Ontario



IJC – Principles of Operation

- Independent – commissioners serve without instruction from governments
- Complete equality between two countries
- Decisions made by consensus
- Sound science - joint fact finding
- Experts serve in personal and professional capacity
- Extensive stakeholder engagement
- Full public involvement



IJC Operations – Applications, Orders and References from Governments

- Rules on applications for approval of projects affecting boundary and transboundary waters
- May regulate the operations of projects, for example, water control structures at the outlets of lakes Superior and Ontario
- IJC studies issues as requested by both governments - “References”
- IJC replies with an independent report and recommendations to the governments
- One of the first references was regarding pollution of boundary waters – report in 1918.



References from Governments to IJC



- IJC looks into issues as asked to by the two National governments - “References”
- IJC replies with an independent report and make recommendations to the governments on these issues.
- An example is the current reference under the Great Lakes Water Quality Agreement.
- One of the first references was regarding pollution of boundary waters – report in 1918.



Great Lakes Water Quality Agreement

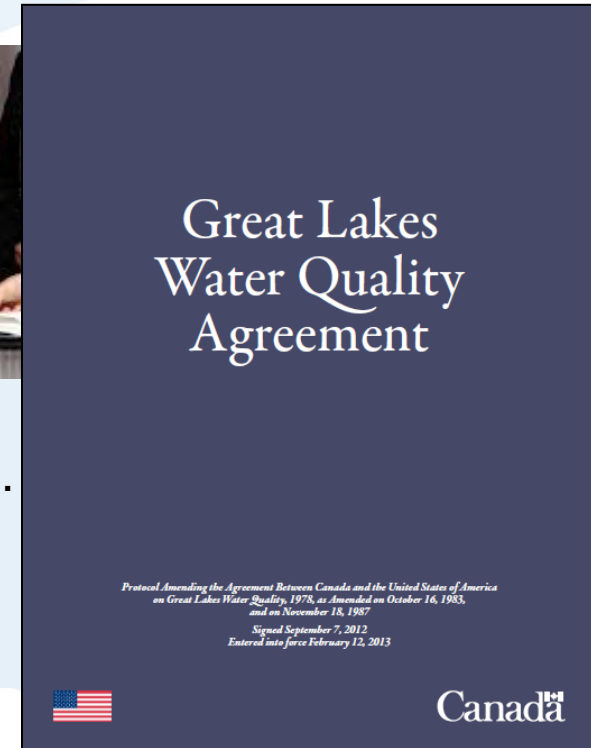
The purpose of the Agreement is to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes.



President Nixon and
Prime Minister Trudeau
April 1972



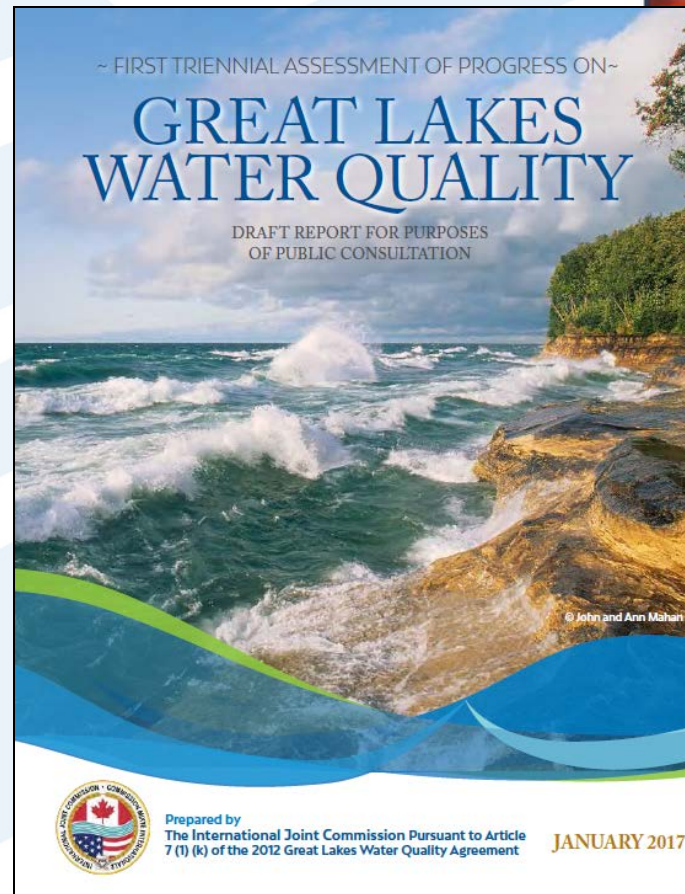
Environment Canada
Minister Peter Kent and U.S.
EPA Administrator
Lisa Jackson, September
2012



How does the IJC report under GLWQA?

