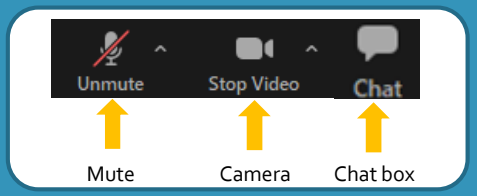

INTERNATIONAL RAINY-LAKE OF THE WOODS WATERSHED BOARD

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 / 819 209 0309)* or Chris *(crs.andrews@gmail.com / 902-452-7815)* for assistance.

INTERNATIONAL RAINY-LAKE OF THE WOODS WATERSHED BOARD

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

1. Welcome, Introductions, Review of Agenda	Mike Goffin
2. Recognizing the Right Honourable John Turner	Todd Sellers
3. Virtual Housekeeping	Barb Sweazey
4. Intro to the IJC and the IRLWWB	Mike Goffin
5. Board Activities • Water Levels Committee • Aquatic Ecosystem Health Committee • Adaptive Management Committee	Scott Jutila Todd Sellers Teika Newton
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The Right Honourable John Turner

1929 - 2020

Photo credit: CBC Canada

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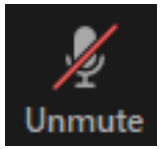
How we should work together today?

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

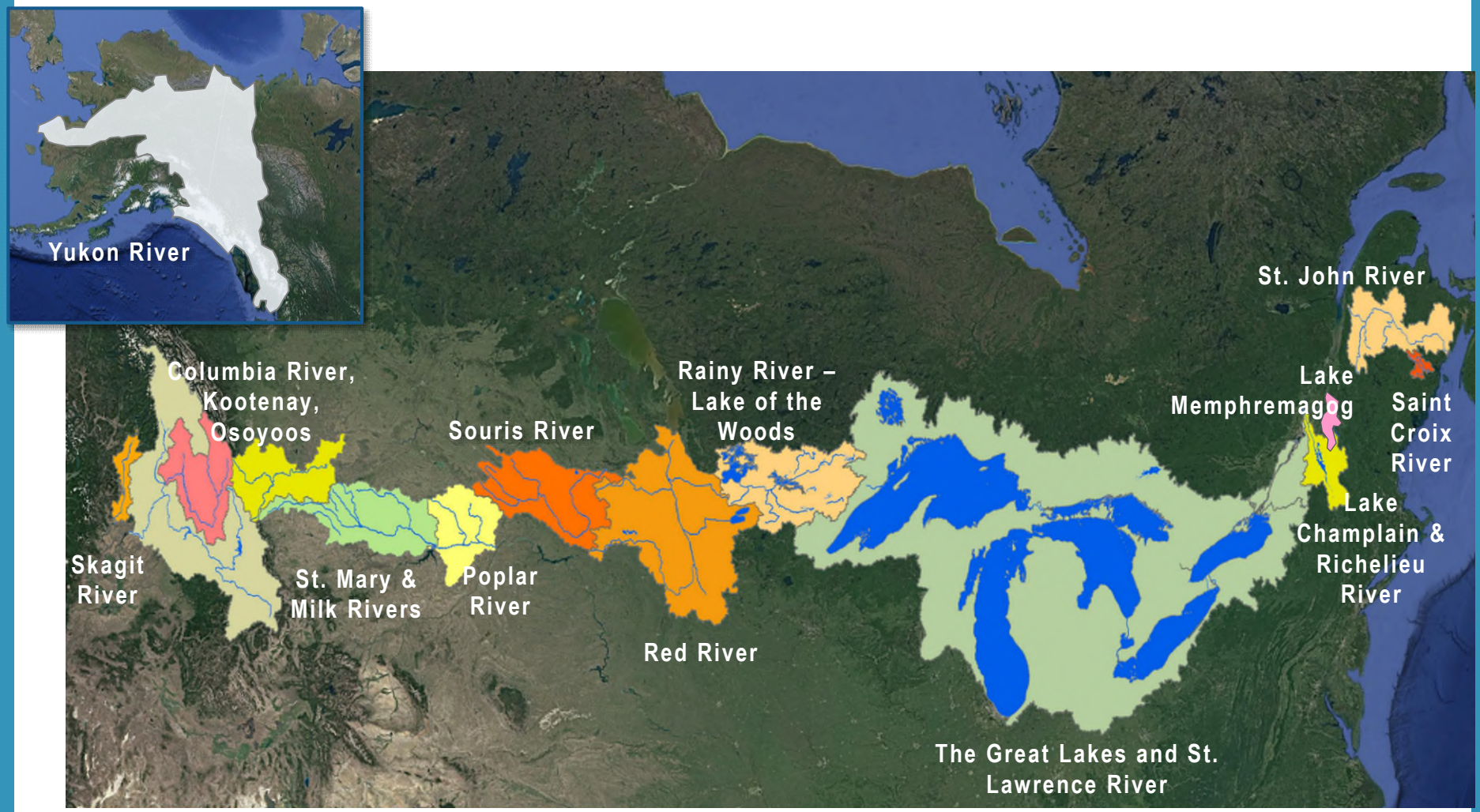
Established by the 1909 Boundary Waters Treaty as an independent, objective and binational body.

