

# INTERNATIONAL RAINY-LAKE OF THE WOODS WATERSHED BOARD

OCTOBER 2, 2020

Thank you for joining. The public meeting will start shortly.

Please do your part to create a positive virtual meeting environment:

- Open the **chat box** and identify yourself by typing your **name and affiliation**.
- When the meeting starts the facilitator will put everyone on **mute** to reduce background noise.
- If joining by phone, you can mute and unmute your own line by pressing \*6. The host cannot unmute your line if you have used the mute button on your telephone.
- We want to hear from you! Indicate when you would like to make a comment or ask a question by posting a message in the **chat box**.
- If you are having technical difficulties **email or text** Rebecca ([rlafontaine@stratos.ca](mailto:rlafontaine@stratos.ca) / 819 209 0309) or Chris ([crs.andrews@gmail.com](mailto:crs.andrews@gmail.com) / 902-452-7815) for assistance.



# INTERNATIONAL RAINY-LAKE OF THE WOODS WATERSHED BOARD

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# FALL 2020 PUBLIC MEETING

Presented by:

Canadian Co-Chair Michael Goffin

On behalf of Board Members

Virtual Meeting Facilitation by: Barb Sweazey, Stratos Consulting

# Agenda

<b>1. Welcome, Introductions, Review of Agenda</b>	Mike Goffin
<b>2. Recognizing the Right Honourable John Turner</b>	Todd Sellers
<b>3. Virtual Housekeeping</b>	Barb Sweazey
<b>4. Intro to the IJC and the IRLWWB</b>	Mike Goffin
<b>5. Board Activities</b> <ul style="list-style-type: none"> <li>• Water Levels Committee</li> <li>• Aquatic Ecosystem Health Committee</li> <li>• Adaptive Management Committee</li> </ul>	Scott Jutila Todd Sellers Teika Newton
<b>6. Questions for the Board and Discussion</b>	Facilitated by Barb Sweazey
<b>7. Board Activities Continued</b> <ul style="list-style-type: none"> <li>• Engagement Committee</li> <li>• Community Advisory Group</li> <li>• Industry Advisory Group</li> </ul>	Kelly Sjerven Doug Franchot Mike Hirst
<b>8. International Watershed Coordinator</b>	Kelli Saunders
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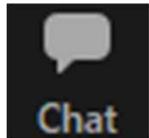
## The Right Honourable John Turner 1929 - 2020

# Agenda

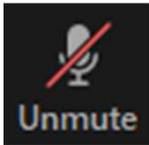
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# How we should work together today?

We have an ambitious agenda with lots to cover!



Let's use **Chat** to pose questions, share comments throughout the session and to make connections



Please keep yourself on **Mute** for the duration of session to minimize background noise

- For participants joining us by phone, we will have **designated question periods** where you will be invited to unmute, state your name and provide input.
- If joining by phone, you can mute and unmute your own line by pressing \*6. The host cannot unmute your line if you have used the mute button on your telephone.
- After the workshop, feel free to reach out to the IRLWWB Secretariat with follow up questions.
- Most of all, your patience is appreciated as we navigate this virtual engagement experience!

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# International Joint Commission

