# ONE HUNDRED AND SEVENTH PROGRESS REPORT
# to the
# INTERNATIONAL JOINT COMMISSION
# by the
# INTERNATIONAL ST. LAWRENCE RIVER BOARD OF CONTROL
## Covering the Period
## SEPTEMBER 28, 2006 THROUGH MARCH 28, 2007

**MARCH 28, 2007**

# 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 slightly above average to well above average. However, water levels on Lake Ontario and in the St. Lawrence River were maintained within the criteria specified in the 1956 Amended Orders of Approval.

The Board's general regulation strategy the first two months of the reporting period was to follow the outflows prescribed by Plan 1958-D. The Board used its discretionary authority to reduce the levels on Lakes St. Lawrence and St. Louis on several occasions (see Table 4, page 9). Winter operations in late January led to some outflows being varied from Plan 1958-D for limited periods of time (a total of almost 150 hours).

The Board began the reporting period with 4.6 cm (1.8 in) of water conserved on Lake Ontario relative to a strict adherence to Plan 1958-D. With the advent of a very wet water supply sequence over the following five months, the Board released the stored water and overdischarged relative to strict adherence to Plan 1958-D. It did this in order to reduce the probability of levels exceeding Criterion (h) on Lake Ontario later this year. This led to releases much higher than those specified by the regulation plan. At the end of the reporting period, levels were about 14 cm (5.5 in) above average. The level was also about 22 cm (8.7 in) lower than it would have been had Plan 1958-D been strictly followed. During the winter, the Board received and responded to a number of expressions of concern about the potential this spring for high water and shoreline damages.

## COMMUNICATION ACTIVITIES

Communications activities during the reporting period were conducted within the constraints of limited existing resources. The Board conducted a public teleconference on March 20. In addition to having two sites (at Rochester and Dorval) for face-to-face participation, 29 members of the public participated by call-in. Participants listened to the Board presentation and then addressed comments and questions to the Board. The Board posted its presentation materials on its web site for public access. The Board received positive public feedback with the new process. The next public teleconference is scheduled for September 18, 2007 (with in-person sites at Oswego and Cornwall). The Board's annual meeting with the public is scheduled for June 19 in the Brockville, Ontario, area. 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.

## BOARD ACTIVITIES

The Board met in person twice during the reporting period, and five 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 10 to 19, 2006. In addition, the Committee worked to clear a backlog of annual reports on water levels and attend to several gauge operation and maintenance issues.

Selected Board Members and staff participated in a workshop with the Commission in October to begin addressing the institutional arrangements needed for adaptive management.

## COVER PHOTO

Winter arrived late this year, with ice formation not beginning until the end of January. This photo shows Iroquois Lock and Dam, on February 27, 2007, looking downstream. Photo credit: St Lawrence Seaway Management Corporation.

TABLE OF CONTENTS

LIST OF FIGURES



LIST OF TABLES



LIST OF MEDIA RELEASES (by release date)