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

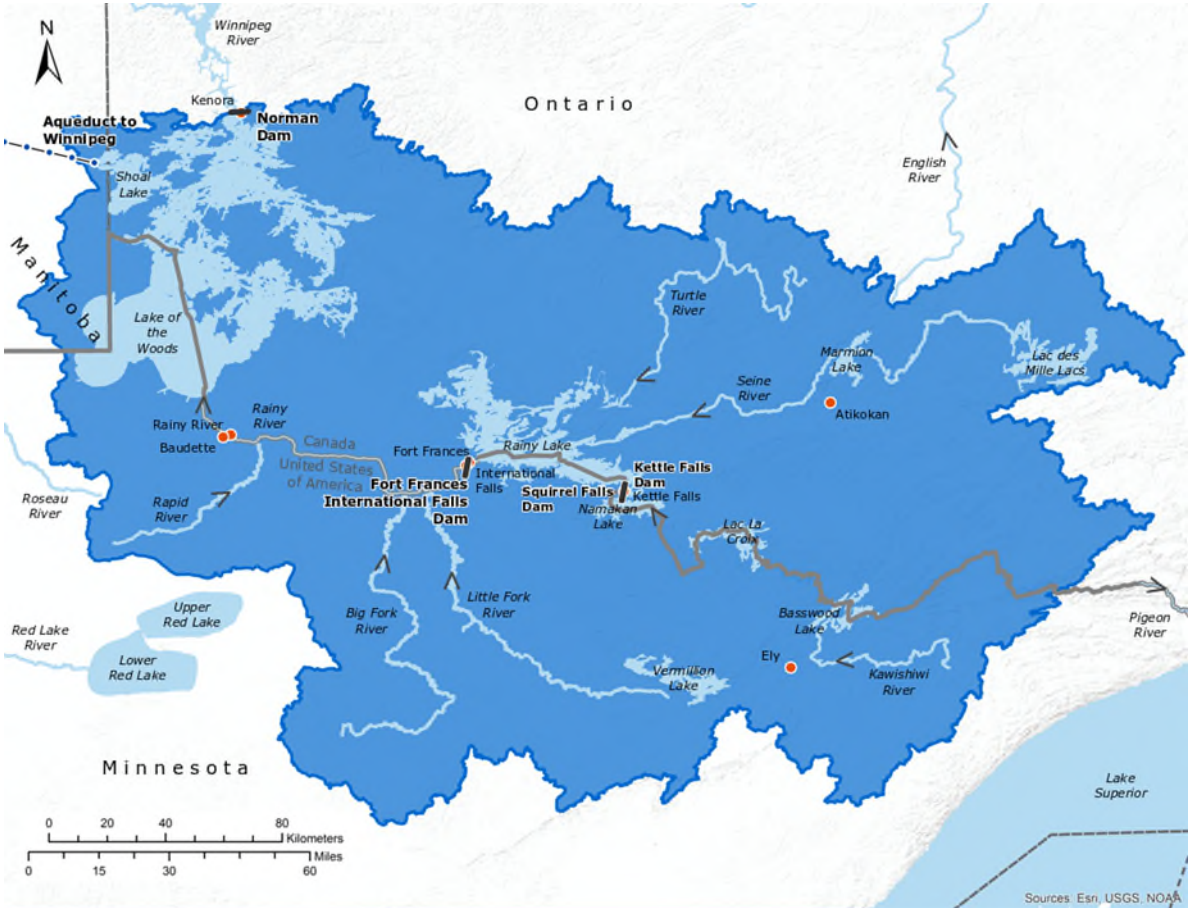
- 70,000 square km (27,000 square miles)

