Welcome! The webinar will start soon.

International Joint Commission
Great Lakes Science Advisory Board-Research Coordination Committee

Monitoring Infrastructure and Activities of Great Lakes Connecting Waters: An Assessment and Recommendations

Webinar Presentation

October 8, 2021

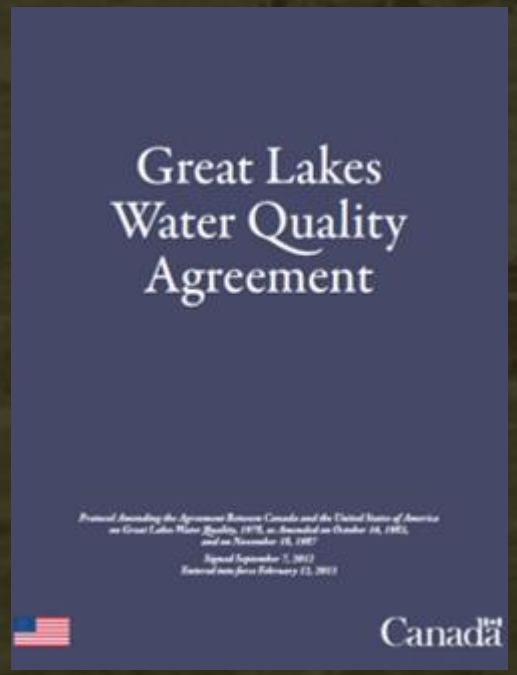
Monitoring Infrastructure and Activities of Great Lakes Connecting Waters: An Assessment and Recommendations

WEBINAR AGENDA

- Presentation (30 minutes)
  - Problem statement
  - Gaps
  - SAB Recommendations
- Q&A (~30 minutes)


"INDIANS FISHING AT THE "SOO".
COPYRIGHT, 1901, BY DETROIT PHOTOGRAPH

ABOUT THE SCIENCE ADVISORY BOARD RESEARCH COORDINATION COMMITTEE



- Great Lakes Water Quality Agreement

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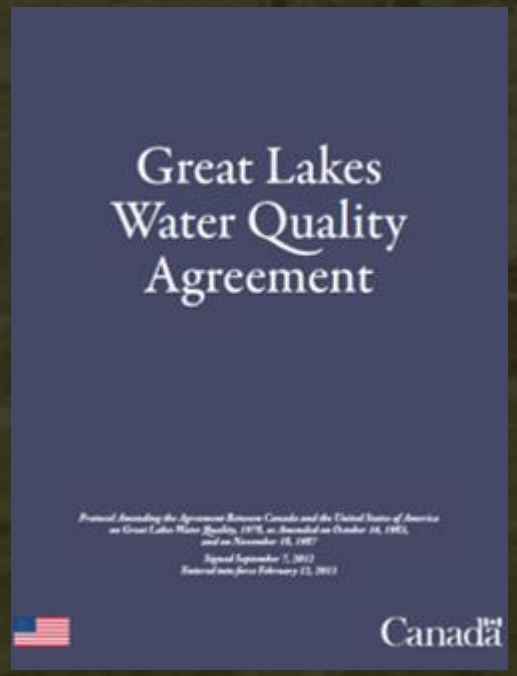

- Great Lakes Water Quality Agreement
- SAB: Advises the IJC and IJC Water Quality Board on research and science

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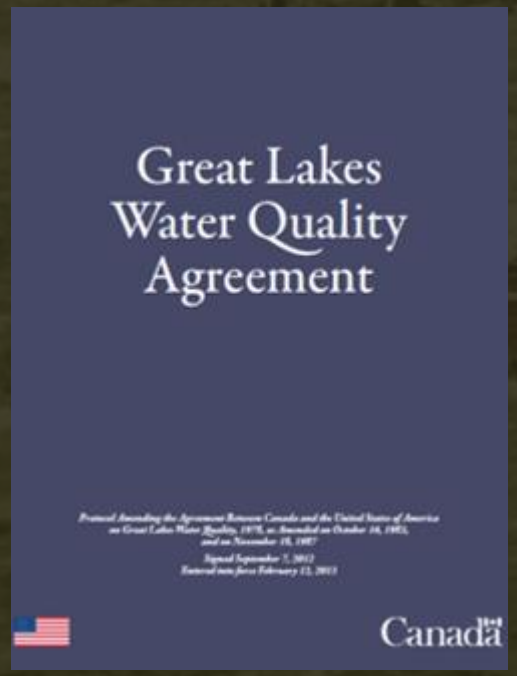


- Great Lakes Water Quality Agreement
- SAB: Advises the IJC and IJC Water Quality Board on research and science
- RCC: Canadian and US government and nongovernment research managers

