

**ONE HUNDRED AND FIFTH PROGRESS REPORT  
to the  
INTERNATIONAL JOINT COMMISSION  
by the  
INTERNATIONAL ST. LAWRENCE RIVER BOARD OF CONTROL  
Covering the Period  
SEPTEMBER 23, 2005 THROUGH MARCH 29, 2006**



**Beauharnois Canal on February 9, 2006**



**Beauharnois Canal on March 6, 2006**

**MARCH 29, 2006**

## EXECUTIVE SUMMARY

### REGULATION STRATEGY AND RESULTS

The water supplies during the reporting period were above average but within the range of those used in the design of the regulation plan, Plan 1958-D. Consequently, Lake Ontario levels rose from below average to above average. However, the regulation plan maintained water levels on Lake Ontario and in the St. Lawrence River well within the criteria specified in the 1956 Amended Orders of Approval.

The Board's general regulation strategy throughout the reporting period was to follow the outflows prescribed by Plan 1958-D. The Board used its discretionary authority to assist recreational boaters for the weekend of October 15 - 16. Winter operations led to some outflows being varied from Plan 1958-D for limited periods of time (a total of almost 150 hours). The Board's regulation strategy of early February was to discharge the total volume of water specified by the regulation plan during the course of the winter.

The Board began the reporting period with 4.3 cm (1.7 in) of water conserved on Lake Ontario relative to a strict adherence to Plan 1958-D. This amount varied slightly, and at the end of the reporting period was at 4.7 cm (1.9 in). In looking ahead, the Board's strategy at the end of this reporting period is to follow Plan 1958-D outflows, while providing for flow reductions to keep downstream levels below flood stage during the spring freshet. Very few water level issues were raised during the reporting period by the public, an apparent indication of little dissatisfaction with water level conditions in the system.

### COMMUNICATION ACTIVITIES

The Board conducted a public teleconference on March 21. This was a new approach for the Board. In addition to having two sites (at Rochester and Dorval) for face-to-face participation, the public participated by call-in. Participants listened to the Board presentation and then addressed comments and questions to the Board. Another innovation was the advance posting of the Board's materials on its web site for public access. The Board and the public were very pleased with the new process. For the future, it intends to use this format for public teleconferences. The Board agreed to hold its public teleconferences the third Tuesday evenings of March and September. Regular sites were agreed to. The next public teleconferences are thus scheduled for September 19, 2006 (with in-person sites at Oswego and Cornwall) and March 20, 2007 (with in-person sites at Rochester and Dorval). The Board's annual meeting with the public is scheduled for June 20 in Alexandria Bay, New York. The Board would be pleased to have the Commission attend and participate.

The Board continues to issue media releases following its monthly regulation strategy decisions. The joint Board-Commission Communications Committee continues to provide advice and assistance on a variety of issues. These included planning for the annual meeting and multi-city teleconferences, assessing communications issues, and modification to (and efforts to implement) the Communications Strategy. Board Members and staff responded to a number of public inquiries and requests for information.

The Board is very pleased that the Commission has hired a communications specialist to assist the Board on a part-time basis. It could not have conducted the new format for the public teleconference without his support. The Board looks forward to the work and advice provided by him.

## **BOARD ACTIVITIES**

The Board met in person twice during the reporting period, and three times by teleconference, to assess conditions and adjust its outflow strategy to meet current needs. The Regulation Representatives continued to provide the Board with weekly information on conditions in the system, monthly assessments of hydrologic conditions and forecasts, and a risk assessment prior to each meeting and teleconference. The Operations Advisory Group continued its weekly teleconference to apprise the Regulation Representatives of operational requirements and constraints. The Gauging Committee performed their annual inspection of the water level gauges and flow computations from October 11 to 21, 2005. In addition, the Committee worked to clear a backlog of annual reports on water levels and attend to several outstanding gauge operation and maintenance issues.

The Board continued to follow and support the activities of the International Lake Ontario – St. Lawrence River Study Board. Board Members and staff participated in a workshop with the Commission in December to begin addressing the institutional arrangements needed whenever a new regulation plan is adopted.

## **COVER PHOTOS**

The top photo shows the ice cover in the Beauharnois Canal on February 9, 2006. The canal is usually ice covered at this time of the winter. The bottom photo shows the ice cover on March 6, 2006, when the ice was at its greatest extent. The prolonged period of ice cover formation this winter resulted in flows less than specified by Plan 1958-D in early February. Photos credit: St. Lawrence Seaway Management Corporation

## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	iii
TABLE OF CONTENTS.....	iii
LIST OF FIGURES .....	iv
LIST OF TABLES .....	iv
LIST OF MEDIA RELEASES.....	iv
1 HYDROLOGICAL CONDITIONS.....	1
1.1 Lake Ontario Basin - Net Basin Supply.....	1
1.1.1 Precipitation.....	1
1.1.2 Snow-pack on the Lake Ontario Basin.....	3
1.2 Supply from Lake Erie .....	4
1.3 Lake Ontario - Net Total Supply.....	4
1.4 Ottawa River Basin .....	6
2 REGULATION OF FLOWS & LEVELS.....	6
2.1 Application of Regulation Plan 1958-D .....	6
2.2 Board Regulation Strategies and Resulting Actions .....	7
2.2.1 Deviations from Regulation Plan1958-D .....	7
2.2.2 Ice Management.....	9
2.2.3 Iroquois Dam Operations.....	10
2.3 Results of Regulation.....	10
2.3.1 Upstream .....	10
2.3.2 Downstream .....	12
3 BOARD ACTIVITIES .....	15
3.1 Board Meetings & Conference Calls.....	15
3.2 Meetings with the Public and Input from the Public .....	15
4 COMMUNICATIONS COMMITTEE REPORT .....	16
5 RIVER GAUGING COMMITTEE REPORT .....	17
5.1 Raisin River .....	17
5.2 Water Level Gauges.....	17
5.3 Turbine Upgrades.....	17
6 ST. LAWRENCE SEAWAY REPORT.....	17
7 HYDROPOWER PEAKING AND PONDING .....	17
8 BOARD AND COMMITTEE MEMBERSHIP CHANGES .....	18
APPENDIX	
Abbreviations and Terms Used in this Report.....	25

## LIST OF FIGURES

Figure 1. Great Lakes Drainage Basin - St. Lawrence River System .....	v
Figure 2. Map of Lake Ontario-St. Lawrence River System .....	v
Figure 3. Map of Upper St. Lawrence River Control Structures .....	vi
Figure 4. Factors Affecting the Level of Lake Ontario .....	vi
Figure 5. Net Basin Supply to Lake Ontario .....	2
Figure 6. Precipitation Over Lake Ontario Basin .....	3
Figure 7. Supply from Lake Erie (Niagara River Flow) .....	4
Figure 8. Net Total Supply to Lake Ontario .....	5
Figure 9. Lake Ontario Average & Recorded Net Total Six-Month Supplies .....	6
Figure 10. Lake Ontario Daily Outflows .....	8
Figure 11. Accumulated Outflow Deviations and Effect on Lake Ontario .....	8
Figure 12. Water Level on Lake Ontario .....	10
Figure 13. Lake Ontario Actual, Pre-project & Plan Levels .....	11
Figure 14. Water Level on Lake St. Lawrence @ Long Sault Dam .....	12
Figure 15. Water Level on Lake St. Francis @ Summerstown .....	13
Figure 16. Water Level on Lake St. Louis @ Pointe Claire .....	14
Figure 17. Water Level in the Port of Montreal @ Jetty # 1 .....	14

## LIST OF TABLES

Table 1. Monthly Mean Supplies to Lake Ontario .....	2
Table 2. Provisional Precipitation Over the Great Lakes and Lake Ontario Basins .....	3
Table 3. Average and Recorded Six-Month Supplies (Sep – Feb) .....	5
Table 4. Summary of Outflow Deviations From Regulation Plan 1958-D Flow .....	9
Table 5. Lake Ontario Recorded and Pre-Project Levels and Outflows .....	12
Table 6. Attendance at Meetings and Teleconferences .....	19

## LIST OF MEDIA RELEASES (by release date)

October 5, 2005 .....	21
October 21, 2005 .....	21
November 9, 2005 .....	22
December 16, 2005 .....	23
January 13, 2006 .....	23
February 10, 2006 .....	23
March 15, 2006 .....	24

