

**INTERNATIONAL RAINY LAKE BOARD OF CONTROL**  
**IRLBC**

---

**ANNUAL REPORT FOR YEAR 2000**

**Submitted to**

**The International Joint Commission**

**March 21, 2001**

**INTERNATIONAL RAINY LAKE BOARD OF CONTROL**  
**ANNUAL REPORT FOR YEAR 2000**

---

**1. INTRODUCTION**

This report presents a summary of the Board's activities for the year ending December 31, 2000. This was the first year for regulation of Rainy and Namakan Lakes under the January 5, 2000 Order. Regulation of the lakes went very well during this first year under the new Order with lake levels maintained within their respective bands for both lakes in spite of an early limited snowmelt runoff. Use of the board's new discretionary authority to direct the Companies to target higher in the band resulted in improved levels for the fishery in light of the low spring inflow to both lakes. Unusually high late fall inflow resulted in equally high and unusual Rainy River flows and raised downstream concerns over the poor quality thin ice conditions that resulted. A detailed discussion of the year's regulation is given in Section 2.

In the areas of communication and public relations (see Section 3), the Board has continued to make effective use of conference calls, electronic mail, the Internet and written correspondence including letters, faxes, newsletters, newspaper ads and reports in its work. The Board continues to make extensive use of its Internet homepage to provide broad dissemination of Board activities and reports and other items of public interest related to Board and IJC activities. The Companies also continued to undertake new initiatives while enhancing existing methods to keep the public informed of lake regulation activities.

The Board has been very active over the past year, meeting with the Commission, the Companies and the public. The Board met with the Companies in March in connection with its annual public meeting and staff met with the Companies in May to discuss differences in headpond gauge readings at the American powerhouse at International Falls, MN. The Board held its annual public meeting in March to discuss the new Order for Rainy and Namakan lakes, review the past year's regulation and look at prospects for the coming spring runoff. The Board met with the Commission in September in Ottawa at the Commission's semi-annual meeting, primarily to discuss the proposed merger of the International Rainy Lake Board of Control (IRLBC) and the International Rainy River Water Pollution Board (IRRWPB). Section 4 details the key meeting activities of the Board in 2000.

Other related Board business (see Section 5) included participation in an IJC sponsored ecological monitoring workshop in January in International Falls, reconciliation of FERC Article 403 with the January 5, 2000 Order for Rainy and Namakan lakes, advancing further development of an approach for the proposed merger of the IRLBC and the IRRWPB, input to the preparation of the Office Consolidation of the January 5, 2000 Order by the Commission staff, comments on reductions in funding for IJC International gauges, the discovery of a potential loophole in the new Order with respect to minimum outflows and providing advice to the Commission and local interests regarding fall Rainy River fluctuations induced by hydropower peaking.

Items of an informational nature are discussed in Section 6 and include ongoing dam maintenance activities of the Companies and the retirement of the Canadian Co-chair of the Board from federal service.

**2. REGULATION SUMMARY**

**2.1 Overall Perspective**

Overall the hydrologic conditions in the Rainy-Namakan basin were quite variable throughout the year. The snowpack in the basin was below normal. Above normal late February temperatures led to an early melt. Target levels for Rainy and Namakan lakes were raised in the spring by the IRLBC, based on the limited

snowpack and resultant forecast that at least the early runoff would be low. The Companies were directed by the Board to target, for March 31<sup>st</sup>, the upper rule curve for Rainy and the upper half of the rule curve band for Namakan. Subsequently, in March, the Board directed the Companies to target the upper half of the rule curve bands for both lakes during the spring refill beyond March 31<sup>st</sup>. This action was taken by the Board in order to capture and not spill the early runoff and to attempt some improvement in spring lake levels for the fishery on both lakes. This effort was not able to fully attain lake levels as high as hoped for the fishery, due to the weak runoff. However, it turned out to be quite positive that lake levels entered the spring runoff period in the upper portion of their bands, as this resulted in quite acceptable spring lake levels for both lakes, which would not have been the case, if the action had not been taken.

May-June rainfall was well above normal, allowing Rainy and Namakan lakes to be maintained within their bands. With the exception of above normal rainfall in August, precipitation was mostly near normal from July through late October. This was also evidenced in inflow to the lakes which stayed near median levels throughout much of the period. The near median inflow to Rainy Lake during September and October provided flow conditions that were conducive and beneficial to the Companies for hydropower peaking strategies. Concerns over perceived and potential adverse downstream Rainy River environmental impacts resulting from the peaking strategies were voiced to the Board and the IJC by the Rainy River First Nations.

Heavy rainfall from late October to mid-November resulted in unusually high late fall and early winter outflows from Rainy Lake. These unusually high flows produced a late ice cover of poor quality in the river. Concerns were received by the Board from a Lake of the Woods County official about dangers to local winter users of the river with respect to thin and weak ice due to the high flow.

During the year, there were no rule curve violations on Namakan Lake and only some very minor violations on Rainy Lake. The Boise-Cascade regulators noted that this year's regulation was easier from the perspective of not having to regulate at cross-purposes with Abitibi-Consolidated regulators in order to comply with the FERC requirements of Article 401. These requirements have now been dropped by FERC from Boise's license, being replaced with the IJC's 2000 Order.

## **2.2 2000 Regulation Summary**

Graph 1 compares the actual 2000 precipitation with normal precipitation for the Rainy-Namakan basin. Graphs 2 and 3 show lake level, computed net inflow and outflow data for Namakan and Rainy lakes, respectively, compared with historic values. Graph 4 provides a legend for the precipitation and level and flow information.

