



INTERNATIONAL RAINY-LAKE OF THE WOODS WATERSHED BOARD

SIXTH ANNUAL REPORT

**APRIL 2018
to
MARCH 2019**

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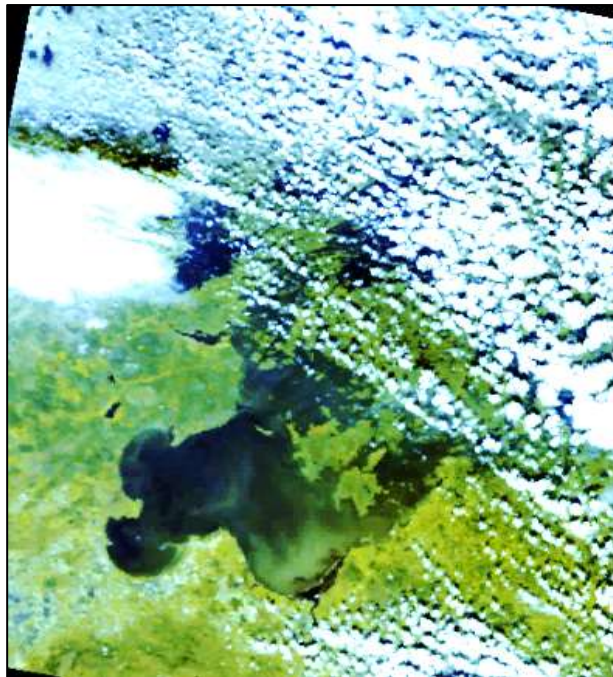
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1 SUMMARY

1.1 Overview of Key Watershed Issues

Aquatic ecosystem health, including water quality, continues to be a concern in the basin. Details on the health of the aquatic ecosystem in the Rainy-Lake of the Woods basin will be provided in the International Rainy-Lake of the Woods Watershed Board's upcoming 2018 Aquatic Ecosystem System Health Report, which is expected to be completed in summer 2019. In the meantime, it is worth noting that Lake of the Woods experienced lighter algae bloom conditions in 2018, as illustrated in the satellite imagery below taken at the end of the algae bloom season.



Lake of the Woods – October 2018. Photo: Sentinel-2 Satellite

The International Rainy-Lake of the Woods Watershed Board (Board) continues to keep track of progress of activities related to the Binational Approach to address nutrients and harmful algal blooms in the Rainy River and Lake of the Woods basin proposed by Global Affairs Canada and United States Department of State. Of note, the State of Minnesota is nearing the end of their target setting process, which is expected to be completed sometime in 2019. Environment and Climate Change Canada science in support of a Canadian decision on targets is continuing.

1.2 Highlights of Board Activities

The Board and its Water Levels Committee continued to place a high priority on outreach and held annual public meetings in International Falls (MN) and Kenora (ON) in August 2018, where we heard concerns regarding water levels and water quality.

The Board continues to work effectively using the three-committee structure established in 2015. The Water Levels Committee, the Aquatic Ecosystem Health Committee and the Engagement Committee have developed capacity to address a broad range of issues related to the basin's hydrology, aquatic ecosystem and public engagement needs and are meeting the objectives outlined in the Board's work plan and mandate.

The Water Levels Committee continued to monitor the water levels of Rainy Lake and the Namakan chain of lakes. The Committee also acted as a technical adviser to the Commission on the matter of water levels regulation in the Rainy Lake watershed. The Committee also communicated regularly with the dam operators in the basin to keep apprised of flow and level changes, maintenance issues and other water level and flow matters of concern. The water levels committee implemented new rule curves for Rainy and Namakan Lakes on 1 August 2018. They also formed a Flood Forecast Advisory Group comprised of U.S. and Canadian flood forecasting agencies to provide advice and communications assistance during flood periods.

Major accomplishments of the AEHC included initiation of the Objectives and Alerts Project. The first phase of this project kicked off in November 2018 and has begun to address the need to develop water quality and aquatic ecosystem health Objectives and Alert Levels relevant to priority issues in the Rainy-Lake of the Woods Basin. The AEHC is also continuing to improve on the annual reporting process. Until revised Water Quality Objectives and an updated list of Alert Levels are in place, the Board will focus interim reports on a few specific priority issues as opposed to providing an exhaustive summary of water quality conditions per previous reports.

The Engagement Committee (EC) continues its work to involve the public in the issues of water quality and quantity in the basin. This past year, the EC has focused its efforts on numerous projects such as the start of the first phase of an IJC IWI-funded project to engage students in the International Falls, Minnesota school system in Project WET, which aims to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources. The EC also worked throughout the year to begin establishing the foundations of a multilateral relationship among the IJC, the Board, Grand Council Treaty #3, the communities of the Treaty #3 Nation, and the various Councils of Treaty #3. This work led to a good first meeting between IJC Commissioners and Grand Council Treaty #3 representatives in October 2018.

The Board worked to ensure active and effective stakeholder engagement through its Community Advisory Group (CAG) and Industry Advisory Group (IAG). The CAG and IAG continue to track issues of concern, keeping its respective members apprised of water quality and water quantity topics and events in the basin, and raising important questions and issues to the Board.

1.3 International Rainy-Lake of the Woods Watershed Board Work Plan (2018-2019)

The Board annually develops a work plan aligned to the Board mandate as provided by the IJC. The work plan guides Board activities and is used to monitor progress of Board actions in relation to assigned roles and responsibilities. A copy of the Board's 2018-19 work plan including year-end status of work plan activities is appended as Appendix 1.

2 INTRODUCTION

2.1 International Rainy Lake of the Woods Watershed Board

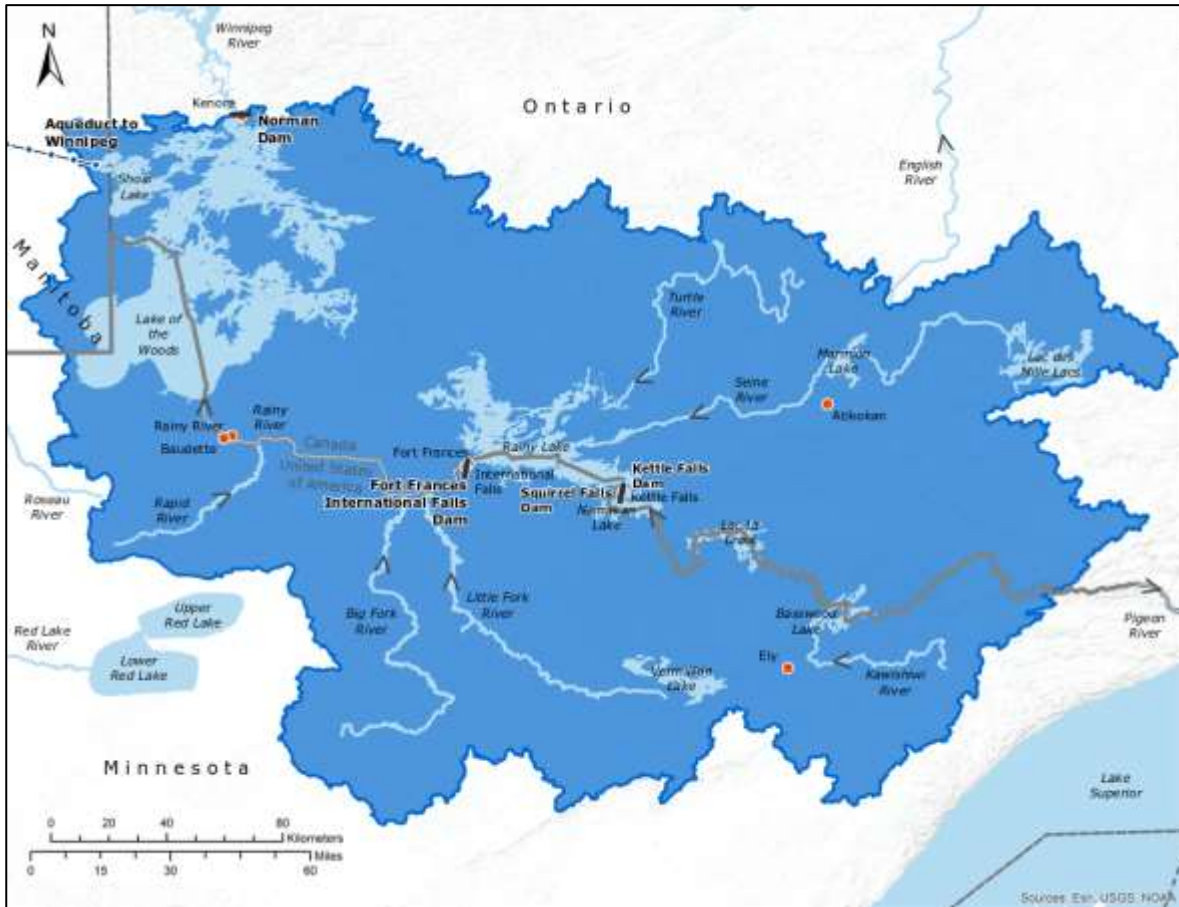
The Board has a mandate to monitor and report on the ecological health of the Lake of the Woods and Rainy Lake boundary waters aquatic ecosystem, including water quality, and to assist the IJC in preventing and resolving disputes regarding the boundary waters of the Rainy-Lake of the Woods watershed. The Board's water regulation mandate is to coordinate the management of water levels and flows on Rainy and Namakan Lakes. The Water Levels Committee retains authority to act independently of the Board in matters of emergency regulation of boundary waters in the watershed.

It is through its three standing committees that the Board maintains awareness of issues and activities of relevance to the binational management of the international waters in the basin and is able to provide information and recommendations to the Commission.

The Board receives local insight and advice to accomplish its mandate through a diverse membership including representation from First Nations, Métis and Tribal communities, and an equal number of non-government and government members. The Board aims to encourage the development of local and regional capacity and promotes public consultation through public meetings and through regular consultation with both a Community Advisory Group and Industry Advisory Group.

2.2 Basin Description

The Rainy-Lake of the Woods watershed covers an area of 27,000mi² or 70,000km². This boundary watershed is situated within the Canadian provinces of Ontario and Manitoba and the U.S. State of Minnesota. See map on next page.



Map of the Rainy-Lake of the Woods watershed. Image courtesy of the International Joint Commission.

3 BOARD MEMBERSHIP

The Board is comprised of ten members from Canada and ten members from the United States representing government agencies at all levels, indigenous communities and local community interests. Over the past year, Board membership changed and appointment of new members is ongoing.