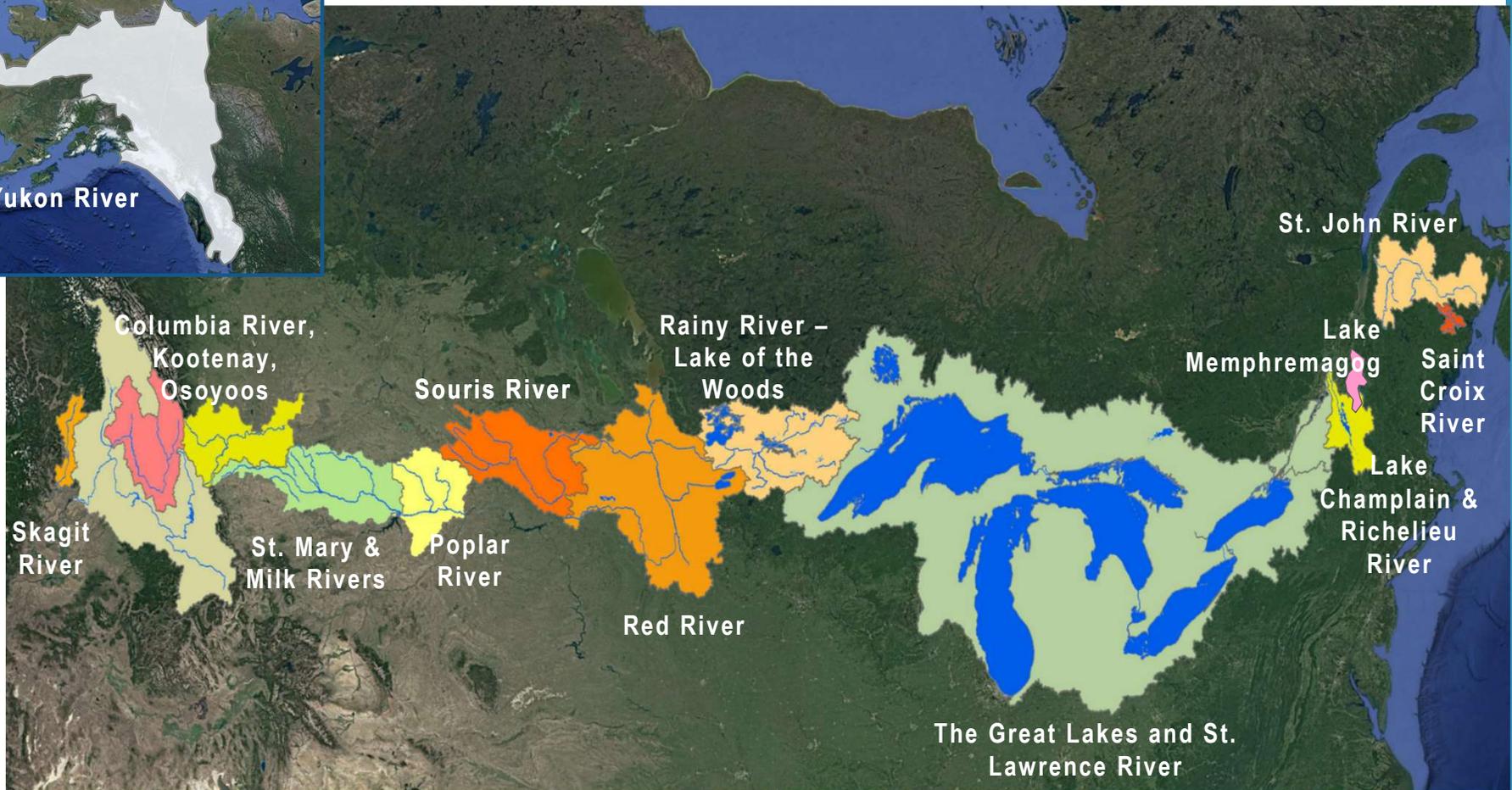
Established by the 1909 Boundary Waters Treaty as an independent, objective and binational body.

## 2 Main Responsibilities

- Reviewing and approving projects that affect freshwater levels and flows across the boundary; and
- investigating transboundary water issues, and recommending solutions.

Responds to requests (called 'references') from the governments of Canada and the United States to research, review, and/or make recommendations on specific water-related issues along the boundary.

# Canada-US Transboundary Watersheds



# IJC Commissioners



Pierre Béland  
Canadian  
Commissioner/Chair



Jane Corwin  
US  
Commissioner/Chair



Henry Lickers  
Canadian  
Commissioner



Merrell-Ann  
Phare  
Canadian  
Commissioner



Robert Sisson  
US Commissioner



Lance Yohe  
US Commissioner

# International Waters of the Rainy-Lake of the Woods Watershed

## AREA

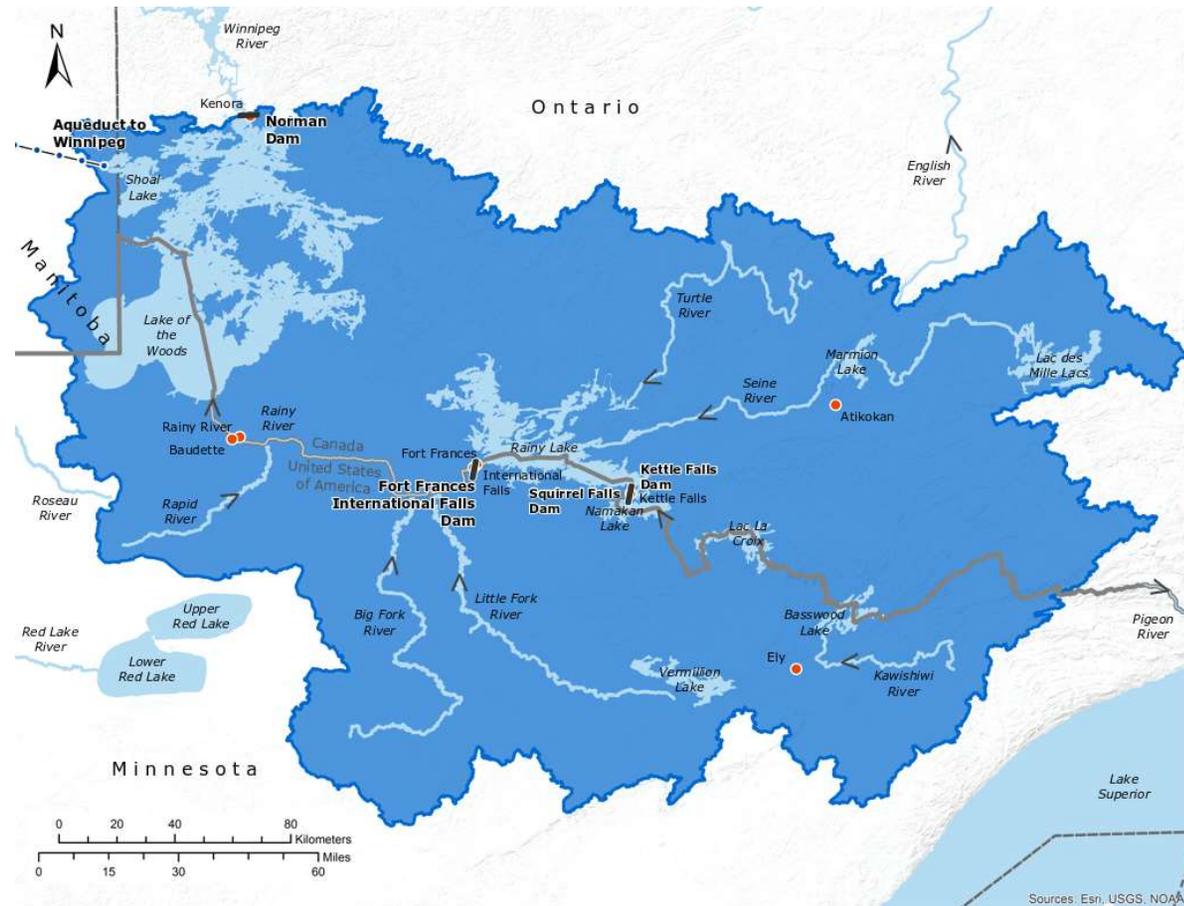
- 70,000 square km (27,000 square miles)