Figure 1 Great Lakes Drainage Basin – St. Lawrence River System

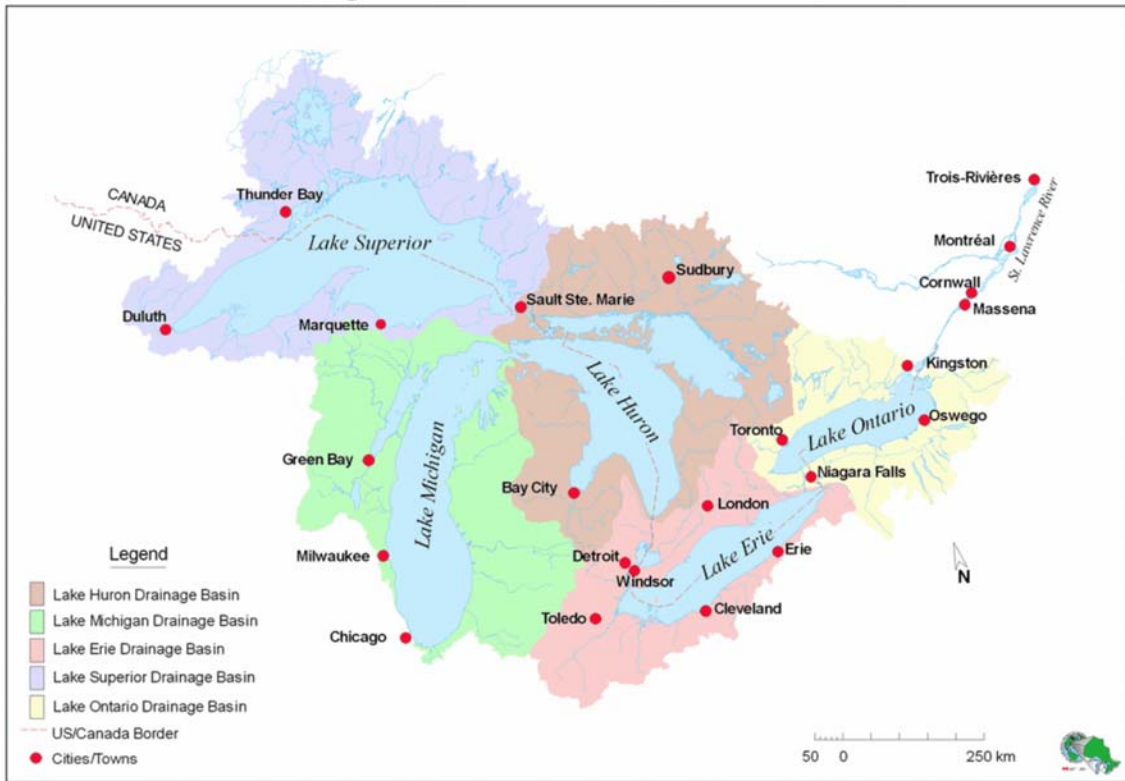


Figure 2 Map of Lake Ontario-St. Lawrence River System

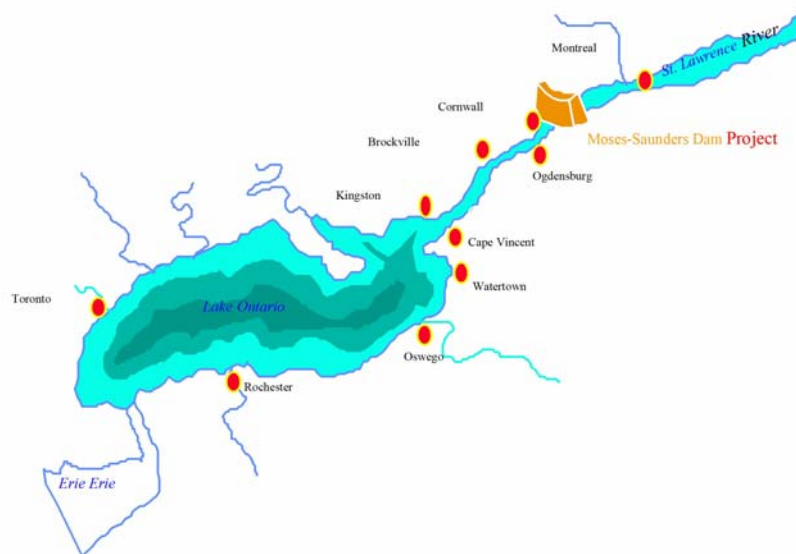


Figure 3 Map of Upper St. Lawrence River Control Structures

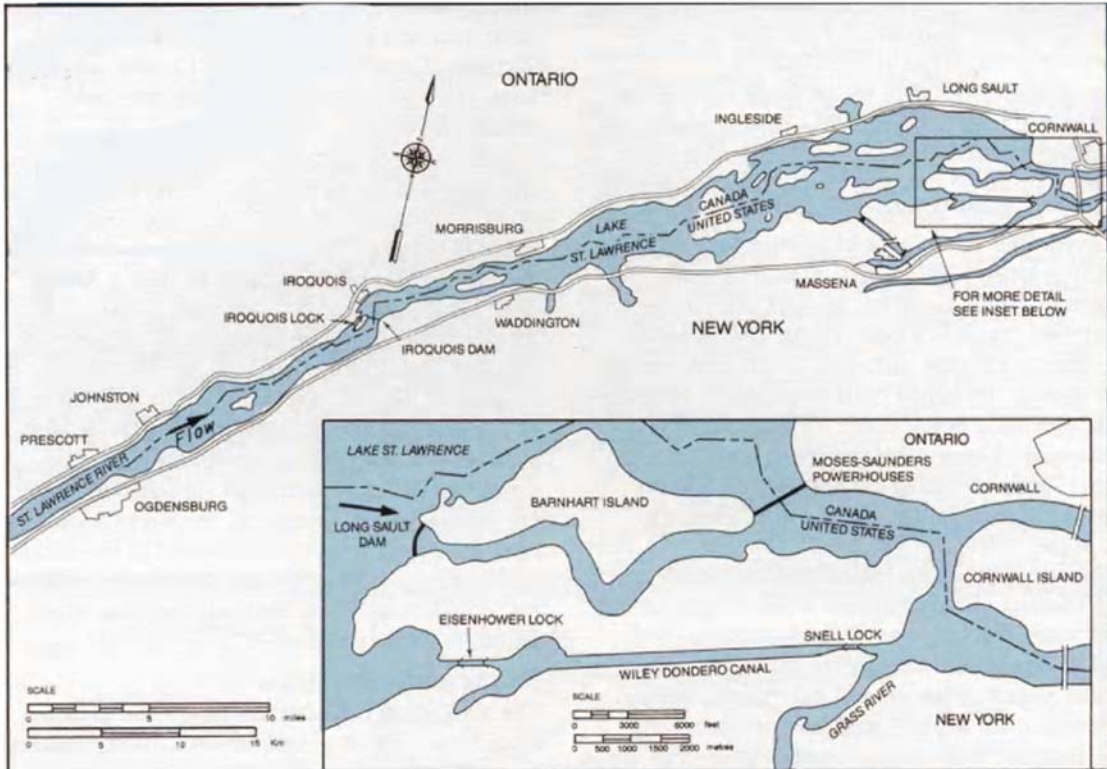
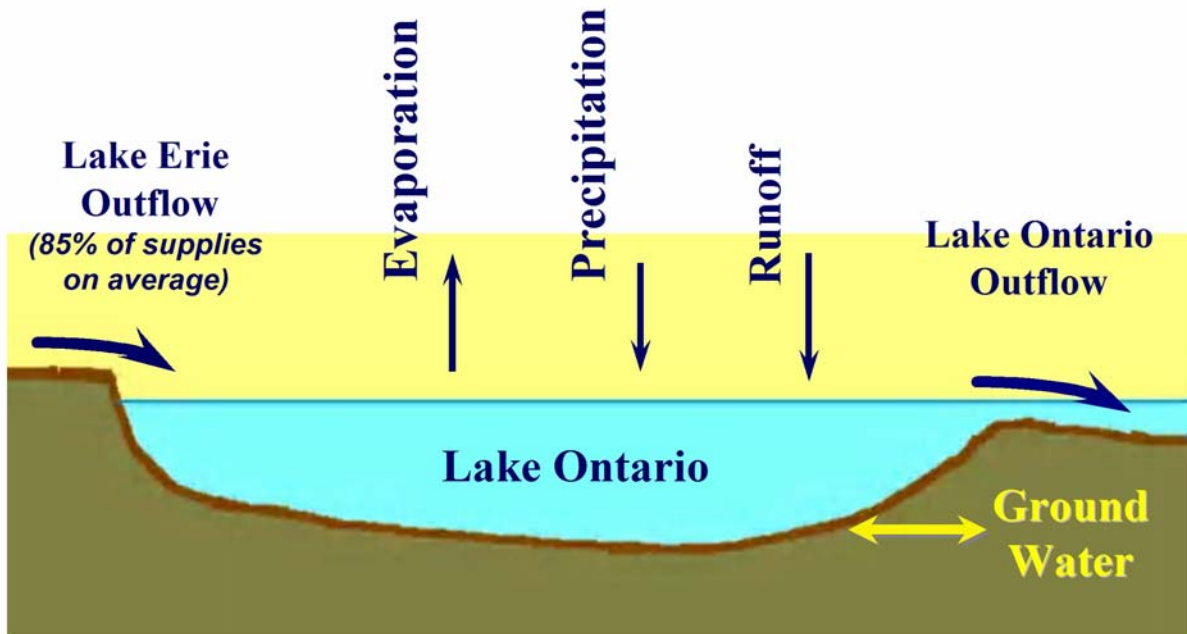


Figure 4 Factors Affecting the Level of Lake Ontario



## **1 HYDROLOGICAL CONDITIONS**

Lake Ontario is the furthest downstream of the five Great Lakes. It receives the outflow of Lakes Superior, Michigan, Huron and Erie (Figure 1). From a long-term perspective, about 85% of the water received by Lake Ontario comes from the upstream Great Lakes. Lake Ontario outflows are controlled about 160 km (100 miles) from the lake (Figure 2) with almost all of the water going through the Moses-Saunders powerhouse. Prior to construction of the powerhouse and navigation locks (Figure 3) the flow out of Lake Ontario was controlled by a series of rapids that began about 110 km (70 miles) downstream of the lake, near the towns of Ogdensburg, New York-Prescott, Ontario.

Water supply to Lake Ontario is comprised of four main factors (Figure 4) – inflow from Lake Erie through the Niagara River and the Welland Canal diversion, precipitation on the surface of the Lake, runoff from streams and groundwater flowing into Lake Ontario, and evaporation of water from the Lake. In addition, water for consumptive use is taken from the Lake.

In this report, supplies to Lake Ontario are reported in terms of Net Basin Supplies and Net Total Supplies. The definitions of the Net Basin Supplies and Net Total Supplies are as follows:

The Net Basin Supply is the net of the amount of precipitation over the Lake, runoff to the Lake (including groundwater) and evaporation from the Lake's surface. Precipitation and runoff are estimated by measurements, but it is not possible to accurately measure evaporation and consumptive uses. Therefore, the NBS is estimated as the difference between the Lake's outflow down the St. Lawrence River and inflow from Lake Erie, plus any change in storage within the Lake itself as a result of a rise or fall in the Lake's level. An indicator of the amount of spring runoff that may be expected is obtained by monitoring the snow pack in the basin.

The Net Total Supply is obtained by adding the inflows from Lake Erie through the Niagara River and Welland Canal, to the Net Basin Supply. The Niagara River flow is computed using a stage-discharge relationship for the Niagara River below Niagara Falls and adding the flow through the hydropower turbines located along the Niagara River.

### **1.1 Lake Ontario Basin - Net Basin Supply**

The local net basin supplies to Lake Ontario were well above average each month of the reporting period. Monthly values of the net basin supplies for the reporting period are provided in Table 1. Figure 5 shows the long-term average monthly net basin supplies for the period 1900 to 2005 and the net basin supplies for this reporting period. Also shown, for comparison purposes, are the monthly net basin supplies for the years 2004 and 2005. The horizontal bars above and below the curves on the graph are the long-term monthly net basin supplies maxima and minima.

#### **1.1.1 Precipitation**

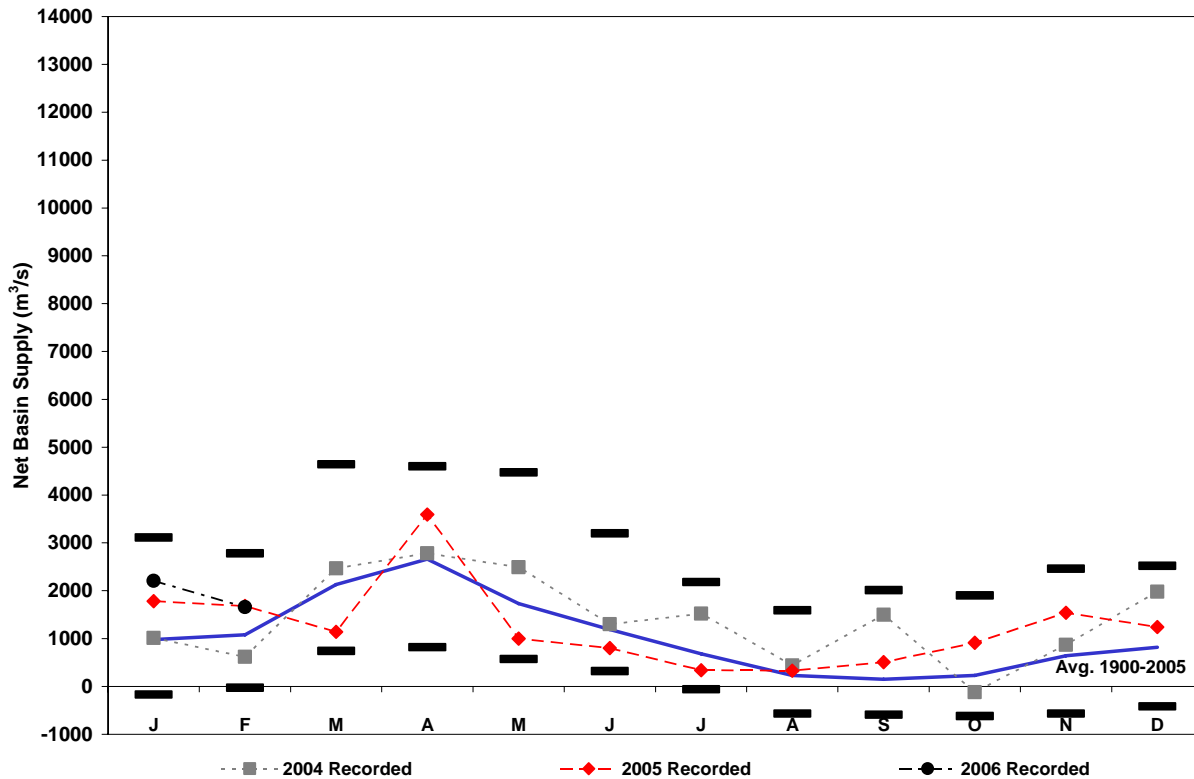
Monthly precipitation amounts for the Lake Ontario basin are provided in Table 2 and shown in Figure 6. Precipitation was above average each month of the reporting period, except for December and February. The total amount of precipitation in the six-month reporting period was 479 mm (18.9 in.), which was 109 % of average. Total precipitation for the entire Great Lakes basin for the six-month period was 425 mm (16.7 in.), which was 110 % percent of average.