It was with mixed emotions that we learned of Charlene Mason’s resignation from the Board effective January 1, 2019. In addition to her role as Board member, Charlene also served as Engagement Committee co-chair and Community Advisory Group co-chair. Charlene was a tremendous asset to the Board and her dedication and enthusiasm will be greatly missed. Charlene’s replacement has yet to be appointed.

Also, the Board appointed one new Industry Advisory Group Canadian member, Chris Bazinet who represents the hydro industry. This appointment is effective September 2018.

Current Board membership is presented in the following table.

UNITED STATES MEMBERS	CANADIAN MEMBERS
COL Samuel Calkins (Board Co-Chair; Water Levels Committee Co-Chair) St. Paul District, United States Army Corps of Engineers	Michael Goffin (Board Co-Chair; Aquatic Ecosystem Health Committee Member) Environment and Climate Change Canada
Matt Gouin (Local Board Member; Engagement Committee Member; CAG Member) Rainy Lake, MN	Karen Cederwall (Local Board Member; Engagement Committee Member; CAG Member) Kenora, ON
Suzanne Hanson (Board Member; Aquatic Ecosystem Health Committee Member) Minnesota Pollution Control Agency	Greg Chapman (Board Member; IAG Co-Chair) Ontario Ministry of Natural Resources and Forestry
Mike Hirst (Board Member; Aquatic Ecosystem Health Committee Co-Chair; IAG Co-Chair) Lake of the Woods Soil and Water Conservation District	Erika Klyszejko (Board Member; Water Levels Committee Co-Chair) Environment and Climate Change Canada
Holly House (Local Board Member; Engagement Committee Member; CAG Member) Williams, MN	Mark Lee (Board Member; Aquatic Ecosystem Health Committee Member) Manitoba Conservation and Water Stewardship
Al Pemberton (Local Board Member; Aquatic Ecosystem Health Committee Member; Engagement Committee Member; CAG Member) Red Lake, MN	Teika Newton (Board member; CAG Co-Chair; Engagement Committee Co-Chair) Kenora, ON
James Stark (Board Member; Aquatic Ecosystem Health Committee Member) Minnesota State Legislature	Chief Brian Perrault (Local Board Member; Engagement Committee Member; CAG Member) Couchiching First Nation
Pam Tomevi (Board Member; Water Levels Committee Member) Koochiching Soil and Water Conservation District	Trina Rawn (Board Member; Aquatic Ecosystem Health Committee Member) Ontario Ministry of the Environment, Conservation and Parks
Patty Thielen (Board Member) Minnesota Department of Natural Resources	Todd Sellers (Local Board Member; Aquatic Ecosystem Health Committee Co-Chair; Engagement Committee Member; CAG Member) Minaki, ON
Vacancy as a result of Charlene Mason's resignation.	Kiley Shebagegit (Local Board Member; Water Levels Committee Member; Engagement Committee Member; CAG Member) Nestor Falls, ON
Advisors/Secretaries:	
Scott Jutila (United States Secretary and Engineering Advisor) St. Paul District, United States Army Corps of Engineers	Matt DeWolfe (Canadian Engineering Advisor) Environment and Climate Change Canada Diane de Beaumont (Canadian Secretary) Environment and Climate Change Canada

4 INTERNATIONAL RAINY-LAKE OF THE WOODS BOARD ACTIVITIES

The Water Levels Committee, Aquatic Ecosystem Health Committee, and Engagement Committee have made significant progress towards advancing activities and meeting the Board's mandate in 2018-19. Committees report back to the full Board to seek final decisions and approvals on their work, except as allowed for in the mandate of the Water Levels Committee as established by the IJC.

4.1 Water Levels Committee

The role of the Water Levels Committee is to monitor the water levels of Rainy Lake and the Namakan chain of lakes. The Committee also acts as a technical advisor to the Commission on the matter of water level regulation in the Rainy Lake watershed. The Committee communicates regularly with the dam operators in the basin to keep apprised of flow and level changes, maintenance issues and other water level and flow matters of concern.

On March 1, 2018 the Commission signed a Supplementary Order prescribing the method of regulating the levels of boundary waters. The Order included new Rule Curves for Rainy Lake and Namakan Lake that came in to effect on August 1, 2018.

As directed by the Commission in its April 23, 2018 Supplementary Directive to the Board, the Water Levels Committee developed Operational Guidelines that were made available on the Board website in July. These guidelines include current best practices for maintaining water levels throughout the year within the established rule curves, to maximize the benefits to stakeholders. As per the Directive, the Committee will update the Operational Guidelines as necessary, and fully review the document at least once every 5 years, in consultation with IJC staff, resource agencies and indigenous and public stakeholders.

A public meeting was held on August 13, 2018 in International Falls at the Rainy River Community College to introduce the new rules curves.

4.2 Aquatic Ecosystem Health Committee

The role of the Aquatic Ecosystem Health Committee (AEHC) is to provide advice and make recommendations to the Board with respect to water quality and ecosystem health monitoring, reporting, objectives and alerts, and other activities assigned by the Board.

The AEHC meet four times over the last year: March 29, 2018, April 19, 2018, August 14, 2018 and December 10, 2018. There were additional AEHC subcommittee meetings held for the Objectives and Alert Levels Project as well as the Annual Aquatic Ecosystem Health Report.

4.2.1 Annual Aquatic Ecosystem Health Report

The AEHC is responsible for preparing the Board's annual Aquatic Ecosystem Health Report and continues to improve on the annual reporting process. The Committee developed a strategy aimed at focusing the annual report on key priority issues, streamlining the process for agencies supplying the information and, overall, producing a condensed report that is informative and provides helpful recommendations for IJC consideration. The 2018 Annual Aquatic Ecosystem Health Report, which will be based on 2017 data, is expected to be completed in summer 2019.

4.2.2 Objectives and Alerts Levels Project

Major accomplishments of the AEHC included the start of the Objectives and Alerts Project. The first phase of this IWI project kicked off in November 2018 and has begun to address the need to develop water quality and aquatic ecosystem health Objectives and Alert Levels relevant to priority issues in the Rainy-Lake of the Woods Basin. The work is needed for the Board to meet its Directives to recommend Objectives for boundary waters, to establish Alert Levels in the Basin to identify potential problems for boundary waters, and to report on these and on status and trends of water quality and aquatic ecosystem health in the basin.

To date, the project has reviewed key documents and resource agency data to identify priority issues and their priority/relevance to specific basin hydrogeographies, all of which are being discussed/confirmed with experts, the public, stakeholders and indigenous communities to gain further insight and refinement, which started in March 2019 and will continue through to November 2019. As part of these discussions, initial consideration will be given to the aquatic ecosystem health indicators and metrics that are appropriate for reporting on the effectiveness of the recommended water quality objectives and alert levels down the road.

4.2.3 Review of Transboundary Coordination of Environmental Emergency Planning, Preparedness and Response

In response to concerns raised by the Board's Community Advisory Group of increased transport of hazardous materials such as petrochemicals by rail in the region and specifically across the border at Fort Frances, ON and Ranier, MN; a review was undertaken to:

- assess whether appropriate plans and procedures are in place to respond to an environmental emergency in a coordinated fashion across borders and, if they are not;
- develop recommendations to the International Joint Commission for consideration for transmittal to the two federal governments.

The review was submitted to the IJC for consideration in summer 2018. In March 2019, on the IJC's recommendation, the draft report was posted to the Board website for a 30-day public

review period. It was also distributed directly to basin municipalities for comment. The final review report, including recommendations, is expected to be completed in summer 2019.

4.2.4 IWI Proposal - Enhancements of Current Monitoring Programs for Sediment, Nutrients, and Metals in United States and Canadian Tributaries to Rainy River

The Committee is leading the review of an IWI proposal titled "Enhancements of Current Monitoring Programs for Sediment, Nutrients, and Metals in United States and Canadian Tributaries to Rainy River" submitted to the Board for endorsement. At present, the proposal is being revised to incorporate Board and AEHC feedback and is expected to be submitted to the IJC in advance of the spring 2019 funding deadline.

This project will enhance current United States and Canadian monitoring efforts in four tributaries to the Rainy River and another tributary to Lake of the Woods, fill existing data gaps, and maximize spatial and temporal resolution of sediment, nutrient, and metal concentration data used to determine loads into Lake of the Woods. The project addresses high priorities of the Board, including nutrient and sediment loading into Lake of the Woods, mining issues, and turbidity impairments established by the Minnesota Pollution Control Agency.

4.3 Engagement Committee

The Engagement Committee continues its work to involve the public in the issues of water quality and quantity in the basin, working both internally and with other groups. The whole committee met three times over the course of the year, on March 27, 2018; August 15, 2018; and November 13, 2019. A subgroup met February 20, 2018 to work on Board website modernization.

Highlights for this year include:

- Commencement of the first phase of an IJC IWI-funded project to engage students in the International Falls, Minnesota school system in Project WET focusing on development of a curriculum to complement the existing Ontario curriculum.
- Contributing to the redesigning and updating of the Board microsite as part of the IJC's overall website redevelopment. This work has included training two Board members as microsite administrators, capable of editing and updating the new microsite.
- Continued development of IJC story maps to add historical IJC projects, recent IWI projects, and rule curve studies to the story map.
- Continued important new outreach and engagement with Indigenous groups in the basin, including the Métis Nation of Ontario, Kenora Métis Council, and Grand Council Treaty #3. The Engagement Committee presented at the Grand Council Treaty #3 Spring National Assembly (May 2018), and worked throughout the year to begin establishing the foundations of a multilateral relationship among the IJC, the Board, Grand Council Treaty #3, the communities of the Treaty #3 Nation, and the various Councils of Treaty #3. This work led to

a good first meeting between IJC Commissioners and Grand Council Treaty #3 representatives in October 2018, and a commitment to further engagement through a joint summit to be held in 2019 that would cover issues related to governance protocols, wild rice protocols, and future IWI projects.