Hydrologic conditions within the Rainy-Namakan basin in January and February were characterized by well below normal precipitation and a resulting low snowpack. Inflow to Rainy and Namakan lakes through most of this period was just slightly above lower quartile levels. Above normal late February temperatures in the basin resulted in an early, but weak, melt and runoff of the sparse snowpack.

Given the relatively weak snowmelt runoff, possibly followed by below normal inflows until the May-June rainfall period, the Board deemed it important to take advantage of early runoff for storage rather than dumping it to maintain a mid-band position. Using its discretionary authority for the first time under the 2000 Order for the lakes, the Board discussed the situation with the Companies at the end of February and directed them to target, for March 31<sup>st</sup>, the upper rule curve for Rainy and the upper half of the rule curve band for Namakan. Prior to the Board's directive, the Companies had been targeting the default middle portions of the bands for both lakes, as normally called for in the 2000 Order. The target for Rainy was established by the Board as 100% of band by March 31 and the upper half of the band for Namakan at the end of March. These targets were subject to the availability of sufficient inflow, while maintaining reasonable outflows.

Both lakes achieved their March 31 targets, with Rainy at 99% of band and Namakan at 89%, but were not able to meet their spring refill targets, drifting toward mid-band as inflow to both lakes continued to hover near lower quartile amounts through March and April. It is interesting to note that this year's March 31<sup>st</sup> level of 339.62 m (89% of band) on Namakan was 0.24 m higher than the maximum of record (339.38 m in 1945 or 56% of the new rule curve band) dating back to 1912. This of course was largely due to the reduced Namakan drawdown under the new Order compared to the that of the 1970 Order. Above normal May-June rainfall allowed inflow to the lakes to recover to near median levels in June, but was too late to achieve optimum levels in May for fishery purposes. Still, the discretionary early targeting of the both lakes in the upper portions of their bands, rather than the default middle portions normally called for by the 2000 Order, resulted in more favorable spring fishery conditions than would have otherwise occurred and was by all measures a success. It turned out to be good thing that lake levels entered April near the upper rule curve for both lakes, as this resulted in quite acceptable spring levels, whereas they might not have been if the middle portion of the bands had been targeted.

Precipitation for the remainder of the year was generally near normal, except for August being slightly above normal and well above normal rainfall in the first half of November. Inflow to Namakan during this period was near median, except for early August when inflow reached upper quartile levels. Inflow to Rainy fluctuated more during this period, reaching upper quartile levels in July, August and November, and near lower quartile levels in October.

During September and October, inflow levels were in a range that was conducive and economically beneficial for the Companies to employ daily and weekly hydropower peaking strategies on the outflow to the Rainy River. This lead to noticeable daily (0.10 m to 0.15 m) and weekend (0.25 m to 0.50 m) downstream river level fluctuations at Manitou Rapids. Concerns were expressed by the Rainy River First Nations over these fluctuations and were brought to the attention of the Board in November. This issue is discussed further in Section 5.7. The heavy rains in late October to mid-November resulted in unusually high outflows for the time of year to the Rainy River, which persisted through year end and provided sufficient water for power generation, ending the need for hydropower peaking. These high early winter flows created poor downstream ice conditions with thin ice. The Lake of the Woods County Coroner contacted Board staff to express his concerns over the dangerous Rainy River ice conditions near Baudette, Minnesota and the Town of Rainy River, Ontario. Both lakes ended the year with lake levels slightly above mid-band and inflow in the median range

During the year, there were no rule curve violations on Namakan and only some very minor violations on Rainy where, for three days out of the year, the mean level exceeded the upper rule curve by less than 0.50 cm.

### **3. COORDINATION AND PUBLIC RELATIONS**

#### **3.1 Overall Perspective**

Over the past year the Board has endeavored to maintain a high level of communication with the Commission, the Companies and stakeholders in the Rainy-Namakan basin regarding critical lake regulation activities. It has made effective use of the telephone to include conference calls, electronic mail, the Internet and written correspondence including letters, faxes, newsletters, newspaper ads and reports. The Board feels it has done a credible job of ensuring a high level of effective communication. The Companies have demonstrated a willingness to work on improving public and Board communication. Communication between the Companies and the Board concerning lake level regulation activities has been and is very good, particularly with respect to the January 5, 2000 Order.

### **3.2 Boise Cascade and Abitibi Consolidated Initiatives**

The Companies have been active on a number of fronts to be responsive to public information needs. Flow changes and gate openings at Rainy and Namakan lakes are announced on radio stations CFOB in Fort Frances, KGHS in International Falls and CKDR in Dryden, Ontario. A toll free information line (1-800-274-LAKE) is maintained. Lake level graphs are published weekly in the Fort Frances Times and the Atikokan Progress, and daily in the International Falls Daily Journal.

The Companies have responded to Board suggestions of harnessing the Internet to assist their public relations effort by presenting water level regulation information via the Internet. The work was nearly complete and was expected to be finished in early 2001.

The Companies continue their proactive program of calling affected downstream Rainy River users and advising them of significant gate changes at the dam at International Falls/Fort Frances. Participation at the Atikokan Trade Show and at the annual Seine River Water Level Committee meetings continues to help promote greater understanding of regulation objectives in the northern portions of the Rainy basin.