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

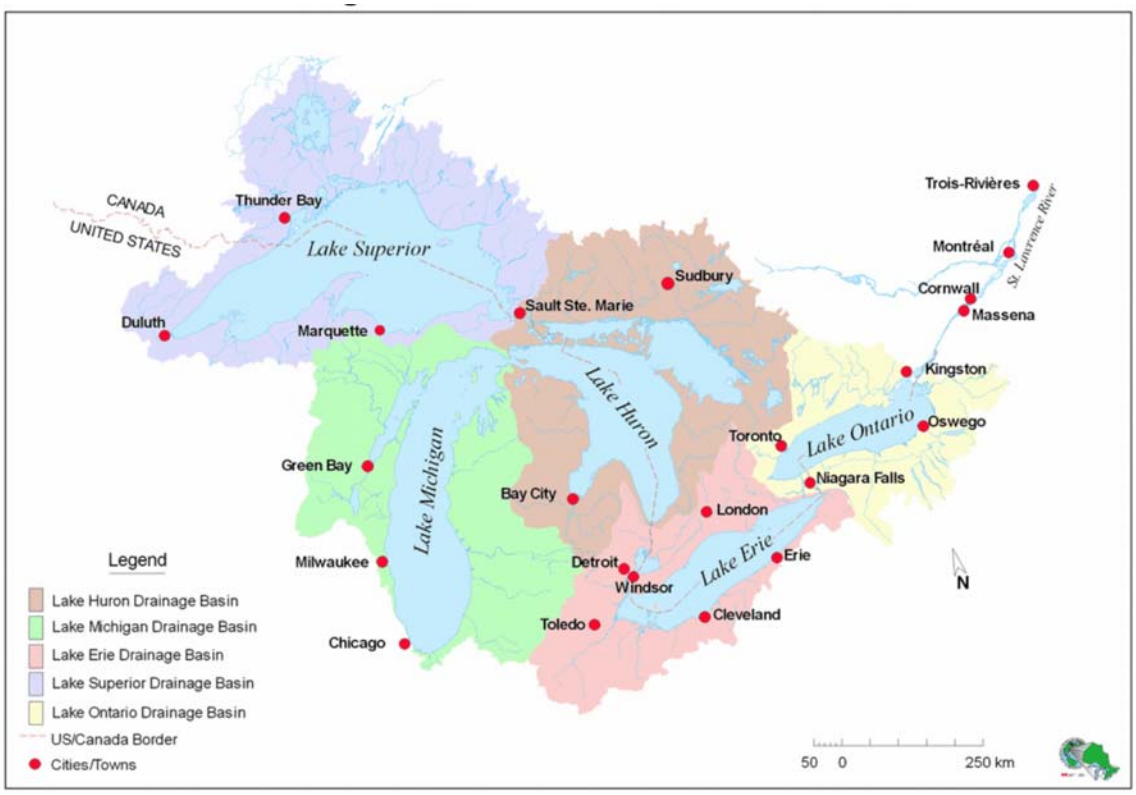



**Figure 2 Map of Lake Ontario-St. Lawrence River System**

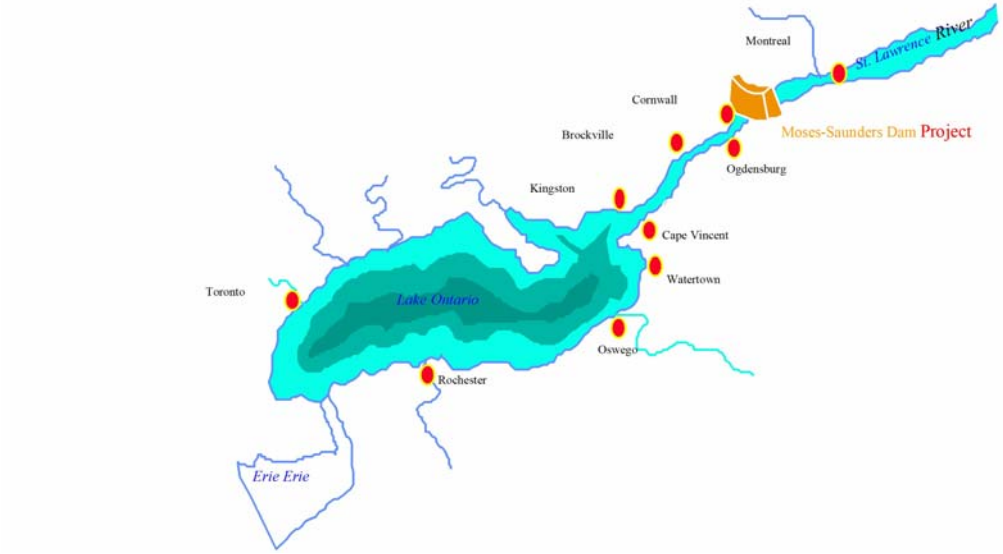


Figure 3 Map of Upper St. Lawrence River Control Structures

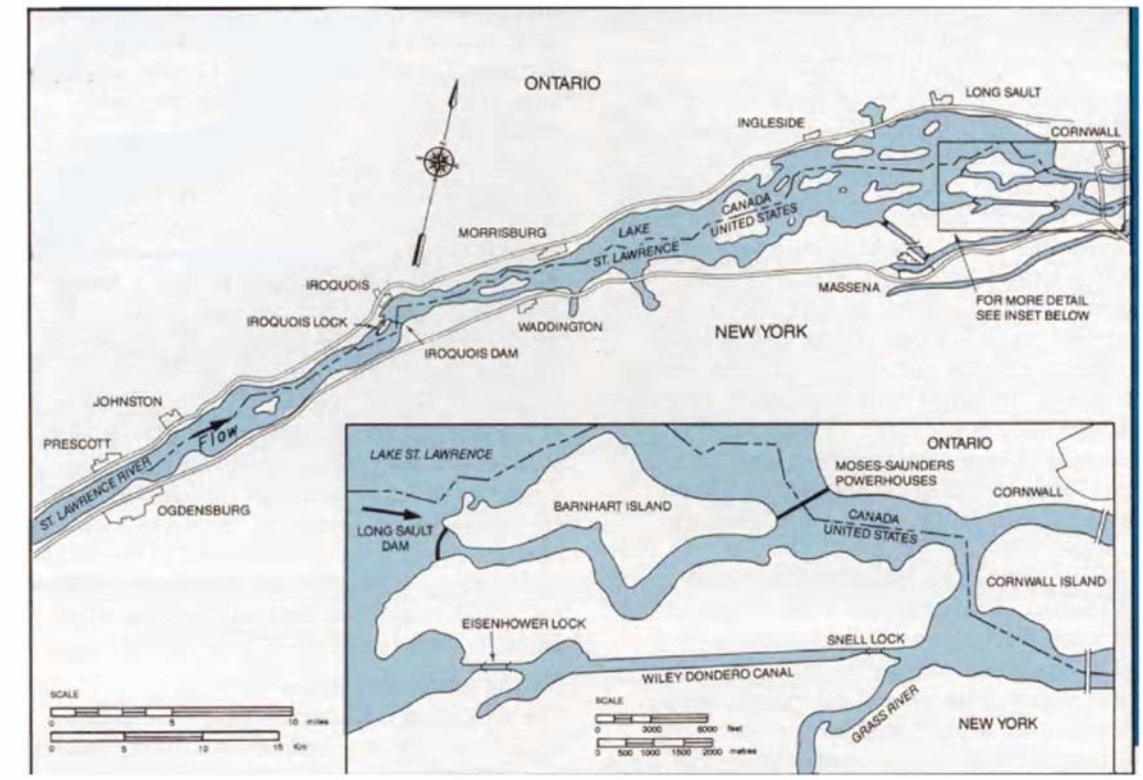
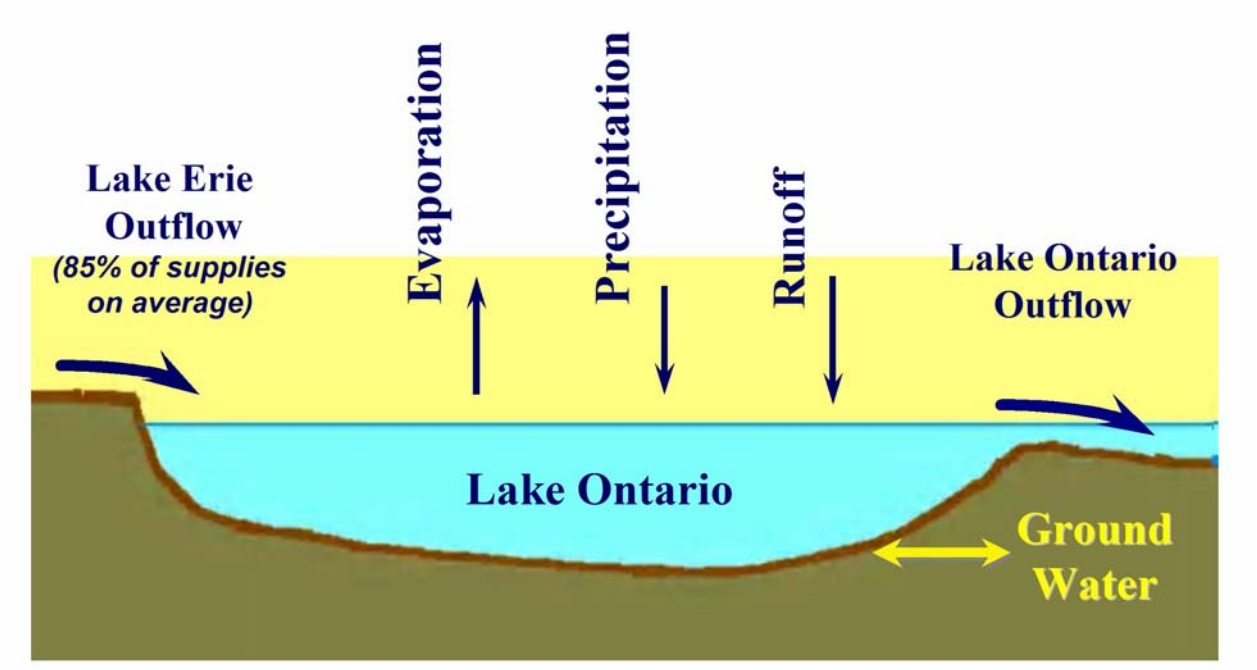



Figure 4 Factors Affecting the Level of Lake Ontario



# 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, except during February. 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 2006 and the net basin supplies for this reporting period. Also shown, for comparison purposes, are the monthly net basin supplies for the years 2005 and 2006. 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 November and February. The total amount of precipitation in the six-month reporting period was 510 mm (20.1 in.), which was 116 % of average. Total precipitation for the entire Great Lakes basin for the six-month period was 400 mm (15.7 in.), which was 104 % percent of average.