WEBINAR PANELISTS

Chris Winslow

SAB-RCC US Co-chair

Jeff Ridal

Former SAB-SPC Canadian co-chair

Rebecca Rooney

SAB-RCC binational member

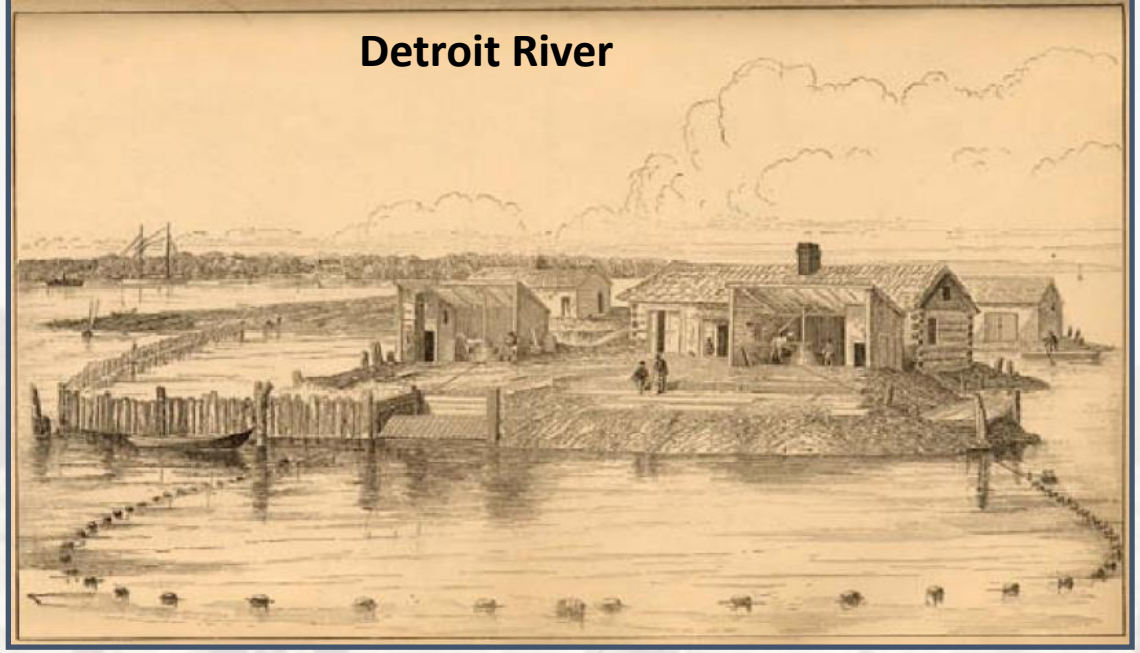
Michael Twiss

SAB-RCC binational member

U.S. Army Corps of Engineers, Detroit District

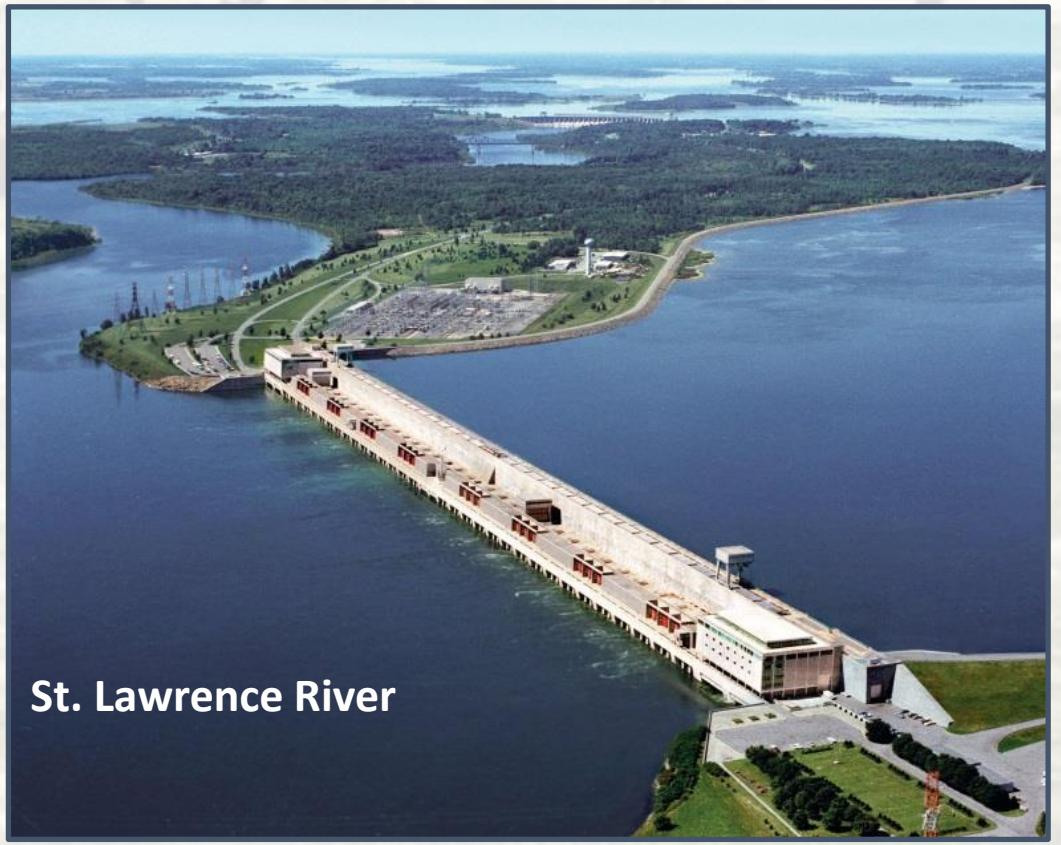
WHAT ARE "CONNECTING WATERS"