Issues a Triennial Assessment of Progress Report – Draft released January 18, 2017

- Public Consultation - ParticipateIJC.org
- Final Report in 2017



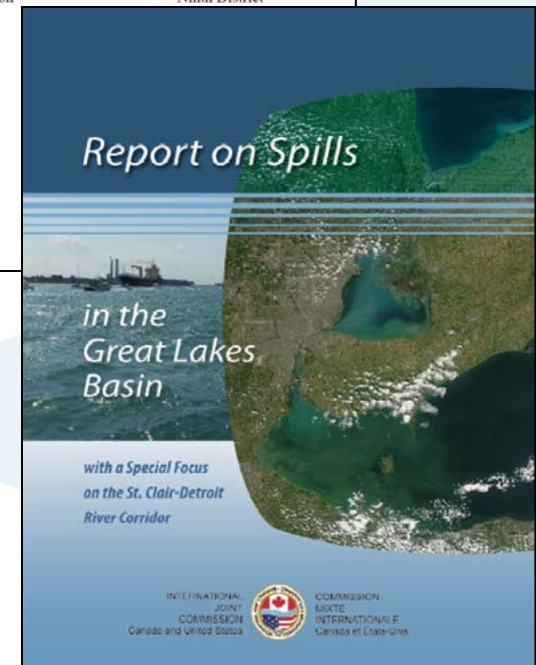
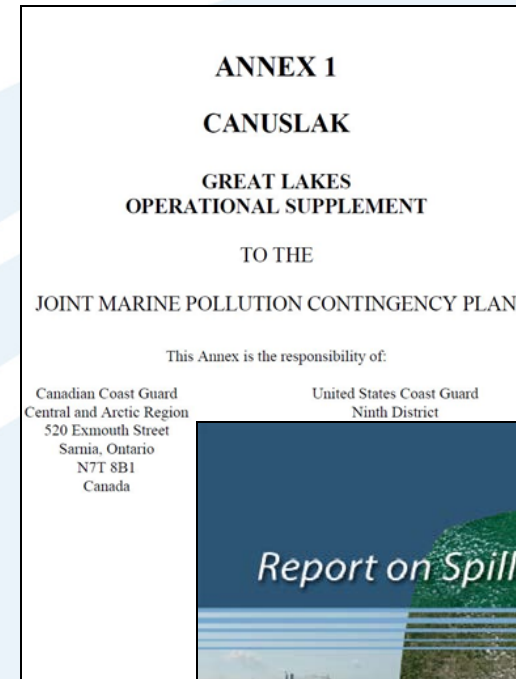
2016 PROGRESS REPORT OF THE PARTIES

Pursuant to the Canada-United States
Great Lakes Water Quality Agreement



IJC Perspectives on Hydrocarbon Transport in the Great Lakes Basin

- Responsibility under the Great Lakes Water Quality Agreement -
- Principles of accountability, prevention and zero discharge
- Foundation for U.S. and Canadian Joint spill response plan.
- Supporting the Crude Move Symposium with Sea Grant and Great Lakes Commission
- IJC advisory board projects