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

| Month | Inflow from Lake Erie | | | | Local Net Basin Supplies | | | | Total Supplies | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $m^3/s$ | tcfs | Exceed Prob.(1) | % of LTA (2) | $m^3/s$ | tcfs | Exceed Prob.(1) | % of LTA (2) | $m^3/s$ | tcfs | Exceed Prob. (1) | % of LTA (2) |
| Sep 06 | 5740 | 203 | 60 | 97 | 840 | 30 | 7 | 560 | 6580 | 232 | 23 | 109 |
| Oct 06 | 6030 | 213 | 36 | 104 | 1640 | 58 | 1 | 713 | 7670 | 271 | 5 | 127 |
| Nov 06 | 5820 | 206 | 50 | 100 | 2200 | 78 | 1 | 344 | 8020 | 283 | 7 | 124 |
| Dec 06 | 6270 | 221 | 22 | 108 | 2160 | 76 | 3 | 263 | 8430 | 298 | 7 | 127 |
| Jan 07 | 6500 | 230 | 11 | 115 | 1850 | 65 | 10 | 189 | 8350 | 295 | 8 | 126 |
| Feb 07 | 5830 | 206 | 34 | 105 | 290 | 10 | 93 | 27 | 6120 | 216 | 67 | 93 |

(1) Based on period of record 1900-2005
(2) Based on period of record 1900-2006

Figure 5 Net Basin Supply to Lake Ontario

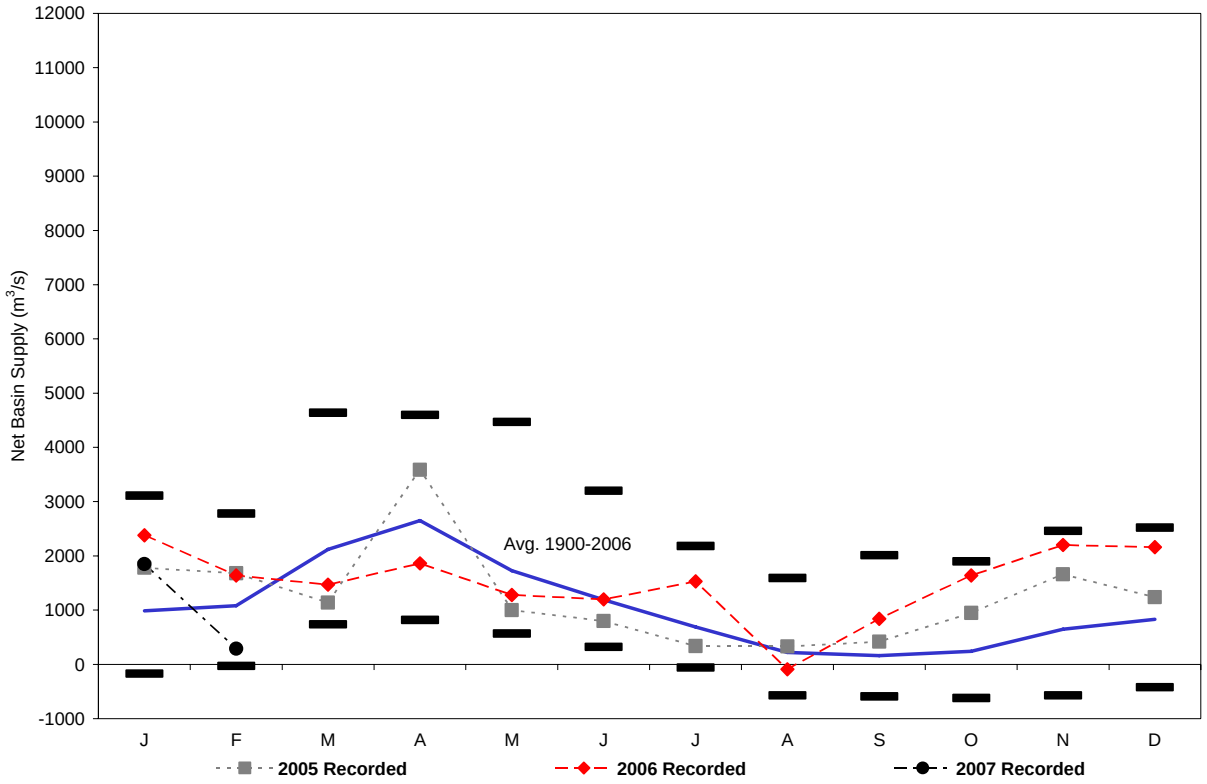
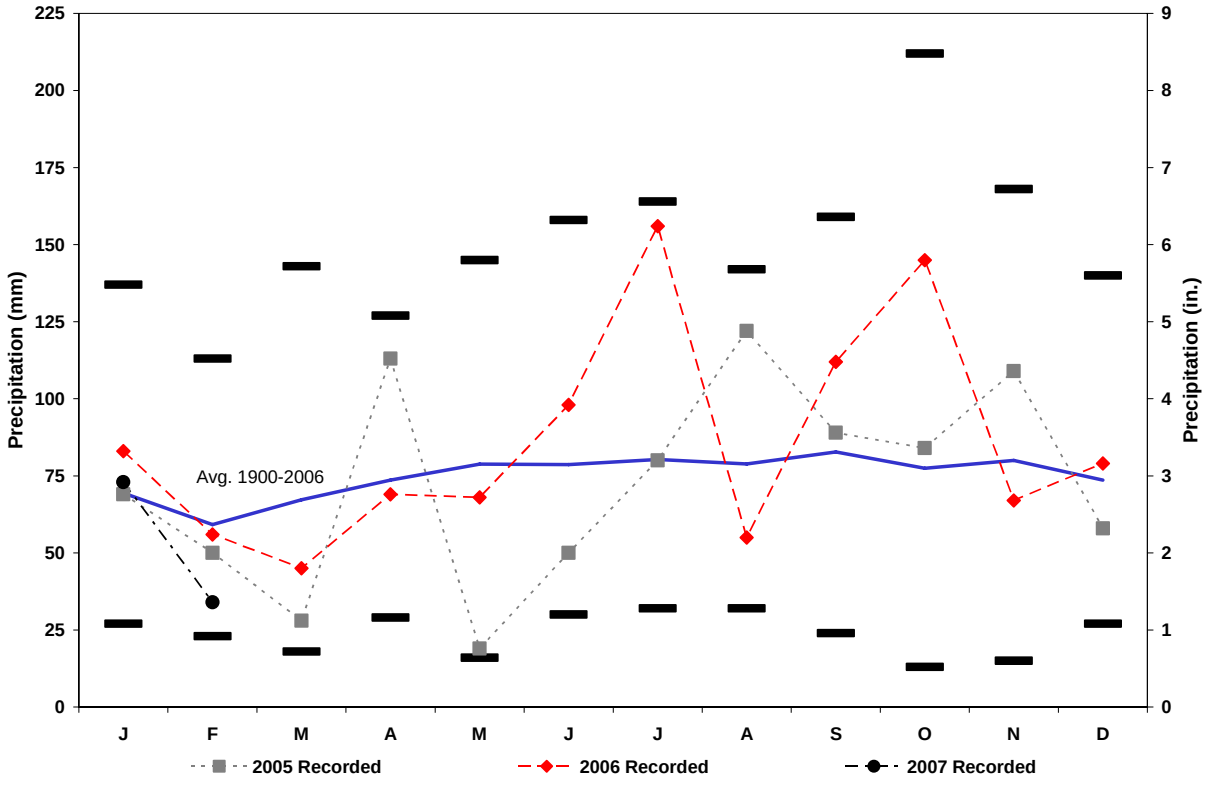