- Hearing from the Minnesota Pollution Control Agency on their Lake of the Woods Impaired Waters Study, and in particular, learning about obstacles, challenges and best practices in public engagement and communications identified through this extensive, multi-year project. (August 2018)
- Hearing from Mike Kennedy (Minnesota Pollution Control Agency) and Kelli Saunders (International Watershed Coordinator) on their Bi-National Social Values Project, a project that seeks to 1) determine drivers and constraints for taking part in water protection / restoration among those who live in the watershed; 2) better understand how involvement or interest in water protection / restoration initiatives varies across the binational watershed; and 3) inform strategies for policy-makers, resources professionals and other local actors to best design and promote water resource programs that are ecologically, hydrologically and socially relevant and responsive to changing conditions. This is a project of great interest to the Engagement Committee for its significant public engagement and communications components and implications.
- Consideration of public engagement and communications aspect of emerging Board work on the implementation of the Climate Change Guidance Framework, including how this committee will work with the proposed new Adaptive Management Committee and the existing Aquatic Ecosystem Health Committee to cover climate change issues.
- Broader engagement with the Adaptive Management Committee Task Team to ensure the Engagement Committee is prepared to support any Task Team communication or public engagement needs.
- Review and support for communications and outreach on the Board's Environmental Emergency Planning Report.
- Review and support for communications and outreach related to the Board's IWI project to develop new aquatic ecosystem health Objectives and Alerts, being overseen by the Aquatic Ecosystem Health Committee.
- Continuation of annual meeting with the Ontario Stewardship Youth Rangers to explain the work of the IJC and the watershed board.
- Review, update, and revision / revocation of Board engagement materials, as necessary. Stale high level presentation slides developed several years ago were discarded and will be replaced in 2019 with a new document / image gallery from which Board members can draw presentation materials.
- Continued orientation for new Board members.
- Continued tracking of all Board engagement activities.
- Annual updates to the Committee's work plan for 2018-2019 and its five-year Strategic Communication Plan.

The Engagement Committee has also seen a change of leadership this year with the retirement of United States co-chair Charlene Mason at year-end. A new United States co-chair is anticipated in early 2019.

4.4 Other Board Activities

4.4.1 Adaptive Management Task Team

In June 2017, the International Rainy and Namakan Lakes Rule Curves Study Board (IRNLRCSB) completed its review of the 2000 Rule Curves for Rainy Lake and the Namakan chain of lakes and provided 11 recommendations to the International Joint Commission (IJC). Among the recommendations endorsed by the IJC through the signing of the 2018 Supplementary Order were:

- the adoption of 'Alternative C' (now known as the 2018 Rule Curves), and
- the implementation of an adaptive management process to monitor and evaluate rule curve performance in preparation for a future review.

In March 2018, the Board hosted a workshop in International Falls, MN to develop a proposed strategy for the implementation of adaptive management of Rainy and Namakan lakes levels. Based on the outcome of this workshop, and consultation with the Great Lakes-St. Lawrence River Adaptive Management Committee (GLAM), the Board established an Adaptive Management Task Team in October 2018. As directed by the IJC, the Task Team carried out the following activities by the end of March 2019:

1. Establish a directive for a future Adaptive Management Committee (AMC).
2. Develop a work plan for the AMC's first year that will include the implementation of the IJC's Climate Change Guidance Framework.
3. Identify existing monitoring and research programs that support adaptive management within the basin, and identify key areas where funding is required to fill these gaps.
4. Provide the Board with a list of suggested AMC members.

In November 2018, the Task Team hosted a workshop in Fort Frances, ON that aimed to inventory existing monitoring programs that will support an ongoing assessment of the impacts of rule curve changes, and identify major data gaps and priority monitoring needs. The Task Team invited participants from resource agencies in both Canada and the US, indigenous communities, as well as area residents. An important outcome of this workshop was a preliminary prioritization of indicators that may be relevant to the adaptive management process. The lack of information available for the assessment of rule curve impacts on Rainy River was highlighted as a major data gap. The Task Team summarized the workshop discussion and outcomes in a report that was provided to the Board.

4.4.2 Updates to the Board Directive and CAG/IAG Terms of Reference

In summer 2018, the Board undertook a review of its Directive as well as the CAG and IAG terms of reference. A number of updates to the Directive and Terms of Reference have been suggested that aim to increase flexibility in how the Board and its advisory groups operate. The Board is

holding off submitting its recommendations to the Commission until quorum has been established at the IJC, hopefully in summer 2019.

4.4.3 International Watershed Initiative (IWI) Projects

During 2018-19, the Board endorsed and participated in the implementation of the following two International Watershed Initiative-funded projects.

Project WET (Water Education for Teachers)

Funding for phase 1 of this prospective three-phase project was approved in April 2018. The project consists in using Project WET* tools to bring news and activities of the International Rainy Lake of the Woods Watershed to schools in the basin. In this phase, a Kindergarten to Grade 12 cross reference guide will be developed that will match Minnesota state curriculum and complement Project WET modules that can be used to communicate watershed news to area schoolchildren. This guide will complement an existing Ontario curriculum – Project WET cross-reference guide. This project will assist in the Board’s mandate to explore and encourage the development of local and regional capacity to prevent and solve problems locally. It will enable residents of the Lake of the Woods and Rainy River watershed to develop knowledge and skills necessary to address needs and expectations related to relevant water quality and water quantity issues for the basin. The completion of phase 1 has been postponed until the release of Minnesota’s next draft Science Standards in summer 2019.

In Phase 2, the Board and its committees will review the cross-reference guide and insert any local content required, and then work with the International Falls School Division to do a pilot implementation of the curriculum at one of its schools. Phase 3 would seek to expand the pilot across the watershed and would require within its scope of work some time and energy to train teachers in both Ontario and Minnesota and to some extent, harmonize lesson plans, at least in so far as they are drawing on similar local content inclusion for both state and provincial curricula.

Project WET 2.0 (<https://cwra.org/en/project-wet>) is a fun, hands-on, inquiry learning based, water education program for formal and non-formal educators of Kindergarten to Grade 12 students. It is designed to supplement the existing provincial, territorial and state curricula and is suitable for both indoor and outdoor settings.

StreamStats Project

This project aims to extend a United States Geological Survey (USGS) StreamStats application to the Canadian side of the watershed, more specifically for the Rainy River and Lake of the Woods Basin. The project, which was completed in 2018, is the first fully-implemented international StreamStats product and also the first Basin for which peak flow analysis is publicly shared online for the entire Basin upstream of Kenora. The application is available at <https://water.usgs.gov/osw/streamstats/> .

StreamStats is a Web application that provides access to an assortment of Geographic Information Systems (GIS) analytical tools that are useful for water-resources planning and management, and for engineering and design purposes.

4.4.4 Board Meetings

Board meetings were held on: April 10, 2018; June 12, 2018; August 13-17, 2018; September 18, 2018; January 29, 2019; and March 12, 2019. The purpose of these meetings was to share information of relevance to the Board and to plan and deliver the Board's 2018/19 work plan.

Board held its annual basin meetings in August in Kenora, Ontario. The Board had a productive week, which included meetings of our committees, the Board, the community advisory group, and resource agencies. There were also two public meetings, one in International Falls and one in Kenora. The public meetings highlighted:

- Concerns over the impacts water levels regulation on wildlife
- Concerns over the impacts of plastics on Lake of the Woods
- Confusion over Namakan-Rainy Lakes water levels regulation versus Lake of the Woods regulation.
- Overall, the public is pleased with the new rule curves and the operation of the dams in the last few years.



Public Meeting in International Falls, MN, August 2018



Public Meeting in Kenora, ON, August 2018

5 ADVISORY GROUP ACTIVITIES

5.1 Community Advisory Group (CAG)

During the past year, the Community Advisory Group (CAG) was only able to meet twice - once in person during the August Basin Week, and once via teleconference in November. A face-to-face meeting scheduled for the week of the annual Lake of the Woods Watershed Forum was cancelled due to inclement weather.

Nevertheless, the CAG remained active throughout the year, continuing to track issues of concern via email, keeping each other apprised of water quality and water quantity topics and events in the basin, and raising important questions and issues to the Watershed Board.

At its meetings this year, the CAG heard from the Minnesota Pollution Control Agency (MPCA) on their Lake of the Woods Impaired Waters Study, including phosphorus reduction strategies; the Bi-National Social Values Project led by MPCA and International Watershed Coordinator, Kelli Saunders that touches on both watershed planning and civic engagement; current and proposed mining activities throughout the basin and especially in Minnesota. While responses from the governments regarding the cumulative effects of mining in the basin have been disheartening, the CAG continues to track mining activities as a priority issue of concern. The CAG is also tracking progress on the proposed twinning of the Trans-Canada Highway at the far downstream end of the basin, a process that is currently in a Phase 1 redesign stage. The CAG attempted throughout the year to engage a presenter to share information about proposed nuclear waste burial in the watershed, but this has been deferred to 2019.

The CAG has also had regular reports from the Watershed Board committees, the Adaptive Management Task Team, and the International Watershed Coordinator, as well as updates on committees' respective IWI projects and the planning and design of the implementation of the IJC's Climate Change Guidance Framework.

2018 was a year of a heavier focus on governance matters. First, the CAG reviewed the existing CAG Directive from the IJC and the CAG Terms of Reference and made several recommendations to the Watershed Board to clarify a number of governance processes, including appointments, chair roles and responsibilities and CAG membership. Second, new member Cecelia Riedman joined the CAG in November, and members Tom Mosindy, Reid Carron, Jim Yount and Steven Blair had their initial three-year terms expire with the latter three renewing their terms for a further three years. CAG public Watershed Board member Teika Newton also had her term extended in 2018 from expiry in August 2019 to April 2020 following her assuming of the Canadian co-chair position. Finally, the CAG had a change of leadership with the resignation of United States co-chair Charlene Mason at the end of the year. A new United States co-chair is being actively sought for 2019.

5.2 Industry Advisory Group (IAG)

The purpose of the Industry Advisory Group (IAG) is to make the Board aware of industry perspectives on both sides of the United States-Canadian border. Current membership reflects a wide range of industrial interests in the watershed and includes hydroelectric power, paper production, agriculture, forestry, fisheries, mining, and recreation and tourism. Membership is

being strengthened and is open to any industry operating in the Lake of the Woods-Rainy River watershed. This year the IAG welcomed one new member from H2O Power in Fort Frances.

The IAG met twice during the reporting period: on October 31, 2018, the IAG met via conference call, and on March 12, 2019, the IAG met face to face and via conference call.

- At the October 31th meeting, the IAG received presentations and updates from: IJC staffs, the Water Levels Committee, the Engagement Committee, the International Watershed Coordinator, the Board's Aquatic Ecosystem Health Committee, and forestry sector members from both the United States and Canada.
- At the March 12th meeting, the IAG received presentations and updates from: IJC staffs, the Water Levels Committee, the International Watershed Coordinator, the Aquatic Ecosystem Health Committee, and a Canadian IAG member representing the agriculture sector. Members of the IAG attended the joint CAG/IAG/Board meeting on March 13th.

An IAG member presented on the New Gold project to the CAG and the Board at the August Basin Meetings in Kenora. It was suggested that having an IAG member present to the CAG is a good way of fostering communication between the groups, and that this practice should be continued.

The valuable advice and involvement of the members of the Industry Advisory Group members is, as always, very much appreciated.