INTERNATIONAL BOUNDARY

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

WATERSHED

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



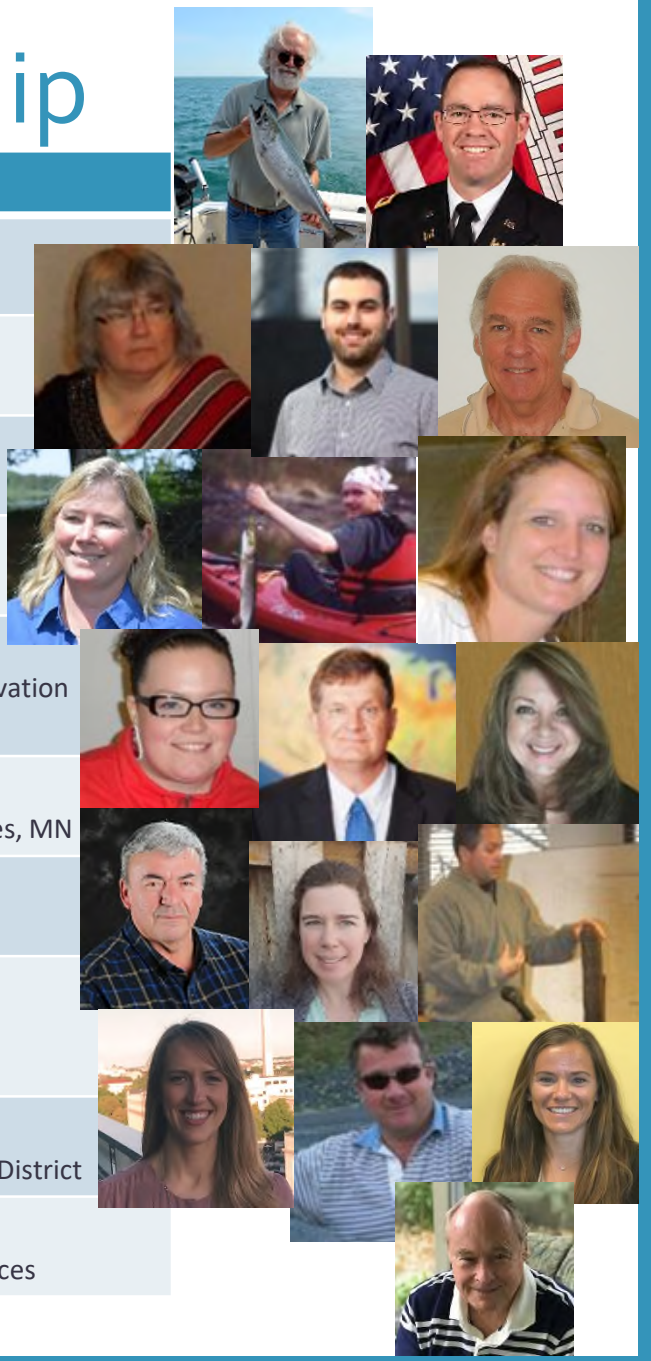
Board Mandate

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

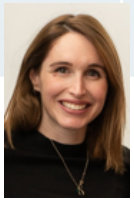
Current Board Membership

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



Board Support

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

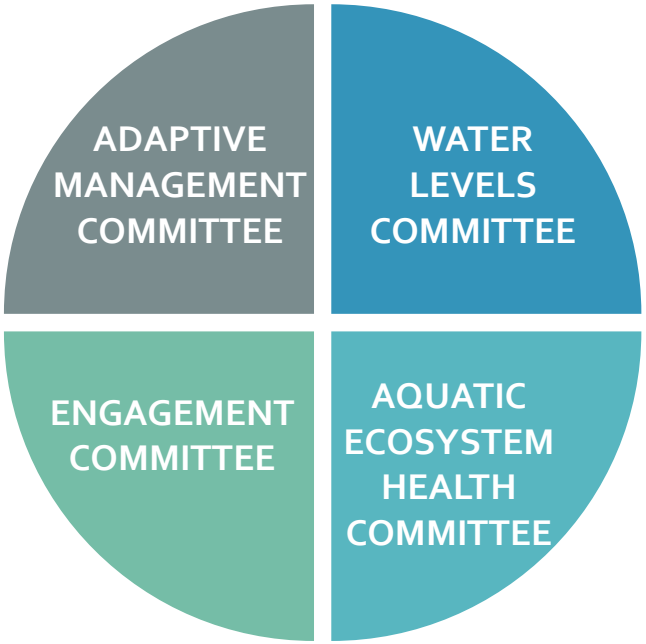


Board Operations

International Rainy-Lake of the Woods Watershed Board

Foundation & Partners

FOUR COMMITTEE STRUCTURE



PUBLIC ENGAGEMENT

- COMMUNITY ADVISORY GROUP
- INDUSTRY ADVISORY GROUP

COORDINATION

- INTERNATIONAL WATERSHED COORDINATION PROGRAM

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Water Levels Committee

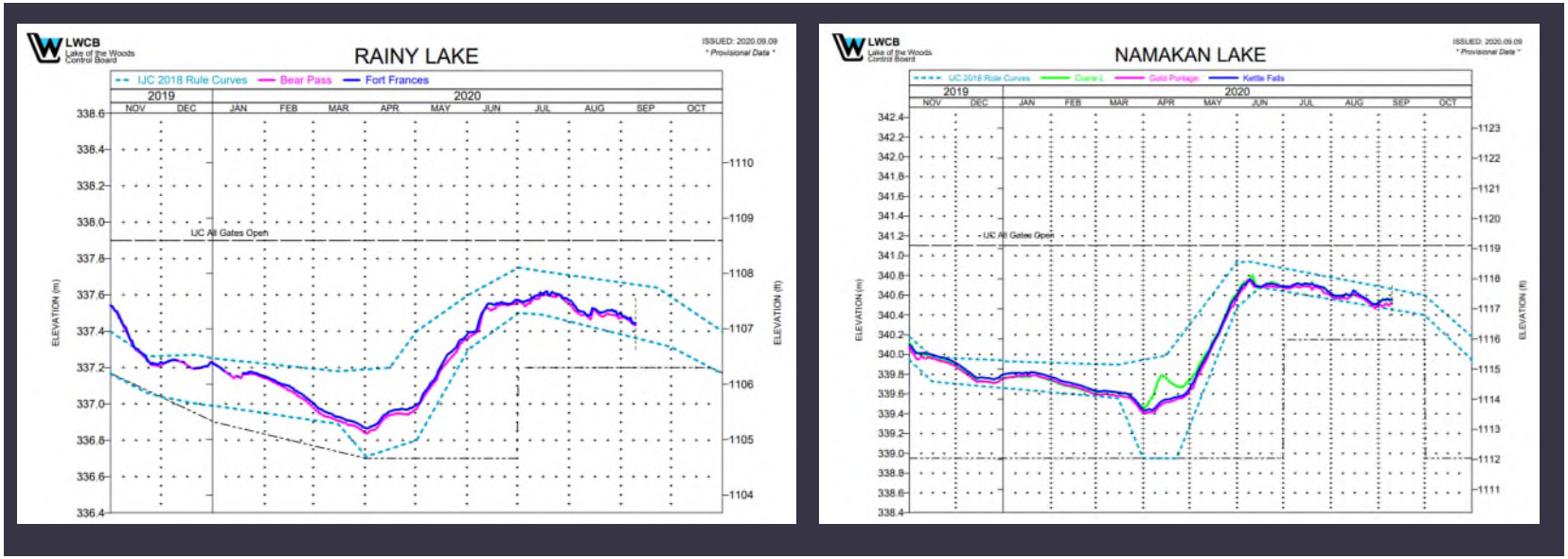
Co-Chairs: Erika Klyszejko and COL Karl Jansen

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

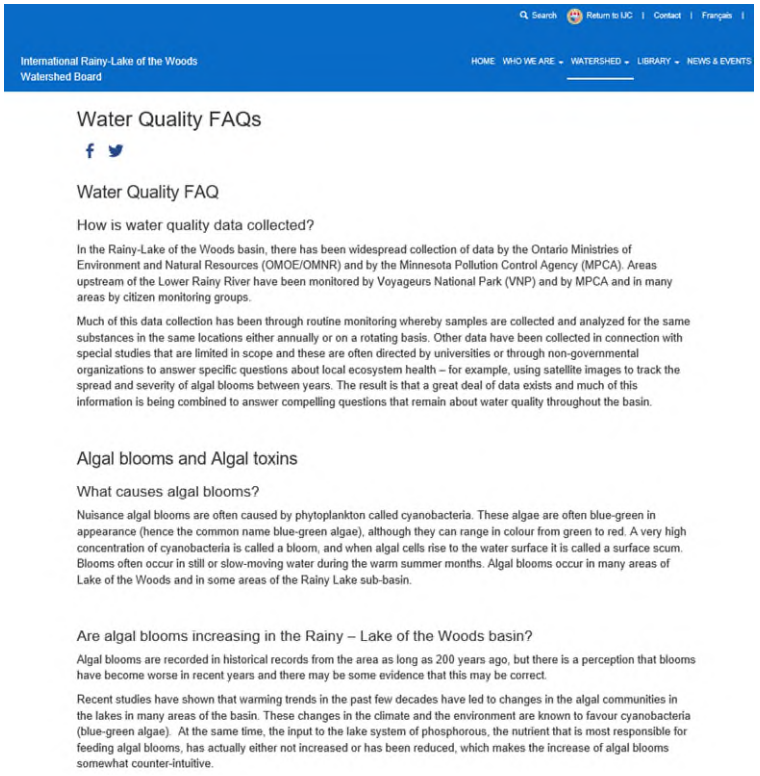
- Addresses three main communications areas:
  1. Informing the public
  2. Educating the public, agencies and stakeholders
  3. Engaging with the International Joint Commission, the Board, including Board committees, and advisory groups.