## INTERNATIONAL BOUNDARY

- East to West: 400 km (240 miles)
- North to South: 260 km (156 miles)

## WATERSHED

- 59% in Ontario / Manitoba
- 41% in Minnesota



# Board Mandate

The Board supports the International Joint Commission (IJC) in the delivery of its roles :

- Coordinate management of water levels and flows on Rainy and Namakan Lakes
- Monitor and report on ecological health of Lake of the Woods and Rainy Lake boundary waters aquatic ecosystem, including water quality
- Assist the IJC in preventing and resolving disputes regarding the boundary waters of the Rainy-Lake of the Woods watershed



# Current Board Membership



Canada	United States
<b>Michael Goffin</b> – Co-Chair Environment and Climate Change Canada	<b>COL Karl Jansen</b> – Co-Chair Army Corps of Engineers, St. Paul District
<b>Karen Cederwall</b> Kenora, ON	<b>Nicole Blasing</b> Minnesota Pollution Control Agency
<b>Greg Chapman</b> Ontario Ministry of Natural Resources and Forestry	<b>Doug Franchot</b> International Falls, MN
<b>Erika Klyszejko</b> Environment and Climate Change Canada	<b>Matthew Gouin</b> International Falls, MN
<b>Mark Lee</b> Manitoba Agriculture and Resource Development	<b>Mike Hirst</b> Lake of the Woods Soil and Water Conservation District
<b>Matt Myers</b> Fort Frances, ON	<b>Al Pemberton</b> Red Lake Department of Natural Resources, MN
<b>Chief Brian Perrault</b> Couchiching First Nation, Fort Frances, ON	<b>Kelly Sjerven</b> International Falls, MN
<b>Trina Rawn</b> Ontario Ministry of the Environment, Conservation and Parks	<b>Jim Stark</b> Minnesota State Legislature
<b>Todd Sellers</b> Minaki, ON	<b>Pam Tomevi</b> Koochiching Soil and Water Conservation District
<b>Kiley Shebagegit</b> Nestor Falls, ON	<b>Patty Thielen</b> Minnesota Department of Natural Resources



# Board Support

Canada	U.S.	
<b>Matt DeWolfe – Board Engineering Advisor</b> Environment and Climate Change Canada	<b>Scott Jutila – Board Engineering Advisor and Secretary</b> St. Paul District Army Corps of Engineers	
<b>Wellsley Hamilton –Board Secretary</b> Environment and Climate Change Canada		
		