6 WATER LEVEL CONDITIONS

For the calendar year 2018, Namakan Lake and Rainy Lake remained within the upper and lower limits of their respective Rule Curve bands (see Figures 1 and 2).

On March 20 2018, the WLC directed the Companies (H2O Power and Packaging Corporation of America) to target the lower 10 cm (4 in) of the Rule Curve band on Rainy Lake due to the high tributary base flows and above normal snow pack throughout the basin at the time. However, below normal temperatures persisted through the month of April and very little precipitation fell over the Rainy River basin during the early part of the spring (see Figure 3). As a result, Rainy and Namakan Lakes received below normal inflow in April. In May, the WLC directed the Companies to resume targeting the middle portion of the band on Rainy Lake. Inflow to Rainy and Namakan Lakes remained within the normal range from May to the end of September.

New Rule Curves for Rainy and Namakan Lakes, as described by the 2018 Supplementary Order, came into effect on August 1st 2018. In July the Companies were asked to continue targeting the middle portion of the Rule Curve bands on both Lakes through the transition to the new curves. The 2018 Supplementary Order allows the Companies to operate within the full range of the rule curves, unless otherwise directed by the WLC.

Higher than normal precipitation from September to mid-October resulted in above-normal inflows from October to mid-December to Rainy Lake and Namakan Lake. On November 15th 2018 the Companies were given the authority to make use of the full range of the rule curve bands for Rainy and Namakan Lakes, while taking in to consideration the current set of Operational Guidelines.