## **4. MEETINGS**

### **4.1 Meeting With Boise Cascade/Abitibi Consolidated - March 1, 2000**

In connection with its annual basin trip, the Board met with Boise Cascade and Abitibi Consolidated representatives at Boise's training facility in International Falls on the afternoon of March 1, following a brief Board business meeting earlier that morning. Items discussed included Boise's participation in the annual public meeting, their regulation of the lakes over the past year and plans for the coming spring, technical issues related to differences in the American powerhouse headpond gauge readings between the USGS recorder and Boise's Baily system, regulation under the new IJC Order, periodic dam maintenance activities and the water level related public relations activities of the Companies.

### **4.2 Annual Public Meeting - March 1, 2000**

The IRLBC's thirty-third annual public meeting was held in International Falls on the evening of March 1. The meeting was attended by 26 local residents including representatives of the Companies, a rather small turnout compared to earlier years, when interest was keen concerning Rainy-Namakan study progress. The small turnout was also influenced by the fact that Namakan levels were 0.62 m higher on March 1 under the new Order than the previous year, largely due to the reduced winter drawdown compared to the 1970 Order. Low spring Namakan levels had been a point of dissatisfaction with many basin interests who had strongly voiced their concerns to the Board in past years.

The Board presented a summary of Rainy-Namakan study activities since the previous public meeting in 1999, leading up to and including the implementation of the 2000 Order on January 5, 2000. Boise Cascade presented a review of the past year's regulation and the Board reviewed current basin conditions and the outlook for spring runoff. The meeting was then opened to questions from the public, but no significant concerns were raised and the meeting ended shortly thereafter.

### **4.3 Meeting With Boise Cascade - May 8, 2000**

Board staff met with representatives of Boise, Water Survey of Canada (WSC) and the U.S. Geological Survey (USGS) at Boise's offices in International Falls on May 8, 2000 to further investigate the American

powerhouse headpond gauge issue, raised at the Board's March 1 meeting with the Companies. The headpond elevation at the American powerhouse was measured at the time by three gauges, a WSC mercury manometer, a Boise "Bailey System" pressure transducer and a staff gauge. The problem stemmed from Boise's Bailey System pressure transducer consistently reading about 4 inches higher than the other water level gauges, which were in agreement, and the fact that the WSC mercury manometer gauge was being removed for environmental reasons associated with mercury. The meeting was productive and a satisfactory agreement was reached between the parties. The key points of agreement are listed below:

- The depth of Boise's Bailey System pressure transducer was adjusted to be in agreement with the WSC mercury manometer and the staff gauge.
- WSC would remove their mercury manometer in about 4 weeks.
- WSC and/or USGS will survey in an elevation near Boise's gauge box.
- USGS will verify the staff gauge accuracy once per year.
- Boise will maintain their gauge to keep it free of debris/algae, etc.
- Boise will check their transducer gauge reading against the staff reading weekly and provide a summary of the log sheets to the Board annually.
- Boise will provide headpond elevation, tailwater elevation and discharge information on their web site.

#### **4.4 IJC Fall Semi-Annual Meeting in Ottawa, Ontario, September 26, 2000**

The Board met with the Commission at the Fall Semi-Annual meeting held at the Ottawa office of the IJC on September 26, 2000. This was a joint appearance with the International Rainy River Water Pollution Board (IRRWPB) for the primary purpose of discussing the merger of the two Boards. Prior to the discussion of the board merger issue, the IRLBC presented an update on regulation to date under the new IJC Order for Rainy and Namakan lakes, noted that the annual reports for the years 1995-1999 had been submitted to the Commission on July 19, and brought to the Commission's attention gauging network cutbacks affecting the Basswood gauge in the U.S. The IRRWPB presented its 48<sup>th</sup> Progress Report on the water quality of the Rainy River. With respect to the gauging cut back, the Board requested that it be notified in advance of future gauge reductions and that the Commission seek the full Board's views on future gauging cutbacks, rather than just one Section of the Board as had been the case in this instance.

Regarding regulation of Rainy and Namakan lake levels, the Board noted that levels were maintained within the rule curves throughout the period and that, with the low risk of spring flooding, the Companies had been directed to target lake levels in the upper portion of the bands for both lakes. This resulted in higher spring levels than would otherwise have occurred in light of the low spring inflow and provided some benefit to the fishery.

Concerning the board merger issue, the Board presented its position, as stated in the joint IRLBC/IRRWPB letter of July 20, 2000 to the Commission and gave its position with regard to the IJC's June 26, 2000 Draft Directive for an "International Rainy Lake and Lake of the Woods Basin Board". Key points made included:

- Recommending as a first step toward an "ecosystem board," combination of the pollution control mandate of the IRRWPB under a broadened IRLBC mandate as a technical committee.
- Resourcing an "ecosystem board" is an area of great concern to the potential membership of such boards and will present significant challenges, given the expanded role that will be needed.

- Questioning the IJC’s authority to appoint Members to and to combine the International Lake of the Woods Control Board (ILWCB) as outlined in the June 26, 2000 Draft Directive for an “International Rainy Lake and Lake of the Woods Basin Board.”
- Reiterating concerns over combining the IRLBC, a control board with some water management decision-making powers, into an ecosystem board which is advisory in nature and maintaining the separation of power.
- Reiterating the sentiments of participants in the March 23, 1999 IJC sponsored workshop on Watershed Boards calling for a slow and careful approach to the issue, emphasizing public involvement at each step, no new layers of bureaucracy, using combination of existing Boards as a first step and creating Boards that are only advisory in nature.