SYMPOSIUM – Cleveland June 2017

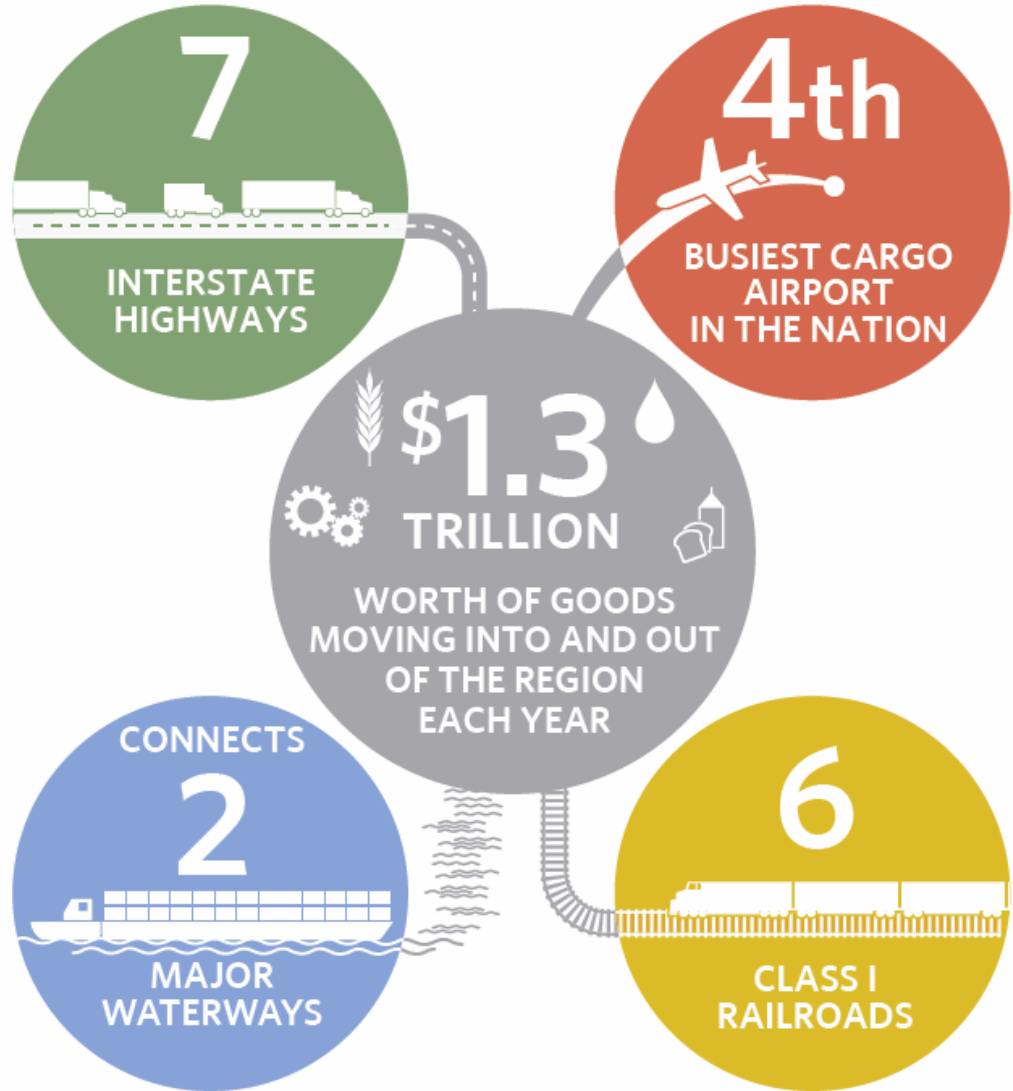


- Rail, Roads, Ships, Pipelines
- Economics, Risk, Hazards and Lessons Learned
- <http://glslcrudeoiltransport.org/>



Economics – Example - Chicago

Metropolitan Chicago freight-related assets



Note: total freight value includes all modes designated by the Freight Analysis Framework.

Source: Chicago Metropolitan Agency for Planning analysis of CoStar, Federal Aviation Administration, Freight Analysis Framework data, 2012.



Pipeline crossings

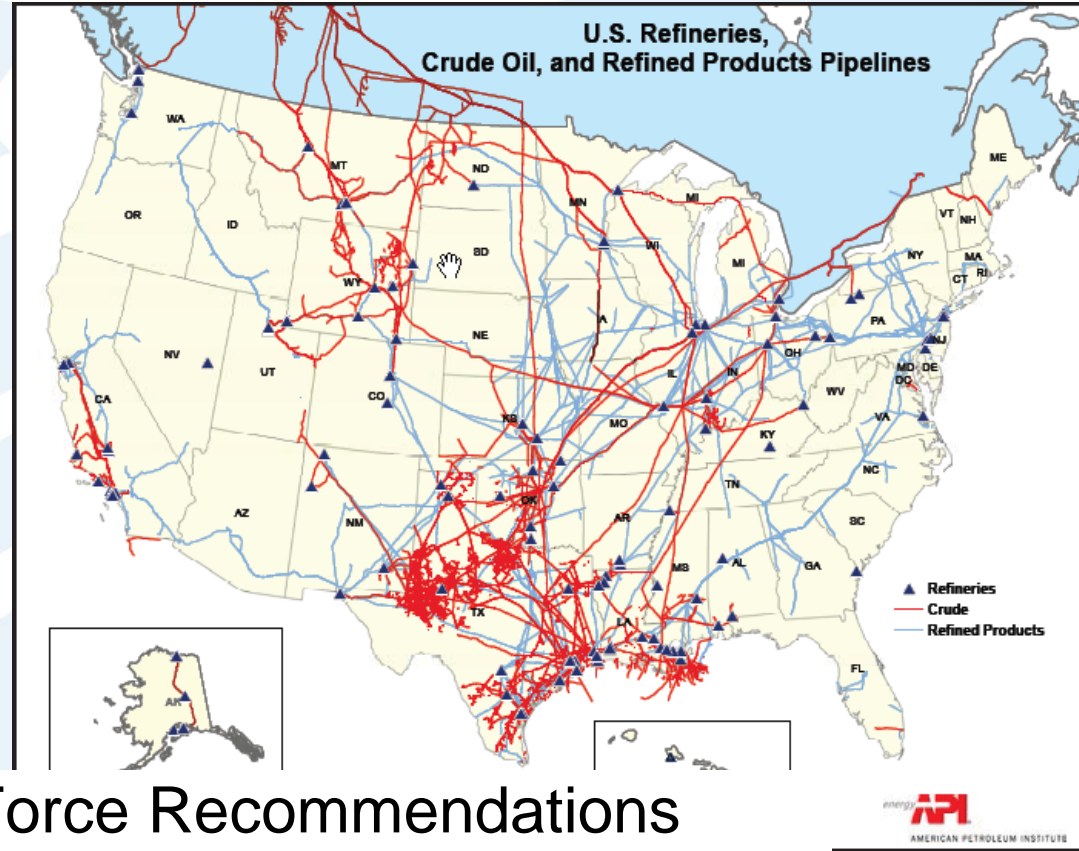
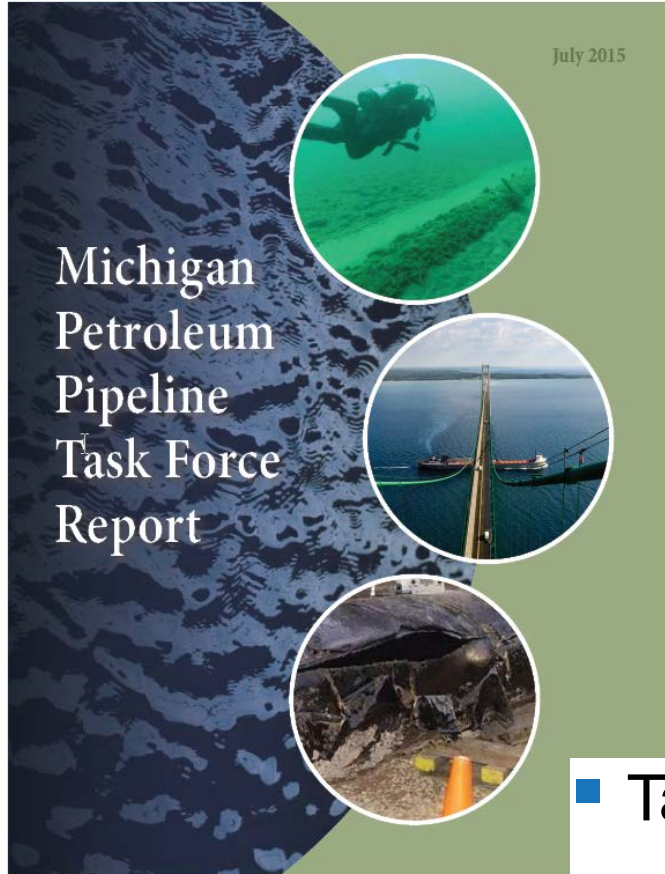