**Table 2 Provisional Precipitation Over the Great Lakes and Lake Ontario Basins**

| Month | Great Lakes Basin | | | Lake Ontario Basin | | |
|---|---|---|---|---|---|---|
| | mm (inches) | % of LTA[1] | Exceed. Prob.[2] | mm (inches) | % of LTA[1] | Exceed. Prob.[2] |
| Sep 06 | 90 (3.56) | 105 | 40 | 112 (4.41) | 135 | 16 |
| Oct 06 | 106 (4.19) | 145 | 8 | 145 (5.71) | 186 | 4 |
| Nov 06 | 54 (2.14) | 77 | 80 | 67 (2.63) | 84 | 66 |
| Dec 06 | 72 (2.83) | 122 | 20 | 79 (3.11) | 107 | 36 |
| Jan 07 | 48 (1.90) | 86 | 68 | 73 (2.88) | 106 | 41 |
| Feb 07 | 31 (1.22) | 69 | 82 | 34 (1.35) | 58 | 91 |

(1) Based on period of record 1900-2006
(2) Based on period of record 1900-1999

Figure 6 Precipitation over Lake Ontario Basin



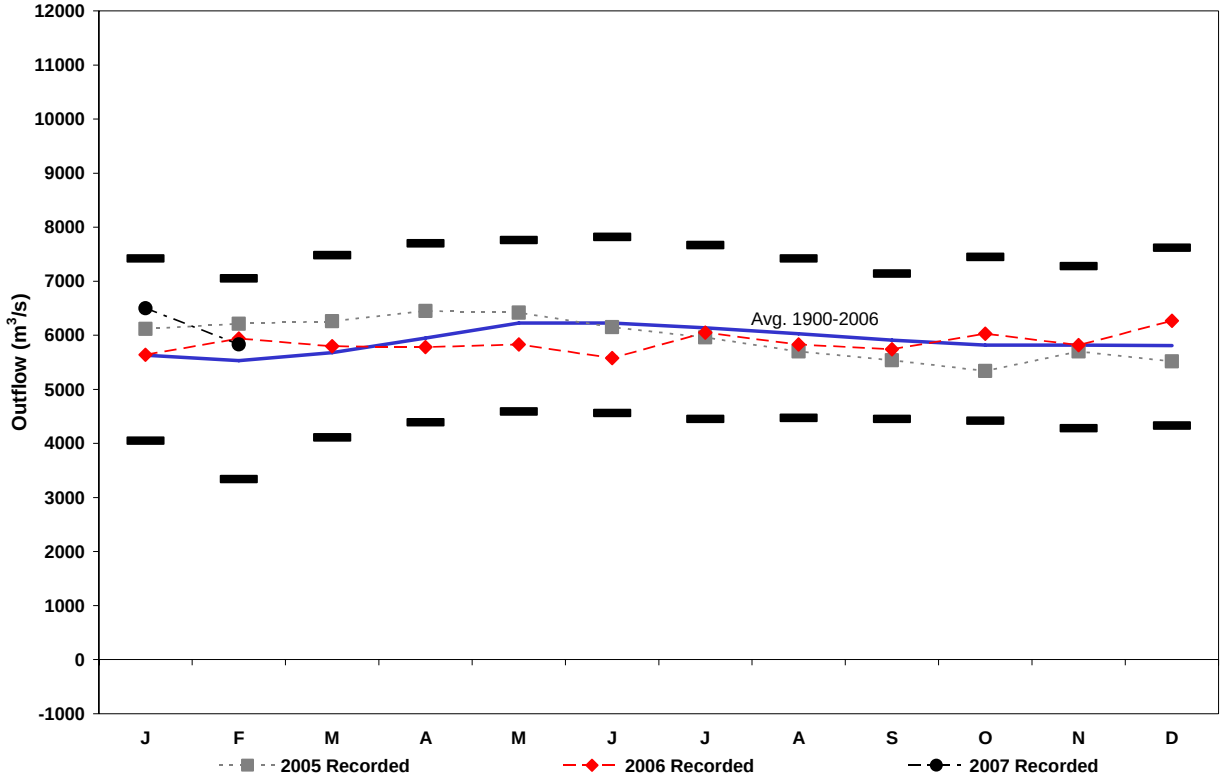

### 1.1.2 Snow-pack on the Lake Ontario Basin

Based on limited information, the water content of the Lake Ontario basin snowpack during the first part of March was estimated as being below average. This made it difficult to estimate the volume of spring runoff. Mild weather in late March resulted in snowmelt and a slight rise in the Lake Ontario level. Based on available data, the snowmelt may be less than average for the Ottawa River 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 above average the last five months of the reporting period, its flow to Lake Ontario was also above average.

**Figure 7 Supply from Lake Erie (Niagara River Flow)**




## 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 1997 through 2007 are provided in Table 3 and Figure 9 for comparison purposes. The monthly net total supplies were above average throughout the reporting period, except for February. The above average supplies were primarily due to well above average precipitation and runoff on the local basin. Overall, the total supply was 118 % of average during this reporting period, and the highest supplies since 1997-98.