**Table 1 Monthly Mean Supplies to Lake Ontario**

Month	Inflow from Lake Erie			Local Net Basin Supplies			Total Supplies		
	m <sup>3</sup> /s	tcfs	Exceed. Prob. <sup>(1)</sup>	m <sup>3</sup> /s	tcfs	Exceed. Prob. <sup>(1)</sup>	m <sup>3</sup> /s	tcfs	Exceed. Prob. <sup>(1)</sup>
Sep 05	5520	195	73	510	18	16	6030	213	48
Oct 05	5330	188	78	910	32	9	6240	220	39
Nov 05	5710	202	58	1540	54	8	7250	256	20
Dec 05	5570	197	64	1240	44	24	6810	240	40
Jan 06	5680	201	46	2210	78	5	7890	279	14
Feb 06	5970	211	27	1660	59	15	7630	269	16

(1) Exceedence probabilities based on 1900-2003 period of record

**Figure 5 Net Basin Supply to Lake Ontario**

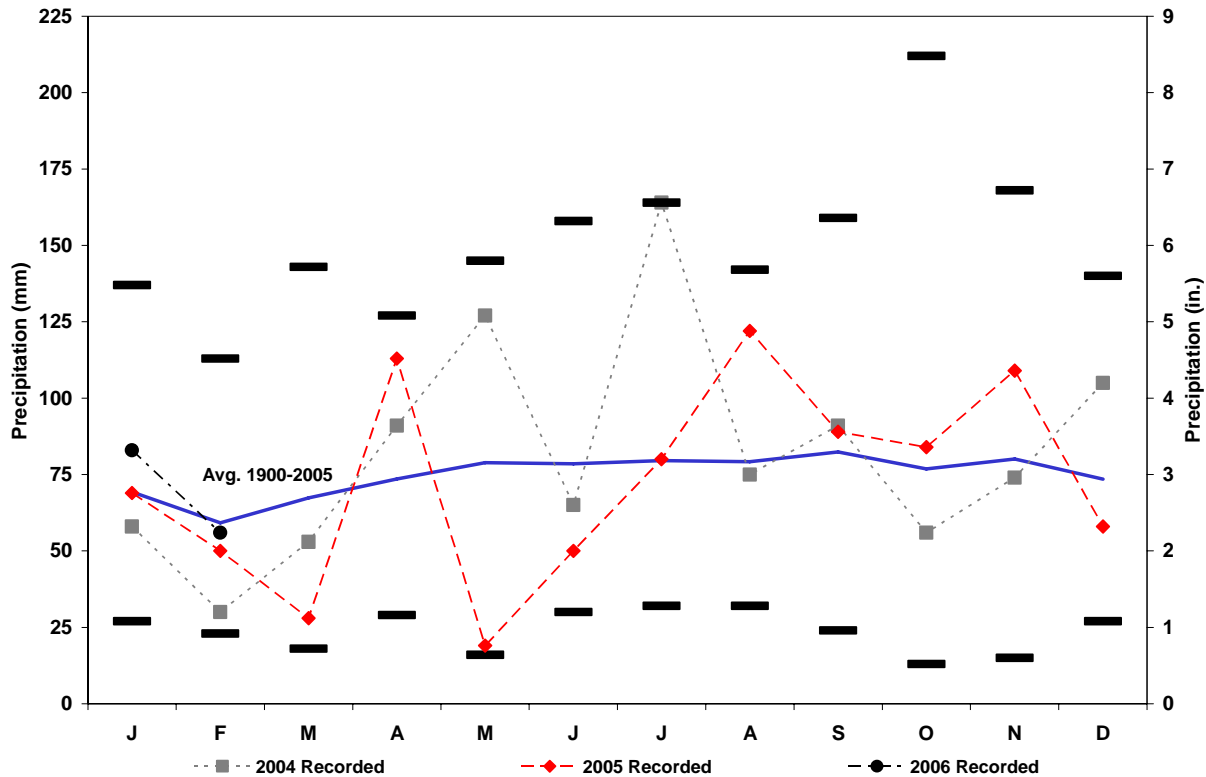


**Table 2 Provisional Precipitation Over the Great Lakes and Lake Ontario Basins**

Month	Great Lakes Basin		Lake Ontario Basin	
	mm (inches)	% of long term average <sup>(1)</sup>	mm (inches)	% of long term average <sup>(1)</sup>
Sep 05	85 (3.34)	99	89 (3.51)	109
Oct 05	68 (2.68)	94	84 (3.31)	109
Nov 05	104 (4.11)	149	109 (4.28)	136
Dec 05	51 (2.02)	86	58 (2.29)	78
Jan 06	67 (2.63)	120	83 (3.25)	120
Feb 06	50 (1.98)	111	56 (2.19)	95

(1) Based on period of record 1900-2005

**Figure 6 Precipitation over Lake Ontario Basin**

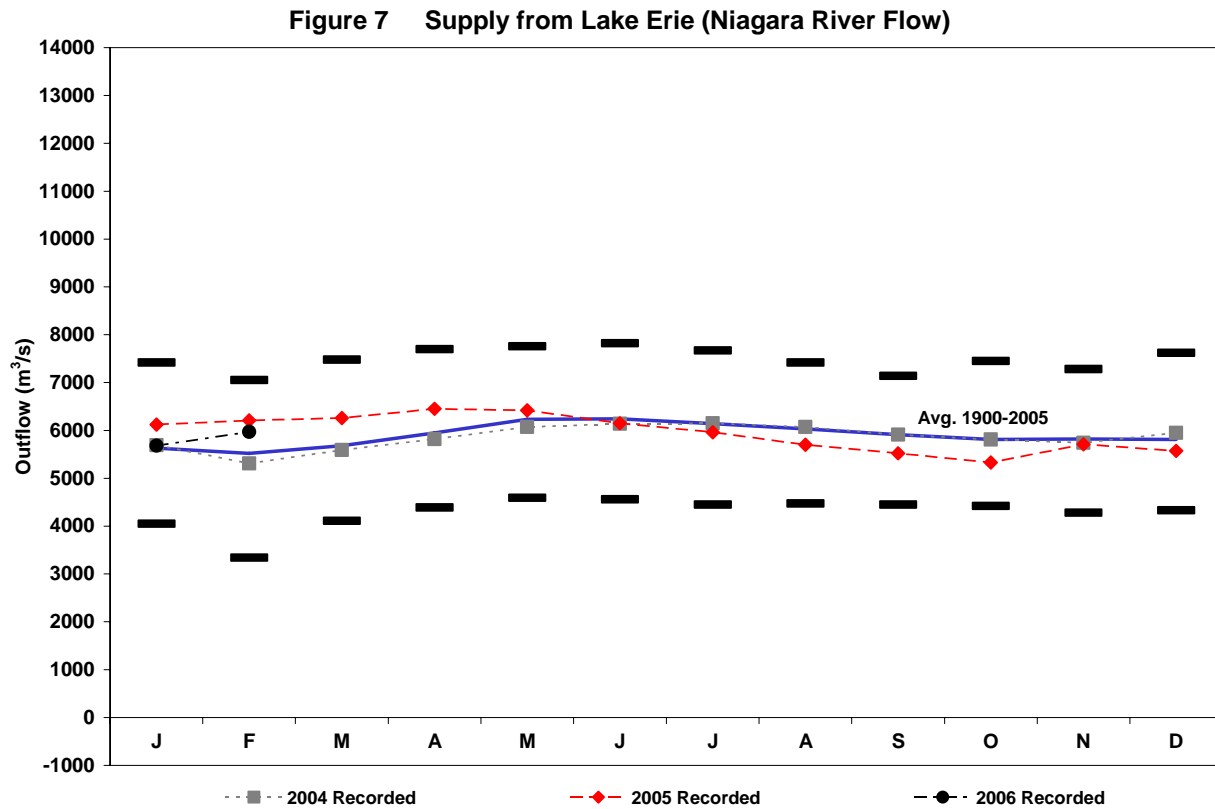


**1.1.2 Snow-pack on the Lake Ontario Basin**

The water content of the Lake Ontario basin snowpack during the first part of March was 38 mm (1.5 in), which is 54 % of average. Several periods of mild weather in January and February resulted in snowmelt and a sharp rise in the Lake Ontario level. Based on that, the snowmelt may be smaller than average for the freshet.

## 1.2 Supply from Lake Erie

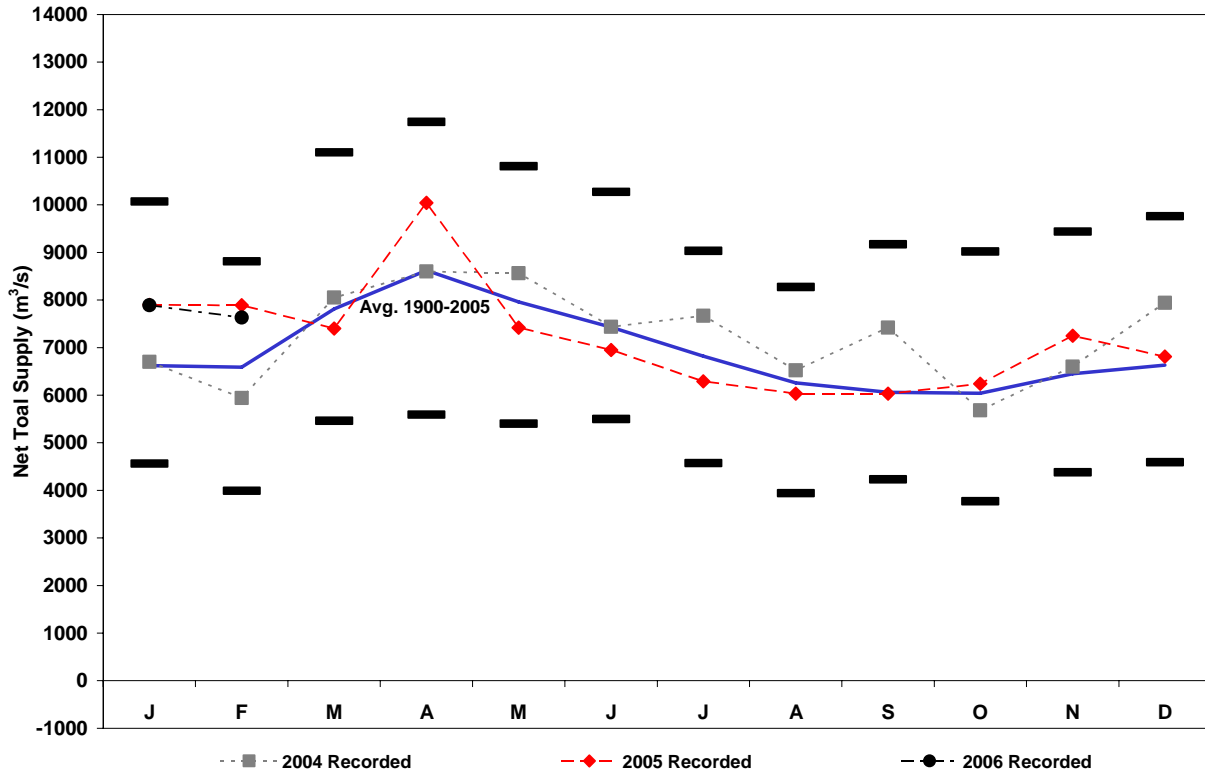
The inflows to Lake Ontario from Lake Erie during the reporting period are provided in Table 1 and shown graphically in Figure 7. With Lake Erie below average the first four months of the reporting period, its flow to Lake Ontario was also below average. Near to above-average levels in January and February produced slightly above average Lake Erie outflows.



## 1.3 Lake Ontario – Net Total Supply

The monthly net total supplies to the Lake are provided in Table 1 and shown graphically in Figure 8. The six-month net total supplies for the 10-year period 1996 through 2005 are provided in Table 3 and Figure 9 for comparison purposes. The monthly net total supplies were above average from October through February, and near average in September. The above average supplies were primarily due to well above average precipitation and runoff on the local basin. Overall, the total supply was 109 % of average during this reporting period.