The Board concluded its presentation and indicated, upon questioning by Commissioners, that it could submit a revised merger proposal in December 2000.

#### **4.5 Board Meetings and Conference Calls**

The Board met on two occasions and held several conference calls over the course of the year, primarily in connection with the merger of the IRLBC and IRRWPB and Board appearances before the Commission, but also in connection with other varied issues including the January 11-12 Ecological Monitoring Workshop, Office Consolidation of the 2000 Order and issues related to hydropower peaking on the Rainy River, to name a few.

### **5. OTHER BUSINESS**

#### **5.1 Rainy-Namakan Ecological Monitoring Workshop - January 11-12, 2000**

Subsequent to the issuance of the January 5, 2000 Order for Rainy and Namakan lakes, the Commission sponsored a bi-national workshop on ecological monitoring held in International Falls, MN on January 11-12, 2000. The impetus for the workshop came from the Board’s recommendation B6 in the its Final Report, “Review Of The IJC Order For Rainy and Namakan Lakes.” That recommendation called for monitoring programs implemented by the resource management agencies in accordance with the recommendations of the fisheries and environmental resources experts to enable the impacts of new rule curves on the biological and aquatic communities to be identified, and to provide an adequate source of information for future reviews. The workshop was seen as a first step toward that goal and focused on attempting to define the scope of a monitoring program, developing monitoring protocols and identifying possible funding mechanisms.

Board staff attended and participated in the workshop, giving a presentation encompassing an overview of the basin climate, geology, hydrology, hydraulic structures and lake regulation within the Rainy and Lake of the Woods basins. The regulation discussion focused upon the regulation of Rainy and Namakan lakes under the Commission’s Orders of 1949, 1957 and 1970, as well as providing and in-depth review of the newly implemented January 5, 2000 Order.

#### **5.2 Reconciliation of FERC Article 403 and the January 5, 2000 Order**

Following implementation of the 2000 Order, Boise Cascade responded to a March 29, 2000 request from the Director, Division of Hydropower Administration and Compliance, FERC, for a plan describing how licensee would operate its hydro project in compliance with Article 403 and in a manner consistent with the 2000 Supplementary Order. Article 403 of the project licence required the International Falls Hydropower

Project to be operated to achieve the maximum allowable lake elevation for Rainy Lake, based on the existing (1970) International Joint Commission (IJC) rule curve, from ice-out to 15 days thereafter, for the....”

In its response, Boise stated its intention to follow the new IJC rules and target the middle portion of the revised rule curve band in coordination with the Canadian dam owners across the river. Boise further stated that it stood ready to implement any instruction from the IRLBC to target levels elsewhere in the band to assist the fishery or otherwise. Finally, Boise stated that it would not attempt to drive the water level on Rainy Lake to the top of either the new or old rule curve band at the date of ice-out and thereafter, absent instructions from the IRLBC.

In its summary, Boise explained that Article 403 can readily be harmonized with the 2000 Supplementary Order if “middle portion” of the IJC order, which it must normally target, is equated to the article’s “maximum *allowable* lake elevation”. Further, Article 403 was an interim measure to be superseded by a new IJC policy (which is now embodied in the new Supplementary Order) which considered the studies identified in the environmental assessment to the license along with other concerns. Finally, the new operating rules as they will be implemented by the IRLBC move in the direction of the Steering Committee’s recommendation for Rainy Lake without increasing flood risk.

Responding to Boise’s’s submittal, FERC has now replaced the terms of Article 403 with the January 5, 2000 Order.

### **5.3 Board Merger**

Over the past year, the Board continued consideration of merging with the IRRWPB and development of advice to the Commission regarding such a merger. The Board held several joint conference calls and meetings with the IRRWPB to discuss the issue. By letter dated February 14, 2000, the Commission requested the two Board Co-chairs to consider combining the Boards and prepare a written proposal in advance of the September semi-annual meeting in Ottawa. In light of this request from the IJC, the IRRWPB held a conference call on June 12, 2000 to develop a position to take to the IRLBC for consideration so that a joint response could be prepared. The proposal developed by the IRRWPB was subsequently agreed to in principle by the IRLBC.

The two Boards submitted their consensus proposal in similar letters to each section of the Commission from the respective Board sections, dated July 20, 2000. The joint letters recommended that the mandate of the IRRWPB had essentially been met and that further reporting on the environmental quality of the Rainy River could be effectively achieved through a Technical Committee consisting of one United States member and one member from Canada that would report to the IRLBC. The terms of reference of the Technical Committee would be similar to the current Directive to the IRRWPB, focusing on pollution issues in the Rainy River with the only difference being, instead of having Board status, it would be a Technical Committee carrying out the duties.

The proposal further recommended that due to the recent slow down in changes in environmental quality, and the expected continuation of gradual change, the reporting frequency of the Technical Committee be on a triennial basis instead of the annual basis now reported by the IRRWPB. The Technical Committee would attend public meetings in the basin as part of their mandate as well as consulting on issues with agencies and other stakeholders in the basin.

The proposal would require a slight altering of the current IRLBC Directive to include a Technical Committee overseeing pollution issues in the Rainy River. This was viewed by the Boards as a positive first



step in working towards an ecosystem/watershed Board in the future, when the local stakeholders and public may be more accepting of such a move. The letter noted that it was quite clear, in workshops held in the basin during 1999, that there was reluctance on the part of a majority in attendance to create a Watershed Board at this point in time.

