



Draft Changes to the Rainy and Namakan Lakes Rule Curves for Public Comment

International Joint Commission
July 2017 – September 2017



Dear Stakeholders, First Nations, Tribes and Métis,

The International Rainy and Namakan Lakes Rule Curves Study Board (the Study Board) reported to the International Joint Commission (the Commission) in June 2017, completing the final phase of technical review from the 2009 Plan of Study for the Evaluation of the 2000 Rainy and Namakan Lakes rule curves. The current method for regulating the water flows and levels through control structures on Rainy and Namakan Lakes is prescribed in the Commission's 2001 Official Consolidated Order of Approval. The orders specify a water level band with upper and lower rule curves for each lake and minimum outflow requirements that are known as the "2000 Rule Curves". The Study Board conducted the final technical review phase that included modelling and rule curve scenario simulations and developed a series of recommendations relating to the management of the boundary waters of the Rainy River basin.

The Study Board's report represents the culmination of more than eight years of extensive study assessing the performance of past regulation and determining what modifications might be made to improve the future performance of the regulation of levels and flows in the basin. Throughout its review, the Study Board sought out the views of the public, First Nations, Métis, and Tribes, and this dialogue will continue as the Commission considers the Study Board's recommendations and moves forward at the conclusion of the upcoming public comment period and public hearings.

The Commission has been involved in the management of levels and flows in the basin since the Governments of Canada and the United States signed the 1938 *Rainy Lake Convention*, which gave the Commission a role in defining when emergency conditions exist in the basin and adopting measures of control as appropriate. The Commission first issued an Order of Approval regulating the operation of the structures at Kettle Falls and International Falls-Fort Frances in 1949 and followed up with revised rule curves in further Orders issued in 1970 and 2000. The 2000 Supplementary Order included a condition specifying that it should be reviewed after 15 years, which led to the formation of the Study Board in 2015 and the recent submission of their final report, currently before the Commission.

The Commission has carefully considered the Study Board's final report, and has arrived at a number of positions regarding the eleven recommendations it contains. After considering the recommendations of the Study Board, the Commission has agreed on the following preliminary findings centered around five general themes:

- 1. Changes to existing Rule Curves:** Alternative C for the rule curves for Rainy and Namakan lakes, which includes a rule curve for high flood risk years for Rainy Lake, should be adopted.

- 2. Expanded role for the Water Levels Committee (WLC) of the International Rainy-Lake of the Woods Watershed Board (IRLWWB):** The WLC should be empowered to target specific levels outside of the middle portion of the rule curve for each lake. New operational guidelines are needed for the WLC, and further guidance, in the form of a refined directive for the IRLWWB and the WLC, is needed.
- 3. Adaptive Management:** The Commission will work with the IRLWWB to determine how best to implement an adaptive management strategy in the medium and long term planning and activities of both the IRLWWB and the Commission in the basin.
- 4. Stakeholder Concerns:** The views of stakeholders, as heard through the Commission and Study Board engagement and hearings, will be communicated to governments.
- 5. Engagement with Indigenous Communities:** The Commission endorses the Study Board's recommendations regarding improving engagement and collaboration with Tribes, First Nations, and Métis communities.

The Commission looks forward to the opportunity to receive the views of First Nations, Métis, Tribes, stakeholders and the public on these issues at a series of hearings to be held throughout the basin from August 16 to 18, 2017, in Rainy River, Ontario; Fort Frances, Ontario; International Falls, Minnesota; and Kabetogama, Minnesota. A public comment period on the Commission's report will also be open from July 25 to September 1, 2017. Public input is essential to the Commission's rendering of a final decision to proceed with the proposed changes to the management of levels and flows outlined above, and to the Commission's perspective on changes to the operations and guidance provided to the WLC, engagement with Tribes, First Nations, and Métis, and adaptive management.

The consistently high level of public engagement in the basin continues to impress the Commission, and is invaluable in contributing to the work of the Commission, the IRLWWB and the WLC. The work of the Study Board has contributed extensively to the Commission's understanding of water levels management and its impacts of various resources and sectors in the basin, and has helped to foster further public engagement. The Commission is extremely appreciative of Study Board's efforts over the past several years, and wishes to thank it for its work.

Once the Commission has heard from First Nations, Métis, Tribes, stakeholders, and the public during the hearings and the public comment period, the Commission will reach a final decision regarding the changes outlined above, and, following consultations with governments, will implement those that require a change to the 2001 Consolidated Order through a new Supplementary Order of Approval. A revised, official Consolidated Order will then be issued by the Commission.

The Commission seeks public views on proposed modifications to the rule curves for Rainy and Namakan lakes. The Commission supports the Study Board's findings that Alternative C will result in broad ecological benefits, and that the new inclusion of an alternative rule curve for Rainy Lake for high flood risk years will help to reduce flood peaks. Combined with further operational guidance for the WLC, more flexibility for the WLC in targeting levels within the

bands, continued and improved engagement with Métis, Tribes, and First Nations, and the exploration of adaptive management, the modified rule curves will help to ensure that the boundary waters of the Rainy River basin are well managed for years to come. More details of the Commission's perspective are contained herein.