**DO NOT
ANCHOR**

HIGH PRESSURE PETROLEUM PIPELINES

ENBRIDGE PIPELINES	1-877-429-8800	110 feet ahead
SHELL CANADA LIMITED	(519) 963-2622	200 feet ahead
GENESS PIPELINE CANADA LTD	1-800-278-8584-0	240 feet ahead
SUN PIPE LINE CO.	1-800-766-7440	470 feet ahead

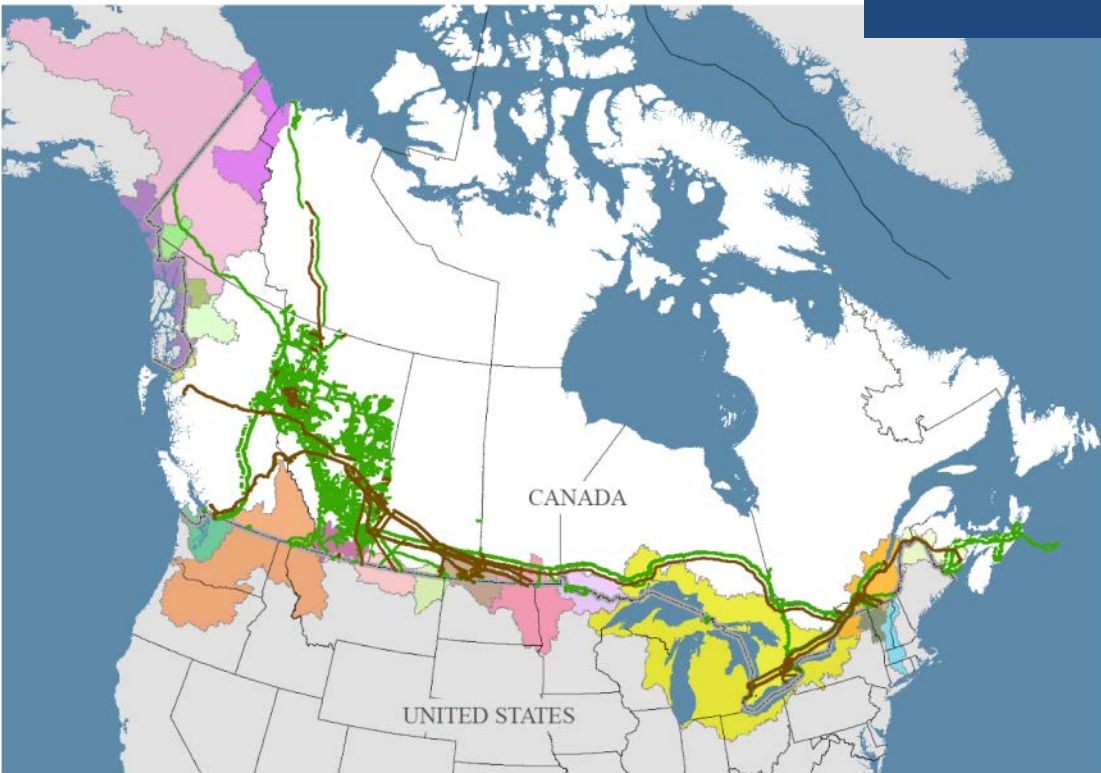
Michigan Petroleum Pipeline Task Force – Matthew Goddard