# Board Operations

International Rainy-Lake of the Woods Watershed Board

Foundation & Partners

FOUR COMMITTEE STRUCTURE

PUBLIC ENGAGEMENT

COORDINATION



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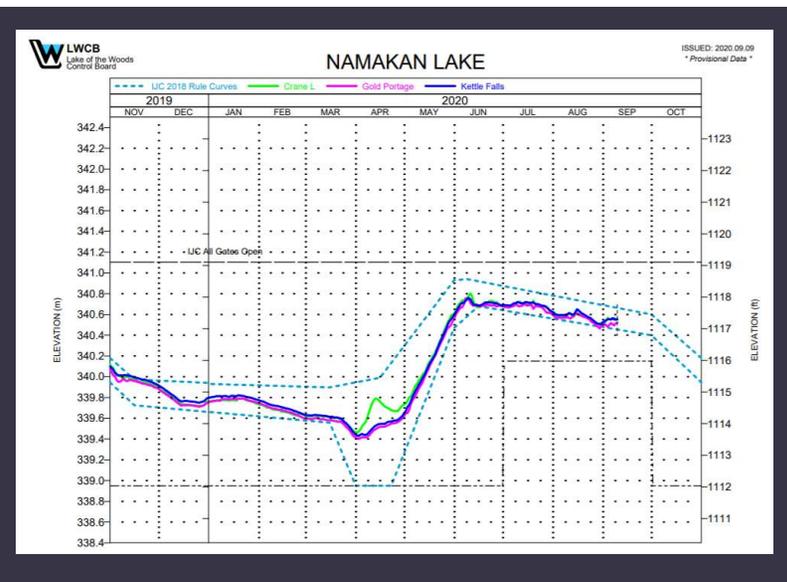
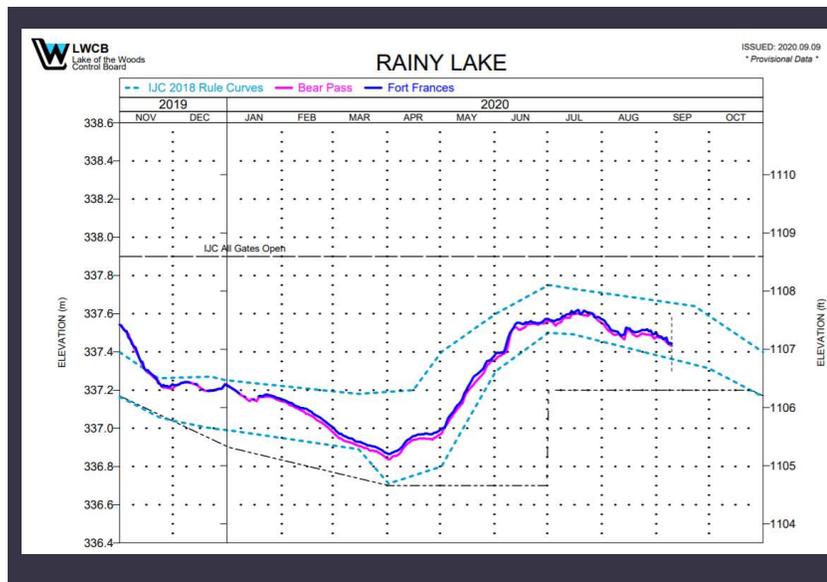
# Water Levels Committee

Co-Chairs: Erika Klyszejko and COL Karl Jansen

Members: Kiley Shebagegit and Pam Tomevi

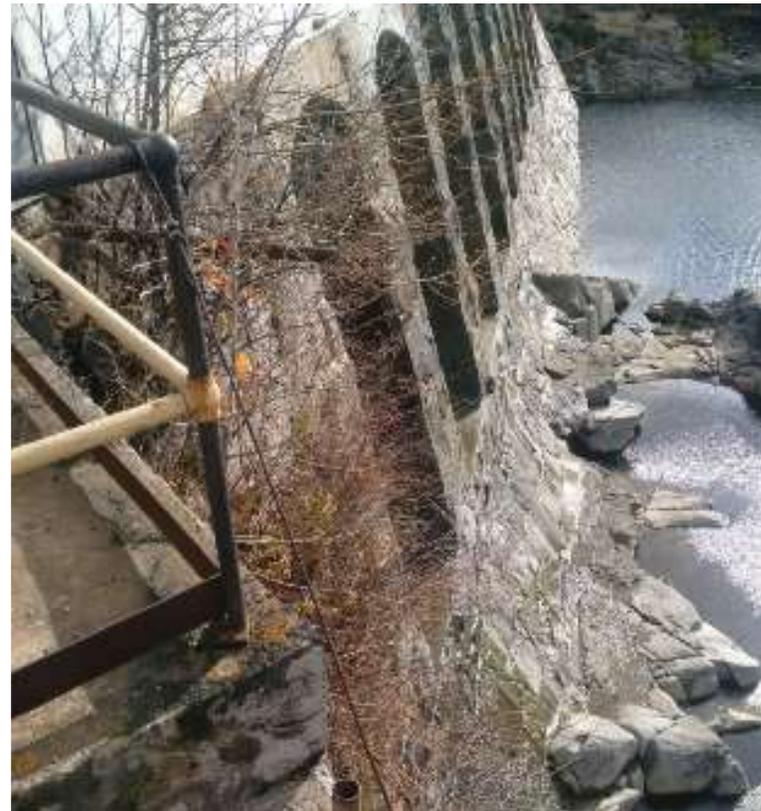
Engineer Advisors: Matt DeWolfe and Scott Jutila

- Monitors the water levels of Rainy Lake and the Namakan chain of lakes to ensure that the IJC Order prescribing the method of regulating the levels of boundary waters is followed.
- Acts as technical advisor to the International Joint Commission and IRLWWB.