NAMAKAN LAKE

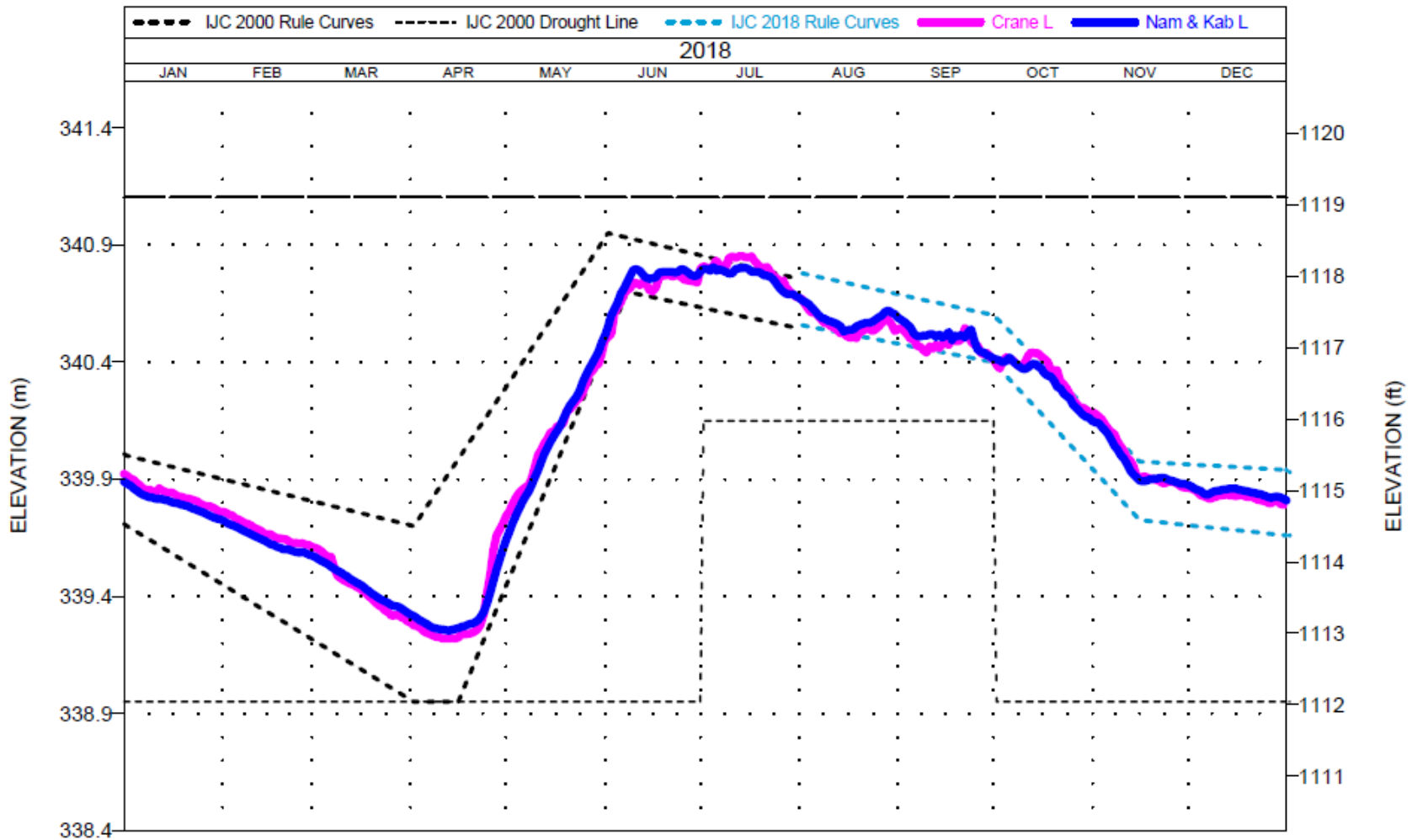


Figure 1: Namakan Lake Rule Curve

RAINY LAKE

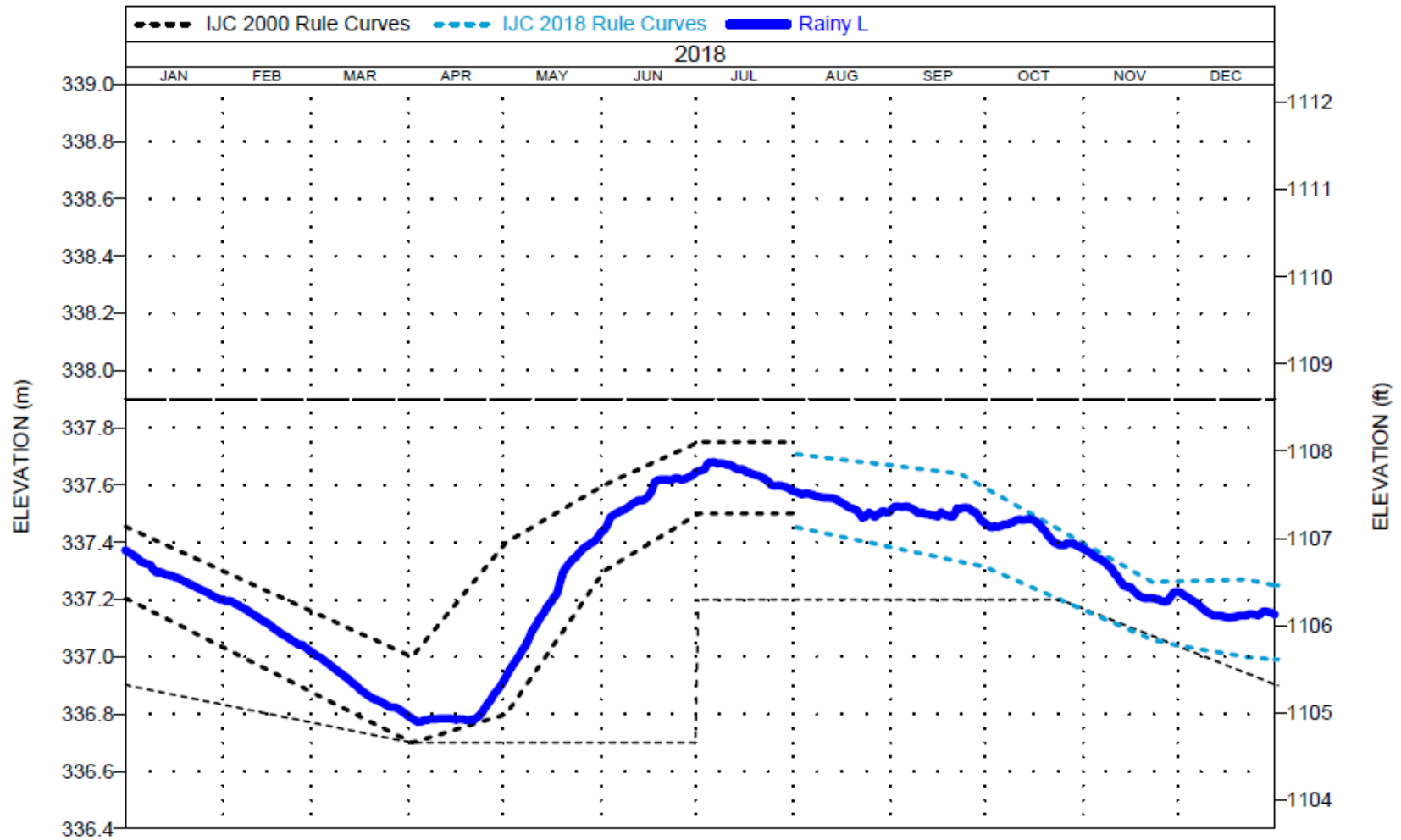


Figure 2: Rainy Lake Rule Curve

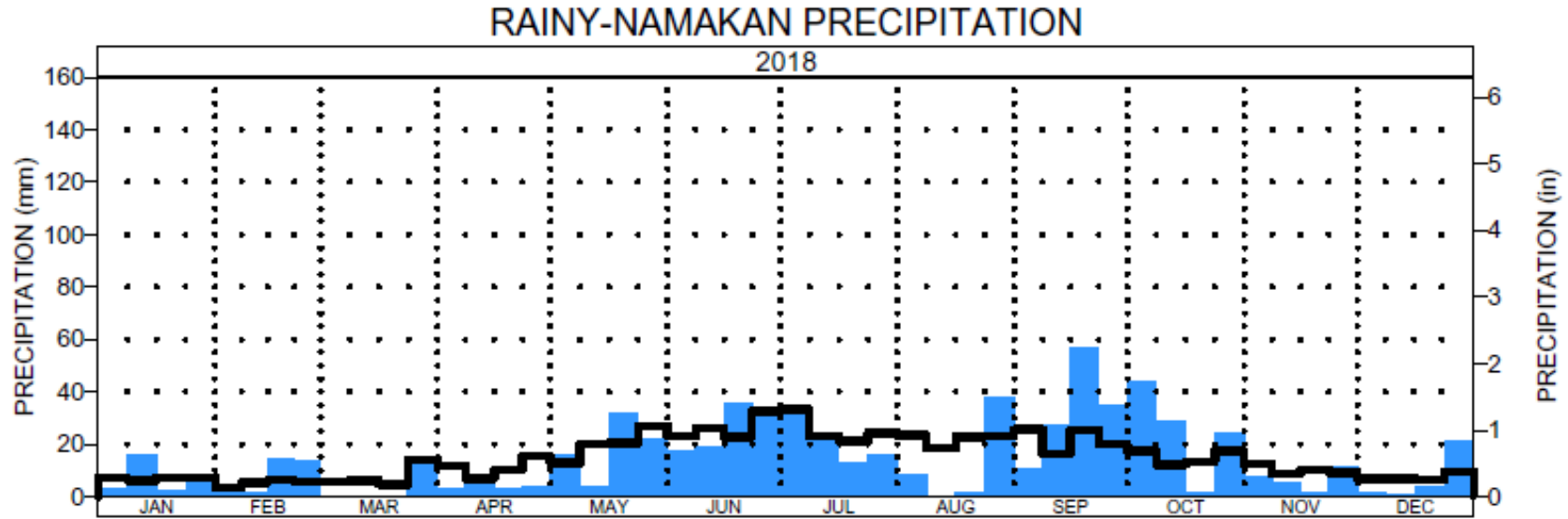
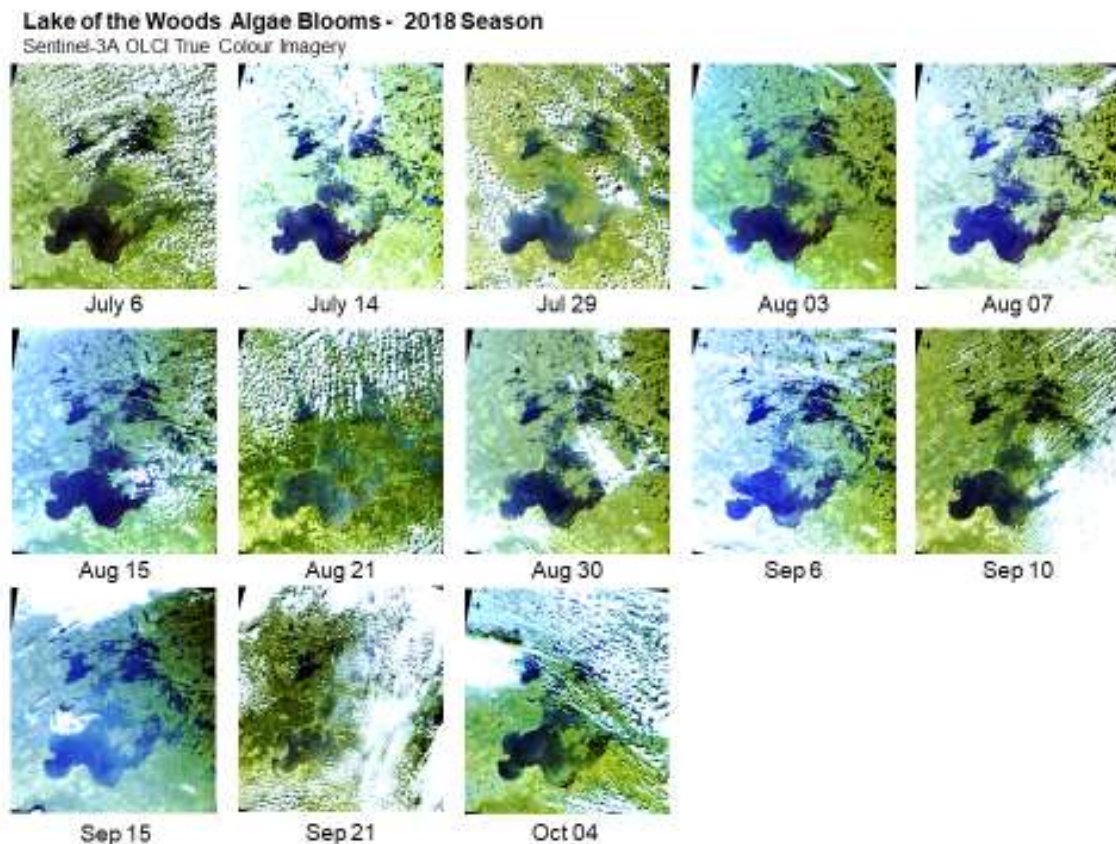


Figure 3: Quarter-monthly precipitation totals for Rainy-Namakan sub-basin for the 2018 calendar year. The blue bars represent the actual data for a given quarter month and the black line represents the mean from 1976-2005.

7 WATER QUALITY CONDITIONS

7.1 Aquatic Ecosystem Health

Information on Rainy-Lake of the Woods basin aquatic ecosystem health will be provided in the Board's Annual Aquatic Ecosystem Health Report expected to be released in summer 2019. The imagery below depicts the algae bloom season in Lake of the Woods, which was less severe in 2018 than 2017, although significant blooms were still noted in Sabaskong Bay, Miles Bay and many other smaller bays, and extended into the Big Traverse towards the end of the season.



7.2 International Rainy-Lake of the Woods Watershed Forum

Lake of the Woods and its watershed went under the microscope again at the 2019 International Rainy-Lake of the Woods Watershed Forum, March 13-14 at the Rainy River Community College in International Falls, Minnesota. The auditorium was jam-packed with 165 researchers, resource managers, policy makers and members of the public attending – a near record attendance despite a major winter storm in the area.



Left: Michael Paterson, IISD-ELA, presents results of whole-lake ecosystem study of the effects of atmospheric mercury, during ELA special session. Right: Nolan Baratono, leads workshop session for Board's project to develop recommendations for international Objectives and Alert Levels for water quality and aquatic ecosystem health.

Participants reflected a broad range of interests and involvement in the watershed, representing 62 organizations, including local governments, soil and water conservation districts, provincial and state governments, federal governments, United States Tribes, Canadian First Nations, the International Joint Commission, industry, non-governmental organizations, universities, undergraduate and graduate students, and citizens interested in the future health of our watershed.

This year's Forum featured 34 presentations during the two-day symposium and posters sessions. There were focus sessions on binational updates, federal Canadian science, ecosystem studies at the Experimental Lakes Area, and management implications of research completed over the past decade.

Colonel Samuel Calkins, United States Co-Chair of the IJC International Rainy-Lake of the Woods Watershed Board opened the Forum with an update on contributions to binational water management being made by the Board and its committees. Of note was the Board's project to review and develop revised recommendations for international Objectives and Alert Levels for water quality and aquatic ecosystem health, for which expert and public workshops were held the previous day. Updates were provided on the work of the Board's Engagement Committee, Water Levels Committee and Aquatic Ecosystem Health Committee. Colonel Calkins also reported on the completion of the IJC's Sparrow Model project, which includes the Rainy-Lake of the Woods Basin along with other transboundary basins.

The project team reviewing Objectives and Alerts for the Board, Bev Clark and Nolan Baratono, presented a detailed overview of the project and current status, including outcomes of its document review and gap analysis, validation of priorities, and approach to scoping objective and alert levels or narrative guidelines for each priority. A brief summary of the previous day's expert and public workshops was also provided.

A full report on the Forum, with details of the research presented is available at the Lake of the Woods Water Sustainability Foundation website: www.lowwsf.com/forum-proceedings.

8 BASIN-WIDE DEVELOPMENT ACTIVITIES

The Board is charged with monitoring and reporting on the ecological health of the Lake of the Woods and Rainy River boundary waters aquatic ecosystem, including water quality. Over the past year, the Board has kept informed on the development of the following initiatives in the basin.

8.1 Binational Approach to Address Nutrients and Harmful Algal Blooms in the Lake of the Woods

- The Minnesota Pollution Control Agency (MPCA), Environment and Climate Change Canada (ECCC), and others are coordinating efforts and working to improve understanding of the ecosystem health of the Basin and to explore establishment of binational phosphorus reduction targets for Lake of the Woods.
- This past year, in response to suggestions of the potential role the International Multi-Agency Arrangement (IMA) could play in a binational approach for the basin, the group developed revised terms of reference and work plans for both the managerial Working Group and the Technical Advisory Committee. The focuses of the IMA has been organized into four subcommittees of the Technical Advisory Committee, specifically: core monitoring/collaborative needs); water quality (current focus on nutrients and algae); aquatic invasive species; and contaminants.
- Acting on recommendation from the Board, Commissioners wrote to Governments on May 3, 2018 recommending development of a Canadian and/or binational Canada-United States phosphorus reduction target. Global Affairs Canada responded in October 2018 indicating that it has invited Manitoba and Ontario participation in determining phosphorus reductions that would be protective of water quality and ecosystem health in Lake of the Woods.
- The Board held a public meeting on the Rainy-Lake of the Woods watershed in Kenora on August 15, 2018. As part of this meeting, the MPCA and ECCC provided updates on phosphorus target setting processes. Stakeholders were highly critical of what they saw as slow progress in Canada on this issue.
- The State of Minnesota is nearing the end of their target setting process, which is expected to be completed sometime in 2019.
- ECCC Lake of the Woods Science Plan:
 - ECCC wrapped up year 3 of the work plans, finalized the last field trip of the year (February/March), and is now preparing for next year's field trips starting in spring/early summer 2019.
 - ECCC provided an update of science in Lake of the Woods at the 2019 Rainy-Lake of the Woods Watershed Forum, on March 13-14th in International Falls, Minnesota.

- An engagement session on ECCC's science with Grand Council Treaty #3 was held on August 21, 2018. Feedback from the session was positive.

8.2 Mining Activities in the Rainy-Lake of the Woods Basin

In response to concerns raised by the Community Advisory Group over potential cumulative effects of mining activities on the waters of the Rainy River-Lake of the Woods basin, the Board continues to keep informed of proposed and current mining activities in the basin. The Board is currently organizing this information which will form the basis for the development of a binational map of operational and proposed mining activities in the basin.

8.3 Baudette-Rainy River International Bridge Replacement

The replacement of the Baudette-Rainy River International Bridge, which is co-managed by Ontario Ministry of Transportation and Minnesota Department of Transportation in partnership with a comprehensive group of federal, state/provincial and local agencies including the IJC, is progressing as planned. Construction of the new bridge has started and is expected to be completed in 2020. The project did not trigger the need for environmental assessment on either side of the border however, the work permit issued prescribes mandatory conditions concerning remediation of environmental impacts. More information on the project is available at: <http://www.dot.state.mn.us/d2/projects/baudette-bridge> .