Commissioners

Attachments

1. [Draft Commission's Positions on the Recommendations of Changes to the Rainy and Namakan Lakes Rule Curves](#)
2. [Draft Commission's Proposed Changes to the Conditions of the Order with Alternative C](#)

The purpose of this document is to put forward the International Joint Commission's preliminary position on each of the recommendations of the International Rainy and Namakan Lakes Rule Curves Study Board (Study Board) as outlined in the Study Board's final report released in June, 2017. This document should be read in conjunction with the Study Board's report, which provides greater detail on the study findings and each of the Study Board's recommendations.

Introduction

In 2000, following an extensive review of the 1970 Rule Curves, the International Joint Commission (the Commission) issued a Supplementary Order that established a new set of rule curves for Rainy Lake and Namakan Lake. The most significant change involved a reduction in the over-winter drawdown for Namakan Lake by approximately 1 m (3.28 ft), as well as the earlier refill of Namakan Lake in the spring. For Rainy Lake, the rule curve revisions were relatively minor. The 2000 Order contained a provision stipulating that it was to be reviewed after a period of 15 years.

In 2015, per the direction of the Commission, the International Rainy and Namakan Lakes Rule Curves Study Board established three key objectives to address the challenge of managing future water levels and flows in the Rainy-Namakan Lakes system:

- 1. To evaluate the performance of the 2000 Rule Curves in comparison to the 1970 Rule Curves and State of Nature, considering a range of ecological, social, economic and environmental conditions that may be affected by water level regulation.*
- 2. To develop and evaluate additional regulation alternatives that reflect concerns of stakeholders in the study area and to compare the performance of these alternatives to that of regulation under the 1970 and 2000 Rule Curves.*
- 3. To evaluate all regulation alternatives for performance under a range of climate and water supply conditions.*

In the course of its two year review, and in response to the first objective above, the Study Board compared the 1970 and 2000 Rule Curves, looking at the results of over 50 studies which examined the observed changes on the Rainy and Namakan Chain of Lakes. The Study Board concluded that the 2000 Rules Curves generally performed as expected, compared to the 1970 Rule Curves. These expected results included both positive and negative expected outcomes, as identified in the Study Board's Report.

As part of its review, and in response to the second and third objectives, the Study Board employed numerical modelling techniques to develop and test a number of new Rule Curve alternatives for the Rainy and Namakan Lakes. These alternatives were developed in part through discussions at more than 45 online and in-person meetings with the public, stakeholders and indigenous communities in the basin. Although dozens of rule curve alternatives were examined as part of the review process, a short-list of five options are reviewed in detail in the report.

In its report, the Study Board outlined 11 recommendations to the Commission that followed from its findings. These recommendations can be grouped into five general themes:

1. Change the 2000 Rules Curves to Alternative C Rule Curves for Rainy and Namakan Lakes
2. Expand the role of the IJC's Water Levels Committee
3. Employ Adaptive Management to evaluate impacts from the new regulation plan
4. Communicate Stakeholder Concerns in the Basin to Governments
5. Improve Collaboration with Indigenous Communities

These themes are expanded on below, followed by the Commission's position on each recommendation.

Theme 1 - Change the 2000 Rules Curves to Alternative C Rule Curves for Rainy and Namakan Lakes

While the 2000 rule curves performed as expected, the Study Board was tasked by the Commission in study objective two to evaluate additional regulation alternatives that reflect concerns of stakeholders to determine if enhancements could be made. The Study Board's analysis indicated that even small increases in flood peaks can result in large increases in damage costs, primarily to docks. The Study Board's analysis confirmed that such increases resulted from the implementation of the 2000 Rule Curves, and that this was due primarily to the loss in storage capacity in the Namakan Chain of Lakes in the spring. A modification of the 2000 Rule Curves could result in Rainy Lake peak elevations in flood years that are similar to those that would occur under the 1970 Rule Curves.

This modification delays the refill of Rainy Lake from April until May, resulting in the passing of additional outflows during April. It also has a lower target range through May and June to allow for some storage capacity for anticipated high inflows. Targeting this lower range only in springs deemed to have a high flood risk would reduce the negative effects of lower spring water levels on fish spawning.

The Study Board's analysis also showed that ecological enhancements could be made by reducing water level drawdown over the winter to provide improvements for a number of ecological subjects, including the over-winter survival of benthic invertebrates, spawning success for fall-spawning fish such as whitefish, as well as improved over-winter survival for muskrat. Muskrat currently have very low survival rates on Rainy Lake and near zero survival on the Namakan Chain of Lakes. Muskrat are a consumer of invasive hybrid cattail, which has expanded its range in this system, particularly in Rainy Lake and Lake Kabetogama. Improving muskrat populations could help to reduce the spread of invasive hybrid cattail.

Finally, the Study Board did not recommend, and the Commission does not propose, changes to the all-gates-open clause nor the drought clause within the existing order for either lake.

Study Board Recommendation 1 - Adopt Rule Curve Alternative C

The Study Board recommends that the 2000 Rule Curves be replaced with Rule Curve Alternative C, providing conditional spring flood reduction targets for Rainy Lake in years with high spring flood risk and reducing over-winter drawdown for broad ecological benefits in both lakes.