# Water Levels Committee

- On 25 February 2020, the WLC held a pre-spring engagement Webinar.
- On 6 March 2020 after consulting with stakeholder representatives, the WLC committee decided to operate within the normal rule curves.



# Water Levels Committee

## -- Ongoing Activities --

- **Maintain Operational Guidelines**

- Periodically update best practices for maintaining water levels throughout the year within the established rule curves, to maximize the benefits to stakeholders
- The guidelines are available on the IJC website

- **Investigate Low-Water Levels at the PCA Mill intake**

- Study conducted by the National Research Council Canada (NRC)
- Understand cause and effect; identify recommendations to prevent future events
- Public sharing in the near future

- **Development of Communications Protocol**

- Goal is improved exchange of information, especially during emergencies
- WLC (or other agency) to Stakeholders and vice versa

- **Other**

- Flood Forecast Advisory Group
- Review of Data Sources to Support Inflow Forecasting
- Shorewood Drive Bank Erosion

# Aquatic Ecosystem Health Committee

## Co-Chairs: Mike Hirst and Todd Sellers

- Provides advice and recommendations to the Board on water quality and aquatic ecosystem health
- Next Annual Report – Spring 2021 will focus on specific priority issues (e.g., phosphorus)
- Technical assistance, collaboration with agency experts of the International Multi-Agency Arrangement (IMA)



# Aquatic Ecosystem Health Committee

## --Current Projects – International Watershed Initiative--

### 1. Objectives & Alert Levels Project (Water Quality & Aquatic Ecosystem Health)

Phase 1: Completed. Recommends:

- Remove outdated Objectives for Rainy River
- Develop set of Objectives for Total Phosphorus, for sub-segments of Lake of the Woods and Rainy River
- Establish Alert Levels for reduced list of routinely monitored substances

Phase 2: Starting soon

- Develop specific metrics for Total Phosphorus in Lake of the Woods and Rainy River segments
- Provide Board with metrics to track and report on priority Alerts for other issues

### 2. Aquatic Invasive Species Risk Assessment

Broad-scale Assessment: Partnership project with International Multi-Agency Arrangement

- Identify, prioritize highest risk species to the basin, prevention needs and priorities
- Scope of Work developed, start up anticipated soon.

Detailed Assessment / Susceptibility Analysis:

- Zebra / quagga mussel proposal in development

### 3. Wild Rice Mapping Proposal (in development)

- Partner project with Grand Council Treaty 3

### 4. State of the Basin Report Proposal (in development)



# Adaptive Management Committee

Co-chairs: Teika Newton and Ryan Maki

- This is the newest committee of the Board. In September 2019 its Directive was approved by IJC Commissioners.
- The Committee formed in 2020 and is developing its first year work plan.
- Expected activities will include:
  - considering information that describes how the 2018 rule curve changes affect water levels and flows in the Rainy and Namakan system, including how various interests are impacted, and
  - making recommendations for modifications to the rule curves to address more current knowledge and/or changed conditions of the system.
  - overseeing the Board's implementation of the IJC climate change guidance framework

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# Engagement Committee

## Co-Chair: Kelly Sjerven

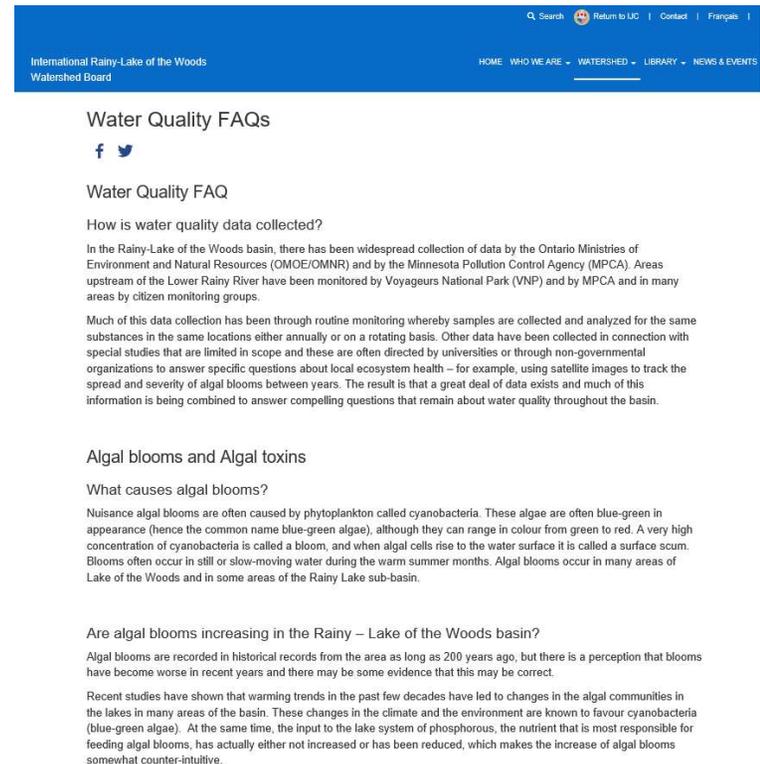
- Addresses three main communications areas:
  1. Informing the public
  2. Educating the public, agencies and stakeholders
  3. Engaging with the International Joint Commission, the Board, including Board committees, and advisory groups.
- Formed in August 2015 with local and agency members on the Board, as well as from the Community and Industry Advisory Groups
- Produced and implements a strategic communications plan for the Board