- Task Force Recommendations
- Alternatives Analysis
- Risk Analysis

NEB-Regulated Pipelines in IJC watersheds

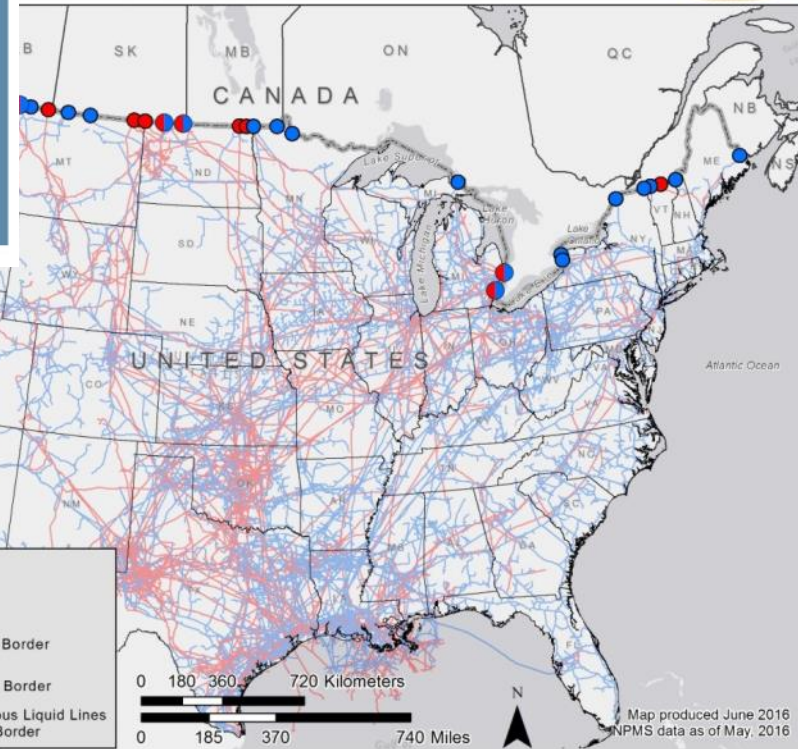
Oil/Liquids Pipelines Gas Pipelines



Pipelines

Pipeline construction & operation is federally regulated by PHMSA (U.S.) & National Energy Board (Canada)

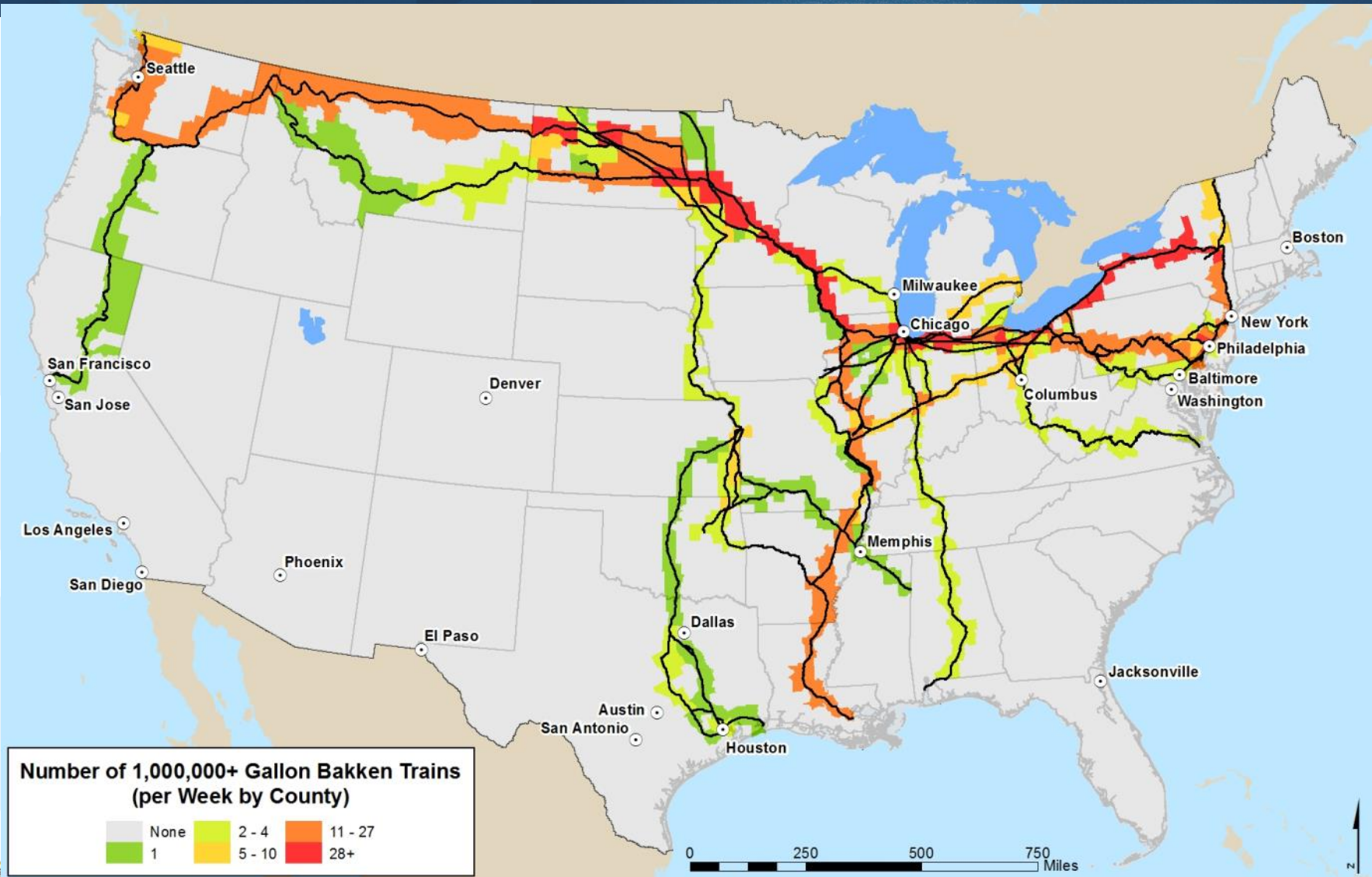
Active Gas Transmission and Hazardous Liquid Pipelines Approaching the International Border with Canada