Should the IJC determine that the changes to winter water level targets in Rule Curve Alternative C are not acceptable, the Study Board recommends that the conditional spring flood reduction component for Rainy Lake be implemented (Rule Curve Alternative B).

The Commission's Position on Recommendation 1:

The Commission agrees with Recommendation 1 of the Study Board. The Commission would update the existing Order to implement Alternative C for the Rule Curves for Rainy and Namakan Lakes, which includes an alternative Rule Curve for Rainy Lake in years where there is a forecasted increased risk of flooding.¹

Theme 2 – Expand the role for the Commission's Water Levels Committee

Many of the Study Board's recommendations relate to expanding and modifying the roles and responsibilities of the Water Level Committee (WLC). The WLC is a 4-member committee of the Commission's International Rainy-Lake of the Woods Watershed Board (IRLWWB), responsible for managing water levels on Rainy Lake and the Namakan Chain of Lakes within the established rule curves. In its findings, the Study Board has highlighted the following changes to the roles and responsibilities associated with the WLC to provide more benefit to the basin and to effectively manage water levels with the new rule curves:

The Study Board is suggesting that a set of Operational Guidelines be developed to guide the WLC to maximize benefits within the basin, while operating within the rule curve, as opportunities arise (Recommendation 2). Historically, the water levels have been managed by targeting the middle range of the rule curve by default, with only occasional deviations from this point when special circumstances have arisen. The work done by the Study Board and other researchers in the basin have revealed that other benefits may be gained through judicious water levels management within the confines of the rule curve. The Study Board has developed a draft set of Operational Guidelines in their report (Annex 8).

The Study Board has identified that there is no current Terms of Reference for the WLC, outside of the narrow terms outlined in the IRLWWB's directive. The Study Board suggests that a more detailed Terms of Reference be developed that would guide the WLC's decision making processes, data management, public communications and the roles of the advisors to the WLC (Recommendation 3). The introduction of Terms of Reference with increased responsibilities may require extra effort and additional resources for the WLC.

Under special and extraordinary circumstances the WLC may wish to have water levels of Rainy or Namakan Lake deviate from the prescribed rule curves. The current IJC Order allows for this, but requires that the WLC come to the Commission for approval and a supplementary order. The Study Board considers this process for the WLC to deviate outside the rule curves to be inefficient and recommends that more powers be given to the WLC to target levels outside the rule curves at times of emergency or the freshet (Recommendation 4). The Commission believes the number of times deviations and special orders have been required is small and infrequent, and although deviation requires an order from the Commission, the Commission has been responsive to those requests. Additionally, the Rule

¹ Note: The Commission is working with the Study Board to clarify how the Water Levels Committee (WLC) of the International Rainy-Lake of the Woods Watershed Board (IRLWWB) should transition to the alternative high flood risk Rule Curve in years where it determines that curve should be followed. The Commission anticipates further written clarification from the Study Board on this point. Further consideration and guidance may also be given to how to transition from the high flood risk Rule Curve to the default Rule Curve in years when conditions change and the risk of flooding decreases as the year progresses.

Curves comprising Alternative C include more built-in flexibility around the spring freshet (more vertical range), which is designed to give the WLC more operational room to avoid exceeding the rule curve limits. This increased flexibility should reduce the need to deviate. The recommended rule curves represent the best management approach and should accommodate the majority of operational conditions.

The Study Board notes in its report that many users of the river would benefit from a reduction in the frequency of large flow changes from Rainy Lake that quickly change the level of the river up or down and would also benefit from being better informed when flow changes are planned (Recommendation 5). It also notes that water level fluctuations in the Rainy River are affected only in part by the releases from the dam at International Falls-Fort Frances and that inflows from major tributaries, including the Big Fork and Little Fork Rivers, can affect levels both upstream and downstream from their confluences with Rainy River. Backwater effects from Lake of the Woods also can influence water levels along much of the river.

The Study Board notes in its report that the Water Levels Committee currently uses an operational inflow forecasting model that relies on regular input of meteorological, hydrometric, and hydrological data. Improvements in data collection in any of these areas could aid in producing more accurate inflow and lake level forecasts (Recommendation 6). With the adoption of the Alternative C Rule Curves, some effort is needed to determine the best way to operationally predict a high-risk flood year and make decisions as to whether the flood-curve should be adopted in any given year. This will likely require some review of available data sources and forecasting technologies and their predictive skill by the WLC, so that the WLC can be adequately equipped to make decisions in the spring in this regard.

The recommended Alternative C Rule Curves require a decision by the WLC prior to spring freshet as to whether or not the flood-curve will be followed. The Study Board is recommending that the WLC hold a regular public engagement meeting to provide stakeholder input into this decision process (Recommendation 7). This recommendation was widely supported by all interests. Such a meeting would provide the WLC an opportunity to both receive input and to communicate its decision process in a transparent manner. On an experimental basis for the last few years, the WLC has held such a meeting with the public surrounding the activities of the March Rainy-Lake of the Woods Watershed Forums and such a meeting has been well received.