- 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



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 or 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

MINNESOTA POLLUTION CONTROL AGENCY

Environment and Climate Change Canada | Environnement et Changement climatique Canada

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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
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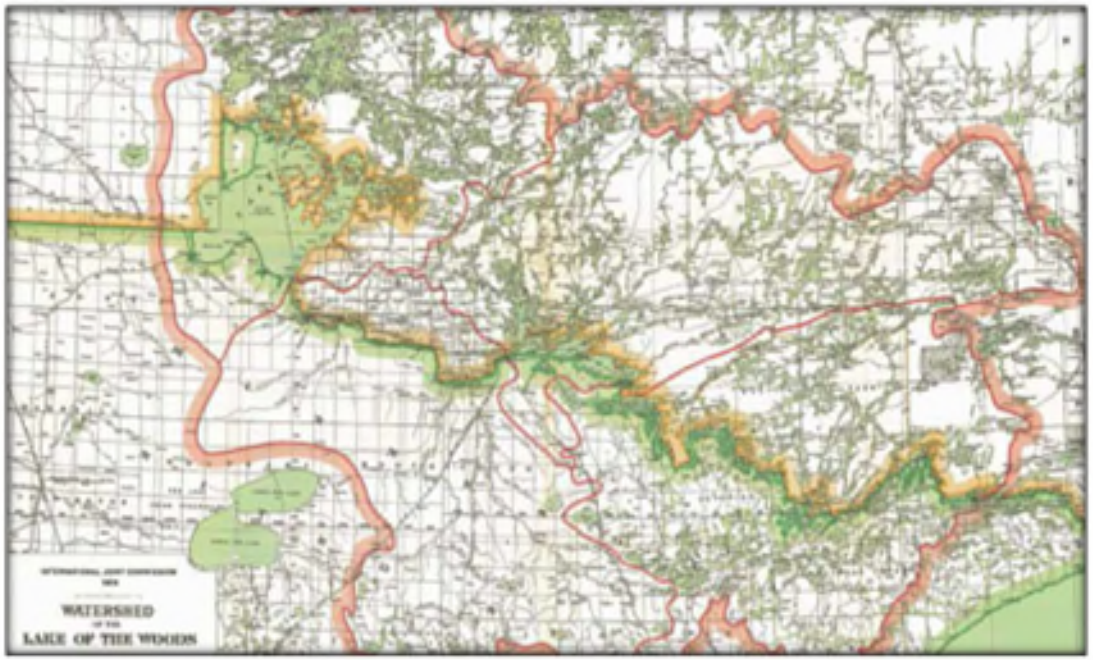
Lake of the Woods TMDL Study



Cary Hernandez
Project Manager

Minnesota Pollution Control Agency

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.

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 - ≤30 ppb
- Chlorophyll – A (response variable) - ≤9 ppb
- Secchi disk (response variable) - ≥ 2.0 meters

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

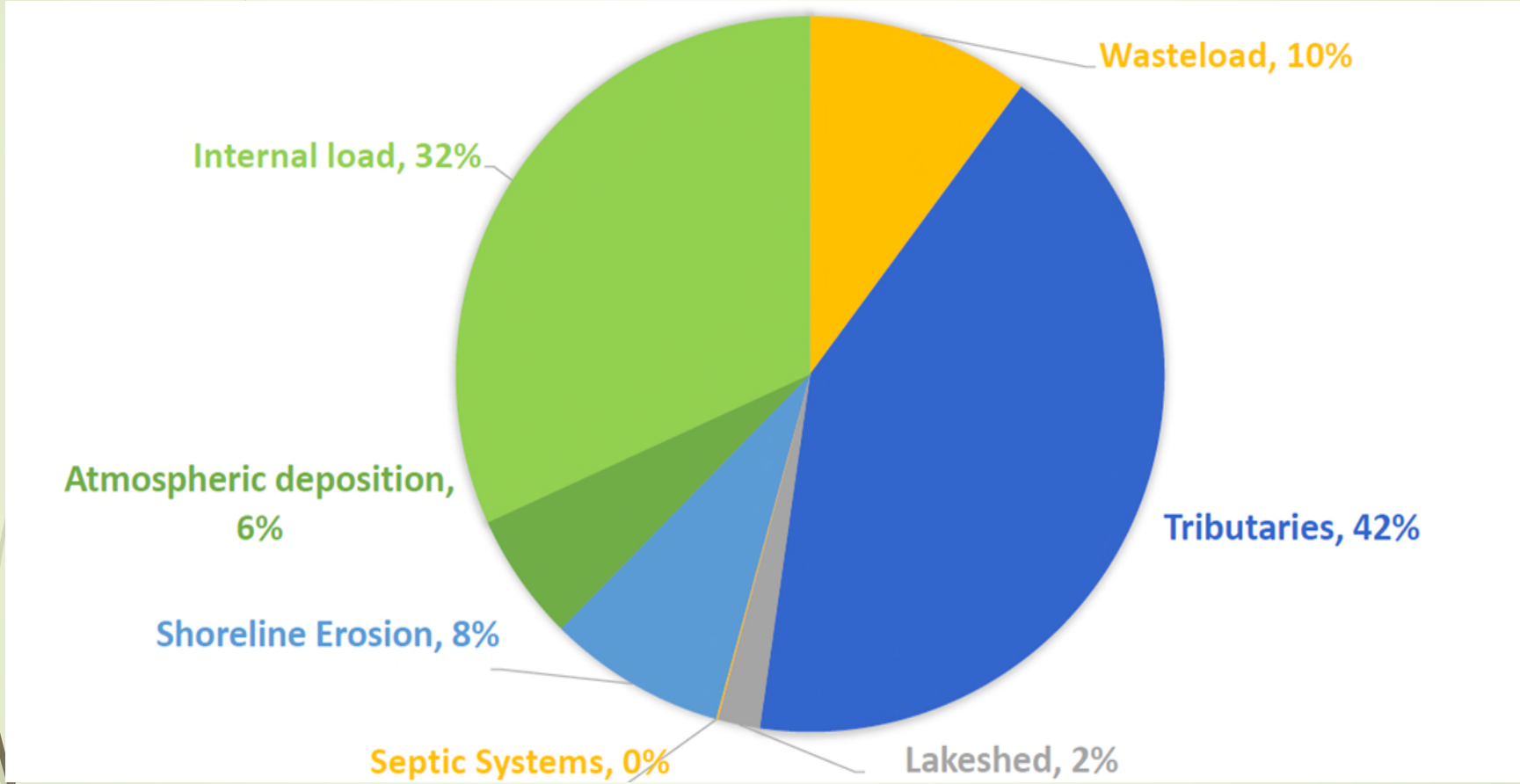
Total Maximum Daily Load (TMDL)

- 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: ≤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