## 1.4 Ottawa River Basin

During the reporting period, Ottawa River outflows were generally well above average and higher than those of last year. Snow pack on the Ottawa River basin in early March was below average.

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

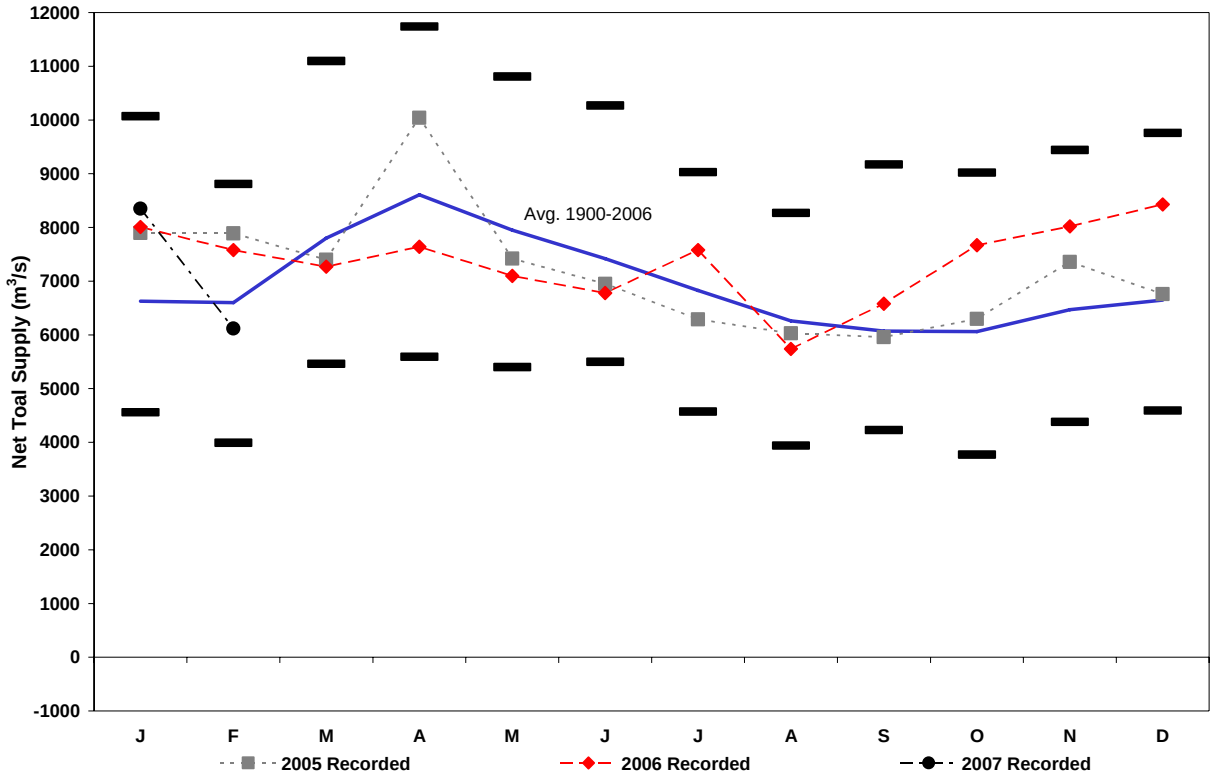
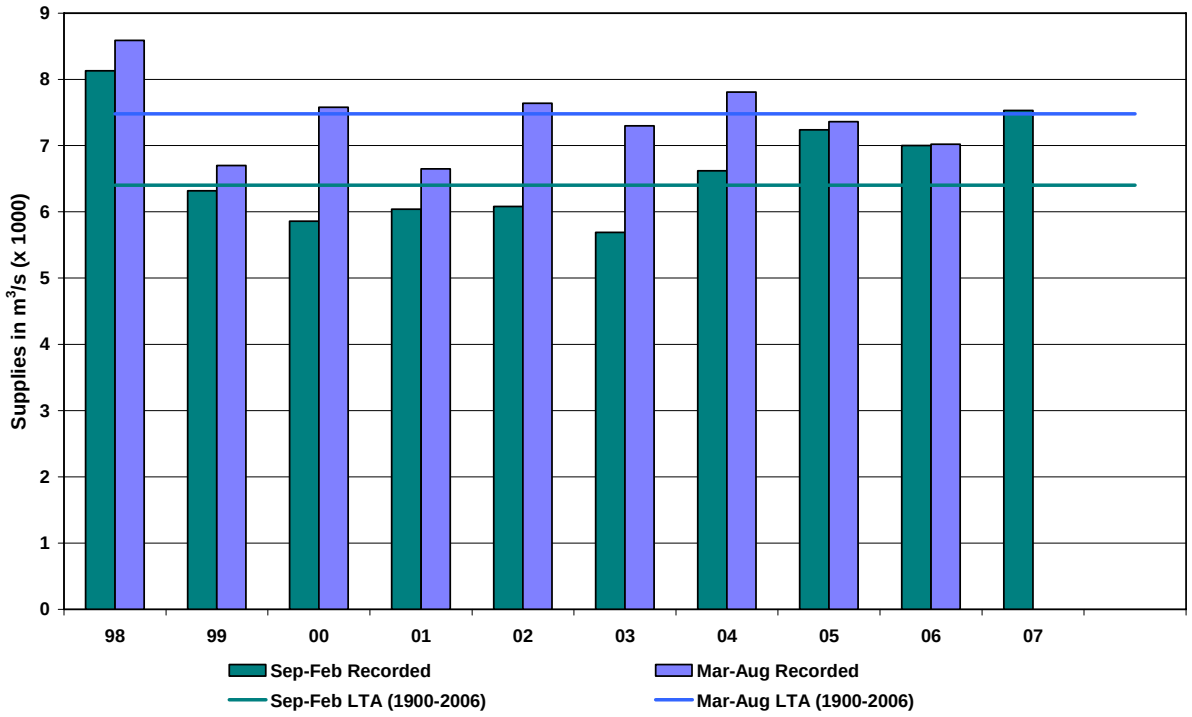