- St. Marys River
- St. Clair River
- Fluvial Lake St. Clair
- Detroit River
- Niagara River
- St. Lawrence River (to the international boundary)
- **Straits of Mackinac**


Detroit River


St. Marys River


Fort Niagara, Niagara River

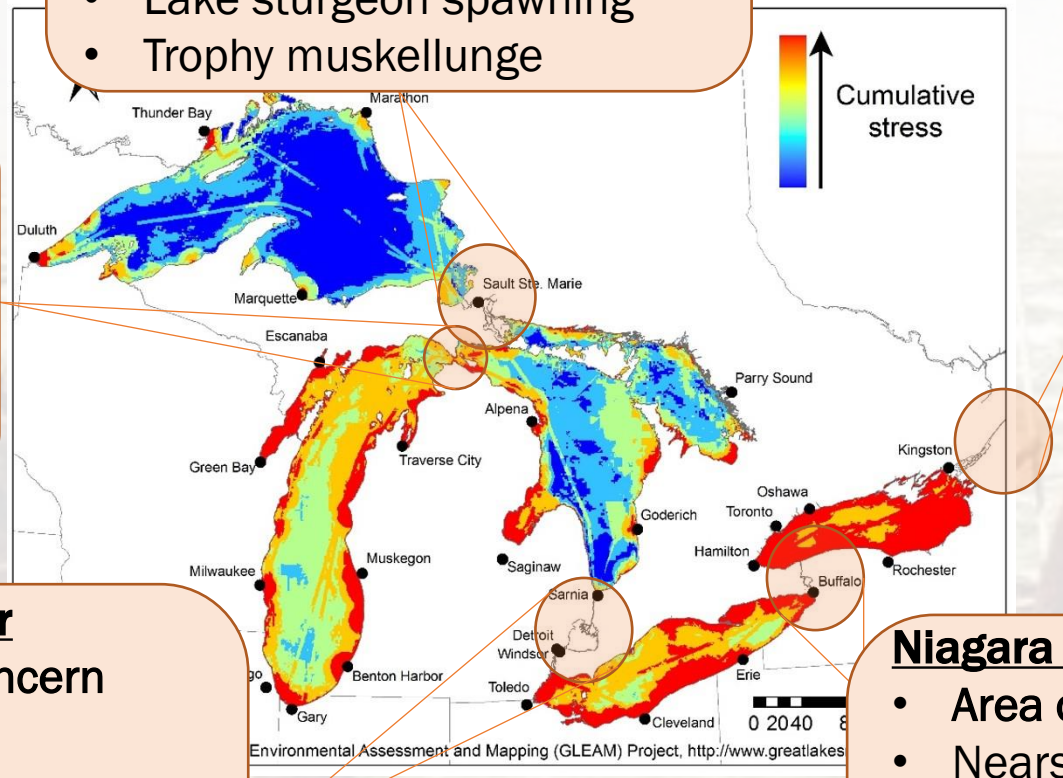

St. Lawrence River

Great Lakes Connecting Waters:

THREATS AND VALUES

St. Marys River
- Area of Concern
- Hydropower
- Utility crossings
- Lake sturgeon spawning
- Trophy muskellunge

Straits of Mackinac
- Nearshore pipeline & utility crossings
- Lake trout spawning
- Coastal wetlands
- Alvars