**Figure 8 Net Total Supply to Lake Ontario**

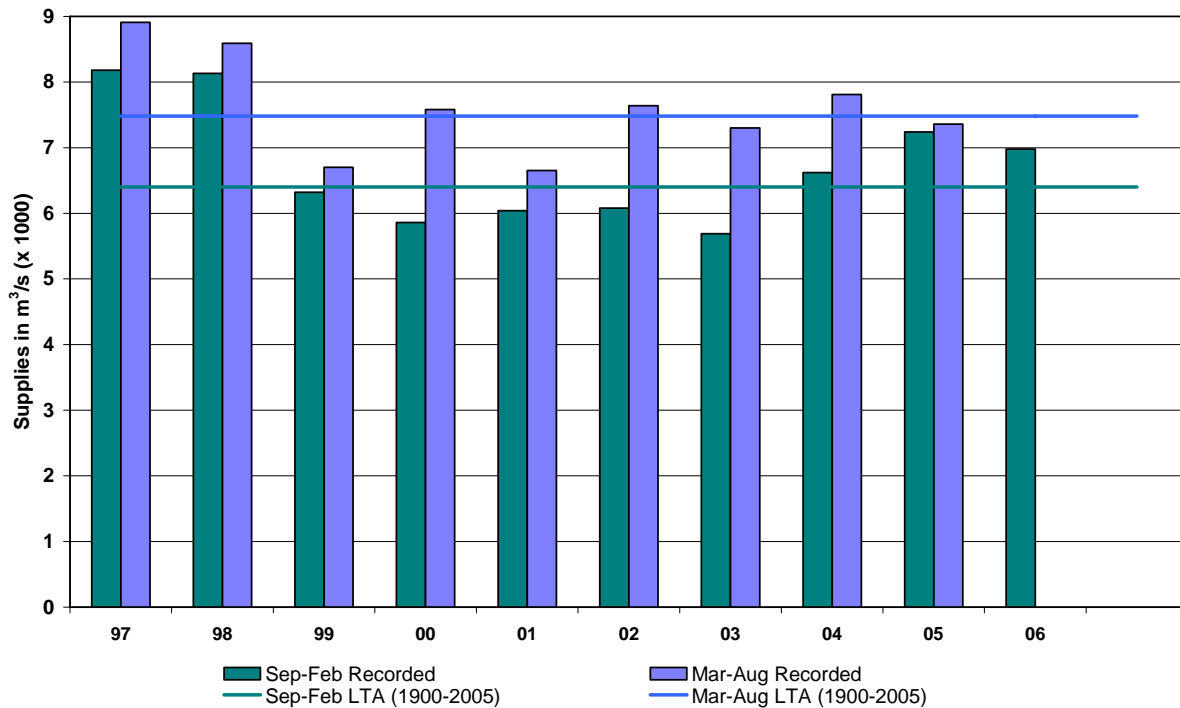


**Table 3 Average and Recorded Six-Month Supplies (Sep-Feb)**

	Long-Term Average <sup>(1)</sup>		Recorded		Recorded Below (-) or Above Average (+)		
	(m <sup>3</sup> /s)	(tcfs)	(m <sup>3</sup> /s)	(tcfs)	(m <sup>3</sup> /s)	(tcfs)	Percent
Sep 96 - Feb 97	6400	226	8180	289	1780	63	28
Sep 97 - Feb 98	6400	226	8130	287	1730	61	27
Sep 98 - Feb 99	6400	226	6320	223	-80	-3	-1
Sep 99 - Feb 00	6400	226	5860	207	-540	-19	-8
Sep 00 - Feb 01	6400	226	6040	213	-360	-13	-6
Sep 01 - Feb 02	6400	226	6080	215	-320	-11	-5
Sep 02 - Feb 03	6400	226	5690	201	-710	-25	-11
Sep 03 - Feb 04	6400	226	6620	234	220	8	3
Sep 04 - Feb 05	6400	226	7240	256	840	30	13
Sep 05 - Feb 06	6400	226	6980	246	580	20	9

<sup>(1)</sup> Based on period of record 1900-2005

**Figure 9 Lake Ontario Average & Recorded Net Total Six-Month Supplies**



#### 1.4 Ottawa River Basin

During the reporting period, Ottawa River outflows were generally below average for September through November and above average for December through February. Ottawa River flows were higher than those of last year. Snow pack on the Ottawa River basin in early March was above average.

## 2 REGULATION OF FLOWS & LEVELS

### 2.1 Application of Regulation Plan 1958-D

The Board assures that the provisions of the Commission's Orders of Approval relating to Lake Ontario-St Lawrence River outflows and levels are met. The control of the outflows and levels of Lake Ontario follows a regulation plan that was designed to satisfy the criteria and other requirements set out in the Commission's Orders. The current plan of regulation is "Plan 1958-D". This was adopted by the Commission in 1963.

Over the years, there have been changes in the needs and desires of the various interests, so the Commission authorized the Board (in 1961) to deviate from the outflows specified by the regulation plan in order to provide additional benefits to interests, when this can be done without appreciable adverse effects to other interests. Today, the Board reviews conditions in the Great Lakes and Lake Ontario-St. Lawrence River basins at least monthly, and establishes outflow strategies for the coming weeks that may or may not include deviations from Plan flows.

The outflow from Lake Ontario is computed weekly by following the procedure laid out in the Board's July 1963 Report to the Commission on Regulation Plan 1958-D. The computational procedure includes the following steps (the reader is referred to the Board's 1963 Report for additional details and considerations):

- Calculation of a provisional flow based on present conditions in the system (e.g., recent supplies and current levels);
- Checking the provisional outflow against operational limits designed to protect interests; and,
- Setting a final "Plan" outflow.

The Plan outflow is then reviewed by the Board's Regulation Representatives and Operations Advisory Group (OAG), and assessed against the Board's current outflow strategy and the current operational requirements for domestic water supply, navigation, hydropower, and others. If all are in agreement, the Regulation Representatives, on behalf of the Control Board, direct the hydropower entities (who operate the structures that control the outflows) to release the outflow for the coming week. If not all of the OAG members or Regulation Representatives can agree on the flow for the coming week, the Control Board is called upon to decide.

## **2.2 Board's Regulation Strategies and Resulting Actions**

In order to be more responsive to potentially changing conditions and the needs of interests, the Board continued monthly teleconferences to review conditions in the Great Lakes-St. Lawrence River system, develop short-term and long-term outflow strategies, and ensure that it would be able to offer assistance to interests in times of need. These strategies are designed to enhance the benefits provided by Regulation Plan 1958-D while not significantly impacting interests adversely. The strategies for the reporting period, and their rationale, are summarized on pages 20 to 23 of this report. In summary, the Board released the outflows prescribed by Plan 1958-D and maintained about the same amount of reserved water on Lake Ontario. The Board did not intentionally add to, or subtract from, the amount of reserved water; however, the amount did change due to operational considerations, especially for winter operations. Figure 10 shows the Lake Ontario outflows for the reporting period. In general, outflows increased over the fall in response to the high water supplies, were reduced in winter for ice formation, and then increased due to the continuing high supplies noted in the previous sections.

### **2.2.1 Deviations from Regulation Plan 1958-D**

Figure 11 and Table 4 summarize the Board's few discretionary deviations during the reporting period. On September 23, accumulated deviations carried forward into the reporting period amounted to 4.3 cm (1.7 in.) conserved on Lake Ontario. In response to a request from boaters in Lake St. Louis, the Board overdischarged on October 14 and 15 in order to raise water levels there and aid removal of recreational boats. This action removed about 0.1 cm (0.05 in) of water from Lake Ontario. Flows were less than specified by the plan on February 4 – 6 to assist in ice formation in the Beauharnois Canal. Although the flow was increased on February 6-10 to reduce the forebay levels, they were still less than specified by Plan 1958-D. On February 14, the flow was increased to the rate specified by Plan 1958-D. Plan flow was then released until March 4 when they were increased above plan for 12 of the remaining 26 days of the reporting period to offset the storage accumulated due to the February flow deviations. At the end of the reporting period, there was 4.7 cm (1.9 in) of water conserved on Lake Ontario.

Figure 10 Lake Ontario Daily Outflows

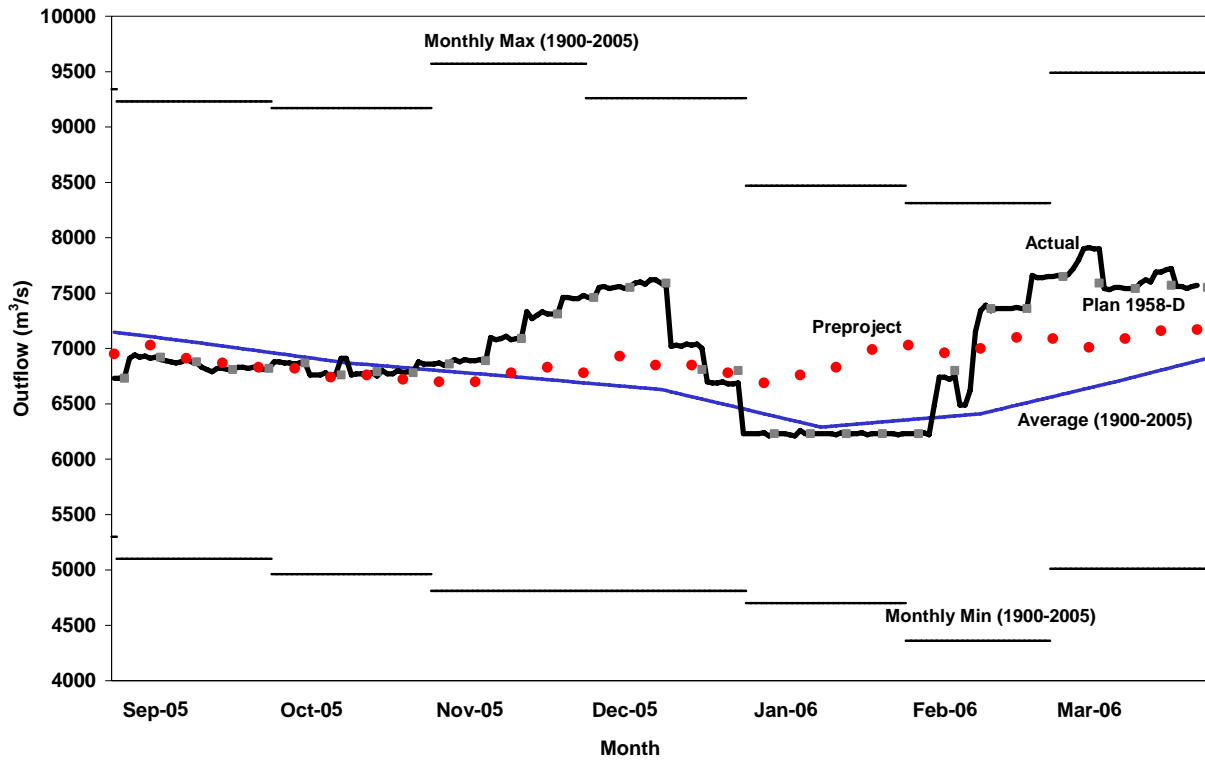
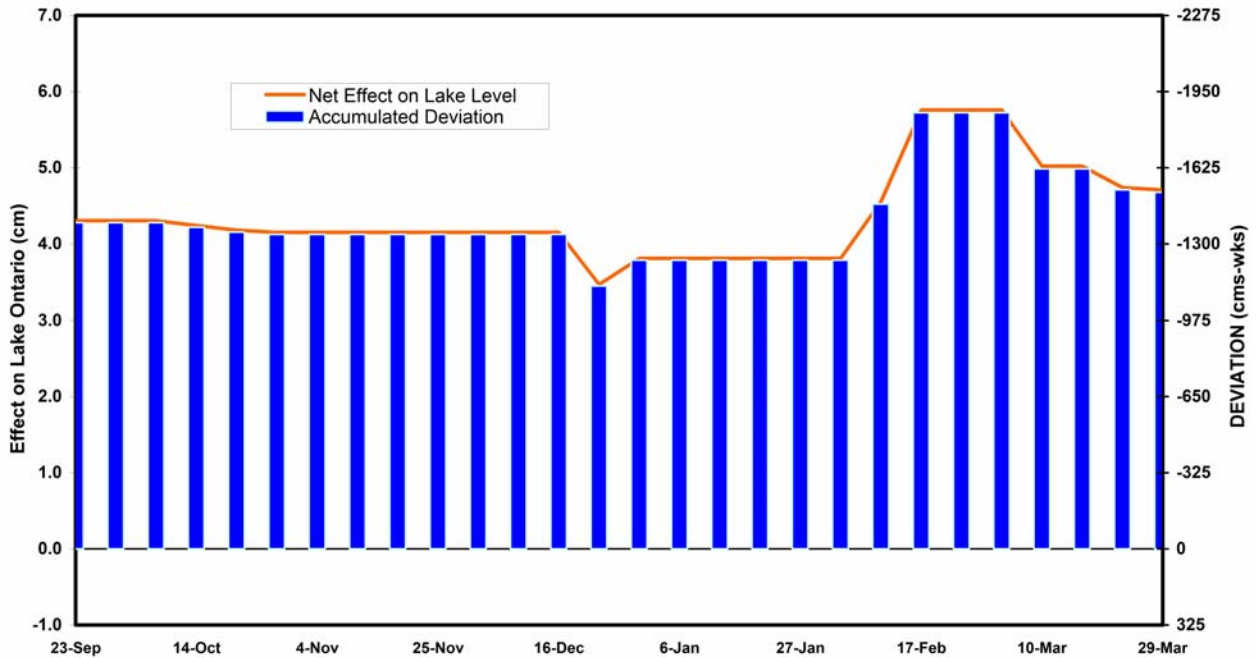