9 RELATED ACTIVITIES: INTERNATIONAL WATERSHED COORDINATION PROGRAM

The International Watershed Coordination Program (IWCP) continued to provide binational coordination and communication of research, management and citizen engagement for the basin throughout 2018. The IWCP was established in 2012 by the Lake of the Woods Water Sustainability Foundation (LOWWSF) as a multi-agency partnership in the basin. During 2018, along with LOWWSF, supporting partners included the IJC, the Minnesota Pollution Control Agency, through the Koochiching Soil and Water Conservation District, and Environment and Climate Change Canada.

The IWCP Coordinator, Kelli Saunders, took on the role of Project Manager/Coordinator for two IJC projects in 2018, assisting the Board's Adaptive Management Task Team and as part of the Water Quality Objectives and Alerts Project team. In both roles, she has ensured that project timelines are met, that workshops and public sessions are coordinated as part of the project mandates and that outreach to the public, experts, indigenous representatives and stakeholders is ongoing.

The IWCP Coordinator continued to provide secretariat support to the International Multi-Agency Arrangement (IMA), its Technical Advisory Committee, the Aquatic Invasive Species

Subcommittee and a special IMA Subgroup who worked throughout the year to develop Terms of Reference documents and workplan/governance documents to help guide the IMA in the future. Developing a relationship with the IJC and, in particular, the Objectives and Alerts Project Team, has been part of this restructuring. The IWCP provides an ongoing linkage between the IMA and the Board and served as a mechanism for informing the Board's CAG and IAG of activities delivered through the program.

The IWCP Coordinator continues to work closely with the Minnesota Pollution Control Agency, local Soil and Water Conservation Districts and lake associations in the basin to promote binational civic engagement in water stewardship. Highlights of the past year include:

- *Watershed website* – showcasing the local stewardship work that is ongoing in the basin, including the work of the IJC, at www.rainylakeofthewoods.org.
- *Watershed News* – this regularly distributed newsletter was produced in February, May and December of 2018 to a wide audience throughout the basin as a way to highlight the watershed stewardship initiatives at the international, regional and local level.
- *Lake Association Network Event* – the second lake association event took place on Rainy Lake in September 2018, bringing together lake association and NGO staff from around the watershed to discuss programming successes and challenges and to compare notes on outreach activities and motivating members.
- *Binational Civic Engagement Workshop* – at the Forum in 2018 and again in 2019, this workshop continues to be offered as a way to “train the trainer” by providing a learning forum and networking opportunity for staff who deliver civic engagement leadership.
- *Water Quality Value Interviews* – in partnership with the University of Minnesota, a project was initiated in 2018 to better understand the water quality values of residents in this watershed. Interview questions were devised that are meant to dig into the motivation and barriers for becoming involved in stewardship activities at the grass-roots level. Once complete, this information will be beneficial for developing restoration and protection projects and programs.

10 APPENDICES

Appendix 1 – Board Work Plan 2018-19

APPENDIX 1 – BOARD WORK PLAN 2018-19

MANDATE OVERVIEW: The Board’s mandate is to ensure compliance with the Commission’s Order pursuant to the Rainy Lake Convention, to monitor and report on the ecological health of the Lake of the Woods and Rainy Lake boundary waters aquatic ecosystem, including water quality, and to assist the Commission in preventing and resolving disputes regarding the boundary waters of the Lake of the Woods and Rainy River watershed. The Board shall accomplish its mandate by exploring and encouraging the development of local and regional capacity to prevent and solve problems locally, applying the best available science and knowledge, and maintaining an awareness of the needs, expectations and capabilities of residents of the Lake of the Woods and Rainy River watershed.

DIRECTIVE	WHAT WE HAVE BEEN DIRECTED TO DO	LEAD	WHAT WE ARE GOING TO DO TO CARRY OUT THIS DIRECTION	ACTIONS TO DATE	STATUS
2	Maintain an awareness of the needs, expectations and capabilities of residents of the Lake of the Woods and Rainy River watershed.	EC	<ol style="list-style-type: none"> 1. Hold public meetings in August during Basin Week. 2. Meet with the public, associations and interest groups on various issues, as requested or needed. 	<ol style="list-style-type: none"> 1. Public meeting during Basin Week in Kenora ON. 2. One-on-one introductions to and awareness of the Board and IJC with Métis, First Nation chiefs and women’s groups, and other organizations. 3. Rainy Lake Conservancy meeting. 4. Attendance at Lake Association Meeting. 	<ol style="list-style-type: none"> 1. August 14, 2018 2. Ongoing 3. August 12, 2018 4. September 11, 2018
4.a	<p>Recommend, as appropriate, water quality and/or aquatic ecosystem health objectives for the boundary waters of the Lake of the Woods and Rainy River watershed.</p> <p>Maintain continuous surveillance over the quality of water and health of the Lake of the Woods and Rainy River boundary waters aquatic ecosystem (with particular</p>	AEHC	<ol style="list-style-type: none"> 1. Request relevant agencies to provide recent water quality and ecosystem health monitoring information: <ul style="list-style-type: none"> • analyze in relation to water quality objectives and trends • focus on priority issues • assess and report to the IJC 2. In cooperation with partner agencies develop a template for the annual aquatic ecosystem health report, submit to Board 	<ol style="list-style-type: none"> 1. Established AEH Report Working Group with participation of relevant IMA-TAC members. 2. 2018 Report: Template developed; request AEH information from relevant agencies in Fall 2018. 3. See 1 above. 4. No action. 5. Deferred to AIS subcommittee of IMA-TAC leading to develop plan to prioritize AIS needs; collaboration on monitoring / prevention and risk assessment. 	<ol style="list-style-type: none"> 1. Ongoing 2. Template developed; information requested 3. Ongoing, report submission anticipated summer 2019. 4. On hold, pending IWI Objective / Alerts project. 5. Pending

	focus on priority issues within the basin such as water quality, alien aquatic invasive species, climate change indicator and adaptation, and ground and surface water contamination, as identified by the International Lake of the Woods and Rainy River Watershed Task Force’s Study).		<p>for review, revision and approval.</p> <p>3. In spring 2019, submit Draft Aquatic Ecosystem Health Report to Board for review, revision, acceptance and submission to the IJC.</p> <p>4. In cooperation with the Lake of the Woods Water Sustainability Foundation, development of an online, annual “water quality report card” workshop.</p> <p>5. Assess AIS risk / prevention needs / priorities.</p>		
4.a	International Watershed Initiative Projects addressing Directive 4.a	AEHC	Stream Stats Project – Expand existing USGS StreamStats Model to include all Canadian watersheds within the international watershed.	1. Contract with USGS completed; Presentation on Rainy River Stream Stats at 2018 Watershed Forum.	1. Completed summer 2018, pending submission of final report to IJC
			Stressor Identification – Pilot study investigating use of stressor indices using a risk-based assessment approach to identify disturbance within the Rainy-Lake of the Woods Basin.	<p>1. Project proposal approved fall 2015.</p> <p>2. Assigned Board Leads</p> <p>a. Canada – Greg Chapman</p> <p>b. U.S. – Nolan Baratono</p> <p>3. Initial meeting to form binational steering committee in March 2016.</p>	On Hold
			Erosion - Effects of water levels on phosphorus and sediment loading to the Lake of the Woods.	<p>1. Proposal in development.</p> <p>2. Assigned Board Leads</p>	On hold

				<p>a. Canada – TBD</p> <p>b. U.S. – Mike Hirst</p>	
4.a.i	Continue to carry out evaluations and assessments from time to time as the Board considers necessary or desirable to ascertain the extent to which existing water quality objectives, such as approved by the Governments for the Rainy River in 1965, are being met.	AEHC	<ol style="list-style-type: none"> Where significant exceedances of relevant objectives identified request relevant jurisdictions to indicate action taken: <ul style="list-style-type: none"> Assess adequacy of actions taken Upon completion of IJC’s Water Quality Objectives Review, develop a strategy for the development of new Objectives and Alert Levels appropriate to the Rainy-Lake of the Woods basin. 	<ol style="list-style-type: none"> 2018 AEH Report in development. IWI Objectives / Alerts Proposal submitted fall 2017; Phase 1 approved Jan 2018; request for vendor bids circulated Sept 14; vendor selection committee established (IJC: W. Jenkinson, M. Gabriel, C. Lee-Johnson; Board: M. Hirst, T. Sellers, T. Rawn, S. Hanson); vendor selection anticipated Oct 12, project Phase 1 to start Nov 2018. 	<ol style="list-style-type: none"> Ongoing Phase 1 initiated
4.a.ii	Notify the Commission of instances where existing water quality objectives are not being met and of actions being taken by those responsible for sources of pollution and by the regulatory agencies to meet these water quality objectives.				
4.a.iii	Review boundary waters water quality and aquatic ecosystem health from time to time and recommend to the Commission such amendments and additions to water quality or aquatic ecosystem health objectives as might be appropriate. At minimum, within one year after completion of, or updates to, major water studies and	AEHC	<ol style="list-style-type: none"> Upon completion of IJC’s Water Quality Objectives Review, develop a strategy for the development of new Objectives and Alert Levels appropriate to the Rainy-Lake of the Woods basin. 	<ol style="list-style-type: none"> IWI Objectives / Alerts Proposal submitted fall 2017; Phase 1 approved Jan 2018; request for vendor bids circulated Sept 14; vendor selection committee established (IJC: W. Jenkinson, M. Gabriel, C. Lee-Johnson; Board: M. Hirst, T. Sellers, T. Rawn, S. Hanson); vendor selection anticipated Oct 12, project Phase 1 to start Nov 2018. 	<ol style="list-style-type: none"> Phase 1 initiated

	<p>plans, review existing objectives and present a report to the Commission recommending whether or not to establish new or adjusted objectives, and any such objectives and their levels, so the Commission can consider bringing them forward to Governments for approval. (One example of a major water study or plan is a binational comprehensive basin water management plan for Lake of the Woods and Rainy River watershed, which could have subsequent major updates, anticipated each decade.</p>				
4.b	<p>Select, determine, establish, and report on water quality and/or aquatic ecosystem health alert levels within the waters of the Lake of the Woods and Rainy River watershed in order to identify potential problems for boundary waters for which water quality objectives have not been established (with particular focus on priority issues within the basin such as water quality, alien aquatic invasive species, climate change indicators and adaptation, and ground and surface water contamination).</p>	AEHC	<p>1. Upon completion of the IJC's Water Quality Objectives Review, develop a strategy for the development of new Water Quality Objectives and Alert Levels, as appropriate, for the Rainy-Lake of the Woods basin:</p> <ul style="list-style-type: none"> • Current IRLWWB Alert levels are tied to the most stringent jurisdictional standard/objective • Develop a subset of key parameters of practical relevance to use on an interim basis and continue to report on them against existing Alert Levels until 	<p>1. IWI Objectives / Alerts proposal approved Jan 2018; start anticipated Aug 2018</p>	<p>1. Phase 1 initiated</p>