Study Board Recommendation 2 - Promote flexible operation to improve outcomes

The Water Levels Committee should be empowered and encouraged to actively target specific areas of the Rule Curve band to benefit various interests as the opportunity arises, in full consideration of trade-offs that would result. To support this approach, the Study Board recommends the development and regular updating of a set of Operational Guidelines that summarize water level management best practices that can benefit specific interests on both lakes and the Rainy River.

The Commission's Position on Recommendation 2:

The Commission agrees with Recommendation 2 of the Study Board. The Commission proposes to work with the WLC to finalize these Operational Guidelines, likely before the implementation of the new rule curves. The Operational Guidelines would be updated by the WLC periodically, and this would be included in the WLC new Terms of Reference (see Recommendation 3 below).

Study Board Recommendation 3 - Provide the Water Levels Committee with Terms of Reference

Terms of Reference should be developed that detail the Water Levels Committee's operational procedures and responsibilities.

The Commission's Position on Recommendation 3:

The Commission agrees with Recommendation 3 of the Study Board. The Commission proposes to work with the WLC and the watershed board Co-chairs to develop the Terms of Reference for the WLC by Spring 2018.

Study Board Recommendation 4 - Empower the Water Levels Committee to direct targets outside of the Rule Curve range

The IJC should consider empowering the Water Levels Committee to direct targets outside of the Rule Curve range under certain conditions, such as responding to imminent emergency, or to allow for more flexible spring refill of the lakes in timing with the freshet.

The Commission's Position on Recommendation 4:

The Commission does not support Recommendation 4 of the Study Board. The Commission believes that in the past the requests for discretionary divergence from the rule curves have been infrequent and that the Commission has shown itself responsive to past requests from the WLC to allow for deviation from the rule curves when necessary.

Study Board Recommendation 5 - Examine practical operational approaches to benefitting Rainy River interests while meeting Rule Curve requirements

As part of Operational Guidelines (Recommendation 2), the Water Levels Committee should identify best practices for limiting large flow changes from Rainy Lake while still respecting lake level requirements and operational requirements of the dam operators.

The IJC should consider developing an approach for notifying interested individuals along the Rainy River of planned changes in Rainy Lake outflow and associated changes in water levels, as well as the importance of the flow changes on the river level relative to other natural flows.

The Commission's Position on Recommendation 5:

The Commission supports both aspects of Recommendation 5 from the Study Board. As an extension to the recommendation to establish Operational Guidelines (Recommendation 2), the Commission agrees the WLC should provide consideration to downstream interests to limit water level fluctuations and to provide due notice to downstream interests in the case of anticipated water level fluctuations. The Commission proposes to ask the WLC to identify best practices for limiting large flow changes from Rainy Lake and notification protocols along Rainy River in finalizing their Operational Guidelines.

Study Board Recommendation 6 - Review data monitoring sources to support inflow forecasting by the Water Levels Committee

The IJC should direct a review of the available monitoring data to identify areas where additional monitoring would improve inflow forecasting. Specific areas of investigation should include snow-pack measurements, remotely-sensed snow-water content, precipitation monitoring stations and stream flow monitoring stations.

The Commission's Position on Recommendation 6:

The Commission agrees with Recommendation 6 from the Study Board. The Commission proposes asking the WLC to consider the question of adequate data and to come back to the IJC with recommendations, which could in turn require the Commission to look to governments for support and funding.

Study Board Recommendation 7 - Formalize pre-spring engagement by the Water Levels Committee

A formal process should be developed to engage the Water Levels Committee with key groups in the watershed affected by water level regulation ahead of the spring freshet. This recommendation is of particular importance should Alternative B or Alternative C Rule Curves be adopted, as a conditional decision on spring water level targets would need to be made each winter ahead of freshet.

The Commission's Position on Recommendation 7:

The Commission agrees with Recommendation 7 of the Study Board. The Commission is proposing that the WLC, within its new Terms of Reference, be directed to, at a minimum, hold a meeting in the spring with the public, agencies, Tribes, Métis and First Nations. The spring meeting could take place surrounding the activities of the annual watershed forum within the basin. The WLC would have the flexibility to determine when to best hold the meeting, as it may vary from year to year, though it should occur before the decision to follow the high flood risk rule curve is made, not after. The WLC would also be directed to host as many meetings throughout the year as they deem necessary to best assist with decision making at key times during the year. The spring meetings, and other public meetings, would be open to any party interested in attending. The existing flexibility of the WLC to hold special meetings in-camera is proposed to be maintained.

Theme 3 – Employ Adaptive Management to evaluate impacts from the new regulation plan

The proposed changes to the Rainy and Namakan Lakes Rule Curves are anticipated to accrue certain benefits to the basin, including flood reduction and certain ecological benefits. Additionally, there are other areas of concern in the basin, such as mercury content in fish, which may be influenced by the rule curves in ways that are not currently well understood. It is important to monitor how the changes to the rule curves influence areas of concern in the Rainy and Namakan Lakes system, so the rule curves can be objectively reviewed and modified if necessary.