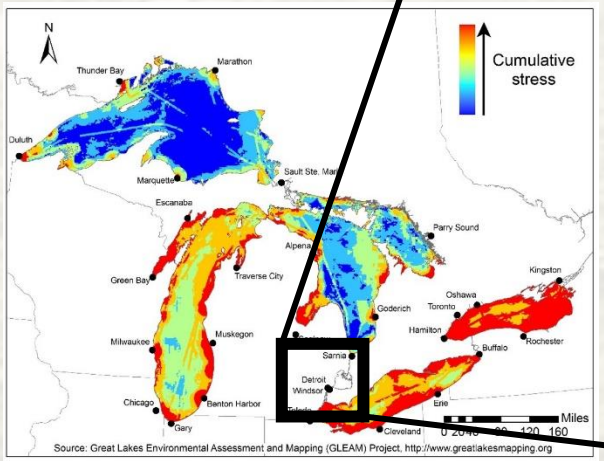


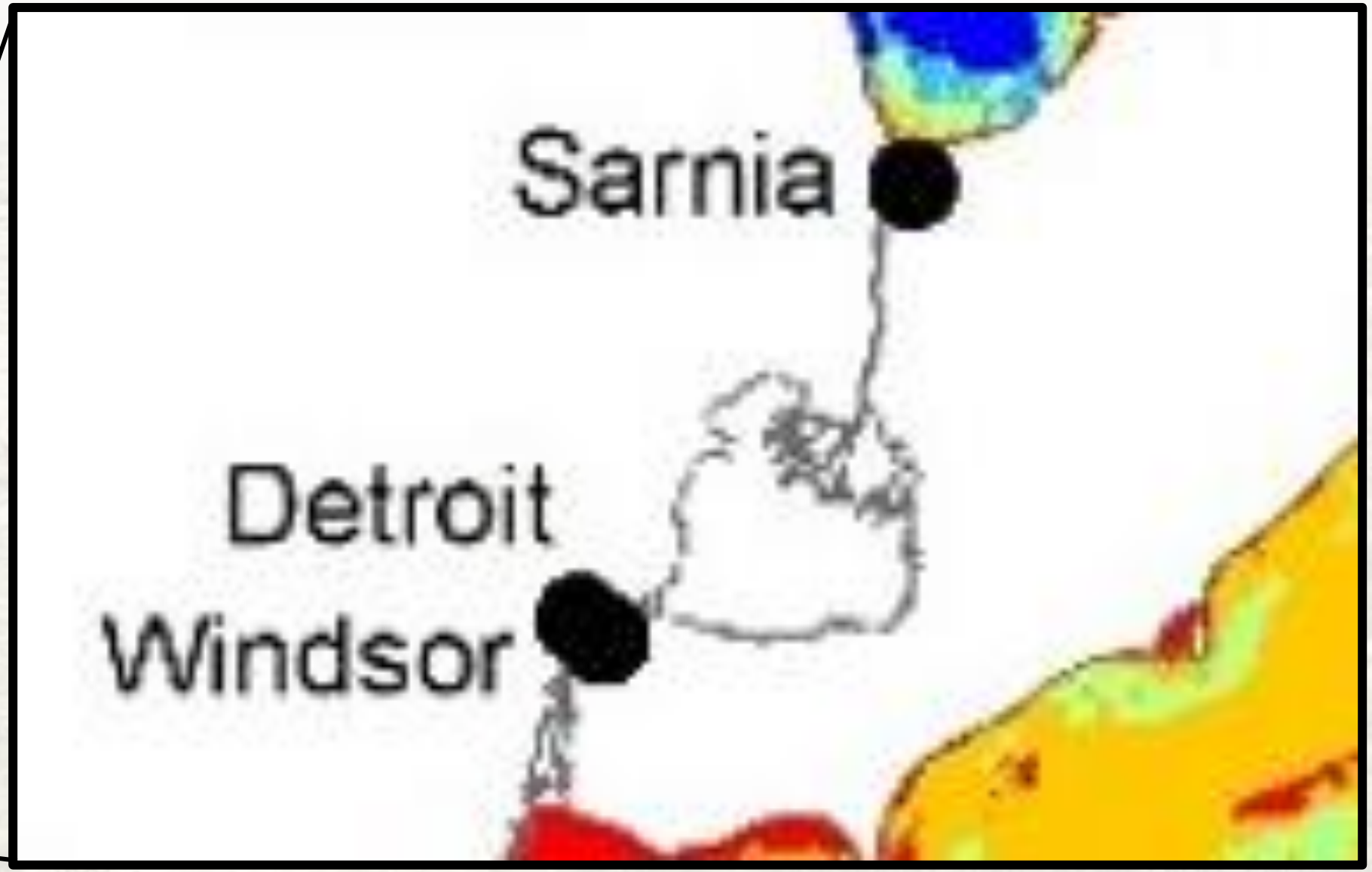
St. Lawrence River
- Area of Concern
- Hydropower
- Utility crossings
- American eel migration
- Lake sturgeon spawning
- Trophy muskellunge
- Colonial bird nesting sites
- Ramsar wetland

St. Clair & Detroit River Corridor
- Both rivers have Areas of Concern
- Refineries & utility crossings
- Nutrient pollution
- Lake sturgeon spawning
- Walleye and white bass runs
- 2 Ramsar wetlands
- Migratory raptor & waterbird staging & breeding

Niagara River
- Area of Concern
- Nearshore rail & utility crossings
- Hydropower
- Nutrient pollution
- Lake sturgeon spawning
- Trophy muskellunge
- Colonial bird nesting site
- Ramsar wetland

CONNECTING WATERS ARE OFTEN OVERLOOKED





RELEVANT ANNEXES OF THE GREAT LAKES WATER QUALITY AGREEMENT

- Annex 2: Lakewide Management

  Lakewide Action and Management Plans (LAMPs)