Both IRRWPB and IRLBC members realized that this proposal was significantly different than the draft Directive for an International Rainy Lake and Lake of the Woods Basin Board that was being proposed by IJC staff; however, the current Board members felt that it was premature to head in a Watershed Board direction at that time, when the current atmosphere in the basin was not conducive to this approach.

The Commission responded to the proposal of the two Boards in a letter dated September 20, 2000. The Commission thanked the Board for its views and pointed out that issues of water quality and quantity can no longer be dealt with separately, but must be seen together as part of a single whole.

Subsequently, the IRLBC and IRRWPB met jointly with Commissioners at the fall semi-annual meeting in Ottawa on September 26, 2000 to further discuss the issue (see section 4.4). At the meeting the IRLBC/IRRWPB Co-chairs indicated they would be able to submit a revised proposal in early December 2000. The two Boards had a joint conference call on November 28 to develop points of agreement for the revised proposal. A deadline of December 12 was selected in order to submit the report prior to the IJC's December Executive meeting, but the IJC later extended the deadline to the end of January 2001. The IRLBC/IRRWPB Co-chairs jointly agreed to set a deadline of January 15, 2001. As the year ended, the draft proposal was in the midst of its third revision.

#### **5.4 Office Consolidation of January 5, 2000 Order for Rainy and Namakan Lakes**

On January 5, 2000, the IJC issued a new Order pertaining to the regulation of Rainy and Namakan lakes. As with the past several Orders, the IJC chose not to issue an order complete in itself, but rather to word it as an amendment to previous Orders, with certain clauses and instructions not included in the new Order carrying forward from previous Orders.

The Board submitted similar letters dated July 21, 2000 from each of its Sections to the respective IJC Sections pointing out that in order for the Board to ensure that it is able to properly fulfill its duties on behalf of the IJC, it was essential that the Commission provide, to the Board, a consolidation document defining the IJC's overall understanding and intent of all the terms still in effect. The Board noted in the letter that when the decision was made that the new Order would be an amending document, and before it was actually issued, it had been advised verbally by IJC staff that the existing Office Consolidation of the IJC Orders pertaining to Rainy and Namakan lakes would be updated. The Board further noted that in March, one of its support staff followed up by email, asking when the updated document would be available, but had not to date received the update.

In response, the Commission's letter of 31 August, signed by the Secretaries of each IJC Section to each of the respective Board Sections pointed out that an office consolidation of the Orders would be forwarded as soon as possible, but that the 1949 Order and the Supplementary Orders of 1957, 1970 and 2000 comprise the official and authoritative text.

As of the end of the year, the Board had provided comments on a draft of the office consolidation from the Commission and is awaiting further action in this matter.

## **5.5 Funding of IJC Gauges**

At the September 26, 2000 semi-annual meeting the Board expressed its deep concern over U.S. funding reductions in the IJC's cooperative gauging program with the USGS that resulted in the removal of IJC funding for the International gauge on Basswood Lake near Winton, MN. In particular, although the U.S. Section of the IJC did ask the U.S. Section of the Board to rank gauges in order of priority, there was no official attempt by the IJC to seek the official view of the full Board or any attempt to find alternate sources of funding for the gauge (temporary funding from the Corps of Engineers is currently keeping the gauge activated). Finally, there was no official notification that funding had been cut for the Basswood gauge; rather the Board discovered by chance that the USGS was planning a trip to remove the gauge. The Board requested that the Commission seek an official response on the Board's views for any future reduction in gauge funding.

## **5.6 Minimum Outflow Loophole in January 5, 2000 Order**

In September and October of 2000, the Companies were engaged in hydropower peaking on the Rainy River on a weekly basis, with outflows cut back to near minimum on the weekends. During this time, the Board received a call from Abitibi seeking clarification of the outflow minimums under the new Order versus the old. They were just clarifying the numerical values, but the question prompted Board staff to re-read the Orders. It was discovered that the wording of the new Order has opened a potential loophole. The 1970 Order defined a minimum outflow for Rainy Lake in Clause 2d, and in Clause 2c required that outflows be reduced to the minimum specified in 2d whenever the lake was below the lower rule curve. Thus the minimum outflow applied at all times, and was the only permissible outflow when below the band. However, in the 2000 Order, the minimum outflows are specified in the revised Clause 2c only in the context of action required when below the band, and Clause 2d is deleted. Thus the new Order would technically permit the Companies to reduce the outflow right down to zero while above the lower rule curve.

This issue has been discussed between Commission and Board staff in several emails in October and November. Over the short term, Commission staff have pointed out that the Board, under its discretionary authority contained in the new Order, could simply direct the Companies to maintain a minimum outflow. While this solution is workable in the short term, the Board believes the issue needs to be addressed for the longer term, and sooner, rather than later.

For the longer term, Board staff have suggested that a small amendment to the Order would be the most appropriate mechanism to ensure that this important stipulation is not lost or forgotten over time and as the people involved change. IJC staff have acknowledged that this should be done and proposed a timing for it as a part of preparing the Office Consolidation of the new Order. This would then give opportunity for public input. Criteria specified in the Order will clearly be carried forward, but periodic letter instructions from the Board to the Companies may well be lost. Although it not now an issue with the Companies or the public, if it is left as is, it may become an issue in the future once people have changed and someone without the background discovers the loophole. The issue remained unresolved at the end of 2000 and the Board believes it must still be addressed.

