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# INTERNATIONAL RAINY LAKE BOARD OF CONTROL (IRLBC) INTERNATIONAL RAINY RIVER WATER POLLUTION BOARD (IRRWPB)

## NEWSLETTER

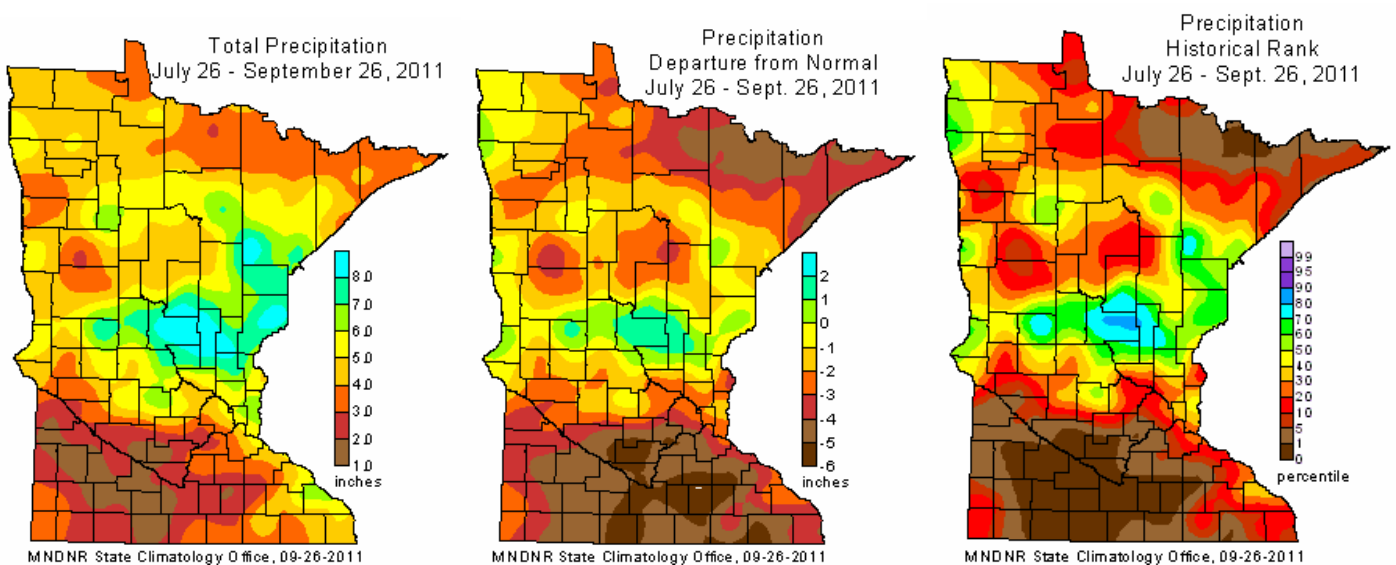
### 3<sup>rd</sup> Quarter 2011

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This newsletter provides a summary of the activities of the International Rainy Lake Board of Control (IRLBC) and the International Rainy River Water Pollution Board (IRRWPB) during the Third Quarter (July to September) of 2011.

#### *Basin Conditions and Regulation*

The 3<sup>rd</sup> quarter of 2011 was dry in the Rainy River basin, with below-normal inflow and precipitation occurring for the first time since 2007. The Minnesota Department of Natural Resources reported that much of the basin had near-record lows for precipitation in the latter half of the summer. The USDA Drought Monitor described conditions in September across the Minnesota portion of the basin as ranging from abnormally dry to severe drought.



Water levels, inflows and outflows for both Namakan Lake and Rainy Lake are shown on the attached graphs. Rainy Lake inflow at the beginning of July was near median, while Namakan Lake inflow was approaching upper quartile. Inflow to both lakes followed a general decline along the lower-quartile line from mid-July to the end of August. During this period, outflows from both lakes were adjusted to keep the level within the middle portion of the respective rule curve bands. Rainy Lake inflow fell off more sharply at the start of September, with new minimum-of-record 7-day inflow being recorded for several days in the middle of the month. Both lakes declined below the respective lower rule curves in the last several days of September, Namakan Lake by 1 cm ( $\frac{1}{2}$  in) and Rainy Lake by 3 cm ( $1\frac{1}{2}$  in). Rainy Lake outflow was lowered to the minimum specified under the IJC 2000 Consolidated Order, 100 m<sup>3</sup>/s, for all of September, while Namakan outflow was reduced to approximately 37 m<sup>3</sup>/s. (Due to technical difficulties, the outflow could not be reduced to 30 m<sup>3</sup>/s, the minimum outflow required for Namakan lake when the lake level declines below the lower rule curve).