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Lake of the Woods Update

IJC-IRLWWB Public Meeting

October 2, 2020

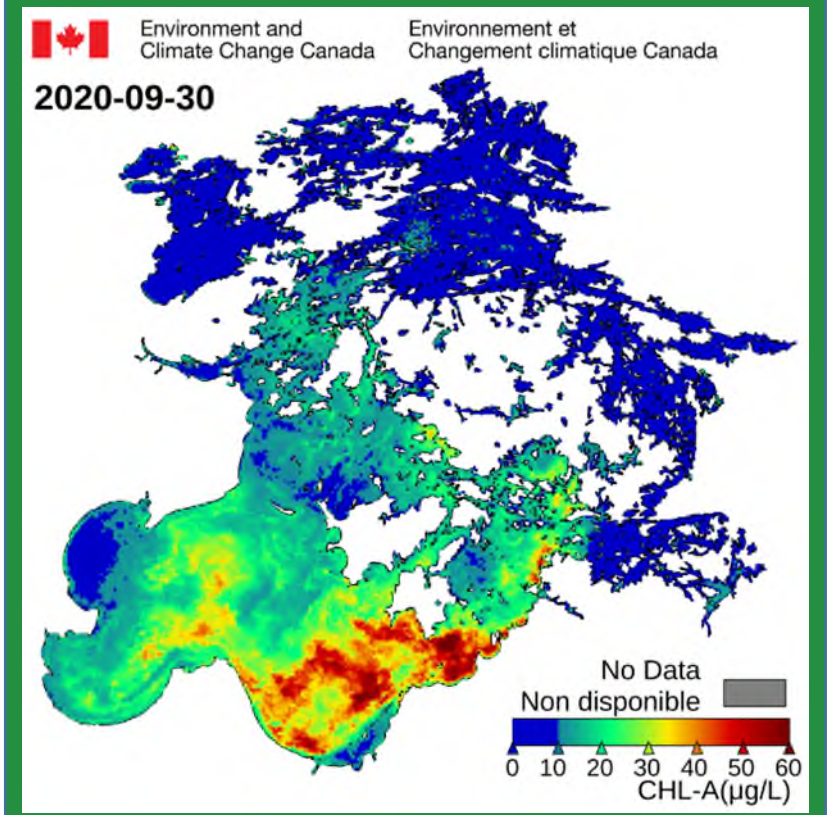
Daniel Rokitnicki-Wojcik
Marie-Claire Doyle
Strategic Policy Branch – Ontario Region
Environment and Climate Change Canada
ec.lacdesbois-lakeofthewoods.ec@canada.ca

Overview

- **Update on Activities**
  - Completion and Outcomes of 4-year Science Plan
  - Moving from Science to Policy: assessing science to identify ecosystem objectives and load reduction scenarios
- **Next Steps: Engagement**
  - Engaging on what?
  - Engaging who?
  - Engaging how and when?
- **Questions**

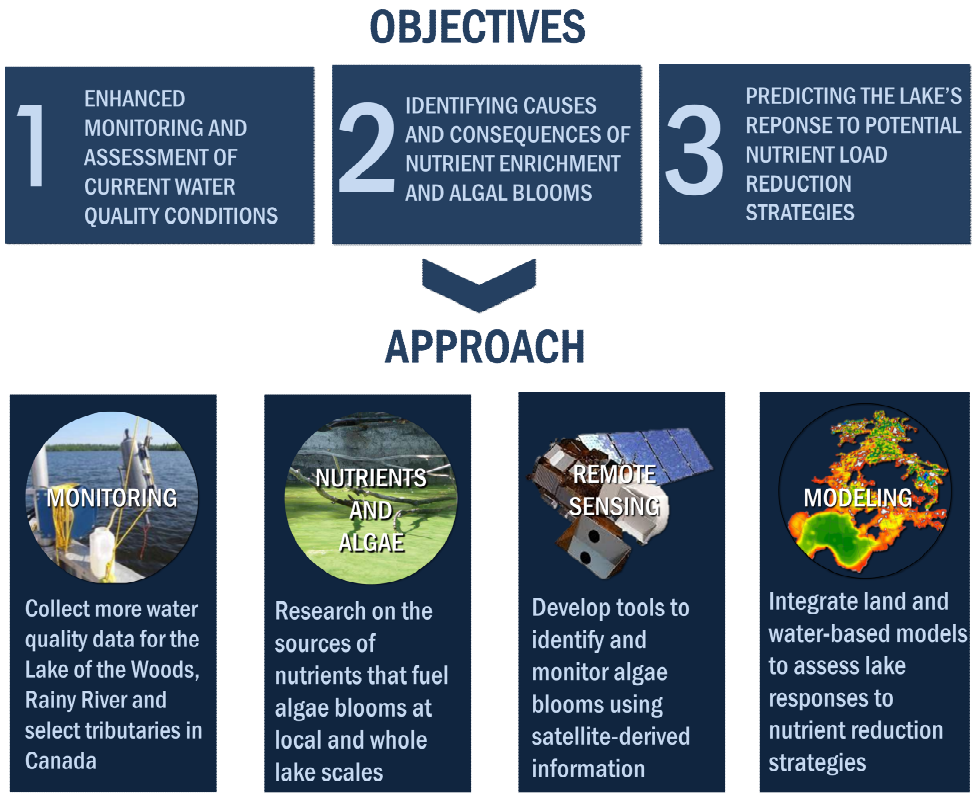
Why Does ECCC Have a Focus on Lake of the Woods?

- Focus on freshwater and mandate to increase protection for large lakes
- **To support taking action on the harmful algal blooms that continue to persist and affect the aquatic ecosystem, lake uses and lake users**
- Contribute world class science and policy experience from across Ontario and Canada to support significant local expertise
- Mandate to work with our domestic and binational partners to establish measures protective of the Lake and improve water quality and aquatic ecosystem health