4.b.i	<p>Continue to identify water quality problems on the Rainy River through a process based on comparisons of monitoring data with alert levels selected by the Board as the most stringent water quality guidelines being used by local, state, provincial or federal agencies for such pollutants.</p>		completion of the IJC review		
4.b.ii	<p>Establish alert levels for biological, physical and chemical constituents the Board deems important within the Lake of the Woods and Rainy River watershed.</p>				
4.b.iii	<p>Thereafter, report annually to the Commission on alert levels, exceedences and implications, actions being taken by those responsible for drivers of exceedences, if any, and actions being taken by regulatory agencies, if appropriate.</p>				
4.b.iv	<p>Review alert levels from time to time and make such amendments and additions as might be appropriate.</p>				
4.d	<p>Keep the Commission informed of boundary waters aquatic conditions and plans, policies, and developments,</p>	Board CAG IAG	1. Board, IAG and CAG to bring forward relevant information standing item on all agenda:	1. Include roundtable discussion in every meeting for members and advisory group co-chairs to bring	Ongoing

	actual or anticipated which have the potential to affect the quantity and quality of the water and the health of the Lake of the Woods and Rainy River watershed boundary waters aquatic ecosystem.		<ul style="list-style-type: none"> • Watershed Coordinator to assist with advising the Board of developments in the watershed • Board to identify items which require further investigation • Board to develop recommendations as appropriate for communication to the IJC 	forward any concerns, issues or developments in the basin.	
4.e	Maintain awareness of basin-wide developments and conditions which might affect water quantity and quality and ecosystem health , and the people living within the Lake of the Woods and Rainy River watershed, and recommend appropriate strategies to the Commission, if appropriate.	AEHC EC	<ol style="list-style-type: none"> 1. Assure dialogue with advisory groups re issues identified by their members. 2. Periodically conduct basin tours, agency resource meetings, and other education events for IRLWWB members. 	<ol style="list-style-type: none"> 1. Resource agency presentations during Basin Week. 2. Receive updates on Lake of the Woods Binational Approach; Aquatic Ecosystem Health Committee and Water Levels Committee; and Community and Industry Advisory Groups at each meeting, as appropriate. 3. Update on MPCA/Koochiching SWCD/IWC Binational Social Values project to Engagement Committee. 4. Share with the Board, Committees, and Advisory Groups issues and activities which might affect water quality or water quantity or are pertinent to current and future projects or concerns [current awareness]. 	<ol style="list-style-type: none"> 1. Ongoing 2. Ongoing, as appropriate 3. August 2018 4. Ongoing

<p>4.f</p>	<p>Coordinate activities with appropriate agencies and institutions as may be needed or desirable, including inter-agency working groups and other research groups conducting sound science within the watershed, and consider designating specific Board members to liaise with specific groups where useful.</p>	<p>SEC IWC</p>	<ol style="list-style-type: none"> 1. With the assistance of the International Watershed Coordinator, Board Secretariat to liaise with agencies and institutions, and provide regular updates to Board. 2. Hold meeting with resource agencies in August 2016 during Basin Week to exchange information as appropriate. 	<ol style="list-style-type: none"> 1. IWC updates included during meetings for information sharing of basin activities. 2. Resource agencies meeting held in August 2018. Exchanged information on a wide range of topics from fisheries management, AIS classification, water quality monitoring and Minnesota's TMDL project. 	<ol style="list-style-type: none"> 1. Ongoing 2. August 2018
<p>4.g</p>	<p>Establish and maintain a Community Advisory Group (CAG) for the purpose of keeping the Board aware of any water resource management issues that may arise in the basin and providing feedback and input to the Board's products and processes, such as the Board's work plan.</p>	<p>CAG</p>	<ol style="list-style-type: none"> 1. Continue to maintain an active and vibrant CAG. 2. Seek CAG assistance in identifying resource management issues. 3. Consult with CAG on Board products and processes. 4. Meet quarterly, with face-to-face meeting during Basin Week. 5. Have programs that educate its members about significant issues in the watershed. 6. Raise important issues of concern. 7. Maintain a list of issues and status and update at each meeting. 	<ol style="list-style-type: none"> 1. Engage the CAG in resource management issues and activities of the Board. 2. Nominate or extend terms of interested community members. 3. CAG meet quarterly to discuss local water resource issues and identify issues. 4. CAG will review Board products, such as the Work Plan, as forwarded to it. 5. Provide time for an educational item on each CAG agenda [Mining, resource extraction and transportation, and aquatic invasive species continue to be issues of concern]. 6. Cumulative Effects of Mining; response from Governments. 	<ol style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Met in August and November, 2018 and March 2019 4. On going 5. August 2018 updated on MPCA research on Lake of the Woods; also mining updates from MNDNR and OMNR 6. Received response from governments; discussed with IRLWWB re disappointment with letter 7. Received report; awaiting government response to recommendations

				7. Transboundary Coordination of Emergency Response.	
4.h	Establish and maintain an Industry Advisory Group (IAG) for the purpose of making the Board aware of industries' perspectives.	IAG	<ol style="list-style-type: none"> 1. Seek IAG input on industries' perspectives. 2. Consult IAG on Board products and processes. 3. IAG to meet as appropriate. 	<ol style="list-style-type: none"> 1. IAG meets approximately every four months to discuss local resource management issues. 2. IAG provided input on Board products, documents and proposals for review. 3. IAG met face to face in March, 2018 and a meeting is scheduled for October, 2018. 4. An IAG member from New Gold presented to the CAG and the Board at the 2018 August Basin Meetings. 	
4.j	The Board shall organize a joint meeting of the Board with the CAG and IAG once a year.	SEC	<ol style="list-style-type: none"> 1. At the Advisory Committees' request, the Board will meet in-person once a year with the IAG in March (during the Forum week) and with the CAG in August. 	<ol style="list-style-type: none"> 1. Board met with the CAG in August 2018 and plan to meet with the IAG in March 2019. 	Board-CAG meeting took place in August 2018.
4.k	Involve the public in the work of the Board; facilitate provision of timely and pertinent information on Board activities within the watershed in the most appropriate manner [...].	EC	<ol style="list-style-type: none"> 1. Conduct interactive presentations with public groups as requested. 2. Respond to public, agency, and IJC information requests or letters and conduct on-line surveys as opportunities arise. 3. Provide educational opportunities for students to 	<ol style="list-style-type: none"> 1. See also under Directive 2. 2. Written information report re issues of relevance submitted monthly to Kenora Metis Council and Region 1 Provisional Council of Metis nation of Ontario and council presidents. 3. Project Wet IWI proposal funded for first phase to enable a 	<ol style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Summer 2018 4. 2019 5. August 16, 2018 6. Ongoing 7. On Rule Curves Study Board website, linked to IRLWWB website 8. 2019

			<p>learn about water quality and water quantity issues.</p> <p>4. Continue to provide pertinent information for dissemination to be posted on Board website and SharePoint site.</p> <p>5. Working with IJC staff, develop media releases and/or IJC newsletter articles for new members of the Board and to announce Water Board accomplishments, actions, reports, and other information, as needed.</p> <p>6. Communicate the research conducted by IWI projects in ways that are understood by researchers and the public.</p>	<p>teacher in International Falls to develop focused curriculum.</p> <p>4. Proposed Project Wet IWI proposal for second phase to enable teacher training in Project Wet and a pilot phase.</p> <p>5. Presentation to Kenora Stewardship Rangers.</p> <p>6. Contact list prepared for US Tribes and local Metis Councils.</p> <p>7. Storyboard to showcase selected IWI projects, Rule Curve science studies; Watershed Forum presentations.</p> <p>8. Reports of IWI projects to be added to Watershed Board web site.</p> <p>9. Rule Curve Review materials to be moved to Watershed Board web site.</p> <p>10. International Rainy-Lake of the Woods Coordinator created video about drain stenciling project which will be linked from IRLWWB web site.</p> <p>11. Implement new IJC microsite for IRLWWB.</p> <p>NOTE: media releases are on hold</p>	<p>9. 2019</p> <p>10. 2019</p> <p>11. January 2019</p>
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				due to lack of volunteer resources.	
4.k	Meet publically at least once a year with invitations to First Nations, Métis, and Native Americans and all water users groups and stakeholders to seek advice and hear concerns, such as on a binational comprehensive basin water management plan or other issues. (Locations of such meetings shall be moved around the basin, generally alternating between locations in Canada and the United States.)	SEC EC	1. Arrange, as appropriate, a meeting or meetings with First Nation, Métis and/or Native Americans.	<ol style="list-style-type: none"> 1. Presentation at Grand Council Treaty #3 Spring National Assembly. 2. First Nation, Métis and Tribes invited to present during Basin Week; had report on Grand Council Treaty #3 community based monitoring and climate change program. 3. Proposed meeting with Treaty #3 Chiefs and IJC Commissioners, Fall 2018. 4. Proposed celebration of Water Declaration, August or October 2019. 5. Proposed public meeting with Treaty #3, in Fort Frances, Basin Week 2019. 6. Requested meeting with local councils of the Métis Nation of Ontario. 	<ol style="list-style-type: none"> 1. May 2018 2. August 14, 2018 3. Fall IJC Semi Annual, 2018 4. August or October 2019 5. August 2019 6. TBC
4.k	International Watershed Initiative Projects Addressing Directive 4k.	EC	1. ProjectWET – support educators in the basin by providing training and curriculum materials on water quality and quantity issues.	1. The first phase of this three-phase project has been initiated.	Ongoing

4.l	Collaborate or carry out such other studies or activities as the Commission may, from time to time, request, including undertaking or facilitating the development of plans or studies[...]	EC WLC/AM Task Team	1. Participate in the IJC's Climate Change Guidance Framework 4-step process pilot project.	1. Develop proposal for the vertical implementation of the IJC's Climate Change Guidance Framework through the IRLWWB's Adaptive Management Committee. 2. Adaptive Management Task Team to include vertical implementation of the IJC's Climate Change Guidance in their 2019-20 work plan.	1. Proposal presented to IRLWWB in September 2018. 2. AM Task Team established
4.m	Submit a report covering Board activities annually to the Commission, at least three weeks in advance of the Commission's spring semi-annual meetings, and submit such other reports as the Commission may request or the Board may desire.	SEC	1. Coordinate development of annual report.	1. Board aiming to submit its Sixth Annual report in April 2019.	In progress
General	Inform the Commission in advance of plans for any meetings, or other means of involving the public in Board outreach.	SEC EC	1. Place appropriate IJC staff on Board and Committee mailing lists. 2. Invite IJC staff and Commissioners to meetings and teleconferences.	1. IJC staff on Board and Committee mailing lists and invited to meetings. 2. IJC Commissioners invited to meetings and teleconferences as they occur.	1. Ongoing 2. Ongoing
General	Report to the Commission, in a timely manner, on these plans [for meetings] and any other presentations or representations made to the Watershed Board.	SEC EC	1. Develop a database to track public engagement activities.	1. EC Canadian co-chair updating using Excel; awaiting improvements in SharePoint to move to solution so all can input.	1. Ongoing 2. Fall 2018