- Annex 10: Science

  Cooperative Science and Monitoring Initiative (CSMI)

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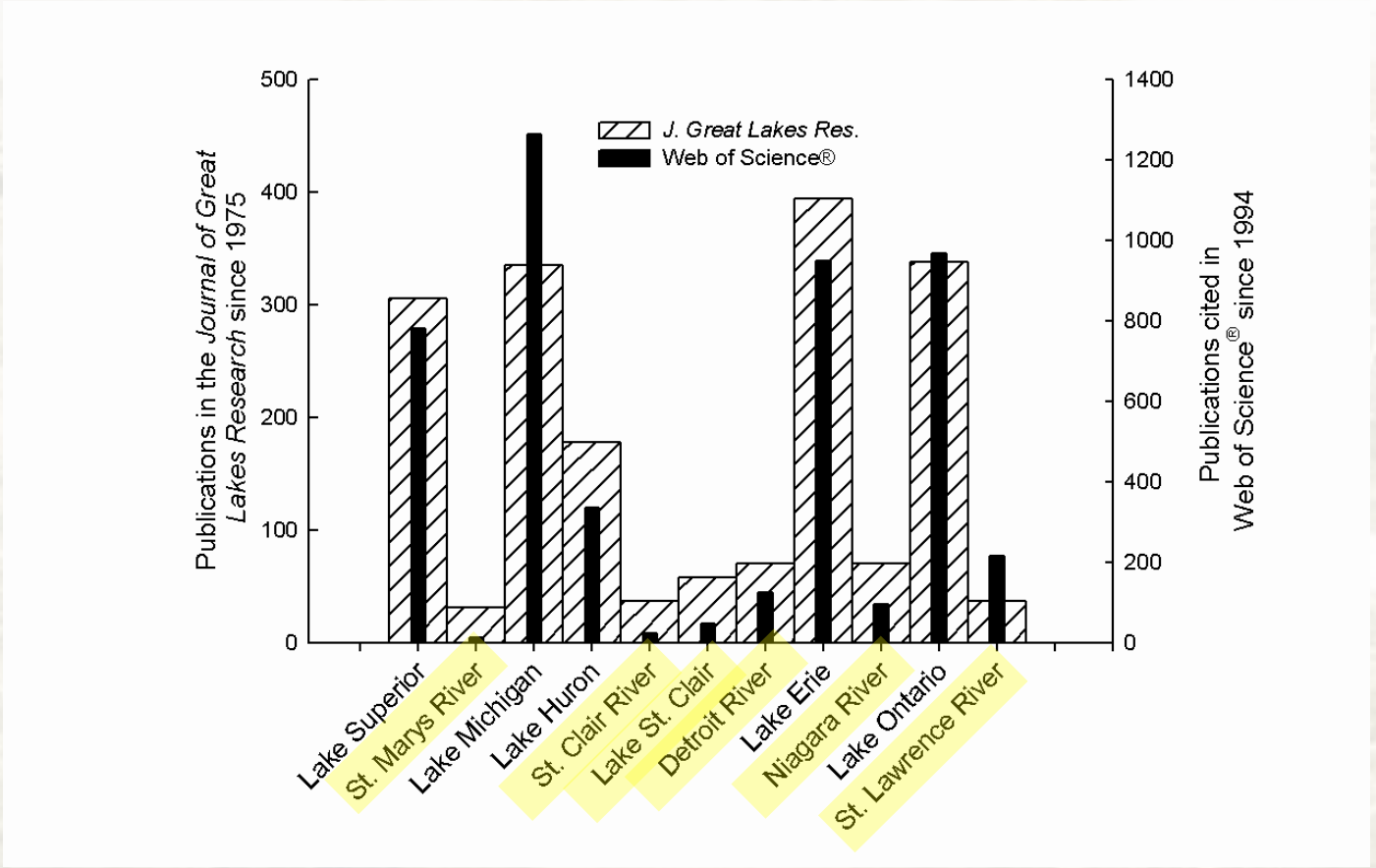

Source: Twiss, M.R. 2007. Wither the Saint Lawrence River? *J. Great Lakes Res.* 33: 693-698.