Adaptive Management is an approach for improving future management outcomes by learning from past outcomes and is built upon systematic and iterative monitoring and performance review. The Study Board recommends that the IJC explore the creation of a binational Adaptive Management Committee (Recommendation 8). It suggests this committee could draw its membership primarily from the IRLWWB in a manner similar to the WLC, and the Adaptive Management Committee could consist of leads from the IRLWWB, with participation from the resource agencies in the watershed.

The Study Board also emphasizes the need for financial and resource obligations to implement a successful adaptive management plan, and it received comments from resource agencies within the basin supporting the need for long-term funding to implement adaptive management successfully. The Study Board did not attempt to identify specific resource implications for implementing adaptive management within the basin, while noting there will likely be the need to leverage resources with multiple interests in the basin including resource agencies, similar to how this was done in evaluation of the 2000 Rule Curves. The Study Board also notes that there is widespread support for implementing adaptive management in the Rainy- Namakan Basin to evaluate the performance of the Alternative C Rule Curves.

The Study Board indicates a binational regional approach to adaptive management could build on the Rule Curves Study just completed. It could address ongoing challenges, such as integrated monitoring, modelling and risk assessment in response to changing or uncertain and emerging conditions, and they emphasize the importance of continued long-term monitoring in Namakan Lake, Rainy Lake and Rainy River. The Study Board specifically lists a number of performance indicators that should be monitored over the long-term, while noting there could be a need to monitor others, as well. It notes that during the Study, resource agencies identified other possible monitoring needs to assess ecological impacts and these should be further explored.

When the 2000 Rule Curves were implemented, an adaptive management approach was stipulated by the Commission, in that monitoring of key areas of interest was to be done by local resource agencies so that the 2000 Rule Curves could be objectively evaluated after a 15-year period. In every year since 2000, the Commission's International Rainy-Lake of the Woods Watershed Board and its predecessors² met annually with the resource agencies and others to assess their progress on monitoring as part of an adaptive management process. In these annual meetings, progress was assessed on the priority monitoring needs previously identified in an expert workshop held in January of 2000 in International Falls. A follow-up workshop was held again in March of 2008 when the Commission heard from resource agencies that their budgets were being cut and they were not going to be able to meet their monitoring tasks so that the 2000 Rule Curves could be properly evaluated. Information from this workshop was used in the development of the 2009 Plan of Study, identifying the priority needs for completing the 15-year adaptive management cycle. U.S. and Canadian governments graciously provided the funding to complete the required studies, greatly improving the efficacy of this current review of the rule curves.

In order for the IJC to evaluate the effectiveness of the proposed rule curves, an adaptive management process will be necessary. That is, certain critical aspects of the Rainy and Namakan lake system and Rainy River that are expected to change under the new rule curves should be monitored and evaluated over the period of many years to ensure that the rule curves are performing as expected, and that the

² In 2012 the Commission's International Rainy Lake Board of Control and the International Rainy River Water Pollution Board were merged to form the International Rainy-Lake of the Woods Watershed Board.

curves be adapted, if necessary. The Commission proposes to ask its International Rainy-Lake of the Woods Watershed Board to investigate how best to carry out the next 15 year adaptive management cycle, including identifying what kind of institutional arrangements would best be used in conducting it, and should such arrangements be formalized. For example, should a formalized Adaptive Management Committee be struck or should it be ad-hoc, as it was during the review of the 2000 Rule Curves. The Commission is proposing to ask the Board to come back to the Commission with their preliminary ideas by the spring of 2018, so the Commission can deliberate on the appropriate path forward at that time. Additionally, the Commission is proposing to work with the Watershed Board to host a workshop within this time frame to identify priority monitoring and modeling needs in conducting this next 15 year cycle of adaptive management on the new rule curves.

Similar to the language in its previous order of 2000, the Commission is proposing a clause be included specifying a review of the new rule curves would take place within 15 years from the implementation of the new order, or as otherwise determined by the Commission. It is proposed to state that the review shall, at a minimum, consider monitoring information collected by natural resource management agencies and others during the interim that may indicate the effect of the changes contained in the Supplementary Order.

The Commission has implemented adaptive management in other basins. For example, the Commission established the Great Lakes - St. Lawrence River Adaptive Management Committee. The Commission has also established adaptive management activities in other basins associated with reviewing other orders, including regarding Osoyoos Lake, overseen by the International Osoyoos Lake Board of Control. Lessons learned from applying adaptive management in these basins can be applied to the Rainy-Namakan system.

Study Board Recommendation 8 - Investigate adaptive management

The IJC should explore the use of a formal adaptive management process for the long-term evaluation of the effectiveness of the Rule Curves. The implementation of an adaptive management process is of particular importance should Rule Curve Alternative C be implemented as it would allow the Water Levels Committee to evaluate whether the changes to the winter water level targets result in the intended ecological effects.

The Commission's Position on Recommendation 8:

The Commission agrees with Recommendation 8 of the Study Board. The Commission recognises that in order for it to effectively evaluate the performance of the new rule curves, an Adaptive Management approach is required. The Commission is proposing that it hold a workshop with assistance from the IRLWWB to identify priority areas for continued monitoring. The Commission is also proposing that it will direct the IRLWWB to develop a suggested adaptive management approach by the spring 2018 to be reviewed by the Commission.