				2. Development of template to gather information for tracking database.	
General	Provide support for Board members.	SEC EC	<ol style="list-style-type: none"> 1. Provide orientation for new members of the Board. 2. Maintain and upgrade as appropriate Board web site. 3. Produce and maintain materials for Board members and others to use for presentations. 4. Provide for well-run meetings and timely meeting notes. 	<ol style="list-style-type: none"> 1. Orientation done or assigned for new Board members. 2. Upgrade of web site in development; awaiting IJC staff work on new platform [see 8 above]. 3. Presentation materials scheduled for updating. 4. Meetings meet standard for well-run; meeting notes are timely. 	<ol style="list-style-type: none"> 1. Ongoing 2. Fall 2018 3. Fall 2018 4. Ongoing

WATER LEVELS COMMITTEE WORK PLAN 2018-2019

**BASED ON: April 1, 2013 Directive to the International Rainy-Lake of the Woods Watershed Board /
April 23, 2018 Supplementary Directive to the Water Levels Committee.**

MANDATE OVERVIEW: The Water Level Committee is a committee of the IRLWWB. The Water Levels Committee is delegated by the Board with the task of ensuring compliance with the terms of the 2001 Consolidated Order and the 2018 Supplementary Order in the matter of regulation of Rainy Lake and other boundary waters in the Rainy Lake watershed. The Board, through the Water Levels Committee, acts as a technical advisor to the Commission on the matter of water levels regulation in the Rainy Lake watershed.

DIRECTIVE	WHAT WE HAVE BEEN DIRECTED TO DO	LEAD	WHAT WE ARE GOING TO DO TO CARRY OUT THIS DIRECTION	ACTIONS TO DATE	STATUS
4.c	Ensure compliance with the terms of the Order in the matter of emergency regulation of Rainy Lake and other boundary waters in the Rainy Lake watershed and act as technical advisor to the Commission on this matter.	WLC	<ol style="list-style-type: none"> 1. The Water Levels Committee’s Engineering Advisors will regularly monitor water levels and flows in the basin and evaluate compliance with the terms of the Order for the levels of Rainy Lake and Namakan Lake. The Committee and its advisors will provide technical advice to the Commission as requested, and as needed to keep the Commission apprised of any current or potential non-compliance with the terms of the Order. 2. Obtain hydrologic/hydraulic data as necessary to monitor water levels and flows. 3. Support the proper functioning of the gauge network. 	All required actions carried out.	Ongoing

			<p>4. Support the identification/resolution of equipment and data errors.</p> <p>5. Analyze data, maintain communications with the dam owners, and provide advice/direction to dam owners as required.</p> <p>6. Support studies to inform the assessment of the impact of the 2000 rule curve change on Rainy/Namakan Lakes.</p>		
4.c.i	<p>Whenever, in the opinion of the Water Levels Committee, the terms of the Order are not being complied with, the Water Levels Committee shall so inform dam owners and operators and make such recommendations as it considers appropriate.</p>	WLC	<p>1. The Water Levels Committee’s Engineering Advisors will notify the Committee and dam owners and operators of any potential or existing non-compliance with the 2001 Consolidated Order and the 2018 Supplementary Order.</p> <p>2. In keeping with the directive, “At the earliest opportunity, the Water Levels Committee shall report to the Commission directly such apparent lack of compliance with the Order, the circumstances under which it occurred, the action taken by the Board, and the action, if any, taken by or on behalf of the dam owners and operators and inform the Board through the Board Co-chairs.”</p>	All required actions carried out.	Ongoing

<p>4.c.ii</p>	<p>The Water Levels Committee may, on behalf of the Commission:</p> <ol style="list-style-type: none"> 1. authorize the reduction of the outflow from Rainy Lake for periods of up to ten days if necessary to raise the headpond level at International Falls-Fort Frances to ensure an adequate water supply for plant fire protection purposes or to permit the passage of watercraft from the headpond to Rainy Lake, provided the outflow shall not be less than the flows prescribed in paragraph numbered 2(c) of the Order, and 2. authorize the reduction of the outflow from Rainy Lake and/or Namakan Lake for periods of up to ten days if necessary to meet emergency conditions such as machinery breakdowns at the Kettle Falls or International Falls-Fort Frances dams, fires or other accidents, 	<p>WLC</p>	<ol style="list-style-type: none"> 1. The Water Levels Committee’s Engineering Advisors will monitor basin conditions on a regular basis, and advise the Water Levels Committee on recommendations to reduce outflows consistent with this directive. 2. The Water Levels Committee will evaluate conditions and direct the Companies as appropriate, advising the Board of any actions it takes. The Committee Co-chairs shall inform the Commission forthwith and as soon as practicable thereafter shall forward a written report to the Commission, describing the circumstances in which such action was taken. The report shall be posted on the IJC website following Commission approval. 	<p>All required actions carried out.</p>	
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	provided the outflow shall not be less than the flows prescribed respectively in paragraphs numbered 1(c) and 2(c) of the Order.				
4.c.iv	When, in the opinion of the Water Levels Committee, conditions either exist or are likely to occur which make it advisable to deviate temporarily from the strict application of the Order, the Board Co-chairs shall refer the matter to the Commission by the fastest practicable means, together with the Water Levels Committee's recommendation; the Commission will inform the Water Levels Committee of its decision as expeditiously as possible.	WLC	<ol style="list-style-type: none"> 1. The Water Levels Committee's Engineering Advisors will monitor basin conditions on a regular basis, and advise the Water Levels Committee on recommendations to deviate from the strict application of the Order. 2. If, based on a review of basin conditions, the Water Levels Committee determines that a deviation from the strict application of the Order is advisable; it will notify the Commission by the fastest practicable means. 3. Lead the coordination of participants in the Rainy River sturgeon spawning assessment protocol each spring as conditions warrant. 	<ol style="list-style-type: none"> 1. Basin conditions monitored regularly. 2. Upon the advice of fishery agencies, outflows were maintained during the sturgeon spawning period. 	
4.c.vi	The Water Levels Committee shall meet face-to-face with the operators of the dam at International Falls-Fort Frances annually to discuss water level issues	WLC	<ol style="list-style-type: none"> 1. The Water Levels Committee will carry out the annual meeting as described in the Directive. 	<ol style="list-style-type: none"> 1. Water Levels Committee met with dam operators in International Falls in August 2018. 	

	that have occurred during the previous year and keep the Board informed of important issues discussed at the meeting.				
General	The Board shall conduct its public outreach activities in accordance with the Commission’s public information policies.	WLC EC	<ol style="list-style-type: none"> 1. Maintain communications as appropriate with the media and public, especially regarding water level and flow regulation. Issue public news releases and web site advisories, as needed, in keeping with the Commission’s public information policies. 2. Meet with the public, associations and interest groups on various issues, as required. 3. Maintain the Board’s web-based data on lake levels and basin flows for use by the public. 4. Respond to public, agency, and IJC information requests or letters of complaint. 5. Periodically conduct basin tours. 6. Appear before the IJC at its semi-annual meetings, as requested. 7. Annually update the Water Levels Committee Work Plan. 	<ol style="list-style-type: none"> 1. The WLC published a media release in advance of the August 1st implementation of the new Rule Curves for Rainy and Namakan Lakes. 2. The WLC held a public meeting in International Falls, MN on August 13th to discuss the new rule curves. 	

<p>2018 Supplementary Directive</p> <p>1)</p>	<p>The WLC will endeavour to follow the procedures outlined in the Operational Guidelines, weighing the advantages and disadvantages to be accrued by stakeholders.</p>	<p>WLC</p>	<ol style="list-style-type: none"> 1. The WLC will develop and maintain Operational Guidelines to include current best practices for maintaining water levels throughout the year within the established rule curves, to maximize the benefits to stakeholders. 2. The WLC will develop and maintain Operational Guidelines with input from resource agencies, the public, stakeholders, and indigenous communities, and is to be made public. 3. The WLC shall record a summary of any operational decisions made by the WLC, along with a rationale for the decisions, to the IJC as part of the International Rainy-Lake of the Woods Watershed Board's annual report. 	<ol style="list-style-type: none"> 1. Operational Guidelines were published on the IJC website in July 2018. 2. Feedback from dam operators has been received. 3. The WLC is working with GCT3 and First Nation communities to establish a Wild Rice Protocol in support of the Operational Guidelines. 	
<p>2018 Supplementary Directive</p> <p>2)</p>	<p>At a minimum the WLC will appoint two technical advisory groups: an Engineering Advisory Group to provide engineering support and a Flood Forecasting Advisory Group to provide climate, dam operations weather and flood forecasting information support.</p>	<p>WLC</p>	<ol style="list-style-type: none"> 1. The WLC will engage with the dam operators and agencies responsible for flood forecasting in both the U.S. and Canada to establish the membership of the Flood Forecasting Advisory Group. 2. The WLC will notify the IJC of any new technical advisory groups or membership changes of existing groups, and the WLC 	<ol style="list-style-type: none"> 1. WLC is working with NWS and OMNRF to establish a Flood Forecasting Advisory Group. 	

			will post the details of the technical advisory groups on the IJC website.		
2018 Supplementary Directive 3)	Within one month prior to March 10, the WLC will hold at least one in-person Pre-Spring Engagement Meeting.	WLC	The WLC will host a Pre-Spring Engagement meeting during the week of the Rainy-Lake of the Woods Watershed Forum to take note of stakeholder observations and concerns.		
2018 Supplementary Directive 5)	The WLC will work with flood forecasting agencies, and other involved agencies active in the basin to assist in the development of communications protocols to effectively disseminate emergency information, leveraging those agencies' emergency alert and warning systems.	WLC	<ol style="list-style-type: none"> 1. The WLC will work with dam operators, resource agencies and the public to develop material to effectively communicate current basin conditions and operation strategies. 2. The WLC may hold public meetings, either in-person or via video- or teleconference, at any time during the year when the WLC is faced with a decision regarding changing target water levels within the Rule Curves. 		