## **5.7 Fall Rainy River Fluctuations Induced By Hydropower Peaking**

During September and October, inflow to Rainy Lake was in a range that was conducive and economically beneficial for the Companies to employ daily and weekly hydropower peaking strategies on the outflow to the Rainy River. This led to noticeable daily (0.30 m to 0.60 m) and weekend (0.50 m to 0.90 m) tailwater fluctuations at the dam at International Falls and downstream daily (0.10 m to 0.15 m) and weekend (0.25 m to 0.50 m) river level fluctuations at Manitou Rapids. These fluctuations are shown in Graph 5. Concerns

were expressed by the Rainy River First Nations (RRFN) Watershed Coordinator, IRRWPB staff and several Rainy River groups in the U.S. over these fluctuations and were initially brought to the attention of the IRLBC in late November and later to the attention of the Canadian Section, IJC.

IRLBC staff explained to the Watershed Coordinator and the IRRWPB staff that neither the 1970 Order nor the 2000 Order contains provisions to regulate hydropower peaking strategies, but only levels, minimum outflows and all gates open. As long as the Companies comply with these requirements and Boise complies with its FERC license, they may do as they wish.

Both the RRFN Watershed Coordinator and the IRRWPB staff raised the point that downstream interests commented during the rule curve study on the desirability of limiting these types of fluctuations and were of the impression that they would be eliminated under the new Order. Board staff explained to them that the study only looked at downstream fluctuations during times of minimum outflows, but not at other times related to hydropower peaking strategies. Also, it was explained that the new Order does remove some of the past undesirable fluctuations resulting from the diurnal flow requirement of the 1970 Order (4,000 cfs sunup to sunset and 3,300 cfs at all other times). This was replaced with a steady minimum flow requirement. Finally it was explained that the IJC 's review of the 1970 Order was based upon the IJC's primary mandate of identifying when emergency conditions existed and of precluding the occurrence of those conditions (by way of rule curves and minimum outflow requirements).

Subsequently on behalf of the IRLBC, and based on discussions with staff of both the IJC and the Companies, the Canadian Co-chair of the IRLBC responded to the RRFN Watershed Coordinator's email of November 24th concerning the impacts on the Rainy River of peaking operations by the Companies at Fort Frances - International Falls.

The IRLBC Co-chair explained that the issue of peaking was not addressed in either the old or new Rainy-Namakan Orders and that the focus of those Orders, the scope of which is bounded by the Governments' 1938 Rainy Lake Convention, is to prevent emergency conditions on Rainy and Namakan lakes. Further, that the information that we have at the time did not appear to provide a basis for Commission action; however, the Board understood that there may be efforts underway to gather more information and would be interested in the results.

It was pointed out that similar problems occur elsewhere and often the solution is found through discussion and cooperation between the parties. It was explained that the Companies fully understood that the IJC Order only addresses a very specific regulation objective and that additional operational considerations may be required to address other objectives. Finally, it was explained that these considerations may certainly involve other agencies or groups besides the IJC. Continued efforts to resolve the matter directly with the Companies was encouraged and it was the Board's understanding that the Companies would be amenable to such discussions.

Heavy rains in late October to mid-November resulted in unusually high outflows for the time of year to the Rainy River, which persisted through year end and provided sufficient water for full turbine flow, ending the benefit for hydropower peaking.

## **6. INFORMATION ITEMS**

### **6.1 Maintenance Activities and Dam Safety**

During the past five years the Companies have taken a number of actions related to the ongoing maintenance of the outlet facilities at International Falls/Fort Frances and Kettle Falls. These actions are listed below:

- Repair of the bay 5 sill and stilling basin apron of the International dam at Kettle Falls is planned.
- A safety cable replacement is planned for the safety boom on the Rainy River upstream of the International dam at International Falls/Fort Frances.
- Completed refurbishment of the canal waste gates at International Falls with replacement of the head frames and seals.
- Completed phase 3 of the modification to the U.S. mill process water intake on the upstream side of International Falls dam to allow higher Rainy Lake outflow without causing air entrainment problems.
- U.S. portions of the dam at International Falls passed FERC's routine 5-year inspection program. Only minor deficiencies were found, and the dam was found to be sound.
- The Companies continue to participate in the Ontario Ministry of Natural Resources/Water Power Industries Task Force aimed at addressing dam safety issues. The task force will work to develop and implement dam safety standards, bringing Ontario in line with the other Provinces in Canada. The Companies plan to keep the commission and the Board informed of developments.

### **6.2 Board Membership**

The Canadian Member of the Board resigned from the Canadian public service in October, but has continued on as a Member under contract to the IJC. The services of the Canadian Member, along with the Canadian Co-chair of the IRRWPB, were also retained by the IJC, under contract, to provide advice and complete a short report on the board merger issue.