## ***Annual Basin Meetings and Tour – August 16-18, 2011***

The Boards held their annual joint meetings and tour in the basin from August 16-18. IJC Commissioners Pollack, Comuzzi, Trépanier, Moy, Glance, and several IJC staff were in attendance for some or all of the events described below.

The Boards met with Boise Inc. and H2O Power LP, the Rainy and Namakan lake dam owners, as well as AbitibiBowater, operator of the mill in Fort Frances, on the afternoon of August 16. Topics discussed included regulation over the past year, dam maintenance, effluent releases, licensing, access by the Boards to data collected by the companies, and the upcoming review of the 2000 Rule Curves.



Ash River Falls on the Ash River, flowing into Kabetogama Lake at Sullivan Bay. Photo: Lee Grim

The Boards' annual joint public meeting was held on the evening of August 16 at the Rainy River Community College. It was attended by the general public plus representatives of the media, the area resource agencies and the Companies. The Boards presented a review of its involvement in the basin in the past year, and a number of basin issues being monitored. This included effluent releases to Rainy River, invasive species, the Voyageurs Joint Powers Board Sewer project, and hydropower peaking on the Rainy River. Also reviewed were current and proposed projects under the IJC's International Watersheds Initiative (IWI). Several of these projects concern improving the understanding of lake levels and hydraulics in the region. New gauges to monitor water level are planned for the North Arm of Rainy Lake, as well as in the upper reaches of the Rainy River. The presentation also covered an IWI-funded project investigating sturgeon spawning and temperature changes near the Sturgeon Falls (Crilly) Dam on the Seine River.

Questions from the public covered areas from invasive species to the IJC's International Lake of the Woods and Rainy River Watershed Task Force. The IJC held a public hearing on the Task Force's final report following the Boards' public meeting, which Board members attended.

On August 17, IJC Commissioners and staff, and members and staff of the Boards were given a tour of the former Steep Rock mine site, near Atikokan, Ontario by staff of the Ontario Ministry of Natural Resources. This included a review of the history of mining operation, historic and potential future water quality impacts associated with the site, as well as plans for future management.

In preparation for the 2015 review of the 2000 Rule Curves, the Boards have been undertaking a Plan of Study to fill knowledge gaps. The Boards met with the project manager for the Plan of Study, Ryan Maki of the National Park Service, on August 18 to review the status of all proposed and approved studies. Following this meeting, the Board met with resource agencies. Amy Liu of Environment Canada provided an overview of the Canadian Environmental Assessment Act. Tom Johnson, Ryan Haines, and Amy Godwin presented an update on the Seine River Sturgeon Monitoring Project. Mike Hirst of the Lake of the Woods Soil Water Conservation District described current projects and studies related to land use in the region. Joel Rohde of the Red Lane DNR reviewed a water quality monitoring program in

the Northwest Angle of Lake of the Woods. Kelli Saunders provided an update on the Ontario Ministry of Environment's Lake of the Woods Watershed Stewardship Strategy.

### ***Other Meetings***

The Rainy River Peaking Work Group, which is facilitated by the Boards, held a meeting on the morning of August 16.

The Boards held a joint conference call on August 29 to discuss the final report of the International Lake of the Woods and Rainy River Watershed Task Force.

The IJC held six public hearings in the basin on the final report of the International Lake of the Woods and Rainy River Watershed Task Force between August 15 and 20. The meetings, held in Fort Frances, Stratton and Kenora, Ontario and International Falls, Cook, and Baudette, Minnesota, generated significant interest and discussion. The Final Report can be found on the IJC's web site ([http://www.ijc.org/conseil\\_board/rainy\\_river\\_watershed/](http://www.ijc.org/conseil_board/rainy_river_watershed/)).