Figure 11 - Accumulated Outflow Deviations and Effect on Lake Ontario



**Table 4 Summary of Outflow Deviations from Regulation Plan 1958-D Flow**

Date 2005- 2006	Deviation	Deviation (cms- weeks)	Accum. Deviation (cms- weeks)	Cumulative Effect on Lake Ontario (cm)	Reason for Deviation
Sep 23			-1390	4.3	
Oct 14	+ 300 cms for 12 hrs	21	-1370	4.2	To aid downstream recreational boaters with haul-out
Oct 15	+ 290 cms for 12 hrs	21	-1350	4.2	To aid downstream recreational boaters with haul-out
Oct 22-28	+ 10 cms for 168 hrs	10	-1340	4.1	Unintentional - minor operational deviation
Dec 17- 23	+220 cms for 168 hrs	220	-1120	3.5	Uncertainty in I limit estimation
Dec 24- 30	-110 cms for 168 hrs	-110	-1230	3.8	Uncertainty in I limit estimation
Feb 4-6	-570 cms for 59 hrs	-200			Assist in ice formation
Feb 6-10	-70 cms for 109 hrs	-46			High Lake St. Lawrence level (M/S Forebay)
Feb 6-10	10 cms for 109 hrs	6	-1470	4.6	Unintentional - minor operational deviation
Feb 11- 13	-850 cms for 65 hrs	-333			Assist in ice formation
Feb 11- 13	-10 cms for 65 hrs	-4			Unintentional - minor operational deviation
Feb 13- 14	-460 cms for 19 hrs	-52	-1860	5.8	Ramping for ice stabilization
Mar 4-6	110 cms for 60 hrs	39			To reduce stored water
Mar 6-10	310 cms for 108 hrs	199	-1620	5.0	To reduce stored water
Mar 18- 20	30 cms for 66 hrs	12			Unintentional - minor operational deviation
Mar 20- 24	130 cms for 102 hrs	79	-1530	4.7	To reduce stored water

### 2.2.2 Ice Management

Ice booms were placed in the international section of the St. Lawrence River by the Power Entities, beginning on November 23. Following passage of the last commercial vessel on December 29, the last 2 booms that cross the navigation waterway were closed on December 30 and 31.

Ice formation began in the Beauharnois Canal on December 31 and continued slowly due to the mild temperatures in January. There were concerns about the ice cover in Lac St. Pierre when flows were increased, but no problems were encountered. The ice cover in the international section of the river, upstream of the Moses-Saunders Dam, began to form on February 20th and progressed upstream the following two weeks. It reached its maximum progression in the first week of March, forming as far upstream as the Ogden Island channel. This ice cover dissipated in the following week and was essentially gone from the international section by March 11<sup>th</sup>. Ice on Lake St. Francis and in the Beauharnois Canal had virtually disappeared by about March 27<sup>th</sup>.

The opening of the Montreal-Lake Ontario section of the Seaway was on March 23. This was preceded by opening of the A Boom on March 15 and the G Boom on March 16. All booms were removed by March 24. One span of the A Boom broke late in the ice season and was left trailing until its removal. No significant problems related to ice management in the St. Lawrence River arose during the reporting period.

### 2.2.3 Iroquois Dam Operations

Under the conditions of paragraph (j) of the Commission's Order of Approval dated 29 October 1952, the power entities are permitted to operate Iroquois Dam with Board approval. The gates of the dam can be lowered into the water to assist in the ice formation process, and to reduce the level of Lake St. Lawrence when there are low outflows. The gates at Iroquois Dam were lowered on February 7 – 10 to guard against the possibility of high level on Lake St. Lawrence due to high winds.

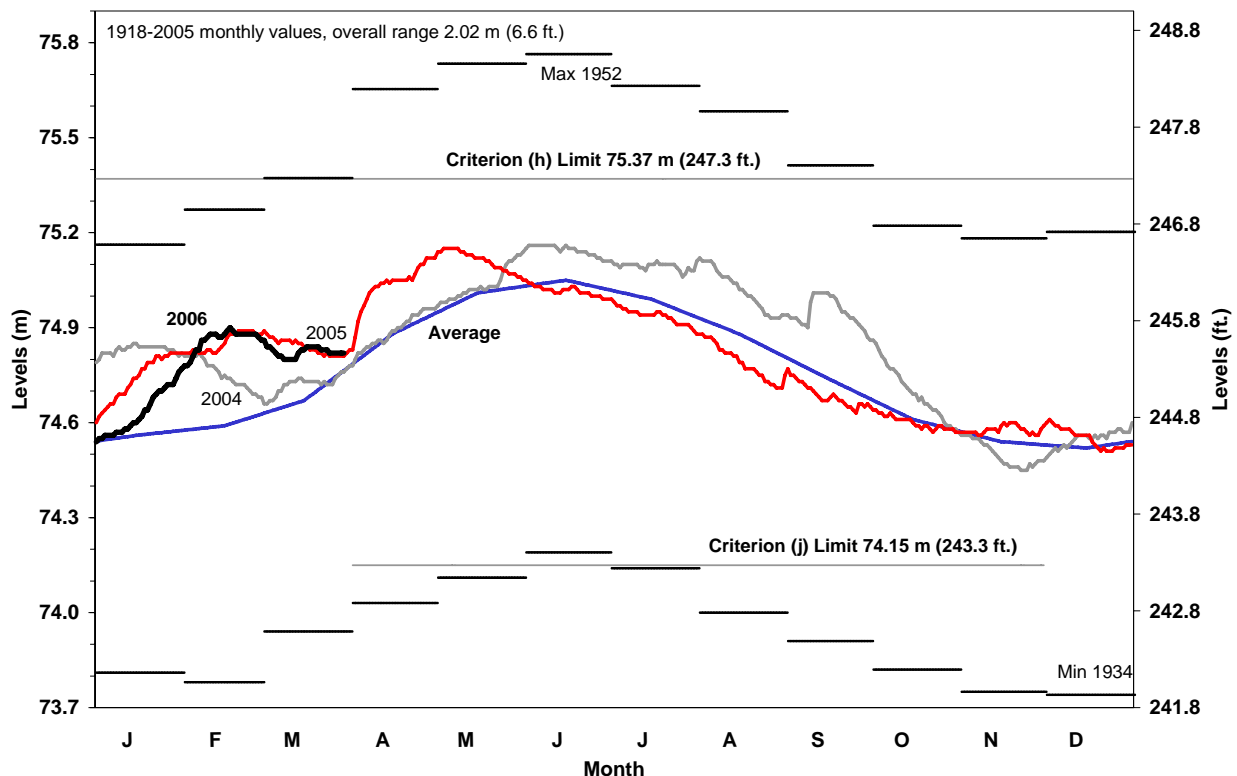
## 2.3 Results of Regulation

### 2.3.1 Upstream

#### Lake Ontario

The effects of Regulation Plan 1958-D and the Board's outflow strategies on the level of Lake Ontario are shown in Figure 12. For comparison purposes, the daily levels of 2004, 2005, and 2006 to the end of the reporting period are shown. During the reporting period, levels started out near long-term average, rose above long-term average for most of November and December, fell slightly below average in December, and then rose to above average the remainder of the reporting period. By the end of the reporting period, levels had declined slightly. Through the Board's efforts to maintain its conserved water on Lake Ontario, the Board maintained its ability to offer assistance to various interests in times of critical need, while

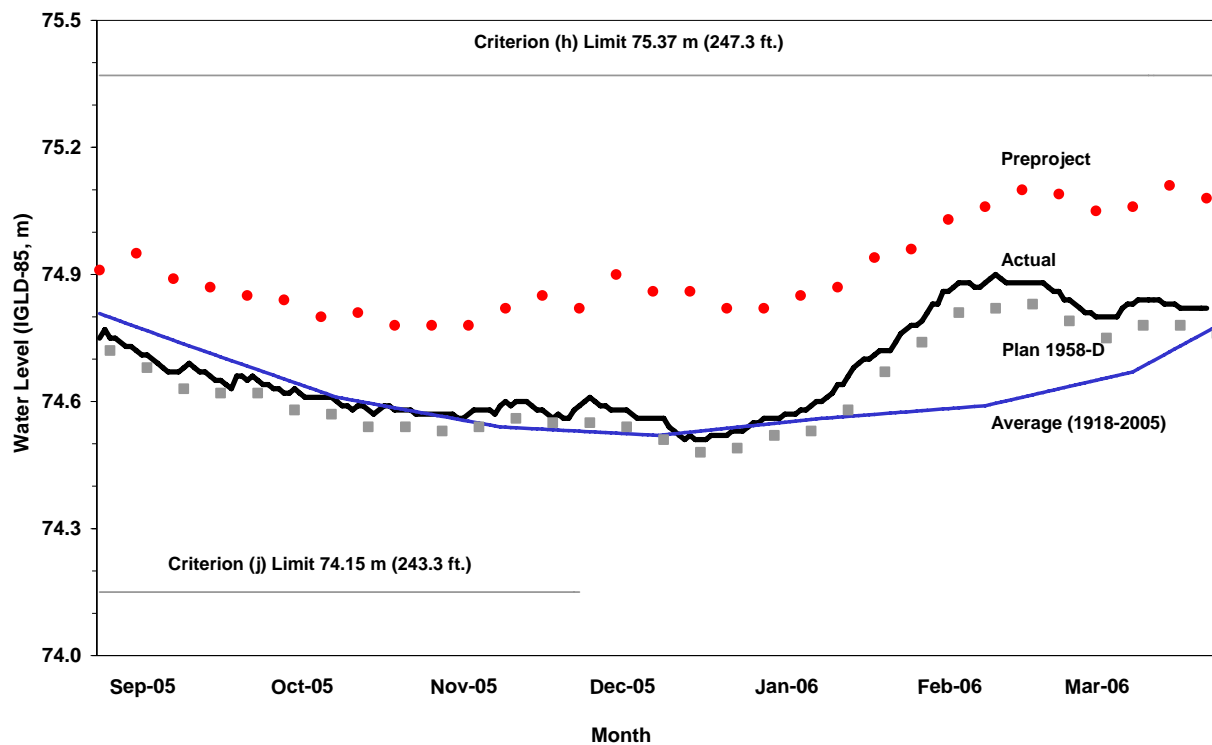
**Figure 12 Water Level on Lake Ontario**



minimizing the impacts on other users. This discretion was used to assist recreational boaters on Lake St. Louis. In addition, winter operations deviations occurred to assist in ice formation. Combined the flow was not equal to that specified by Plan 1958-D about 12 percent of the time during the reporting period.

As a means of determining the impact of regulation activities on levels and outflows, the Board provides the Commission with a comparison of Lake Ontario's actual monthly levels and outflows to those that would have been obtained under pre-project conditions (that is, the levels and outflows that would have occurred had regulation not been undertaken). A summary of this comparison for the reporting period is given in Table 5. This shows that, on average, Lake Ontario was about 24 cm (0.78 foot) lower during the reporting period than it would have been without regulation. A comparison of the daily levels to long-term average, and weekly computed Plan 1958-D levels and preproject conditions is shown in Figure 13.