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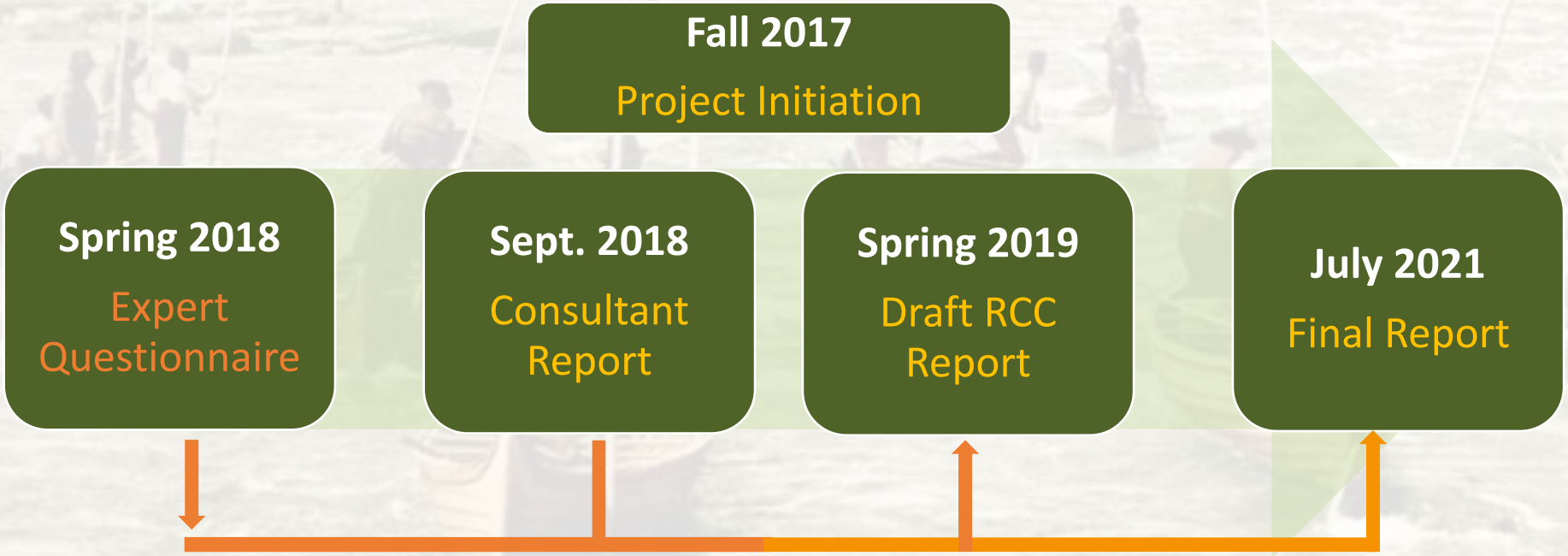
PROJECT TIMELINE



2 Great Lakes electric cables severed in tugboat accident, photos show

Associated Press

Published 8:42 p.m. ET Apr. 24, 2018

View Comments

Line 5 runs along the bottom of the Straits of Mackinac; same incident caused leak in underwater pipeline

The Associated Press · Posted: Apr 23, 2018 8:51 PM ET | Last Updated: April 23, 2018

April 1, 2018, Straits of Mackinac

A tugboat anchor dragged along the lakebed accidentally severed 3 electrical cables belonging to American Transmission Co resulting in the spill of 2270 L of mineral oil insulation fluid.

The same incident also dented Enbridge Inc.'s Line 5 oil pipeline, risking a major oil spill.

Mystery shrouds Great Lakes anchor strikes amid Line 5 worries

Beth LeBlanc The Detroit News

Published 6:38 p.m. ET Jul. 8, 2019 | **Updated 11:43 a.m. ET Jul. 9, 2019**

View Comments

June 2019 Detroit River

Ropes holding a freighter to shore on the Detroit River snapped and it necessitated an emergency anchor drop, which landed 100 feet downstream of a liquid ethane and propane pipelines – fortunately neither ruptured, but it was a near miss.

Great Lakes Connecting Waters:

MONITORING GAPS

Institutional culture & agency coordination

- Empower LAMP committees to guide connecting water research and monitoring, including integration of connecting waters priorities into CSMI cycle
- Monitoring is driven by fisheries and water quality management could be better integrated, coordinated, and optimized

Infrastructure and technology

- Research vessels
- Sampling gear
- Autonomous sensor and sampling platforms
- Remote sensing systems
- Data transmission for real-time monitoring
- Laboratories