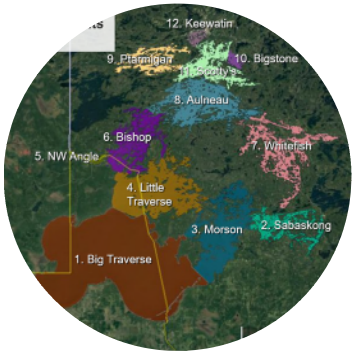
Bloom Extent = 62% of Lake

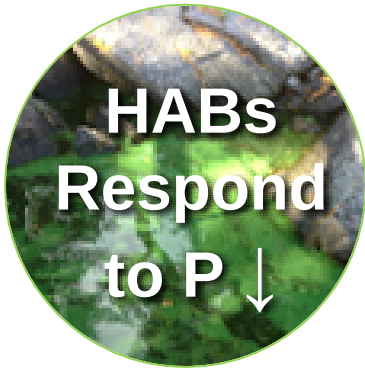
2016-2020 Science Plan

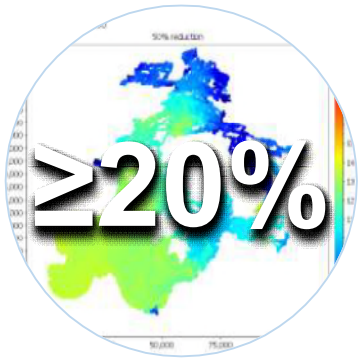


- Completed in March 2020
- Special session at 2020 Science Forum
- Key outcomes of the plan were the development of tools needed to support policy development

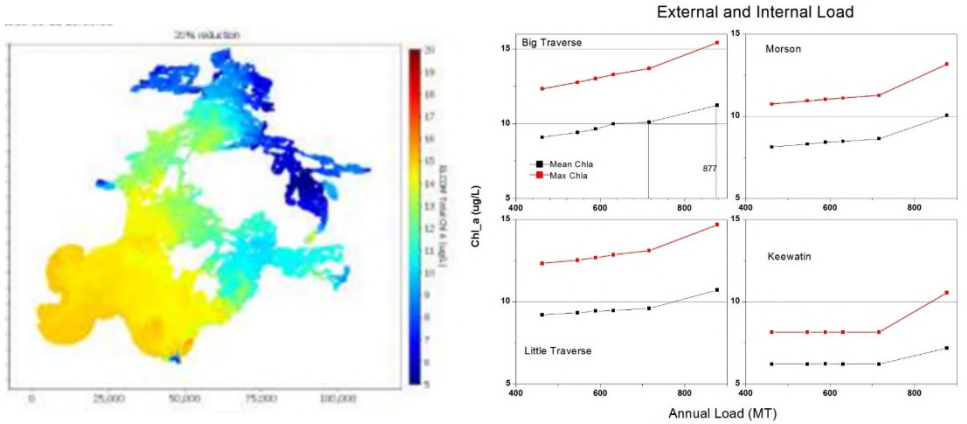
What Have We Learned?



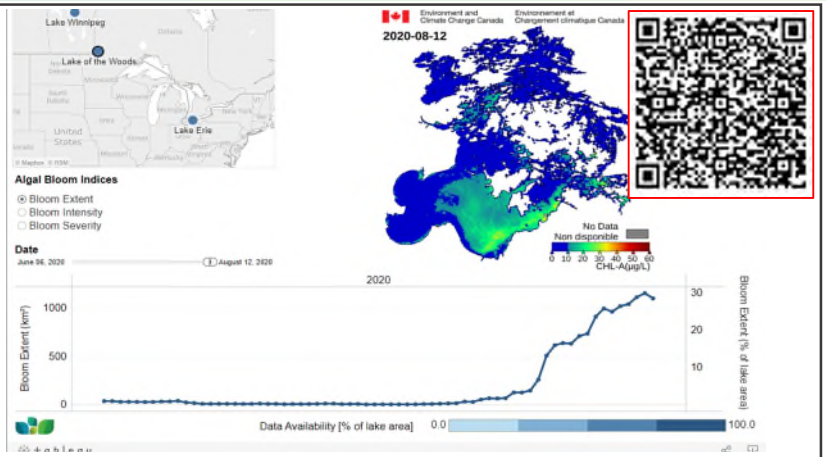




How Have We Advanced Our Scientific Capacity?



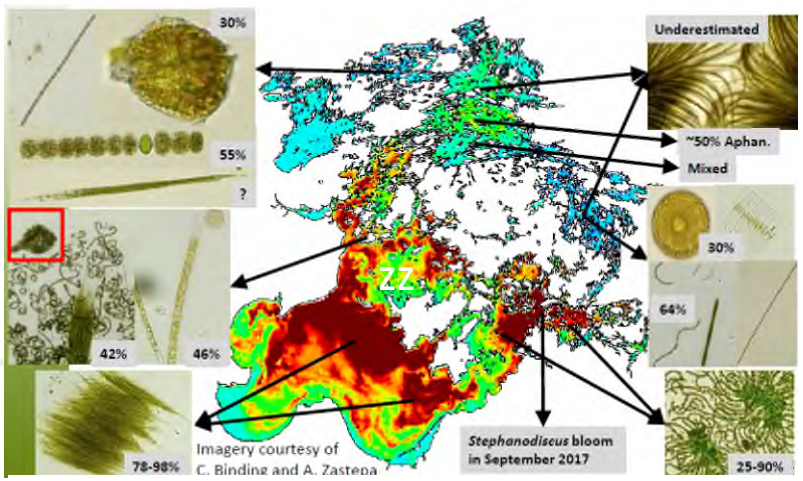
Have Modeled Lake Response to Nutrient Reductions



Online Bloom Reporting/Monitoring Tool using Remote Sensing

Land-use	Percent Area
Forest	46%
Wetland	31%
Water	19%
Range	1%
Agriculture	2%
Urban	1%