**Figure 13 Lake Ontario Actual, Preproject & Plan Levels**



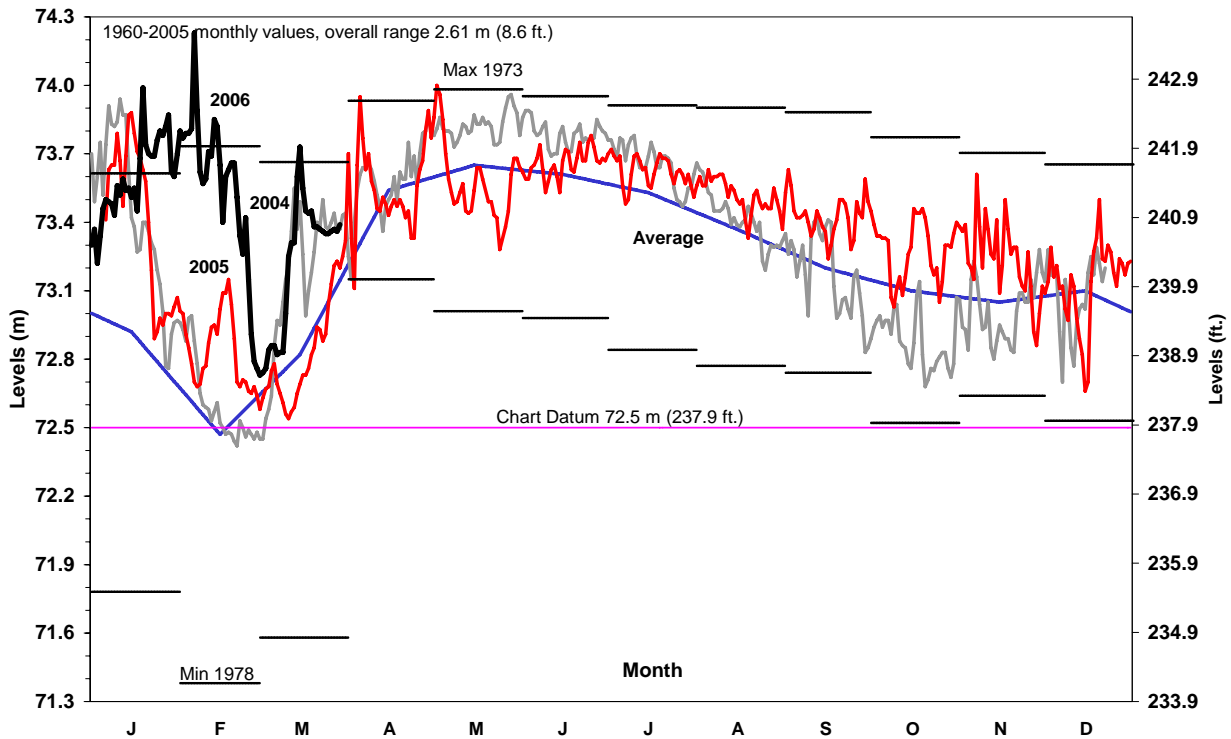
Lake St. Lawrence

During the reporting period, the water levels of Lake St. Lawrence were generally higher than those a year previous and also above average. During early 2006, water levels were well above average (figure 14) due largely to the lack of ice in the upper river and the relatively low outflows specified by Plan 1958-D. The Board received an e-mail suggesting that the regular operation of Iroquois Dam could alleviate high water levels in Lake St. Lawrence during storm events. The Board responded on the difficulties of doing so and the writer expressed satisfaction with the response during the public teleconference.

**Table 5 Lake Ontario Recorded and Pre-Project Levels and Outflows**

Month	Lake Ontario Monthly Mean Water Levels (IGLD 1985) - meters (feet)			Lake Ontario Monthly Mean Outflow m <sup>3</sup> /s (tcfs)		
	Recorded	Pre-project	Diff.	Recorded	Pre-project	Diff.
Sep 05	74.69 (245.04)	74.89 (245.70)	-0.20 (-0.66)	6850 (242)	6910 (244)	-60 (-2)
Oct 05	74.60 (244.75)	74.80 (245.40)	-0.20 (-0.65)	6810 (240)	6740 (238)	70 (2)
Nov 05	74.58 (244.68)	74.81 (245.44)	-0.23 (-0.76)	7130 (252)	6760 (239)	370 (13)
Dec 05	74.55 (244.58)	74.86 (245.60)	-0.31 (-1.02)	7200 (254)	6840 (242)	360 (12)
Jan 06	74.63 (244.85)	74.89 (245.70)	-0.26 (-0.85)	6230 (220)	6870 (243)	-640 (-23)
Feb 06	74.86 (245.60)	75.07 (246.29)	-0.21 (-0.69)	6980 (246)	7040 (249)	-60 (-3)

**Figure 14 Water Level on Lake St. Lawrence @ Long Sault Dam**

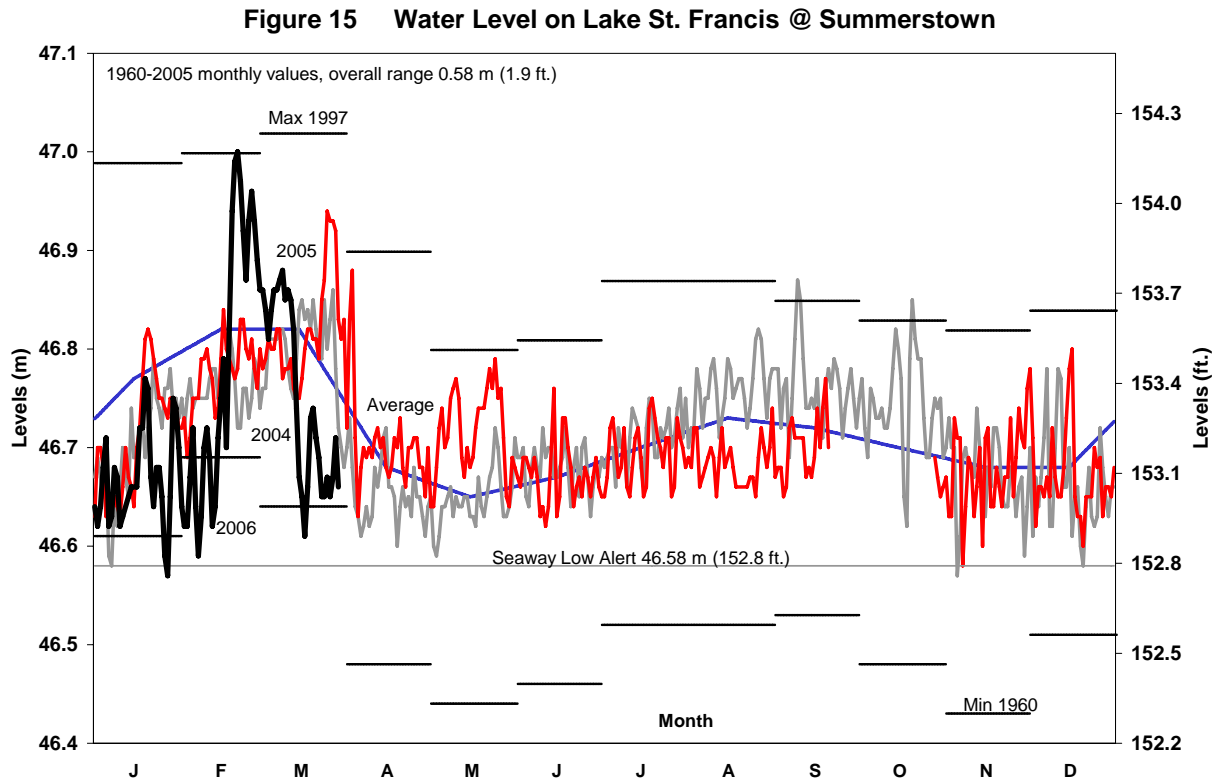


### 2.3.2 Downstream

The conserved water on Lake Ontario did not result in any known problems with regard to downstream levels. All levels downstream remained within limits considered acceptable by interests.

### Lake St. Francis

The regulation of Lake Ontario outflows has a limited effect on the levels of Lake St. Francis, since this body of water is, in turn, regulated by hydropower plant operations at Beauharnois and Les Cedres, Quebec. The historic range of monthly mean levels since completion of the Moses-Saunders project is about 1/5 that of Lake St. Lawrence. Daily water levels at Summerstown on Lake St. Francis were generally below average during the reporting period (Figure 15), but above the Seaway Low Alert level during the navigation period. The Summerstown gauge house underwent construction from September 22 to October 27, 2005. During this time no readings were available from the gauge.



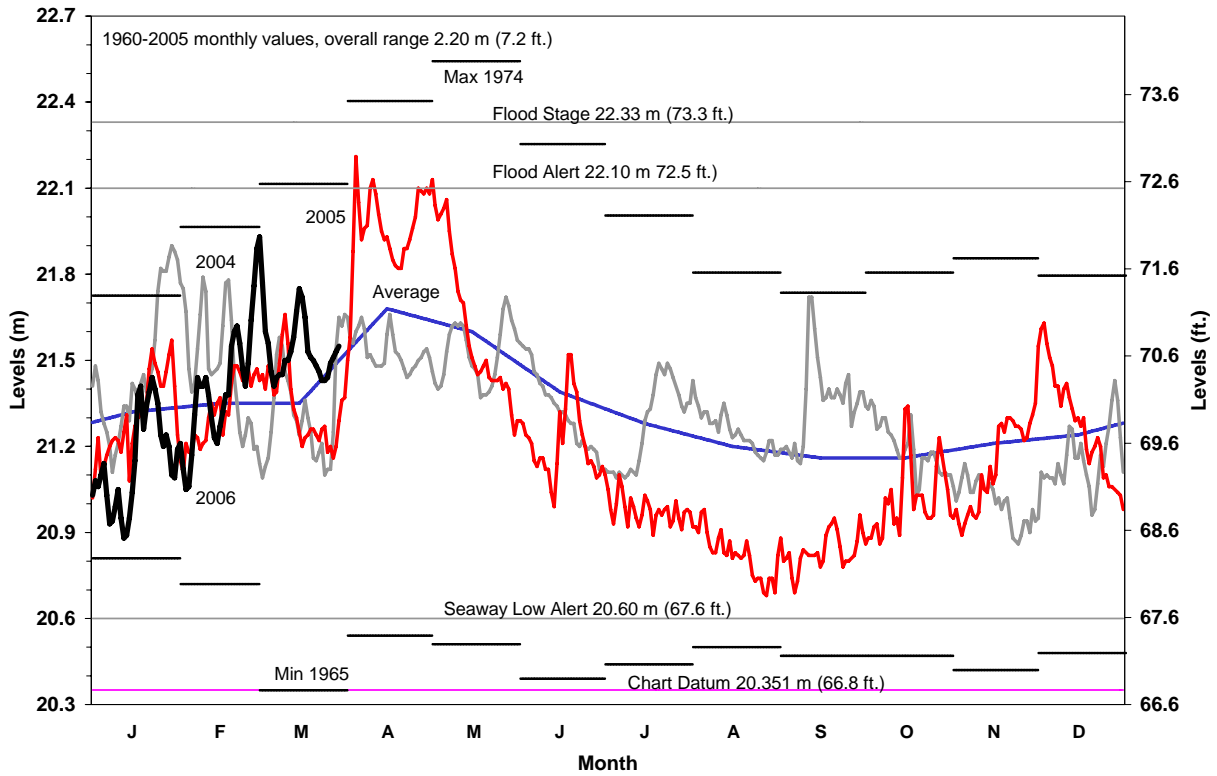
### Lake St. Louis

Lake St. Louis water levels are influenced by the discharges of both the St. Lawrence and Ottawa Rivers. Daily water levels on Lake St. Louis were generally below average (based on the period 1960 through 2005) at the beginning of the reporting period, rose to well above average in mid November and into early December, and have fluctuated near or above average the remainder of the reporting period (Figure 16). Water levels in the reporting period fluctuated more than average due to the varying water supply and ice conditions. Levels remained above the Seaway Lower Alert level at all times during the reporting period.