Wide range of products transported via pipeline, including traditional & “unconventional” crudes like diluted bitumen - “dilbit”



Trains Moving 1M+ Gallons of Bakken per Week



Navigable Waterways within 1/2 Mile of Bakken Rail Line



Shipping – Refined products, not crude



SEAWAY MONTHLY TRAFFIC RESULTS July 2017

Traffic (in thousands of tonnes)	SLSMC - Combined Traffic			
	Year to Date		Change from 2016	
	2016	2017	Tonnes	%
Total Cargo	13 579	16 044	2 465	18.15%
All Grain	3 598	3 763	165	4.59%
Iron Ore	2 210	3 721	1 512	68.41%
Coal	1 077	929	-148	-13.75%
Dry Bulk	3 822	4 416	594	15.54%
Liquid Bulk	1 760	1 734	-35	-2.01%
General Cargo	1 084	1 467	383	35.37%

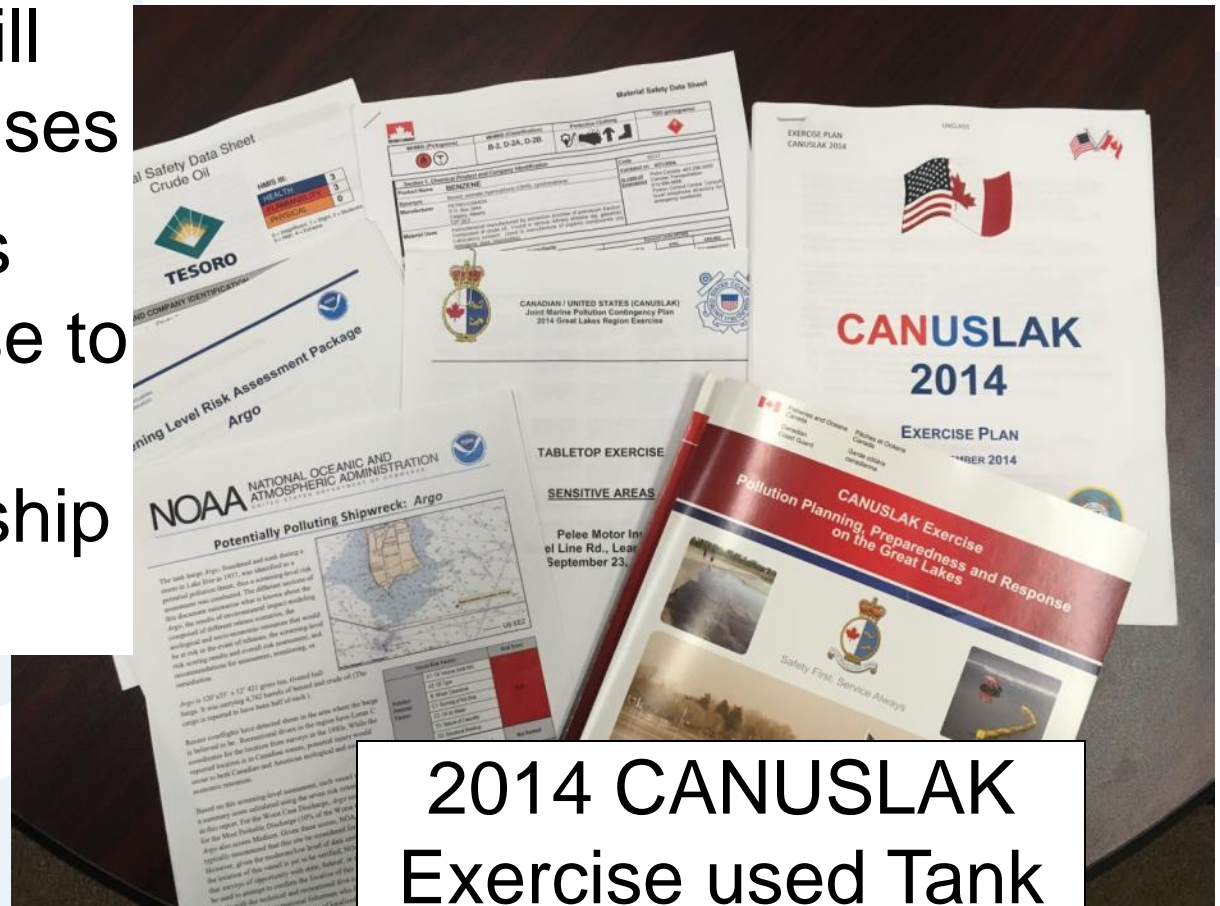
Vessel Transits	2016	2017	Transits	%
Total Transits	1 596	1 759	163	10.21%

The St. Lawrence Seaway Management Corporation



Spill Preparedness

- Regular Joint Spill Response Exercises
- Recent exercises simulate response to pipeline and rail spills as well as ship sources.