Theme 4 - Communicate Stakeholder Concerns in the Basin to Governments

In the course of its review, the Study Board heard concerns from many stakeholders in the basin with regard to the water levels of the Rainy and Namakan Lakes. These concerns over which the Rule Curves

have some influence, and which were within the IJC's mandate, were included in the Study Board's review. However, some concerns heard by the Study Board do not directly relate to the Rule Curves or the IJC's mandate.

One issue that was raised frequently by stakeholders relates to a natural restriction to flow out of Rainy Lake, which is seen by some to exacerbate flooding. The natural outlet of Rainy Lake forms a constriction upstream of the dam at International Falls and Fort Frances that restricts the flow out of Rainy Lake. Some interests in the basin would like to see an investigation into the modification of the channel at the natural outlet to increase flow capacity. Other interests in the basin are strongly opposed to the idea of modifying the natural channel at that location, citing ecological issues, downstream flooding issues and issues of feasibility considering the channel constriction is co-located with an active rail bridge crossing.

The Study Board suggests that the IJC notify governments that there is some interest in the watershed with regard to the Rainy Lake outlet and its possible modification, with some stakeholders supporting and some opposing (Recommendation 9). The Commission believes that this sort of study falls well outside the scope of the Rule Curve review, and the IJC's mandate. However, the Commission is prepared to notify governments of the issue and the mixed stakeholder reaction as part of its briefing to government regarding the Rule Curve review study.

Study Board Recommendation 9 - Advise the Governments of interest and concern over Rainy Lake outlet modification

The IJC should advise the US and Canadian governments that modification to the outlet of Rainy Lake is a subject of interest in the watershed, with some support and some opposition.

The Commission's Position on Recommendation 9:

The Commission agrees with Recommendation 9 of the Study Board. The Commission will notify governments of the interest and concern over the Rainy Lake outlet modification, explaining the issue and citing the mixed stakeholder reaction in the basin.

Theme 5 – Improve Collaboration with Indigenous Communities

The Commission recognizes the long history of the indigenous peoples in the Rainy-Lake of the Woods Region and remains committed to both hearing the concerns from these communities and learning from these communities. The Study Board was committed to engaging indigenous community members when developing its report, and, during the course of the study, it held several meetings with indigenous communities directly, as well as collectively through the Grand Council Treaty 3. The Study Board suggests that the IJC examine ways to improve the Commission's relationship with indigenous communities through ongoing communication with the IRLWWB and the WLC (Recommendation 10). The Commission feels that the Study Board made substantial progress toward developing the relationships between the IJC and indigenous communities in the basin, and that this recent effort provides an opportunity for the IJC and its watershed board to continue to work on improving these relationships.

In the course of the meetings with indigenous communities, the Study Board recognized that there exists a substantial resource of aboriginal traditional knowledge (ATK) that could inform the management of the water levels in the region. The Study Board is recommending that the Commission work closely with indigenous communities in the basin to better understand how ATK can be implemented in future IJC-sponsored studies (Recommendation 11). The Commission supports this approach, and has worked with First Nations, Métis and Tribes in the past to better understand ATK as it relates to IJC activities. For example, the IJC successfully partnered with the Seine River First Nation to investigate local ATK as it relates to fish spawning as part of the International Watersheds Initiative. The Commission will continue to look for opportunities to partner with indigenous communities, and to fund and develop studies that leverage ATK.

The Commission recognizes that developing strong relationships with indigenous communities is not to be done on a project-by-project basis, but rather requires a sustained and committed approach. The IJC has recently increased its indigenous presence on the IRLWWB and will be working with the communities in the basin in the future to become more successful partners.

Study Board Recommendation 10 - Examine approaches for developing and sustaining improved relationships and communications with First Nations, Métis and Tribes on water issues

The IJC should examine options for making meaningful improvements in relationships with Indigenous communities in the watershed. Ongoing communication is key to addressing the concerns of these communities and to improving the ability of the International Rainy-Lake of the Woods Watershed Board and its Water Levels Committee to inform its work with the benefit of both Aboriginal Traditional Knowledge and Western science.

The Commission's Position on Recommendation 10:

The Commission agrees with Recommendation 10 of the Study Board. The Commission will continue to work with indigenous communities through its Board and WLC to sustain and improve our relationships.

Study Board Recommendation 11 - Consider sponsoring research projects to improve understanding of relationship between water levels and areas of Aboriginal Traditional Knowledge

The IJC should consider sponsoring International Watersheds Initiative projects in communities that would help develop the understanding of the connection between water level management and key Aboriginal Traditional Knowledge subjects, such as medicinal plants and pictographs. This understanding could help inform the work of the Water Levels Committee, adaptive management efforts and future reviews of the Rule Curves.

The Commission's Position on Recommendation 11:

The Commission agrees with Recommendation 11 of the Study Board. The Commission will continue to investigate opportunities to partner with indigenous communities through its Board and WLC to develop studies that leverage ATK.