Experienced personnel

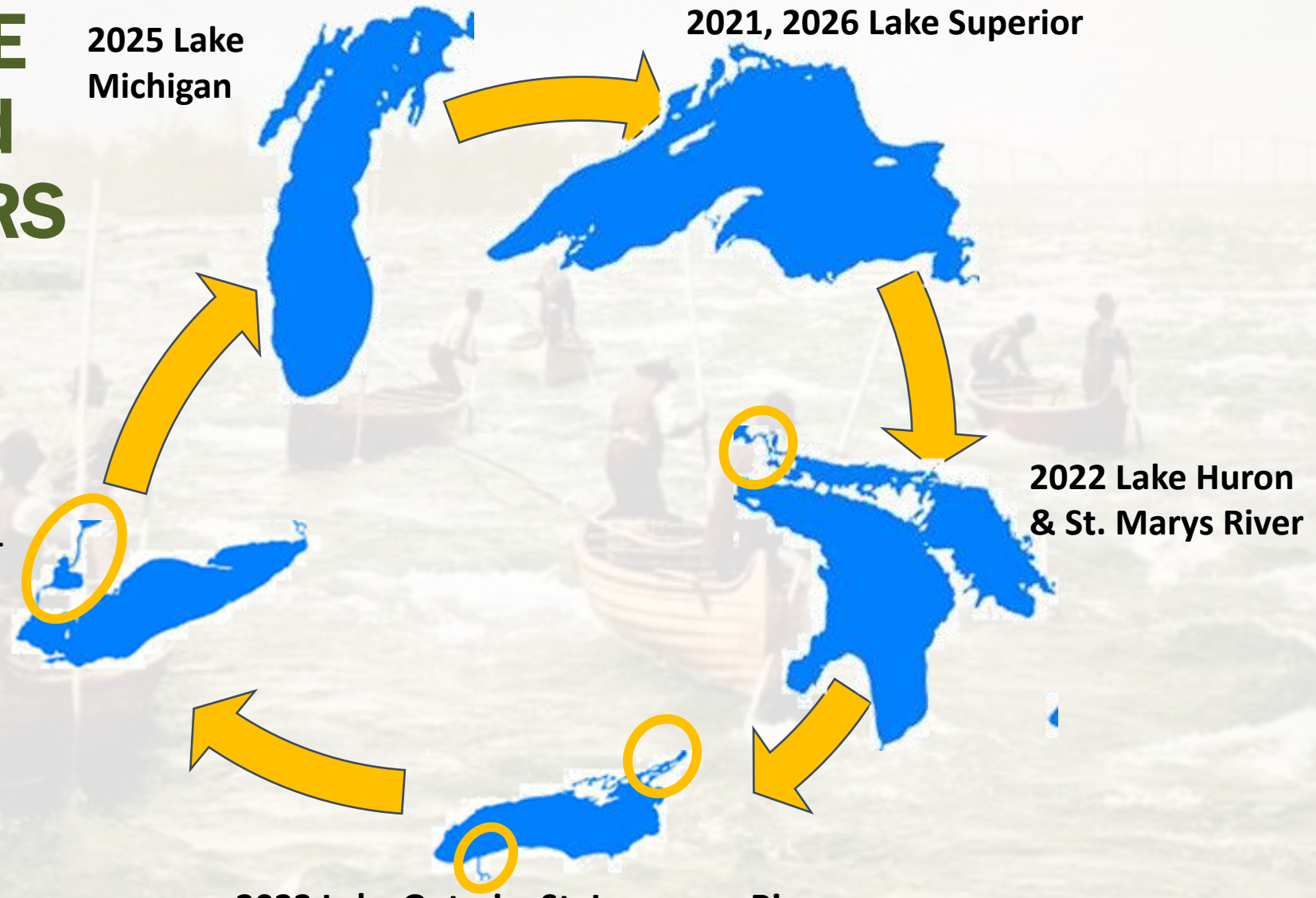
- Training programs at all levels
- Enhance First Nations and Tribal technical capacity and roles in connecting water governance
- Support “Citizen” aka Community Science

Data standardization

- Sample collection programs and archives
- Consistent reference stations
- Data management and timely access
- Operational numerical modeling programs

Great Lakes Connecting Waters:

FIELD YEARS CYCLE AMONG LAKES and CONNECTING WATERS



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How to overcome current limitations to monitoring, surveilling and managing connecting waters?

Great Lakes Connecting Waters:

RECOMMENDATION 1

Annex 2 Lakewide Action and Management Plans (LAMPs):

- Include Straits of Mackinac in the Lake Michigan LAMP
- Share Niagara River between the Lake Erie LAMP and the Lake Ontario LAMP

Great Lakes Connecting Waters:

RECOMMENDATION 2

- Concretely incorporate connecting waters into Annex 2 Lakewide Action and Management Plans (LAMPs)

- Allocate attention and resources in Annex 10 Cooperative Science and Monitoring Initiative (CSMI) for connecting waters monitoring activities

Great Lakes Connecting Waters:

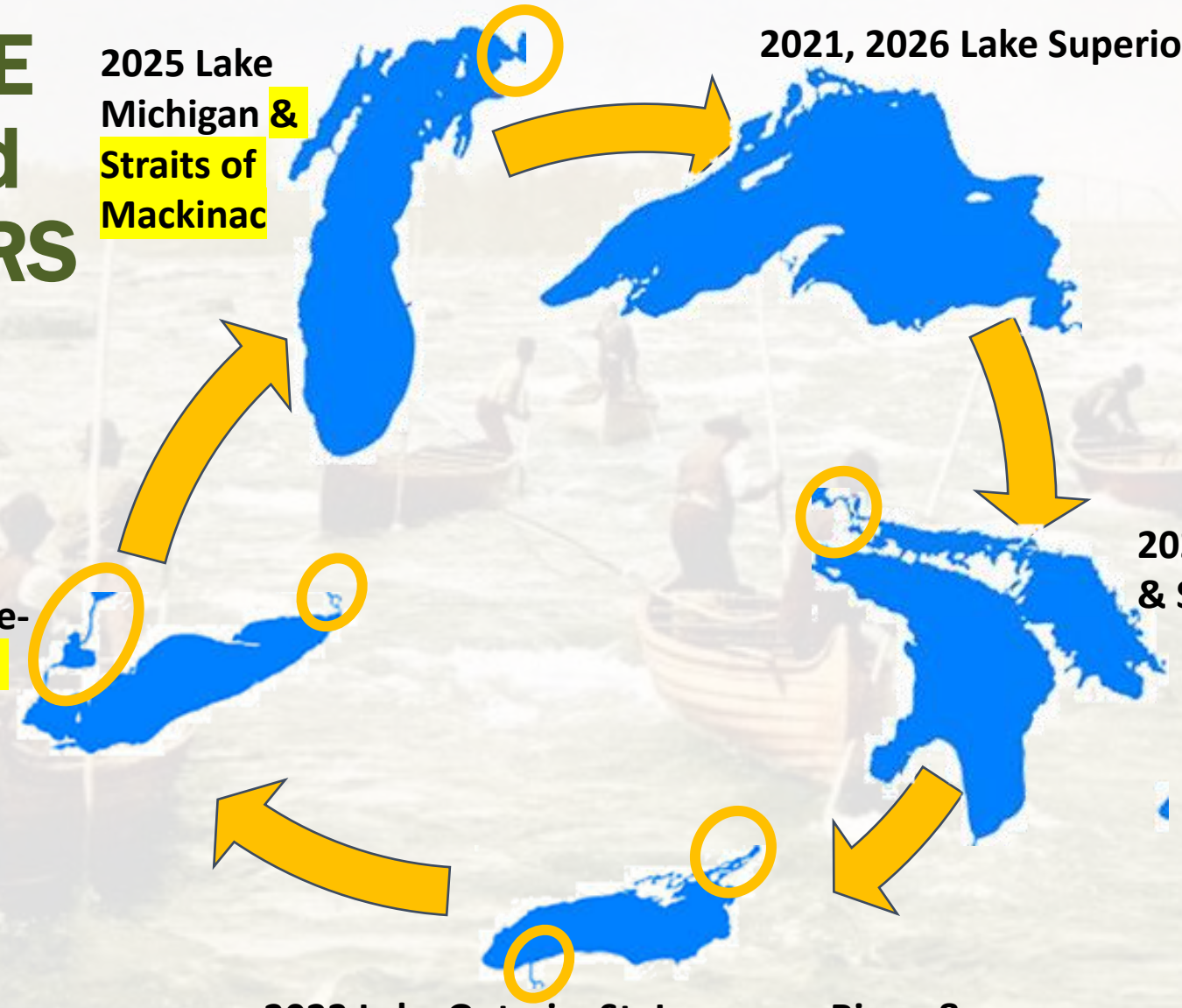
RECOMMENDATION 3

Canadian and US governments should:

- Develop a plan to monitor connecting waters corresponding with the 5-year Cooperative Science and Monitoring Initiative (CSMI) cycle

Great Lakes Connecting Waters:

FIELD YEARS CYCLE AMONG LAKES and CONNECTING WATERS



Great Lakes Connecting Waters:

ADVICE

Monitoring and Research

1. Monitoring activity and equipment
2. Long-term reference stations and event-based observations
3. Use real-time observations with advanced platforms
4. Enhance First Nation and Tribal capacity

ADDRESSES GAPS:

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Great Lakes Connecting Waters:

ADVICE

Education, Outreach, Communication and Coordination

5. Enhance education on connecting waters
6. More effective communications
7. LAMP leadership focus on connecting waters

ADDRESSES GAPS:

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THE
UNITED STATES
LAKE
SUPERIOR
LAKE
MICHIGAN
LAKE
HURON
L. ONTARIO
LAKE ERIE

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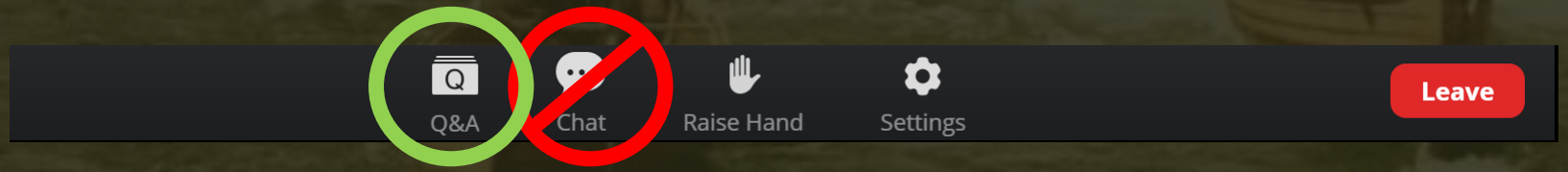
AUDIENCE Q&A

- Please use the Q&A, not the chat



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AUDIENCE Q&A

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Thank you!

Allison.Voglesong-Zejnati@ijc.org

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