**Table 3 Average and Recorded Six-Month Supplies (Sep-Feb)**

| | Long-Term Average (1) | | Recorded | | | Recorded Below (-) or Above Average (+) | | |
|---|---|---|---|---|---|---|---|---|
| | ($m^3$/s) | (tcfs) | ($m^3$/s) | (tcfs) | Exceed. Prob. (1) | ($m^3$/s) | (tcfs) | Percent |
| Sep 97 - Feb 98 | 6400 | 226 | 8130 | 287 | 3 | 1730 | 61 | 27 |
| Sep 98 - Feb 99 | 6400 | 226 | 6320 | 223 | 51 | -80 | -3 | -1 |
| Sep 99 - Feb 00 | 6400 | 226 | 5860 | 207 | 72 | -540 | -19 | -8 |
| Sep 00 - Feb 01 | 6400 | 226 | 6040 | 213 | 64 | -360 | -13 | -6 |
| Sep 01 - Feb 02 | 6400 | 226 | 6080 | 215 | 62 | -320 | -11 | -5 |
| Sep 02 - Feb 03 | 6400 | 226 | 5690 | 201 | 78 | -710 | -25 | -11 |
| Sep 03 – Feb 04 | 6400 | 226 | 6620 | 234 | 38 | 220 | 8 | 3 |
| Sep 04 – Feb 05 | 6400 | 226 | 7240 | 256 | 17 | 840 | 30 | 13 |
| Sep 05 – Feb 06 | 6400 | 226 | 7000 | 247 | 24 | 600 | 21 | 9 |
| Sep 06 – Feb 07 | 6400 | 226 | 7530 | 266 | 11 | 1130 | 40 | 18 |

(1) Based on period of record 1900-2006

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




## 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 and the St. Lawrence River 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, recommend an outflow for the week to the Government representatives responsible to 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 responsive to changing conditions and the needs of interests, the Board held 5 monthly teleconferences and 2 meetings that reviewed conditions in the Great Lakes-St. Lawrence River system, developed short-term and long-term outflow strategies, and ensured 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 21 to 25 of this report. In summary, the Board released outflows higher than those prescribed by Plan 1958-D from late December to early March. The accumulated deviations went from a net storage of 4.6 cm (1.8 in) at the beginning of the reporting period to a net overdischarge of 22.4 cm (8.8 in) at the end of the reporting period. Figure 10 shows the Lake Ontario outflows for the reporting period. In general, outflows increased in response to the high water supplies and the increased potential of violating the Criterion (h) level.

### 2.2.1 Deviations from Regulation Plan 1958-D

Figure 11 and Table 4 summarize the Board's discretionary deviations during the reporting period. On September 28, accumulated deviations carried forward into the reporting period amounted to 4.6 cm (1.8 in.) conserved on Lake Ontario. Outflows were decreased from December 2 to 5 to reduce high levels on Lake St. Louis. The Board moderated the Regulation Plan's prescribed flow reductions by decreasing flows gradually over several weeks starting December 16. This series of over-discharges removed the remaining storage of water from Lake Ontario (relative to Plan 1958-D).

With very high supplies and mild temperatures, as well as the increasing risk of exceeding Criterion(h), the Board then initiated an aggressive campaign of over-discharges to remove as much water from Lake Ontario as possible prior to (and following) freezeup. By January 25, 13.8 cm (5.4 in.) of water had been removed. To assist in formation of a stable, secure ice cover, a series of flow reductions were undertaken. Between January 25 and February 3, flows were still above plan; between February 3 and 11, flows were less than plan. Outflows were then increased slowly in order to once again remove as much water as possible from the Lake. This was assisted by deferred maintenance of the Power Entities. Ice conditions were monitored carefully to ensure the increased flows did not create problems. By March 12, 22.8 cm (9.0 in.) of water had been removed from the Lake relative to Plan. With the risk of exceeding the upper regulation limit greatly diminished, outflows returned to those prescribed by Plan 1958-D on March 13. The outflow was reduced below the plan flow on March 20 and 21 in order to raise the level of Lake St. Lawrence to the minimum level required for safe transit of ships in the Seaway. This was necessary due to the effects of ice restrictions in the international section of the river on the levels of Lake St. Lawrence.