# Engagement Committee

## -- Ongoing Activities --

- Developing public engagement tools including:
  - Website improvements
  - Answers to FAQs
  - Information materials about the Board and its committees
  - Identifying ways for the public to become involved
  - IWI Project: Project WET



The screenshot shows the website for the International Rainy-Lake of the Woods Watershed Board. The header includes a search bar, navigation links for 'Return to UC', 'Contact', and 'Français', and a main menu with 'HOME', 'WHO WE ARE', 'WATERSHED', 'LIBRARY', and 'NEWS & EVENTS'. The page title is 'Water Quality FAQs', with social media icons for Facebook and Twitter. The main content is titled 'Water Quality FAQ' and addresses the question 'How is water quality data collected?'. It explains that data is collected by the Ontario Ministries of Environment and Natural Resources (OMOE/OMNR) and the Minnesota Pollution Control Agency (MPCA) in the Rainy-Lake of the Woods basin, and by Voyageurs National Park (VNP) and MPCA in other areas. It also mentions that data is collected through routine monitoring and special studies. Below this, there is a section for 'Algal blooms and Algal toxins' which asks 'What causes algal blooms?' and explains that nuisance algal blooms are caused by cyanobacteria. It also asks 'Are algal blooms increasing in the Rainy – Lake of the Woods basin?' and provides information on historical records and recent studies showing an increase in algal blooms due to warming trends and phosphorus input.

# Advisory Groups

## Community Advisory Group:

### Co-chairs: Matt Myers and Doug Franchot

- Meets 4 times per year; face to face twice per year.
- Acts as the “eyes and ears” on the ground for the Board, monitoring and reporting on issues of potential ecological concern around the Basin, as per the Board’s Directive.

## Industry Advisory Group:

### Co-chairs: Mike Hirst and Greg Chapman

- Meets regularly via teleconference; face to face once per year.
- Serves as conduit for industry concerns for the Board.

**Interested in adding your voice?  
Please indicate your interest in the chat box!**

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# International Watershed Coordination Program

## Lake of the Woods Water Sustainability Foundation

- Program led by the Foundation, in partnership with IJC, ECCC and MPCA/Koochiching Soil and Water Conservation District
- Enhance collaboration
  - Local, regional, binational scales
- Special project support to IJC and Board
  - Revised Objectives & Alerts
  - Adaptive Management
- Coordinator for the International Multi-Agency Arrangement
- Cross-border Civic Engagement
  - Watershed Forum
  - Watershed website
  - Ask An Expert series
  - Civic Engagement Workshops
  - Lake Association Network Workshops



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---BREAK---

Don't go away just yet!

Please rejoin us shortly for  
Agency Updates on Toxic and Nuisance Algae

If we did not have a chance to hear your question or comment  
please type it in the chat box

or send an email to the IRLWWB Secretariat

[wellsley.hamilton@Canada.ca](mailto:wellsley.hamilton@Canada.ca) or [scott.a.jutila@usace.army.mil](mailto:scott.a.jutila@usace.army.mil)

You can find more information and updates online at:

<https://ijc.org/en/rlwwb>

# Public Update on Toxic and Nuisance Algae

Rainy-Lake of the Woods Watershed

October 2, 2020



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada

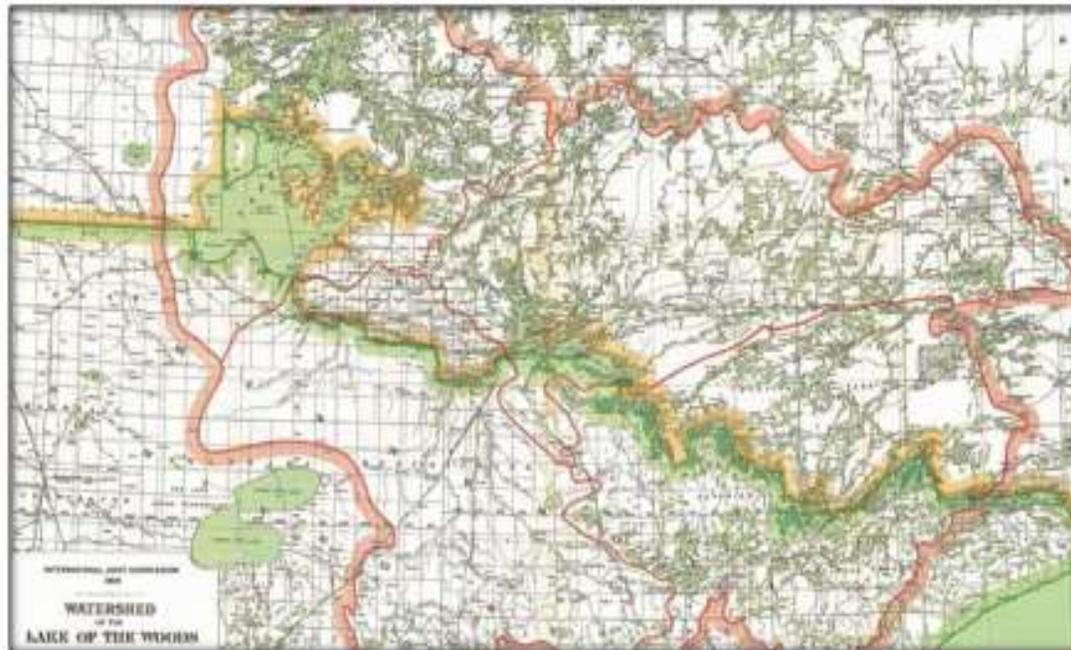
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2. Update from the Minnesota Pollution Control Agency (MPCA) on the Lake of the Woods Total Maximum Daily Loads Study	Cary Hernandez
3. Questions for MPCA and Discussion	Facilitated by Barb Sweazey
4. Update from Environment and Climate Change Canada (ECCC) on the Rainy-Lake of the Woods Science Plan	Daniel Rokitnicki-Wojcik
5. Questions for ECCC and Discussion	Facilitated by Barb Sweazey
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# Lake of the Woods TMDL Study



**Cary Hernandez**  
Project Manager

**Minnesota Pollution**  
Control Agency

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**Nuisance algal blooms are observed in LoW's southern waters nearly every summer / fall over the last ~ 20 years**



Courtesy of Red Lake DNR, K. Bowe. Aug. 2013



Courtesy of Lisa Scheirer, MPCA, Sept. 2017

## Clean Water Act

- Monitor surface waters
- Assess against standards
- List (federal 303d list)
- Conduct a Total Maximum Daily Load Study (TMDL)
- Set goals/targets for restoration

## Nuisance Algae Bloom, 2006

In 2008, Lake of the Woods was placed on the federal 303 (d) list as impaired for aquatic recreation due to excess nutrients.



GREG MCCULLOUGH, AFTER MODIS RAPID RESPONSE TEAM, U. MARYLAND

Satellite image showing algal blooms in south basin of Lake of the Woods, October 5, 2006.

# Lake of the Woods Standards

- ▶ Northern Lakes and Forests (NLF) Aquatic Recreation (Class 2B waters) standards
- ▶ Total Phosphorus -  $\leq 30$  ppb
- ▶ Chlorophyll – A (response variable) -  $\leq 9$  ppb
- ▶ Secchi disk (response variable) -  $\geq 2.0$  meters

	Total Phosphorus	Chlorophyll - a	Secchi
NLF Standard	$\leq 30$ ppb	$\leq 9$ ppb	$\geq 2.0$ meters
Lake of Woods Mean (1999, 2005, 2006)	36 ppb	9.9 ppb	1.3 meters