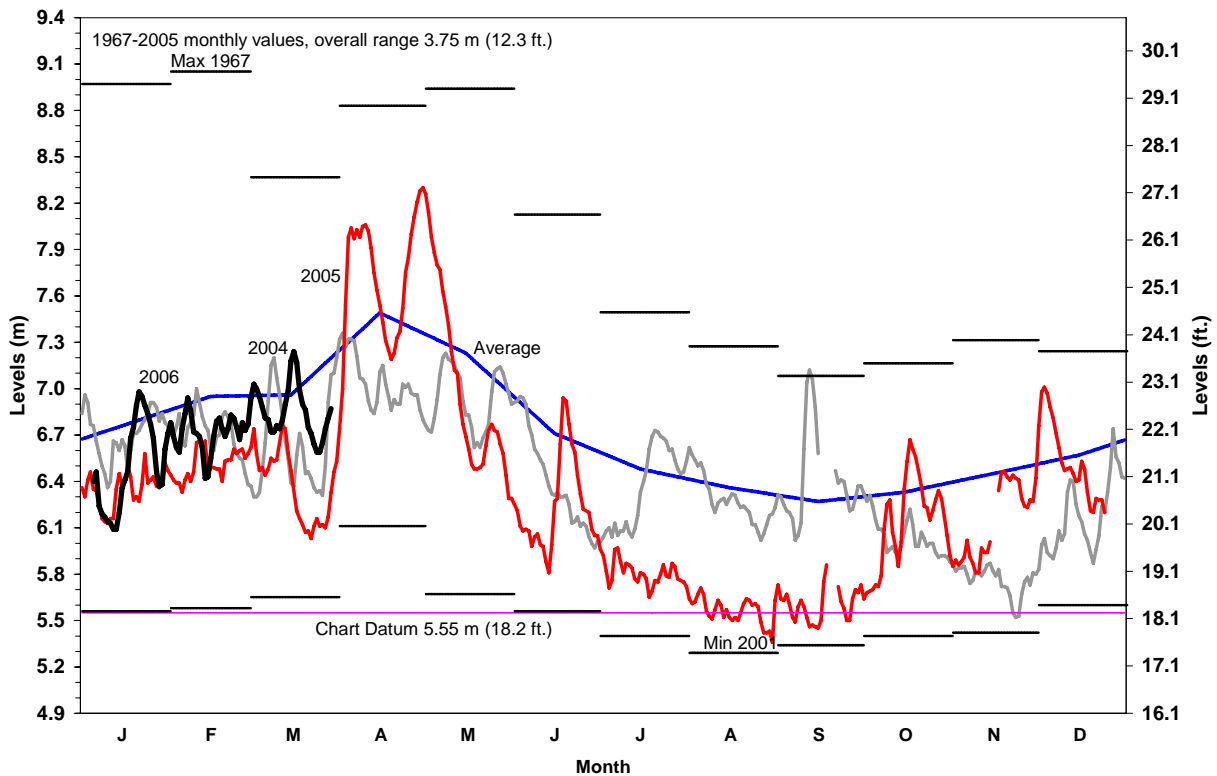
### Port of Montreal

The fluctuations of the water level at the Port of Montreal are influenced by the flows of the St. Lawrence and Ottawa Rivers, winds and the tide. The daily levels at the Port generally remained below average. Except for 10 days in September, levels at the Port remained above chart datum throughout the reporting period. There were two water level gauge outages during the reporting period (November 15 to 18 and December 25 to January 4, 2006) due to equipment failure (Figure 17).

**Figure 16 Water Level on Lake St. Louis @ Pointe-Claire**



**Figure 17 Water Level in the Port of Montreal @ Jetty #1**



### **3 BOARD ACTIVITIES**

#### **3.1 Board Meetings & Conference Calls**

The Board continued to oversee the operations of the hydropower project in the international reach of the St. Lawrence River. The Board, primarily through the offices of the Regulation Representatives, monitored conditions throughout the Lake Ontario-St. Lawrence River system. The Regulation Representatives provided the Board with: weekly regulation data; monthly reviews of the hydrological conditions; monthly risk analyses using water level outlooks; and, advised the Board on regulation strategy options and their potential impacts on water levels and interests throughout the system. The Board's Operations Advisory Group (OAG) held weekly teleconferences to review and advise the Regulation Representatives on weekly operational requirements and constraints. The Gauging Committee performed an annual inspection of the water level gauging network from October 11 to 21, 2005 and worked to clear a backlog of annual reports on water levels and attend to several outstanding gauge operation and maintenance issues.

The Board continued to schedule meetings and monthly conference calls to assess conditions in the basin and adjust its regulation strategy accordingly. During the reporting period, the Board held meetings on October 19 in Ottawa, and March 29 in Chicago. Board teleconferences were held during January, February and March to determine regulation strategy. During November and December the regulation strategy decisions were confirmed by e-mail. Table 6 provides a list of Board Members in attendance at these meetings and teleconferences.

The Board continued to monitor and support the activities of the Study Board's review of Lake Ontario regulation criteria, through the participation of two of its members, Dr. Frank Sciremammano and Mr. André Carpentier, as members of the International Lake Ontario-St. Lawrence River Study Board. A number of Board Members and Associates met jointly with the Commission and Members of the International Lake Ontario – St. Lawrence River Study Board in Washington, DC on December 5-6.

#### **3.2 Meetings with the Public and Input from the Public**

The Board held a public teleconference on March 21 to receive public input about local conditions and impacts of concern related to water levels and flows in Lake Ontario and the St. Lawrence River. The city locations were Rochester and Montreal (Dorval). The Board tried a new approach by allowing the public to participate by telephone and allowing access to presentation materials ahead of time. A number of the public called in and the Board heard from several members. The Board heard comments on the regulation strategy as well as the format and timing of the teleconference. The Board judged this new approach a success and will use it in future public teleconferences. The Board also decided to establish regular times and locations for future public teleconferences to allow better planning for both the Board and the public. The third Tuesday of September and the third Tuesday of March were agreed to for scheduling purposes. The next public teleconferences are thus scheduled for September 19, 2006 and March 20, 2007. In addition, the September public teleconference will be supplemented by concurrent on-site meetings at Oswego and Cornwall; while Rochester and Dorval will be used in conjunction with the March teleconference.

The Board has scheduled its annual meeting with the public for June 20, 2006 in Alexandria Bay, New York. The Board hopes that the Commission will be able to attend.

The Board agreed to continue its regular dialogue with the public through its Communications Committee and Media Releases in addition to the individual Board Members' efforts to attend other meetings.

During the reporting period, the Communication Committee, individual Board Members and the Secretaries were actively engaged in outreach, information exchange and liaison with stakeholders throughout the Lake Ontario-St. Lawrence River system. Board members and staff responded to a number of inquiries and requests for interviews from the media and the general public concerning water level conditions and the effectiveness of the Board's strategies. In addition, the Board worked with Commission staff to develop communications improvements, but the level of available funding will not be sufficient to implement identified improvements.

#### **4 COMMUNICATIONS COMMITTEE REPORT**

The Board continued to work with the International Joint Commission through the Communications Committee, to seek opportunities to improve communications with the public. The Board is very grateful that the Commission hired a communications expert to work with the Board. He has already provided valuable assistance in setting up the newly formatted multi-city teleconference, refining contact lists, developing a data base for Board use in communications activities, and other items. The Board could not have conducted the new format for the public teleconference without his support.

Communication activities during the reporting period included:

- Preparation of news releases: The Board issued media releases after each Board meeting regulation decision, to provide the public with recent information on water level conditions and regulation strategies;
- Operation of the Board's 1-800 numbers: The Board continued to post weekly updates of levels and flows (In the U.S., the number is 1-800-883-6390, and in Canada the numbers are 1-800-215-8794 (English) and 1-800-215-9173 (French));
- Operation of the Board's Web Page on the internet (<http://www.islrbc.org>) The Page includes:
  - Weekly updates on water levels and outflows;
  - General information about the Board, its activities and its structure;
  - Announcements about Board-related public meetings and events
  - Announcements about the Board's outflow strategies and "related media" releases.
  - Posting of the Board's meeting minutes and teleconference summaries.
  - The Board's next annual meeting with the public and public teleconferences.

The Board's Regulation Representatives send out weekly updates on Lake Ontario regulation and water level and outflow conditions, to a list of about 135 e-mail subscribers.

The Board Communication Strategy and Action Program of December 8, 2004 remains in effect. This provides much of the basis for prioritizing the work of the communications expert. Under this strategy, the Board's mission regarding communications is "To communicate regularly, accurately and effectively with users and stakeholders involved with the work of the International St. Lawrence River Board of Control", and, more specifically, to: communicate about water conditions within the Lake Ontario-St. Lawrence River basin and their impacts; actions by the Board and rationale for those actions; to understand issues and concerns of all stakeholders in reaching those decisions; and to work in ways that are consistently understandable, positive and helpful to all parties.

## **5 RIVER GAUGING COMMITTEE REPORT**

The Board's St. Lawrence Committee on River Gauging monitors the Power Entities' program of maintaining gauges required for the Board's monitoring of water levels and flows regarding the operation of structures and forebay elevations. The Committee is responsible for annual inspections of the water level gauging network and provides the Board with a report on inspection results and the computed outflows. The 67<sup>th</sup> (2003) and 68<sup>th</sup> (2004) draft reports have been reviewed by the Committee members and associates. The finalized reports are expected to be submitted to the Board in April 2006. It is anticipated that the 69<sup>th</sup> (2005) draft report will be submitted to the Committee members and associates in 2006. Action items noted in the annual reports for 2000 to 2002 (received last fall) were reviewed by the Board at its March Board meeting. Work was completed on several issues, progress was noted on others. The Board reiterated that the Power Entities are responsible for ensuring that gage data are submitted to the Board, regardless of whether the gages are operated by them or others.

### **5.1 Raisin River**

The Raisin River Diversion was not operated during the reporting period.

### **5.2 Water Level Gauges**

The Board's Committee on River Gauging ensures the accuracy of flow and water level measurements. This includes annual inspections of computational methods at each of the eight outflow structures and the 15 water level gauges used by the Board to monitor river conditions. Auditing of the Power Entities' data processing is also conducted under the direction of the Committee. The Inspection Team prepares an annual report to the Gauging Committee. Operation and maintenance of the water level gauges are performed by the Power Entities. The Gauging Committee performed an annual inspection of the water level gauging network from October 11 to 21, 2005 and worked to clear a backlog of annual reports on water levels and attend to several outstanding gauge operation and maintenance issues.

### **5.3 Turbine Upgrades**

On November 20, 2005 NYPA completed upgrading Unit 22 with an Alstom turbine. The unit had been out of service since February 24, 2005. Unit 29 was removed from service October 11, 2005 for similar upgrades, and is expected to return to service April 30, 2006. Flows through the upgraded units are calculated using an interim rating table.

## **6 ST. LAWRENCE SEAWAY REPORT**

Navigation ceased in the Montreal-Lake Ontario Section with the passage of the last downbound commercial vessel, the "Maria Desgagnes" at Snell Lock on December 28. The Seaway reported no problems related to water levels or ice during the shipping season. The Seaway navigation season opened on March 23 with the downbound passage of the vessel "Rt. Hon. Paul J. Martin" through the Eisenhower Lock.

## **7 HYDROPOWER PEAKING AND PONDING**

By letter dated 13 October 1983, the Commission authorized Ontario Power Generation and the New York Power Authority to continue to carry out peaking and ponding operations at the St. Lawrence Project. The conditions governing peaking and ponding operations are specified in Addendum No. 3 to the Operational Guides for Regulation Plan 1958-D. The Commission's approval requires a 5-year review of the impacts of

peaking and ponding. The Board recommended to the IJC in August 2005 that peaking and ponding operations be continued for another 5 years.

Peaking operations were conducted throughout the reporting period. No ponding operations were conducted.

## **8 BOARD AND COMMITTEE MEMBERSHIP CHANGES**

On January 9, 2006, Dr. Paul Pilon was seconded to the Commission's staff and resigned his position as a Board Member. His vacancy remains open. Board Member Jim Bernier's appointment was renewed for a year.

Respectfully submitted,

**MEMBERS FOR THE UNITED STATES**

**MEMBERS FOR CANADA**

\_\_\_\_\_  
**BG B.A. BERWICK, CHAIR**

\_\_\_\_\_  
**J. LORQUET, CHAIR**

\_\_\_\_\_  
**J. BERNIER**

\_\_\_\_\_  
**A. CARPENTIER**

\_\_\_\_\_  
**T. HULLAR**

\_\_\_\_\_  
**B. METCALFE**

\_\_\_\_\_  
**F. SCIREMAMMANO**

\_\_\_\_\_  
**P. YEOMANS**

\_\_\_\_\_  
**(vacancy)**

\_\_\_\_\_  
**(vacancy)**

**Table 6**

**Attendance at Meetings and Teleconferences (September 23, 2005 - March 29, 2006)**

<b>Board Member</b>	<b>Country</b>	<b>Oct. 19 Mtg..</b>	<b>Jan. 11 T. Conf.</b>	<b>Feb. 8 T. Conf.</b>	<b>Mar. 8 T. Conf</b>	<b>Mar. 29 Mtg.</b>
BG Bruce A. Berwick <sup>1</sup>	U.S.					
Mr. J. Bernier	U.S.	X	X	X	X	X
Mr. A. Carpentier	Can.	X	X	X	X	X
COL G. Johnston <sup>2</sup>	U.S.	X	X	X	X	X
Dr. T. Hullar	U.S.	X	X		X	X
Mr. J. Lorquet <sup>3</sup>	Can.	X	X	X		X
Mr. R. P. Metcalfe	Can.	X	X	X	X	X
Mr. Gerald F. Mikol <sup>4</sup>	U.S.					
Dr. P. J. Pilon <sup>5</sup>	Can.	X				
Dr. F. Sciremammano, Jr.	U.S.	X	X			X
Mr. P. Yeomans	Can.	X	X	X	X	X

- Notes: 1. U.S. Co-Chair  
2. Alternate U.S. Co-Chair  
3. Canadian Co-Chair  
4. Unable to participate due to extended illness. Mr. Mikol passed away on April 2, 2006.  
5. Resigned from Board January 9, 2006

**Location of Meetings:**

October 19, 2005, Ottawa, Ontario.