Draft Changes to the Conditions of the Order with Alternative C

The Official Consolidation, dated January 2001, of the Order Prescribing Method of Regulating the Levels of Boundary Waters, dated 8 June 1949, as amended by the three Supplementary Orders dated 1 October 1957, 29 July 1970, and 5 January 2000, is hereby amended by:

1. Deleting subparagraph 1(a) and substituting the following:

1(a) The Companies, their successors or assigns shall operate the discharge facilities at the Kettle Falls Dams as authorized by the Water Levels Committee of the International Rainy-Lake of the Woods Watershed Board, hereafter "Water Levels Committee", in such manner that insofar as possible the level of Namakan Lake, unaffected by wind or currents, will be between the following minimum and maximum elevations on the dates shown or between elevations which can be interpolated therefrom between these dates, these elevations being above mean sea level. Furthermore, the companies, their successors, or assigns shall keep the Water Levels Committee informed in advance of their intended actions. The Water Levels Committee shall monitor hydrologic conditions and the Companies' actions and may provide the Companies with directions for the operation of their discharge facilities. The Companies shall carry out any instructions provided by the Water Levels Committee, which may include instructions to target specific levels within the band.

Namakan Lake Elevations

Minimum			Maximum		
Date	Meters	Feet	Date	Meters	Feet
01-Jan	339.70	1114.50	01-Jan	340.00	1115.49
01-Apr	338.95	1112.04	01-Apr	339.70	1114.50
15-Apr	338.95	1112.04			
			01 June	340.95	1118.60
07-Jun	340.70	1117.78			
01-Sep	340.45	1116.96	01-Sep	340.65	1117.62
01-Oct	340.45	1116.96	01-Oct	340.65	1117.62
31-Dec	339.70	1114.50	31-Dec	340.00	1115.49

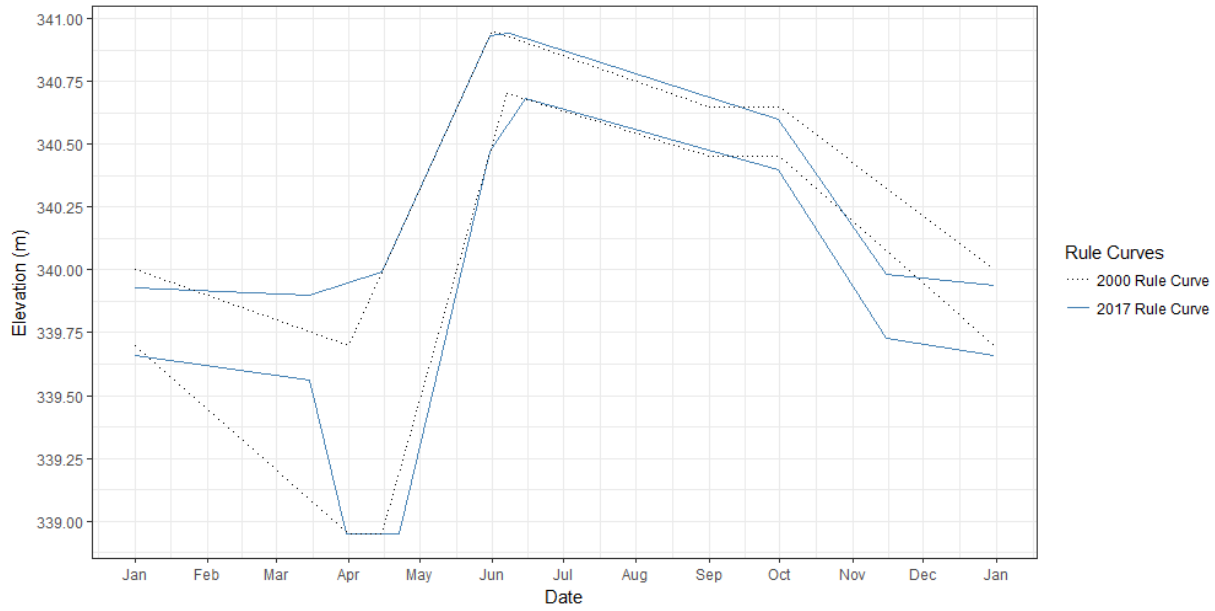


Figure 1 - Namakan Lake Rule Curve

2. Deleting subparagraph 2(a) and substituting the following:

2.(a) The Companies, their successors or assigns shall operate the discharge facilities at the International Falls-Fort Frances Dam as authorized by the Water Levels Committee, unaffected by wind or currents, will be between the following minimum and maximum elevations on the dates shown or between elevations which can be interpolated therefrom between these dates, these elevations being above mean sea level. Furthermore, the companies, their successors or assigns shall keep the Water Levels Committee informed in advance of their intended actions. The Water Levels Committee shall monitor hydrologic conditions and the Companies' actions and may provide the Companies with directions for the operation of their discharge facilities. The Companies shall carry out any instructions provided by the Water Levels Committee, which may from time to time include instructions to target specific levels within the band.