### ***Implementation of IJC 2000 Rule Curve Assessment Workgroup Recommended Studies***

The IJC has undertaken implementation of the studies recommended in the Plan of Study (POS) contained in the June 29, 2009 submission of the IJC's 2000 Rule Curve Assessment Workgroup to the Commission (available on the Boards' website). The Boards have continued to work closely with IJC staff, the project management team at Voyageurs National Park (VNP) and principal investigators on prioritization, budgeting, scheduling and management of these studies, which are being funded through the IJC's International Watersheds Initiative.

Since March, the VNP project management team has worked with principal investigators to prepare and submit scopes of work (SOW's) for the Boards' review and approval for eight of the studies recommended in the POS. Seven of the SOW's were approved by the Boards and one additional SOW was commented on by the Boards. The recommended studies in the POS will provide valuable information to assist the Commission in its 2015 review of the IJC Order for Rainy and Namakan lakes. The project management team and the IJC are proceeding to put contracts in place to accomplish these studies. The seven SOW's approved to date by the Boards along with the expected completion year (in parenthesis) include:

1. *Assess effects of water-level fluctuation on bioindicators using analytical models (one year extension) (2012)*
2. *Map habitat for marsh nesting birds and herptiles in Rainy and Namakan Lakes, using GIS to assess the effects of the 2000 Rule Curve changes (2013)*
3. *Measure changes in Rainy Lake and Namakan Reservoir benthic macroinvertebrate communities in relation to the 2000 Rule Curve changes (2014)*
4. *Measure critical spawning habitat for walleye on selected lakes in the Namakan Reservoir and assess how this habitat has been affected by the IJC 2000 Rule Curves (2014)*
5. *Assessment of the impacts of the IJC 2000 Rule Curves for Rainy and Namakan lakes on property damages due to flooding and ice (2014)*
6. *Measure Upper Rainy River critical fish spawning and nursery habitats to determine how they have been affected by the 2000 Rule Curves (2014)*
7. *Determine if northern pike spawning and nursery habitat and reproductive success have changed due to the 2000 Rule Curves (2014)*

One additional draft SOW commented on by the Boards, but yet to be finalized, along with the expected completion year (in parenthesis) includes:

1. *Study of the relationship of Rainy River hydrology to distribution and abundance of freshwater mussels (2013)*

In August, the Boards received the first final report from the POS, “*Changes in Wetland Vegetation Associated with Lake Level Management, Voyageurs National Park*”. This study was carried out to assess the possible changes in aquatic plant communities at VNP, since the initiation of the 2000 Rule Curves, and to relate any noted change with water-level regulation. To accomplish this, abundance and composition of nearshore aquatic plant communities were assessed at previously monitored sites to investigate how strongly any vegetative differences among water bodies are correlated with the effects of the 2000 Rule Curves and other environmental factors.

The project management budget for the implementation of the 2009 Plan of Study for the Evaluation of the IJC 2000 Order for Rainy and Namakan Lakes and Rainy River for fiscal year 2012 was approved by the Boards.

### ***Water Quality Monitoring***

On July 18 AbitibiBowater reported the release of an unknown quantity of pulp and paper process effluent from their Fort Frances mill into a storm sewer which led to the Rainy River. The release lasted about one and half hours. Downstream communities were notified by responsible agencies but no environmental impacts were reported.

### ***Canadian Dam Owners Name Change***

Representatives of ACH Limited Partnership, which owns the Canadian portions of the dams at Kettle Falls and Fort Frances and the powerhouse at Fort Frances, advised the Boards on August 16 that the company name had been changed to H2O Power LP.

### ***Upper Rainy River Hydraulic Study***

A final report of the upper “*Rainy River 2D Hydrodynamic Modelling Study - Phase II*” was submitted to the IJC by the National Research Council Canada – Canadian Hydraulics Centre. Phase I of the study, completed last year, involved the development of a series of hydrodynamic models to examine the conveyance of the upper Rainy River and Rainy Lake, perform dynamic simulations of several flood years and to examine the state of nature condition of the upper Rainy River. This follow-up study carried out further investigations to variable powerhouse performance, sensitivity of the hydrodynamic model, and simulations of the 1950 flood event.