Figure 10 Lake Ontario Daily Outflows

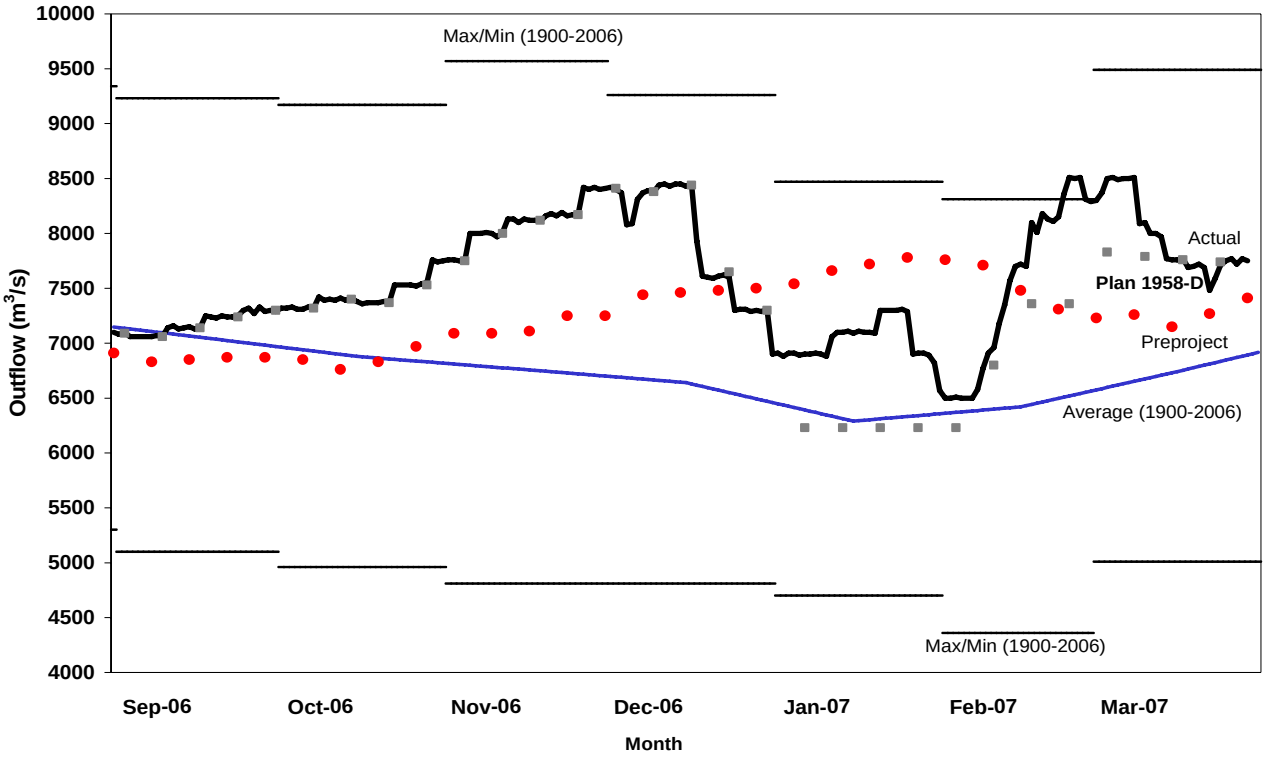



**Figure 11 - Accumulated Outflow Deviations and Effect on Lake Ontario**

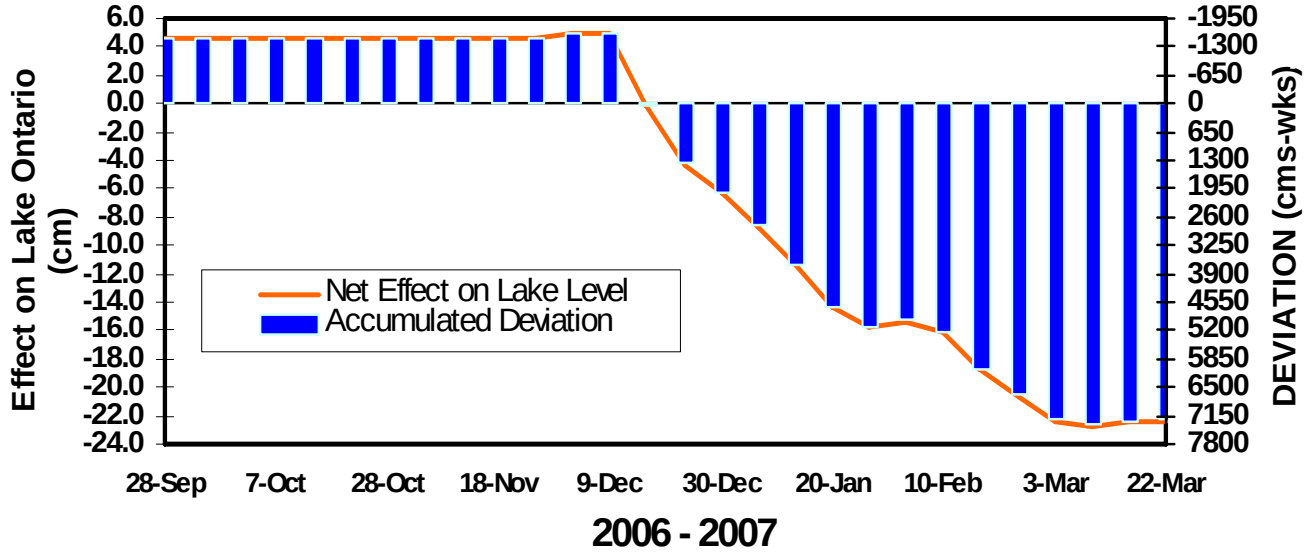


**Table 4 Summary of Outflow Deviations from Regulation Plan 1958-D Flow**

| Date 2006-2007 | Deviation | Deviation (cms-weeks) | Accum. Deviation rounded (cms-weeks) | Cumulative Effect on Lake Ont. rounded (cm) | Reason for Deviation |
|---|---|---|---|---|---|
| Sep 28 | | | **-1500** | **4.6** | |
| Dec 2-4 | -300 cms for 49 hrs | **-88** | | | Pt. Claire nearing Flood Stage |
| Dec 5 | -150 cms for 13 hrs | **-12** | **-1600** | **5.0** | Pt. Claire levels declining |
| Dec 16-22 | 1630 cms for 168 hrs | **1630** | **30** | **-0.1** | To smooth the flows transition |
| Dec 23-29 | 1350 cms for 168 hrs | **1350** | **1380** | **-4.3** | To smooth the flows transition |
| Dec 30-Jan 5 | 670 cms for 168 hrs | **670** | **2050** | **-6.3** | To remove water |
| Jan 6-10 | 670 cms for 102 hrs | **407** | | | To remove water |
| Jan 10-12 | 870 cms for 66 hrs | **342** | **2800** | **-8.7** | High Lake St. Lawrence level |
| Jan 13-18 | 870 cms for 144 hrs | **746** | | | To remove water |
| Jan 19 | 1070 cms for 24 hrs | **153** | **3700** | **-11.5** | To remove water |
| Jan 20-24 | 1070 cms for 120 hrs | **764** | | | To remove water |
| Jan 25-26 | 670 cms for 48 hrs | **191** | **4660** | **-14.4** | Assist in Ice Formation |
| Jan 27-29 | 670 cms for 66 hrs | **263** | | | Assist in Ice Formation |
| Jan 29-30 | 370 cms for 22 hrs | **48** | | | Assist in Ice Formation |
| Jan 30-Feb 2 | 270 cms for 80 hrs | **129** | **5100** | **-15.8** | Assist in Ice Formation |
| Feb 3-6 | -300 cms for 88 hrs | **-157** | | | Assist in Ice Formation |
| Feb 6-7 | -100 cms for 24 hrs | **-14** | | | Assist in Ice Formation |
| Feb 7-9 | 100 cms for 48 hrs | **29** | | | To remove water |
| Feb 9 | 300 cms for 8 hrs | **14** | **4970** | **-15.4** | To remove water |
| Feb 10 | -180 cms for 16 hrs | **-17** | | | To maintain a stable ice cover |
| Feb 10-11 | -70 cms for 24 hrs | **-10** | | | To maintain a stable ice cover |
| Feb 11-12 | 140 cms for 24 hrs | **20** | | | To remove water |
| Feb 12-15 | 330 cms for 80 hrs | **157** | | | To remove water |
| Feb 16 | 740 cms for 24 hrs | **106** | **5230** | **-16.2** | To remove water |
| Feb 17 | 650 cms for 24 hrs | **93** | | | To remove water |
| Feb 18 | 820 cms for 24 hrs | **117** | | | To remove water |
| Feb 19-21 | 770 cms for 64 hrs | **293** | | | To remove water |
| Feb 21-22 | 930 cms for 24 hrs | **133** | | | To remove water |
| Feb 22-23 | 1110 cms for 32 hrs | **211** | **6080** | **-18.8** | To remove water |
| Feb 24-25 | 670 cms for 48 hrs | **191** | | | To remove water |
| Feb 26-Mar 1 | 480 cms for 88 hrs | **251** | | | To remove water |
| Mar 1-2 | 670 cms for 32 hrs | **128** | **6650** | **-20.6** | To remove water |
| Mar 3-7 | 710 cms for 120 hrs | **507** | | | To remove water |
| Mar 8-9 | 310 cms for 48 hrs | **89** | **7250** | **-22.4** | To remove water |
| Mar 10-12 | 240 cms for 72 hrs | **103** | **7350** | **-22.8** | To remove water |
| Mar 17-20 | -40 cms for 96 hrs | **-23** | | | Applicable outflow limit [1] |
| Mar 21-22 | -250 cms for 40 hrs | **-60** | | | Low Lake St. Lawrence |
| Mar 22-23 | -50 cms for 32 hrs | **-10** | **7260** | **-22.5** | Applicable outflow limit [1]. |
| Mar 24-28 | -10 cms for 120 hrs | **-7** | **7250** | **-22.4** | Applicable outflow limit [1]. |

1) Actual level used to determine the L Limit in accordance with the October 1971 addendum to the Operational Guides for Plan 1958-D.