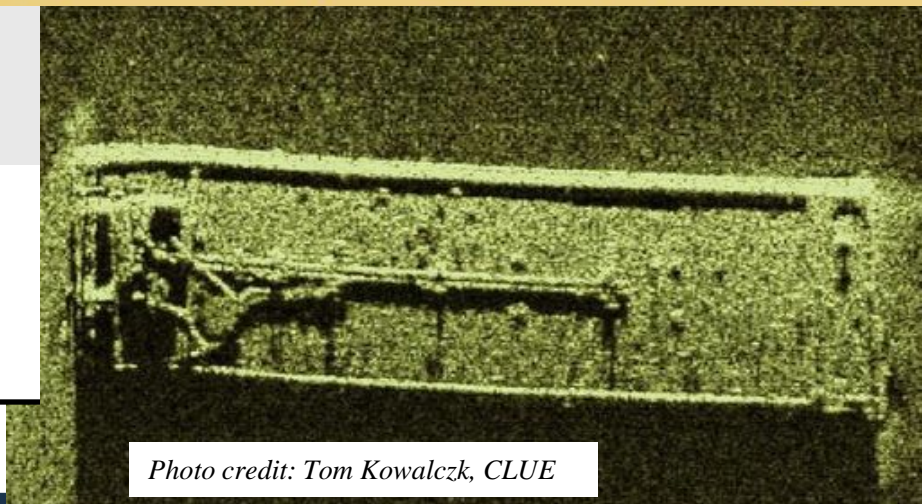


2014 CANUSLAK
Exercise used Tank
Barge ARGO
scenario



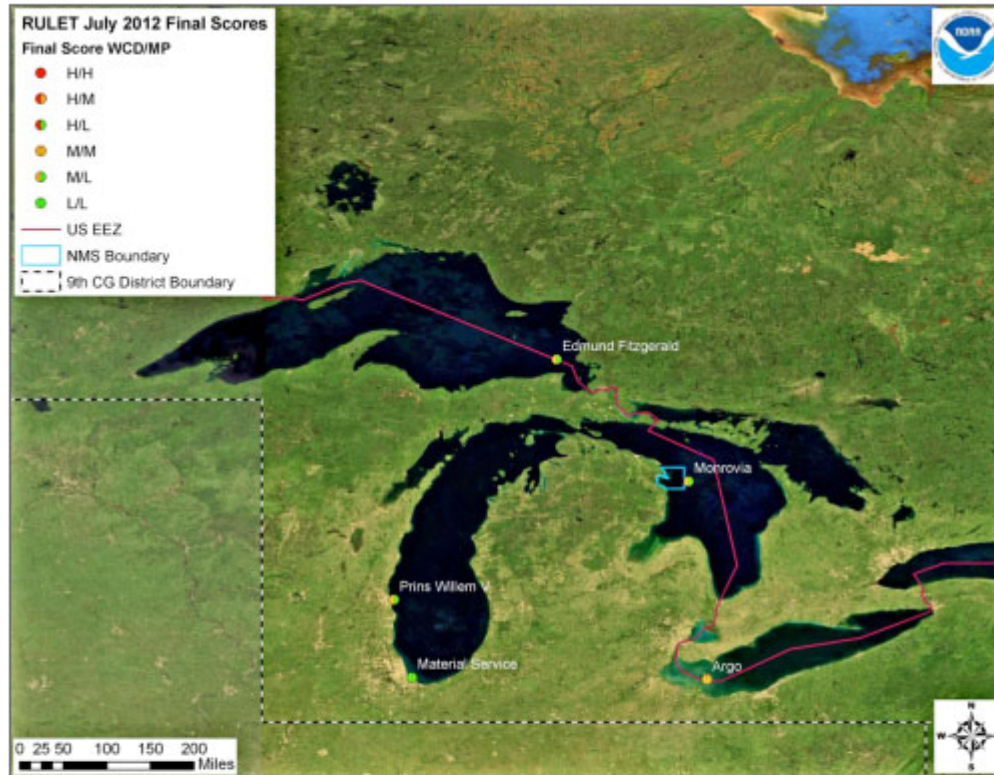
Summary of 2015 Argo Operation

Timeline (2015)	Event
October 23	Identified shipwreck as Argo. CANUSLAK response
Early November	Detected & repaired pinhole leak. Sampled; found Benzene and trace elements of petroleum (Nov. 9)
Late November	10,000 gallons Benzene product removed
December 3	Successfully completed response - Argo no longer a pollution threat



Great Lakes Potentially Polluting Wrecks

U.S. Coast Guard District 9: Great Lakes Region



OTHERS?