Rainy Lake Elevations

Minimum			Maximum		
Date	Meters	Feet	Date	Meters	Feet
01-Jan	336.99	1105.61	01-Jan	337.25	1106.46
15-Mar	336.89	1105.28	15-Mar	337.18	1106.23
01-Apr	336.71	1104.69			
			15-Apr	337.20	1106.30
01-May	336.80	1104.99	01-May	337.40	1106.96
01-Jun	337.30	1106.63	01-Jun	337.60	1107.61

01-Jul	337.50	1107.28	01-Jul	337.75	1108.10
15-Jul	337.49	1107.25	15-Jul	337.73	1108.04
			22-Sep	337.64	1107.74
30-Sep	337.31	1106.66			
22-Nov	337.06	1105.84	22-Nov	337.26	1106.50
30-Nov	337.04	1105.77	30-Nov	337.26	1106.50
22-Dec	337.00	1105.64	22-Dec	337.27	1106.53
31-Dec	336.99	1105.61	31-Dec	337.25	1106.46

3. Deleting sub-paragraph 2(b) and substituting the following, while renumbering existing sub-paragraphs 2(b)(c) and (d) as 2(c)(d) and (e).

2(b)If forecasts show that the basin may experience high inputs that may cause flooding later in the season, the WLC may direct that the Companies follow the below high flood risk rule curve on Rainy Lake. The determination to follow the high flood risk rule curve should be made by the Water Levels Committee no later than March 10. If, after the Water Levels Committee has made the determination to follow the high flood risk rule curve, conditions change as the year progresses and the risk of flooding decreases, the Water Levels Committee may direct the Companies to return to following the standard rule curve for Rainy Lake contained in condition 2(a).¹

Rainy Lake Elevations (high flood risk rule curve)

Minimum			Maximum		
Date	Meters	Feet	Date	Meters	Feet
01-Apr	336.70	1104.66	01-Apr	337.00	1105.64
01-May	336.70	1104.66	01-May	336.85	1105.15
			01-Jun	337.30	1106.63
			01-Jul	337.60	1107.61
15-Jul	337.50	1107.28	15-Jul	337.75	1108.10
31-Dec	337.20	1106.30	31-Dec	337.45	1107.12

¹ Note: The Commission anticipates further written clarification from the Study Board on the issue of how the WLC and companies should transition to and from the high flood risk rule curve in years when the WLC makes the determination it should be followed.

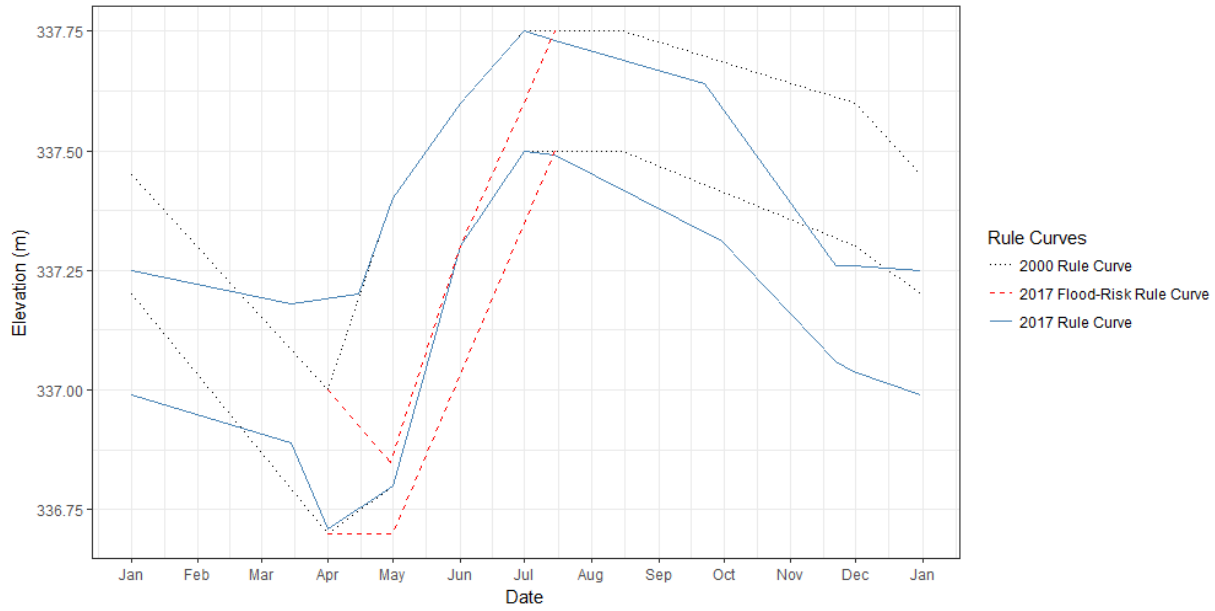


Figure 2 - Rainy Lake Rule Curves

3. Deleting sub-paragraph 5 and substituting the following:

5. This Order shall be subject to review 15 years following the adoption of the Commission's Supplementary Order of, _____ 2017 or as otherwise determined by the Commission. The review shall, at a minimum, consider monitoring information collected by natural resource management agencies and others during the interim that may indicate the effect of the changes contained in the Supplementary Order of, _____, 2017.

4. Sub-paragraphs 1(c) and 2(c) are changed to refer to the "Water Levels Committee" in place of the "International Rainy Lake Board of Control".