March 29, 2006, Chicago, IL

### **Lake Ontario Outflow Strategy (Released October 5, 2005)**

The International St. Lawrence River Board of Control (Board) received a letter from the Pointe Claire Yacht Club requesting an increase in the level on Lake St. Louis in October to assist the Club in its re-positioning and haul-out of boats planned for October 15. The Board responds to written requests for this type of assistance when specific dates are requested and, accordingly, may increase the outflow from Lake Ontario to raise the level on Lake St. Louis on October 15, if necessary due to unusually low levels and if this can be done without appreciable adverse impacts on other interests in the Lake Ontario-St. Lawrence River system.

Other private and commercial boating interests in the area, including on the St. Lawrence River between the Moses-Saunders Power Dam and Lake St. Louis, might also wish to take advantage of this opportunity, and should consider coordinating their activities.

### **Lake Ontario Outflow Strategy (Released October 21, 2005)**

The International St. Lawrence River Board of Control (Board) reviewed conditions in the Lake Ontario–St. Lawrence River system on October 19 and decided to continue to maintain outflows from Lake Ontario in accordance with those prescribed by Regulation Plan 1958-D.

This decision will pertain unless over-discharges are needed to meet critical hydropower needs, to maintain levels above 20.6 m (67.6 ft.) at Pointe-Claire on Lake St. Louis, or to allow incoming vessels to reach the Port of Montreal. Any such over-discharges will be limited to no more than 600 cubic metres per second (cms) (21,200 cubic feet per second (cfs)) per day and 300 cms (10,600 cfs) per week.

The main considerations in maintaining this strategy are as follows:

#### Recent supply conditions

- Precipitation on both the Lake Ontario and Lake Erie basins in September was slightly above the average amount for the time of year. However, the total water supply to Lake Ontario was near the average, due mainly to below average inflows from Lake Erie.
- Although dry conditions continue throughout much of the Great Lakes basin, the weather cannot be predicted with much certainty for more than a few days, so future water supplies to the Lake Ontario basin will remain unpredictable.
- Outflows from the Ottawa River into the Montreal area were below average in the September through early October period but rose sharply to near average values in mid October as a result of high precipitation in the lower basin. However, as always, there is a significant degree of uncertainty regarding the outflows in the coming months.

#### Current levels

- The level of Lake Ontario underwent its normal seasonal decline for the September to mid October period, and was 3 cm (1.2 in.) below the long-term average on October 17.
- Lake Erie was 6 cm (2.4 inches) below average on October 17.
- The level on Lakes Michigan and Huron remains well below average, so water supplies from those lakes to Lake Erie are expected to remain below average for the coming months.
- Levels in the Montreal area, including within the Port of Montreal, were above average on October 17, due mainly to the recent wet conditions.

#### Plan 1958-D

- The Lake Ontario outflow was as specified by Plan 1958-D in September, and to date in October, except for a small outflow increase on October 14 and 15 to assist downstream boating interests with their seasonal haul-out activities.
- On October 17, there were 4.2 cm (1.6 in.) of water stored on Lake Ontario relative to the Plan 1958-D level.

#### Risk analysis

- There is little probability that Lake Ontario levels over the next twelve months will be outside the range of levels specified in the International Joint Commission's criteria for the regulation of Lake Ontario.
- There is a significant risk that the levels on Lake St. Louis will be below the Seaway minimum levels this year as well as during the spring and summer of 2006.
- There is a significant chance that the Port of Montreal level will fall below chart datum frequently during the coming twelve months.

#### Forecasts

- If average water supplies are received over the coming months and Plan 1958-D outflows are followed, the level of Lake Ontario would continue to decline and, by the end of December, would be about 9 cm (3.5 in.) below average.
- If conditions remain dry, the Lake level could fall to as much as 32 cm (12.6 in.) below average by the end of December. However, this level is still well within the range of regulated levels specified by the criteria for the regulation of Lake Ontario.
- If conditions turn very wet, the Lake level would decline more gradually and be 6 cm (2.4 in.) above average by the end of December. Again, this level is well within the range of regulated levels specified by the regulation criteria.
- With average water supplies, the monthly level in the Port of Montreal for the next six months is forecast to be well below average, but above chart datum.

The Board, in conjunction with its staff, will continue to monitor the situation, and will meet again in about four weeks to re-assess the situation—or earlier if there is a significant change in conditions before then.

#### **Lake Ontario Outflow Strategy (Released November 9, 2005)**

The International St. Lawrence River Board of Control (Board) has decided to continue to maintain outflows from Lake Ontario in accordance with those prescribed by Regulation Plan 1958-D. The Board noted that basin conditions were little different from those described in its October 21 media notice.

This decision will pertain unless over-discharges are needed to meet critical hydropower needs, to maintain levels above 20.6 m (67.6 ft.) at Pointe-Claire on Lake St. Louis, or to allow incoming vessels to reach the Port of Montreal. Any such over-discharges will be limited to no more than 600 cubic metres per second (cms) (21,200 cubic feet per second (cfs)) per day and 300 cms (10,600 cfs) per week.

The Board, in conjunction with its staff, will continue to monitor the situation, and will meet again in about four weeks to re-assess the situation—or earlier if there is a significant change in conditions.

### **Lake Ontario Outflow Strategy (Released December 16, 2005)**

The International St. Lawrence River Board of Control (Board) has reviewed conditions in the Lake Ontario - St. Lawrence River system and finds there is very little risk of exceeding either the upper or lower water level limits before next summer. The Board noted that basin conditions are little different from those described in its October 21 and November 10 media notices. The Board decided to continue the current strategy of releasing outflows as specified by Plan 1958-D through mid-December. After that, the Board will follow its usual winter operations. Outflows will be varied within the limits specified by the regulation plan, and in order to assist with ice formation, a process that usually starts in the Montreal area and proceeds upstream. In continuing the present strategy, the Board authorized outflow increases that may be needed to maintain the level on Lake St. Louis, as measured at Pointe-Claire, above 20.6 m (67.6 ft) and meet critical needs of navigation in the Port of Montreal. Similar increases were authorized to meet critical needs of hydropower interests. Any such over- or under-discharges will be limited to no more than 600 cubic meters per second (cms) (21,200 cubic feet per second (cfs)) per day and 300 cms (10,600 cfs) per week.

The Board, in conjunction with its staff, will continue to monitor the situation, and will meet again in about four weeks to re-assess the situation—or earlier if there is a significant change in conditions.

### **Lake Ontario Outflow Strategy (Released January 13, 2006)**

The International St. Lawrence River Board of Control (Board) has reviewed conditions in the Lake Ontario - St. Lawrence River system and has decided to continue following the outflows called for by Plan 1958-D. All of the Great Lakes are lower than last year, and only Lake Ontario is above long-term average (by about 2 cm, 1 inch). There is a slight risk of exceeding Lake Ontario's low level limits in 2006, and almost no risk of exceeding the upper water level limits. Presently, there is about 4 cm (1.6 inches) of stored water maintained on Lake Ontario; the strategy is intended to maintain this reserve of water. The Board noted that the outflows called for by Plan 1958-D in January and February are quite low, in order to assist in ice formation. There is very little ice in the St. Lawrence River. Should conditions require, outflows may be reduced in order to assist in the ice formation process, which usually starts in the Montreal area and proceeds upstream.

The Board, in conjunction with its staff, will continue to monitor the situation, and will meet again in about four weeks to re-assess the situation—or earlier if there is a significant change in conditions. The Board will assess conditions later in the spring to determine if the water currently held in reserve on Lake Ontario should be added to, maintained, or reduced.

### **Lake Ontario Outflow Strategy (Released February 10, 2006)**

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, has announced that its objective is to have the total releases from Lake Ontario for February and March equal the amount specified by the regulation plan. The wet and warm conditions that have prevailed since mid-December, combined with the melt of much of the basin's snowpack, have caused a temporary spike in Lake Ontario levels. Record-low snowpack is prevalent in much of the basin. If average amounts of precipitation are received, there is only a very slight risk this year of exceeding Lake Ontario's upper or lower level limits prescribed in the Orders of Approval for the operation of the system.

Presently, there are about 4.6 cm (1.8 inches) of water stored on Lake Ontario. The strategy would maintain this reserve to assist with unexpected needs later in the year. Typically, ice formation occurs in January, but currently there is very little ice in the St. Lawrence River above Montreal. Plan 1958-D's February outflows are too high for ice formation, so if ice begins to form the outflows will be reduced to assist the ice formation. The reduced flows will be offset by outflows above plan later in February and March, unless doing so would cause problems for interests.

The Board, in conjunction with its staff, is watching the situation carefully and is prepared to take quick action if required. The Board will meet again in about four weeks to re-assess the situation—or earlier if there is a significant change in conditions. The Board will assess conditions later in the spring to determine if the water currently held in reserve on Lake Ontario should be added to, maintained, or reduced.

### **Lake Ontario Outflow Strategy (Released March 15, 2006)**

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, has announced that its objective is to reduce the amount of water conserved on Lake Ontario to 3.8 cm (1.5 inches). The wet and warm conditions that have prevailed since mid-December, combined with the melt of much of the basin's snowpack, have caused a temporary spike in Lake Ontario levels. Record-low snowpack is prevalent in much of the basin. If average amounts of precipitation are received, there is only a very slight risk this year of exceeding Lake Ontario's upper or lower level limits prescribed in the Orders of Approval for the operation of the system.

Presently, there are about 5.0 cm (2.0 inches) of water stored on Lake Ontario. The long-term strategy would maintain about 3.8 cm (1.5 inches) to assist with needs later in the year. Typically, ice formation occurs in January, but this year there is currently very little ice in the St. Lawrence River above Montreal. Plan 1958-D's March outflows are too high for ice formation, so if ice does begin to form the outflows may be reduced to assist the ice formation. Flows may also need to be reduced to manage the ice as it melts. Any reduced flows would be offset by outflows above plan later in March, unless doing so would cause problems for interests.

The Board, in conjunction with its staff, is watching the situation carefully and is prepared to take quick action if required. The Board will meet again in about two weeks to re-assess the situation—or earlier if there is a significant change in conditions. The Board will assess conditions later in the spring to determine if the water currently held in reserve on Lake Ontario should be added to, maintained, or reduced.

**Abbreviations and Terms Used in this Report**

actual (data)	The actual recorded value
avg	Average
Board	International St. Lawrence River Board of Control
cfs	Cubic feet per second
cm	Centimetres
cms	Cubic metres per second
Commission	International Joint Commission
computed level, outflow	The level or outflow computed by Regulation Plan 1958-D
deviation (outflow)	A Lake Ontario outflow different from the Plan 1958-D outflow
Exceedence Probability	The percent of time that the value was exceeded in the past
ft	Foot/feet
IJC	International Joint Commission
ISLRBC	International St. Lawrence River Board of Control
in	Inche(s)
Lake	Lake Ontario (unless otherwise specified)
level	Water level
LTA	Long-term average
m <sup>3</sup> /s	Cubic metres per second
mm	Millimetres
NYPA	New York Power Authority
OAG	The Board's Operations Advisory Group
OPG	Ontario Power Generation
Plan	Regulation Plan 1958-D
pre-project	The levels and flows that would have occurred had regulation not been undertaken
regulation	Management of levels and flows in the Lake Ontario-St. Lawrence River system by physical control of outflows from Lake Ontario
Regulation Plan 1958-D	Current plan of regulation for Lake Ontario
Seaway	The St. Lawrence Seaway (commercial navigation facility)
Study Board	International Lake Ontario-St. Lawrence River Study Board
supply	Quantity of water received
tcfs	Thousand cubic feet per second