Respectfully submitted,

---

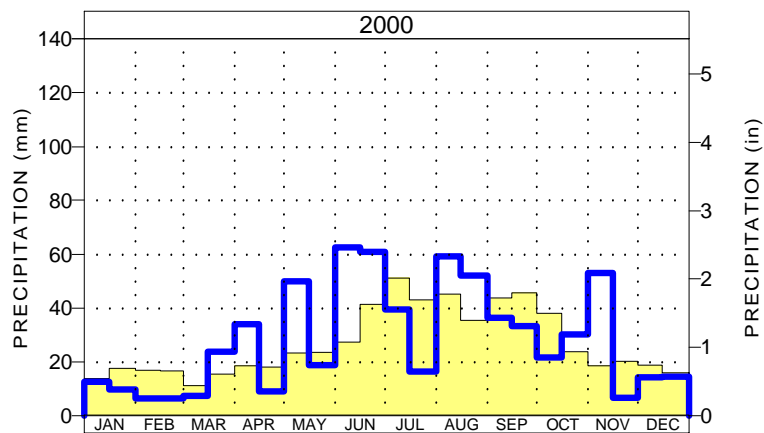
Kenneth S. Kasprisin, P.E.  
Member for the United States

---

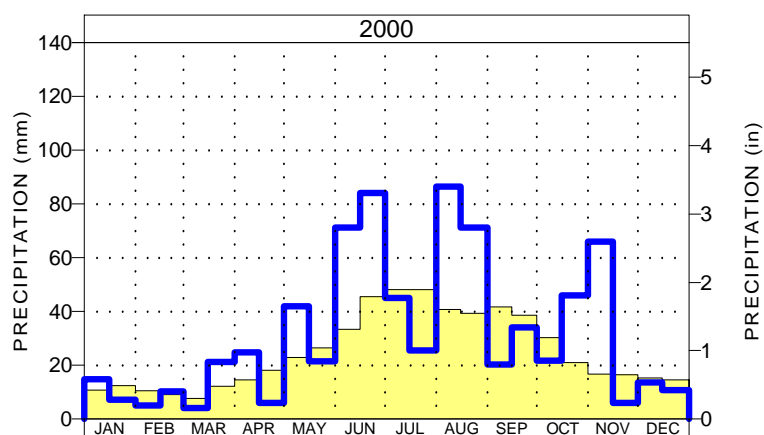
Dale R. Kimmett, P.Eng.  
Member for Canada