1. Argo ✓
2. Prins Weillem V
3. Edmund Fitzgerald
4. Monrovia
5. Material Service

Name	WCD Final Score	MP Final Score	USCG District
<i>Argo</i>	14	12	9
<i>Prins Willem V</i> **	14	11	9
<i>Edmund Fitzgerald</i>	12	10	9
<i>Monrovia</i> **	12	10	9
<i>Material Service</i>	11	11	9

Note: Blue denotes WWII casualties; tan denotes confirmed location; * denotes unconfirmed location; remaining are unknown locations; ** denotes foreign flagged. *Argo* and *Edmund Fitzgerald* are both in Canadian waters but would impact U.S. resources.

Photo credit: NOAA, 2015

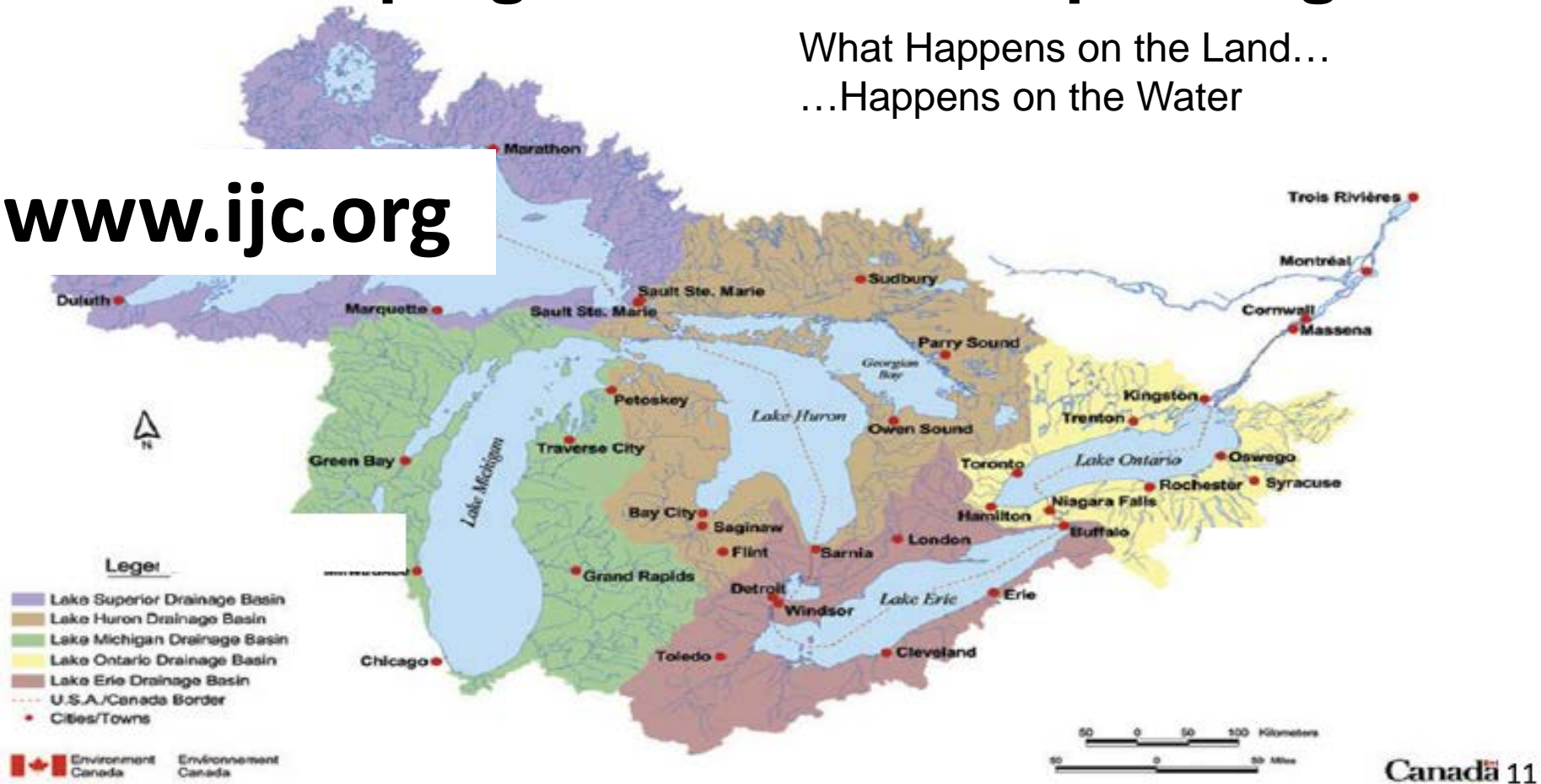


For more information:

<http://glslcrudeoiltransport.org>

What Happens on the Land...
...Happens on the Water

www.ijc.org



Canada 11



Pipeline Crossings - at least 26 between Port Huron, Michigan and Sarnia, Ontario

NEB-regulated pipelines near Sarnia/Lake St Claire ON.

— Oil/Liquids Pipelines — Gas Pipelines



Map produced by the NEB, June, 2019. The map is a graphical representation intended for general informational purposes only.