### ***Rainy River Flow Gage***

The USGS received IJC funding to install a new streamflow gage in the Rainy River below the dams at International Falls / Fort Frances). The full gage installation is awaiting approval from the MDNR for driving a structure in the streambed to attach the Acoustic Doppler Velocity Meter (ADVM). However, the USGS installed the water level sensing instrumentation in September 2011, so that a record of river stage will begin, and discharge measurements will be made. The ADVM will be installed when approved by the MDNR, if prior to ice-in. Provisional stage-only data may be viewed through the USGS data portal (<http://nwis.waterdata.usgs.gov/nwis/uv>) using this station’s ID or name: “*USGS ID. 05129515 Rainy River at Boat Landing below International Falls*”.

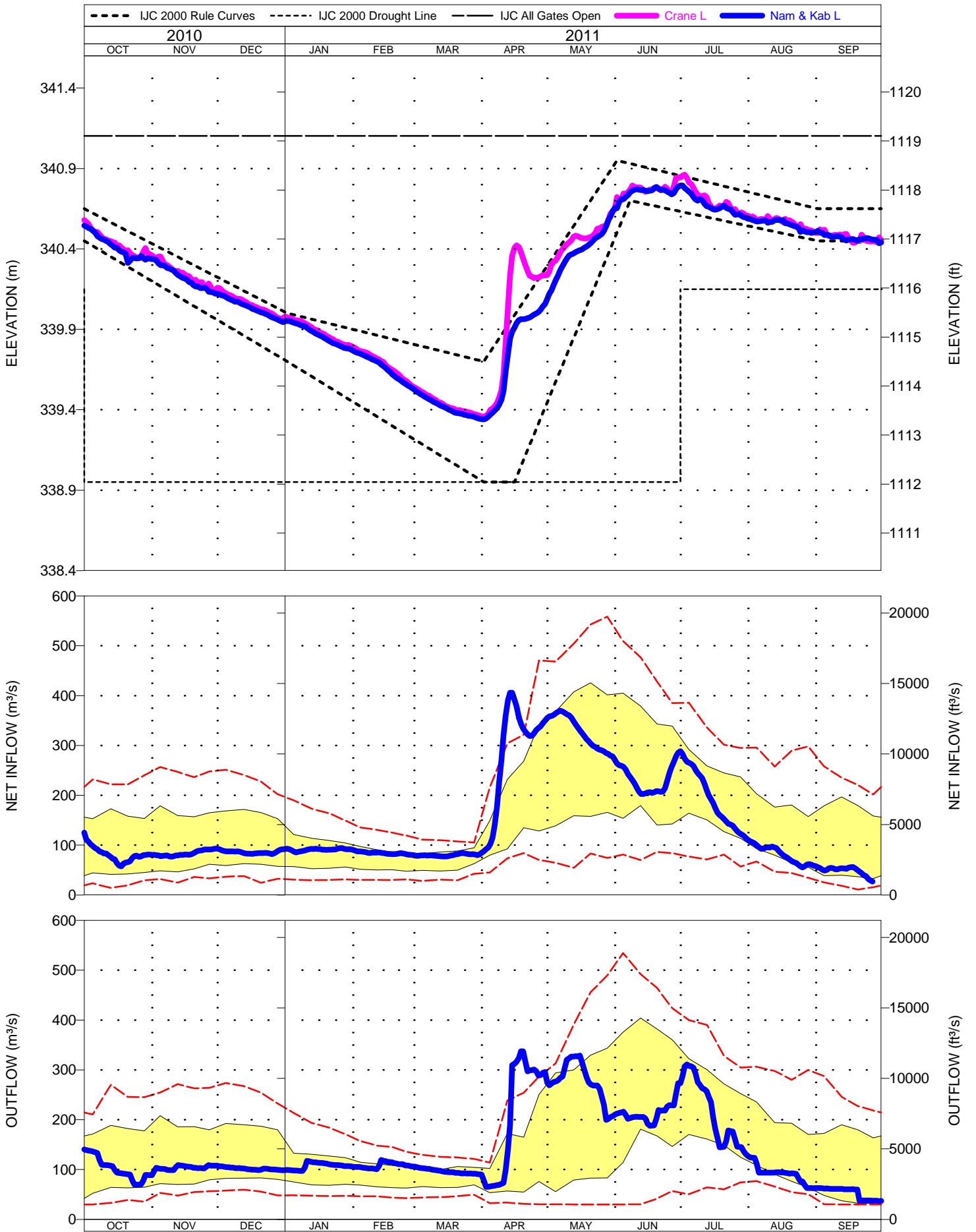
### ***Board Member Retirement***

Melanie Neilson, Canadian Co-Chair of the IRRWPB, retired from Environment Canada on July 15, and resigned from the Board effective that date. Melanie had served on the IRRWPB since her appointment on October 15, 2007.