Can Identify Nutrient Hotspots and Evaluate Reduction Strategies



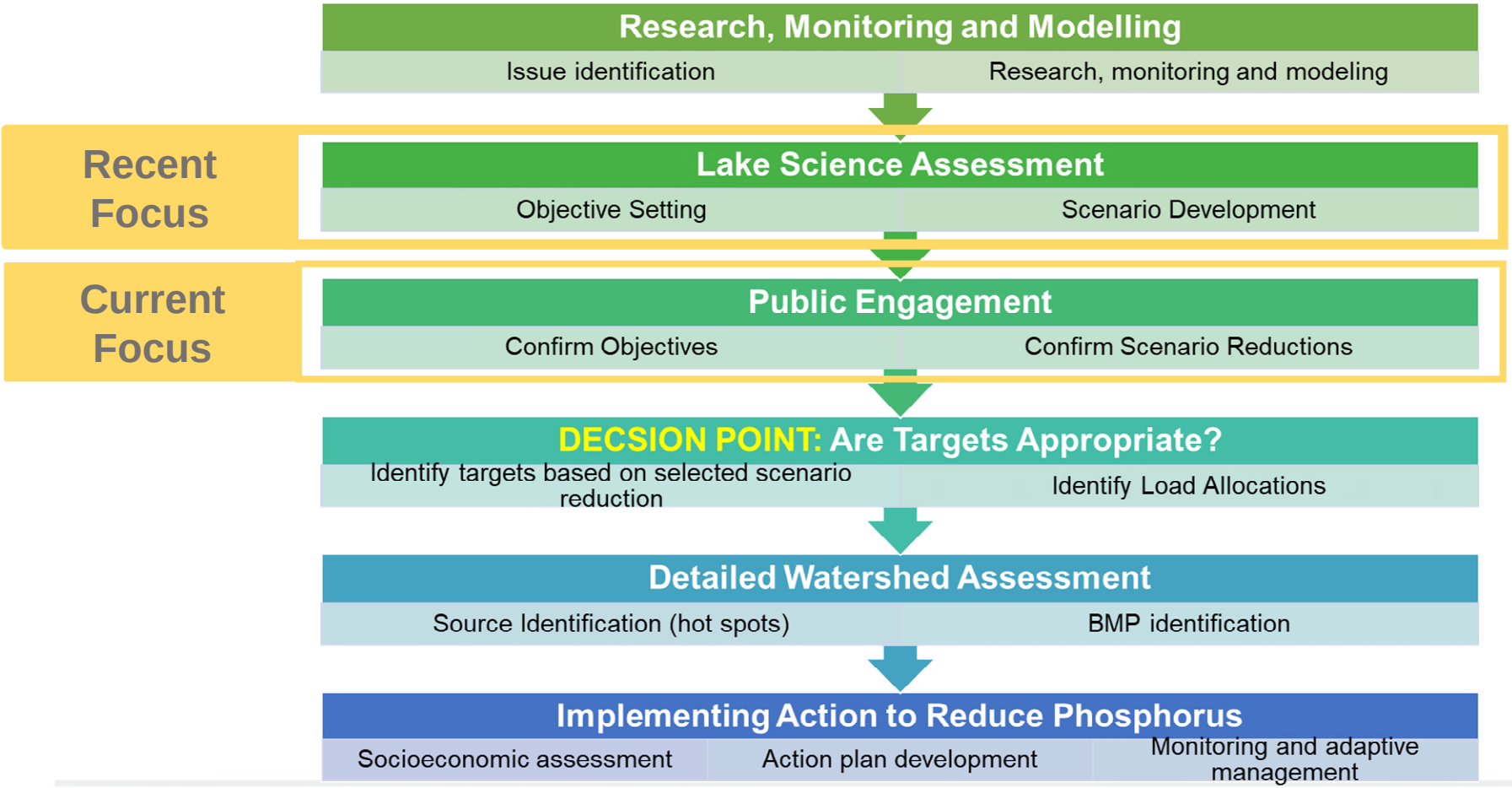
Understand Bloom Diversity and Drivers

How is the Science Being Used to Inform Policy?

- Science Plan designed to support policy development
- The integrated lake-watershed model forms the foundation to simulate and assess lake responses to nutrient reductions

Colour satellite image from the European Space Agency's Sentinel-2 Multispectral Instrument (MSI) capturing an intense algal bloom on Lake of the Woods on August 26 2016.

Path Forward



Governance Structure

Federal-Provincial Work Group

- Policy and science focus
- Consider policy implications of key issues and recommendations

Environment and Climate Change Canada | Environnement et Changement climatique Canada | Ontario Ministry of Natural Resources and Forestry | Ontario Ministry of the Environment, Conservation and Parks

Objectives and Targets Task Team

- Technical team focused on science
- Develop recommendations
- Report to Work Group

Environment and Climate Change Canada | Environnement et Changement climatique Canada | Ontario Ministry of the Environment, Conservation and Parks | Zhaagimaa Waabo | Ontario Ministry of Natural Resources and Forestry | Trent University

Indigenous Peoples

IJC
IMA

Public & Other Partners

International Partners

Information Out & Information In

- Engagement (information sharing and seeking input)
- Updates to and participation in committees and working groups

Task Team: Purpose and Outcomes

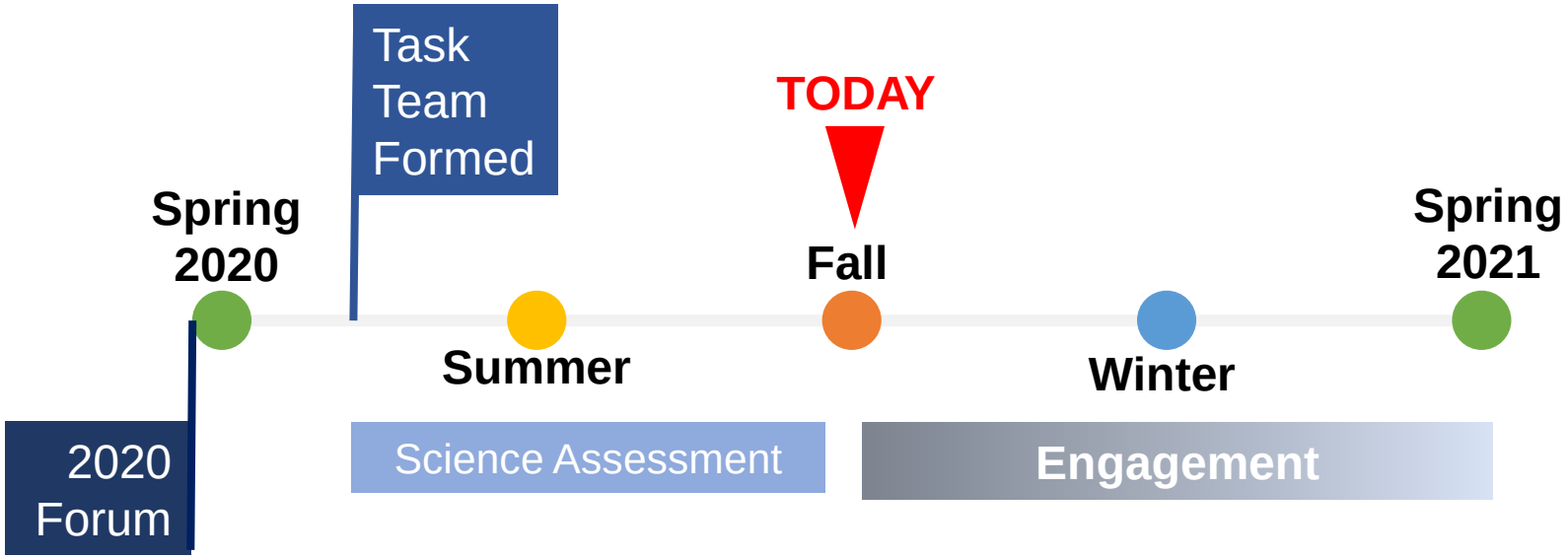
Purpose

- To assess the adequacy of existing science to developing measures protective of the Canadian Portion of Lake of the Woods;
- Focused on the science, policy considerations for Work Group and next phases