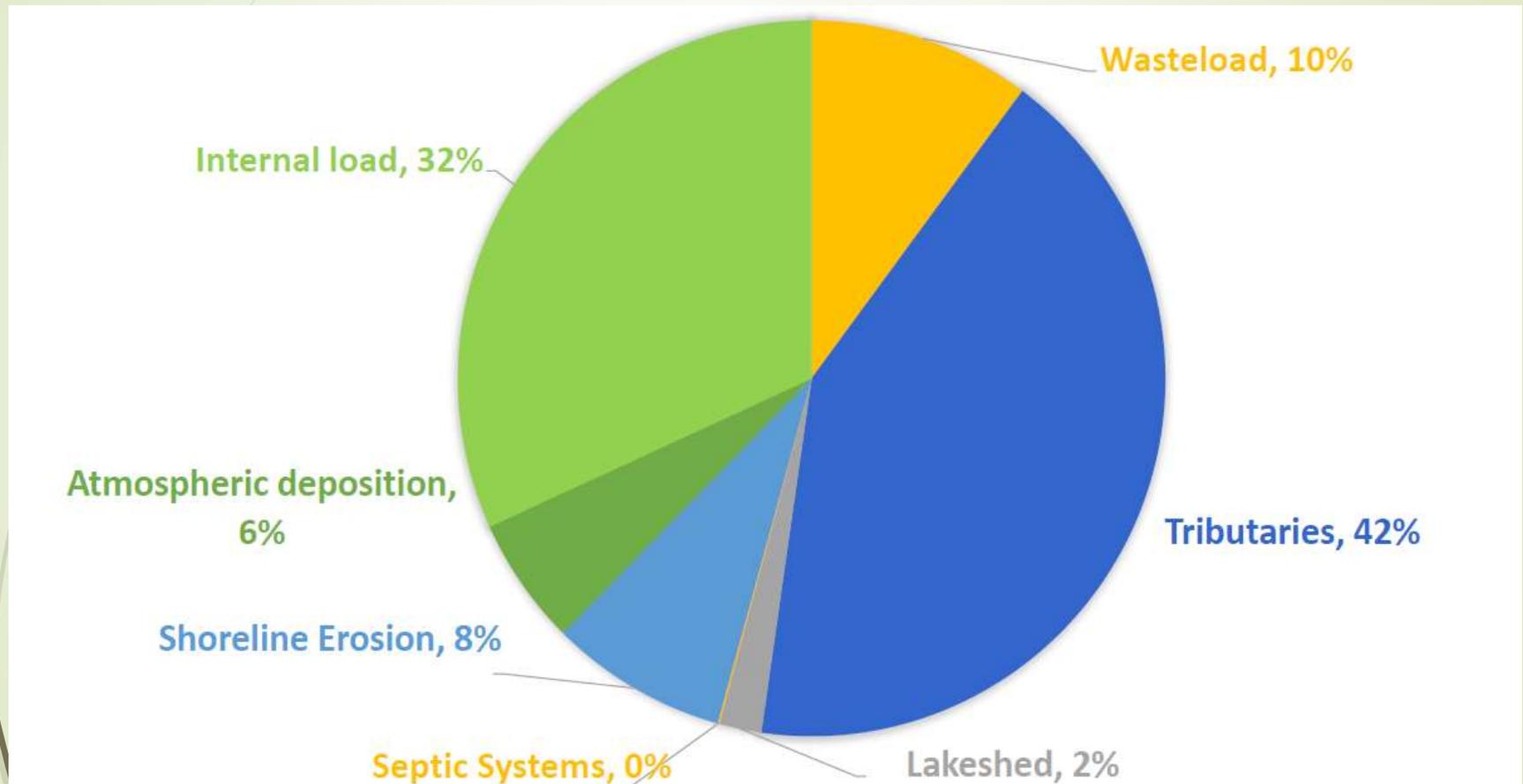
## Total Maximum Daily Load (TMDL)

- **TMDL Definition**
  - **Assimilative Capacity**
- **TMDL Analysis**
  - **Waste Load Allocation – Point Sources**
  - **Load Allocation – Non-point sources**
  - **Margin of Safety**
  - **Reserve Capacity for future growth**

## Pre-TMDL Research Began in 2009

- USGS - Water Quality and Quantity Sampling and Monitoring (**complete**)
- MPCA/SCSU – BATHTUB/FLUX Modeling (lake) (**complete**)
- RESPEC – HSPF Modeling (watersheds) and updated BATHTUB (**complete**)
- NRRI - Paleolimnology Assessment (**complete**)
- SMM - Historical Nutrient Budget Study, 2 Phases (**complete**)
- U of M – Updated Land Use Mapping and Analysis (**complete**)
- UW-Stout - Internal Phosphorus Loading Sources (**complete**)
- UW-Stout- Sediment Phosphorus Dynamics (**complete**)

**LoW Total Phosphorus budget from 2005-2014 study period.  
What are the sources ?**



## Reduction Overview

- Overall in-lake Phosphorus goal:  $\leq 30$  ppb Phosphorus
- Overall current Phosphorus loading (all sources): 885,952 kg/yr
- Overall Phosphorus reduction required: 17.3%
- Reductions from United States
  - Assumed 16% reduction in shoreline erosion
  - 1% annual decrease in Lake of the Woods internal loading for 25-year period
- Reductions from Canada
  - 1 – Abitibi (reduction occurred after TMDL listing)
  - 2 – Lake of the Woods Internal loading (reduction prorated based on % area in Canada)

## LOW TMDL Study

- TMDL went through three iterations of review mainly focused on use of attenuation
- MPCA has dropped attenuation from the load allocations
- Received EPA's preliminary approval to move the TMDL to public notice
- The document is currently undergoing final MPCA internal review

## Next Steps

- 30-day Public Notice Period
- ~~Public Meetings in International Falls, Baudette, and Warroad and a WebEx-style meeting for international partners~~
- Planning two to three WebEx-style meetings
- Address comments received during public notice period and revise the draft TMDL study as necessary
- Submit TMDL study to EPA for final approval

# Agenda

1. Welcome, Introductions, Review of Agenda	Mike Goffin
2. Update from the Minnesota Pollution Control Agency (MPCA) on the Lake of the Woods Total Maximum Daily Loads Study	Cary Hernandez
3. Questions for MPCA and Discussion	Facilitated by Barb Sweazey
4. Update from Environment and Climate Change Canada (ECCC) on the Rainy-Lake of the Woods Science Plan	Daniel Rokitnicki-Wojcik
5. Questions for ECCC and Discussion	Facilitated by Barb Sweazey
6. Closing Remarks and Adjournment	Mike Goffin

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***Slides to be provided.***



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Canada

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