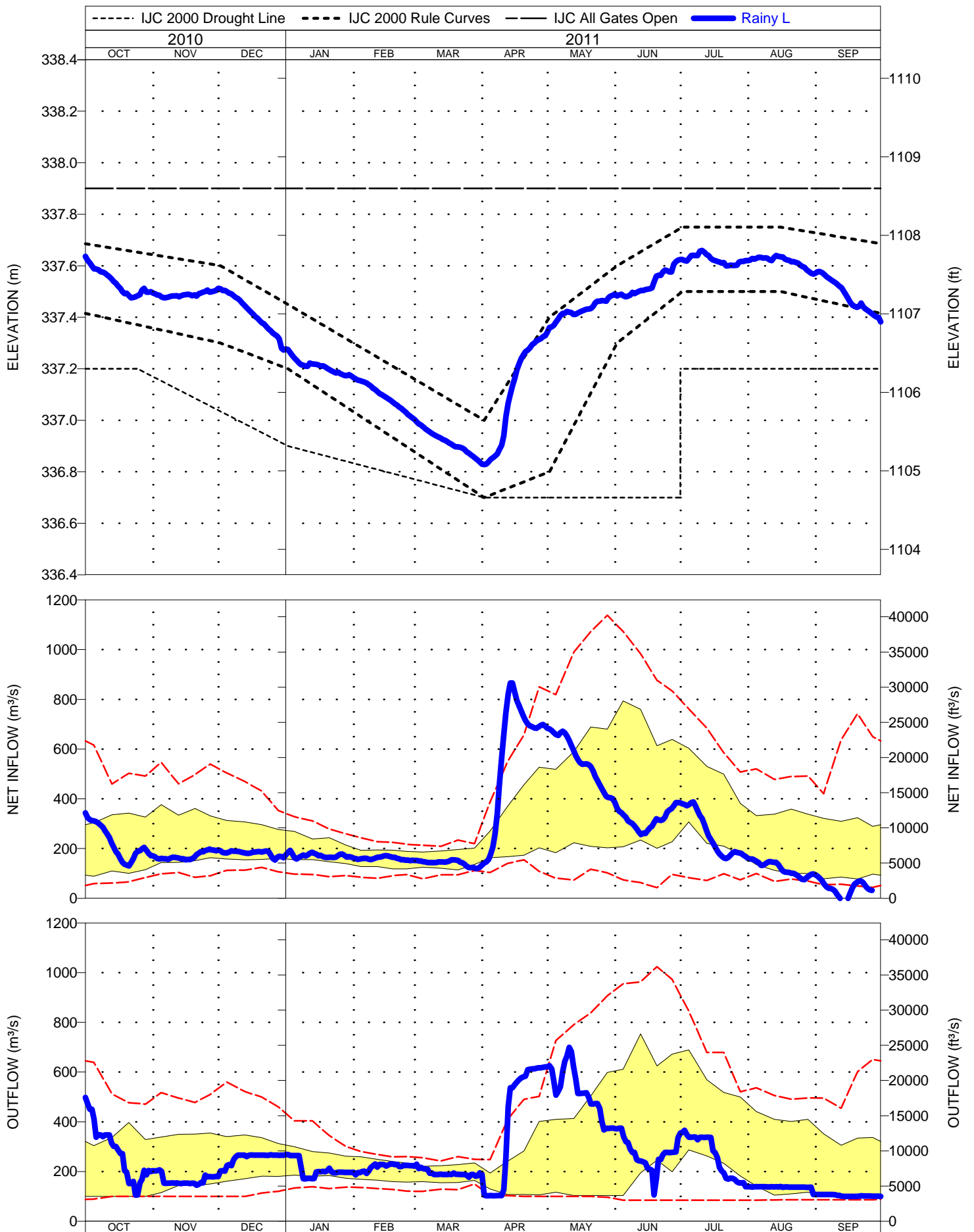
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# NAMAKAN LAKE



# RAINY LAKE



## LEGEND - LEVEL AND FLOW GRAPHS