Assess if the science is sufficient to recommend setting targets	Recommend draft Lake Ecosystem Objectives and indicators to assess them	Develop and recommend phosphorus reduction scenarios to inform next steps

Outcome(s): Findings and recommendations to inform engagement with LOW community and Indigenous Peoples on desired outcomes and reduction scenarios

Timeline



- This timeline coincides with the pandemic and although we have faced challenges, we have and continue to make progress

Process for Developing Objectives and Scenarios

Desired Outcomes

Lake Ecosystem Objectives

Options might include:

- Lake Productivity
- Oxygen levels
- Extent, duration and severity of algal blooms
- Water clarity

Will the Lake Respond? How?

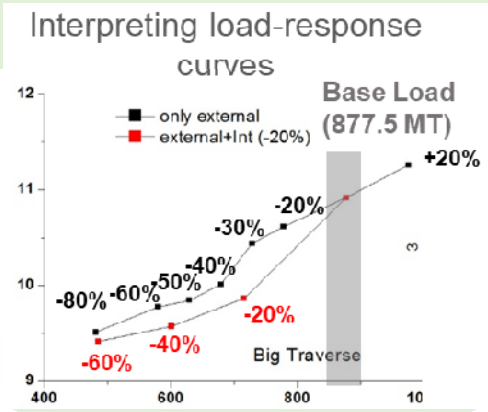
Ecosystem / Eutrophication Response Indicators

Example Indicators:

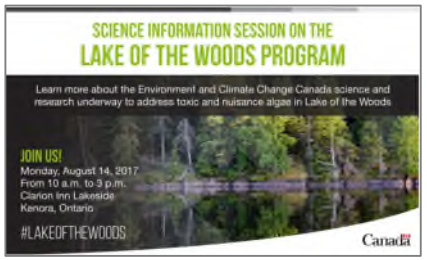
- Summer mean Total Phosphorus
- Algal biomass
- Bloom metrics

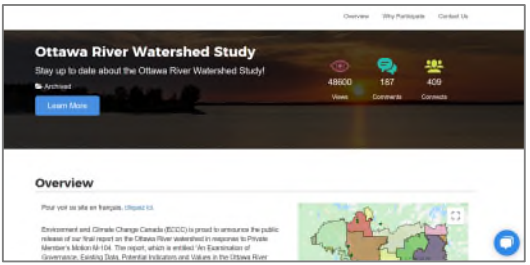
At what level of reduction will the desired outcome(s) be achieved?

Recommended Scenario(s)



Where Are We Now?





- **Task Team has completed its assessment**
  - findings and recommendations presented to the Fed-Prov Work Group for their review
- **Engagement to begin in Oct/Nov**
  - share information and get your feedback on science plan findings, task team findings and other questions to inform decision-making on targets or other measures
- **Working with local organizations to plan, host and promote events**

Who Are We Engaging?

LOWWSF leading coordination, facilitation and promotion of public engagement, including advice on best approaches for connecting with public and stakeholder groups to receive input.

Groups under consideration include:

- General Public
- Lake Associations
- Tourism Organizations
- Resorts / Lodges
- Municipalities / Townships
- Traditional Media
- Non-Governmental Organizations
- **IJC Watershed Board and its Advisory Groups**
- Industries / Community Businesses / Business Associations-Chambers
- Local Service Clubs
- Basin Science Community
- Local influencers

Indigenous Engagement

GRAND COUNCIL TREATY #3
THE GOVERNMENT OF THE ANISHINAABE NATION IN TREATY #3
Zhaagimaa Waabo

- Continuing our partnership to engage and share information with the community on science and other work

- Working with the MNO to design and host community engagement with local Region 1 citizens

Métis Nation of Ontario

What Are We Engaging On?

Lake Outcomes

- Do they reflect what we want to lake to look like?
- Are there other objectives we are missing related to nutrients?

Phosphorus reduction scenarios

- Feedback and discussion on the level of phosphorus reduction required to meet/achieve outcomes
- Discussion of what scenarios represent and their implications

Specific questions on the algae issue and targets

- We want to hear your thoughts on phosphorus reduction options and targets for managing nutrient enrichment and toxic algal blooms in the lake

How Can You Participate?

LOWWSF facilitating and coordinating engagement

- Visit the online PlaceSpeak Portal **Coming Soon!**
  - Read engagement material
  - Join discussions to contribute your opinions
  - Take part in Polls/Survey
- Developing a 10-page engagement brochure
- Join Virtual sessions with ECCC policy and science teams to hear all about the process **Starting in November!**

What Types of Questions will ECCC seek input on?

- Should the Canadian Federal and Provincial governments establish a phosphorus reduction target (or targets) for Lake of the Woods?
- If so, at what levels should a target(s) be set?
- Should Canada-US seek a harmonized phosphorus reduction target?

- What strategies should be pursued to achieve phosphorus reduction targets?
- Who should be responsible for implementing those strategies?

- What further science is needed, either to increase understanding of the Lake of the Woods algae problem, or to assess and report on progress towards achievement of targets?

How Are We Working With MPCA?

Canada-US continue to work together towards a common goal - to reduce nutrient enrichment and manage algal blooms.

- MPCA has conducted their science assessment and has established draft targets for public review.
- Both Parties continue to share science to ensure information and data are consistent
- MPCA/ECCC participation at virtual public engagement sessions
- Both Parties are continuing open communication towards establishing measures protective of the Lake.

Recap

- 4-year science plan ended in March 2020
- The plan represents a significant effort that has created the tools required to move to policy development
- We have developed options and scenarios that will form the basis of our engagement
- **We have outlined to tools and events that you can expect over the coming months**
- **Our focus is to seek your thoughts and advice to inform decision-making on measures protective of the Lake of the Woods - we look forward to your participation!**

Thank You

Contact us at:

ec.lacdesbois-lakeofthewoods.ec@canada.ca

Daniel Rokitnicki-Wojcik

Marie-Claire Doyle

Questions?

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
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