Colonel, U.S. Army Corps of Engineers  
District Engineer  
St. Paul, Minnesota

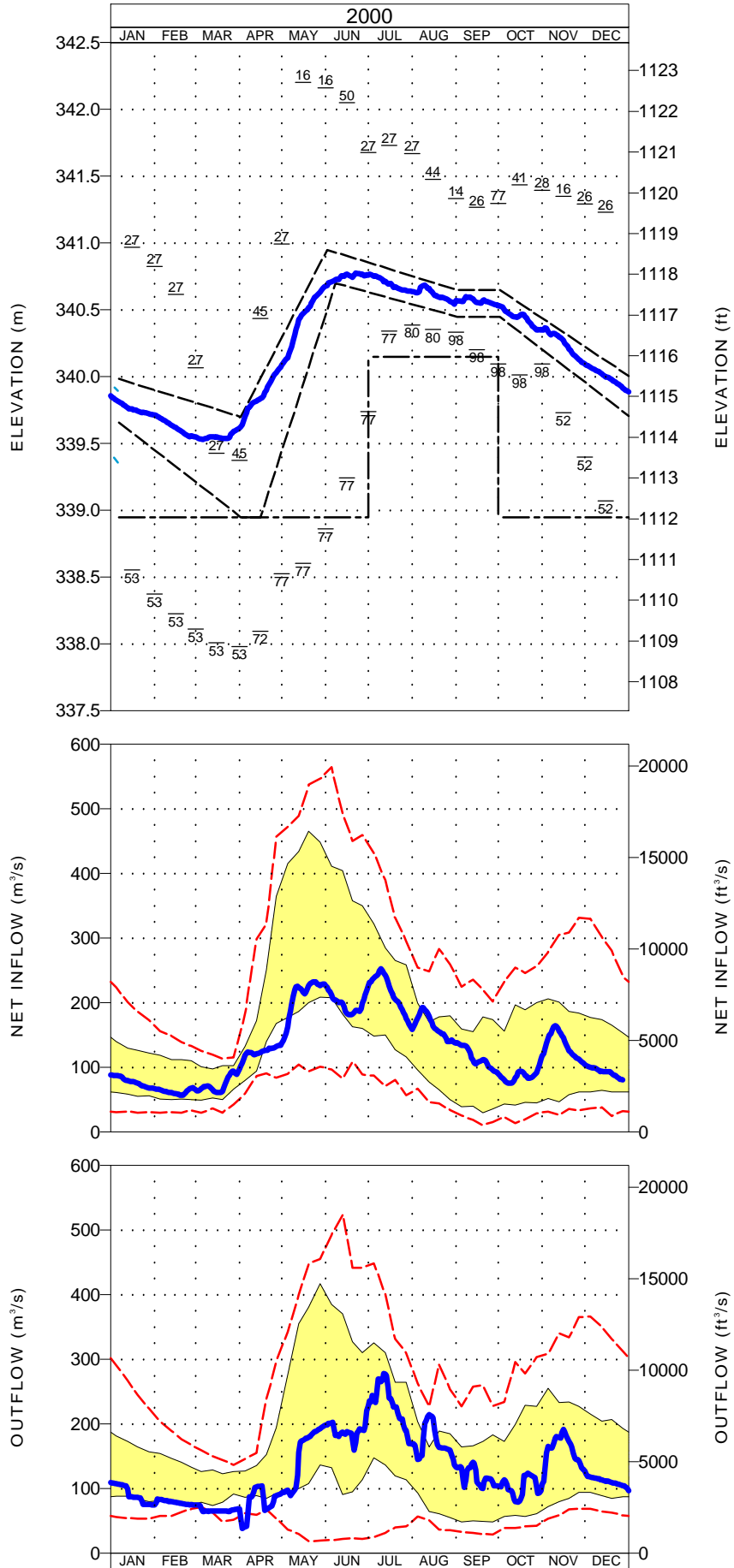
### RAINY-NAMAKAN PRECIPITATION



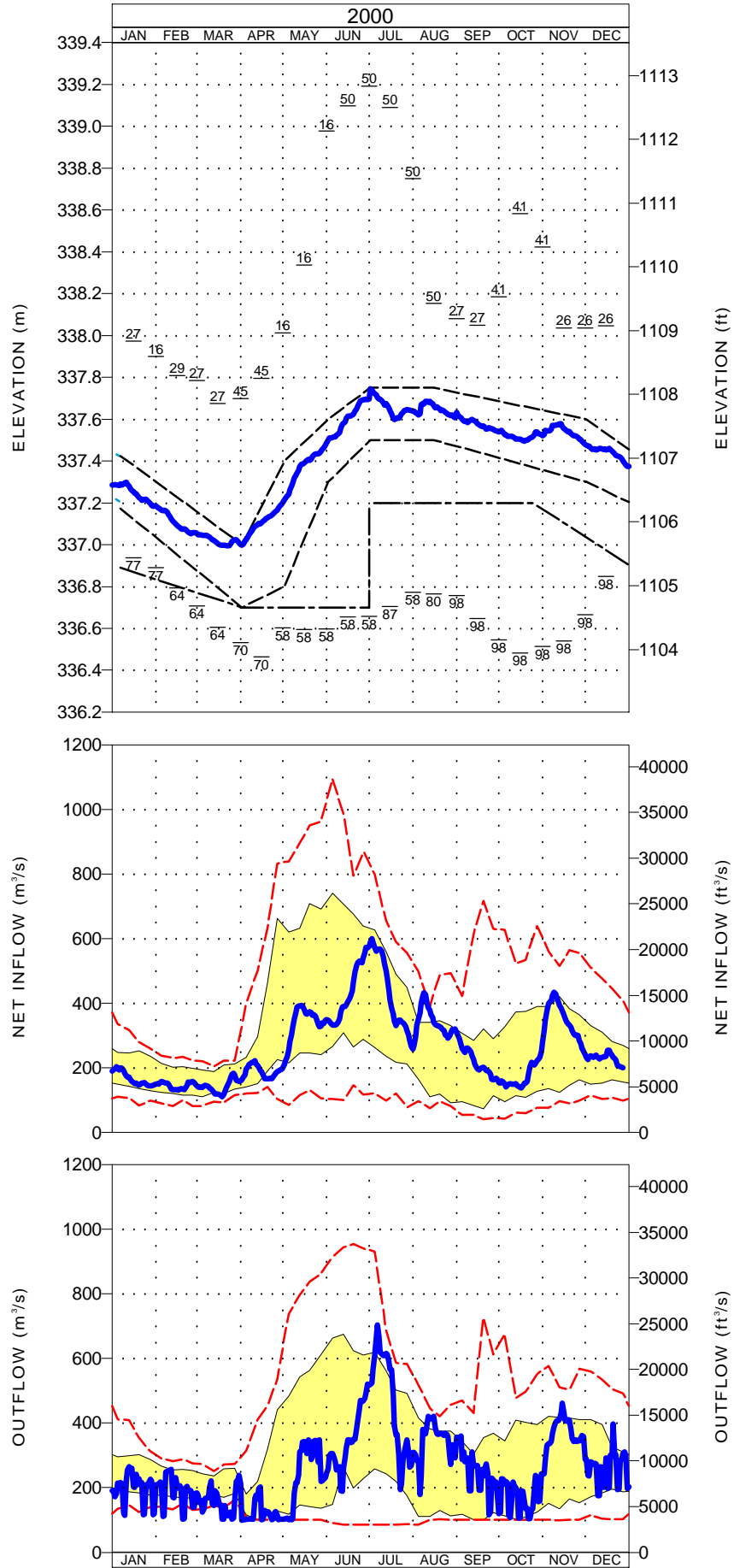
### LAKE OF THE WOODS PRECIPITATION





# NAMAKAN LAKE



# RAINY LAKE




**LEGEND - PRECIPITATION**

-  Actual data for year shown
-  Historical normal



All data are shown as half-monthly totals.

**LEGEND - LEVEL AND FLOW**




**Actual Data**

-  Actual data for year shown
  - levels are daily values
  - inflows are 7-day means plotted daily at the centre of each 7-day period
  - outflows are daily values

**Rule Curves (Namakan & Rainy Lakes)**

-  IJC 2000 Upper & Lower Rule Curves
-  IJC 2000 Drought Line

**Statistical Data**

- $\overline{50}$  Maximum level recorded and its year of occurrence:
  - Namakan Lake - within the period 1912-1999
  - Rainy Lake - within the period 1911-1999
-  Level/flow has been above this line 10% of time
-  Normal level/flow range:
  - Level/flow has been above this range 25% of time
  - Level/flow has been within this range 50 % of time
  - Level/flow has been below this range 25% of time
-  Level/flow has been below this line 10% of time
- $\overline{77}$  Minimum level recorded and its year of occurrence:
  - Namakan Lake - within the period 1949-1999
  - Rainy Lake - within the period 1949-1999

All statistical levels are based on 3-day means at month quarter points.

All statistical flows are based on quarter-monthly means.

Period of record for all percent data is 1970-1999.

Datums for water levels are:

- Namakan Lake - US Coast & Geodetic Survey (1912)
- Rainy Lake - US Coast & Geodetic Survey (1912)