### 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 15. Following passage of the last commercial vessel on December 30, the last 2 booms that cross the navigation waterway were closed on January 5.

Ice formation began in the Beauharnois Canal on January 21 and was completed by February 7 due to well-below average temperatures. The ice cover in the international section of the river, upstream of the Moses-Saunders Dam, began to form on January 28 and progressed upstream the following month. It was essentially completed by February 15. This ice cover began to dissipate in the second week of March. Ice remained on Lake St. Francis and in the Beauharnois Canal at the end of the reporting period.

The opening of the Montreal-Lake Ontario section of the Seaway was on March 21. This was the earliest ever opening and was preceded by opening of the G Boom on March 15 and the A Boom on March 20. The other booms, as well as the remaining portions of Booms A and G, remained in place at the end of the reporting period. No unusual 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 not operated during the reporting period.

## 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 2005, 2006, and 2007 to the end of the reporting period are shown. During the reporting period, levels started slightly above long-term average, and then rose from mid-October to the end of January in response to the continued high water supplies. At the beginning of February, the level was about 29 cm (11.4 in) above the long-term average, the highest departure from average for that time of year since 1998. In response to reduced water supplies and the Board's regulation strategy of maximizing outflows, the level then declined fairly rapidly. The level rose in response to the melting snowpack and ended the reporting period at 74.90 m (245.73 ft), about 14 cm (5.5 in) above average.

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 23 cm (0.75 ft.) 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.

Lake St. Lawrence

During the reporting period, the water levels of Lake St. Lawrence started the reporting period above average, and then fluctuated around average until mid-December (Figure 14). The levels then rose sharply due to high Lake Ontario levels and the lack of an ice cover. Levels in January and early February were above the previous record monthly averages. A new record maximum monthly average level was set in January 2007. After the ice cover formed and the Board maximized outflows, the level then dropped sharply. By the opening of navigation on March 21, significant ice restrictions still remained and the level of Lake St Lawrence had not yet recovered to that required for full draft Seaway navigation. The Board

agreed to a Seaway requested flow reduction on March 21 and 22 to raise the levels of Lake St Lawrence to that required for safe ship transits. By March 22 the ice had dissipated sufficiently and the levels recovered such that flow was returned to the operational plan flow.

Figure 12 Water Level on Lake Ontario

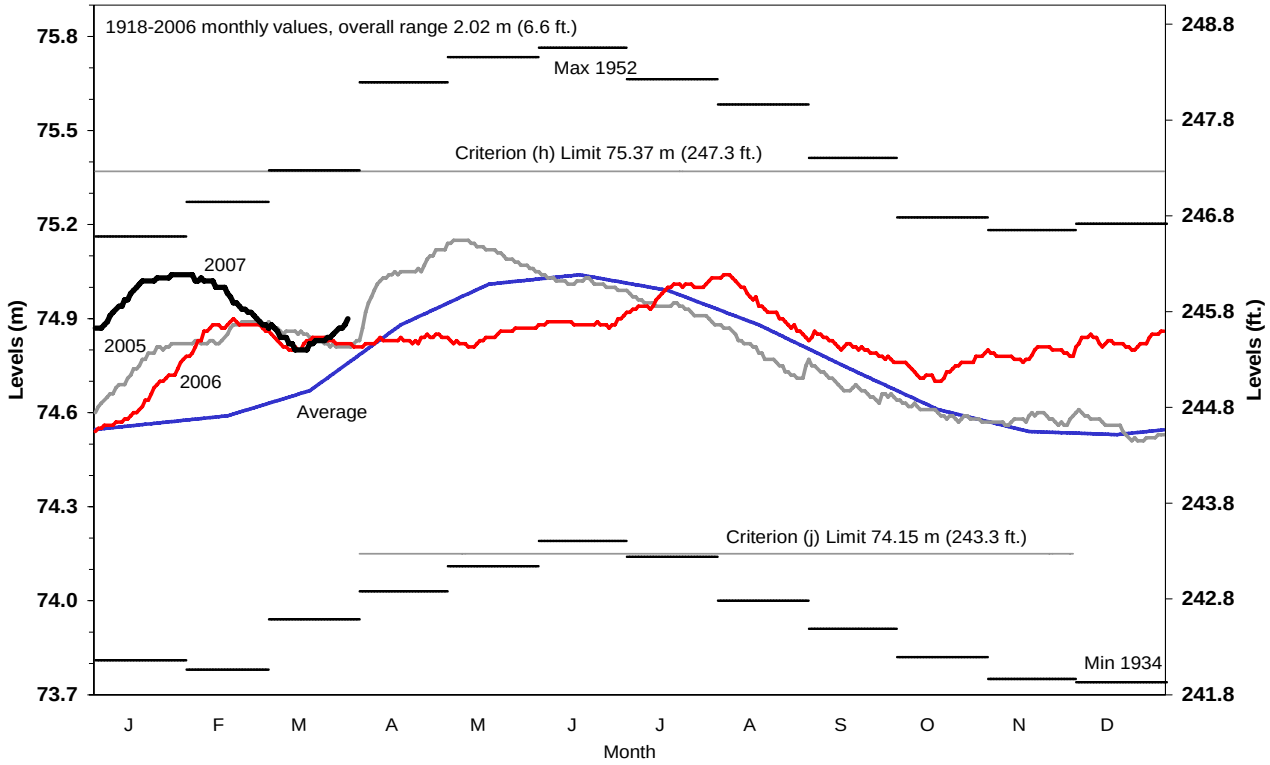



Table 5 - LAKE ONTARIO RECORDED AND PRE-PROJECT LEVELS AND OUTFLOWS

| Month | Lake Ontario Monthly Mean Water Levels (IGLD 1985) - meters (feet) | | | Lake Ontario Monthly Mean Outflow $m^3/s$ (tcfs) | | |
|---|---|---|---|---|---|---|
| | Recorded | Pre-project | Diff. | Recorded | Pre-project | Diff. |
| Sep 06 | 74.81 (245.44) | 74.87 (245.63) | -0.06 (-0.19) | 7190 (254) | 6860 (242) | 330 (12) |
| Oct 06 | 74.74 (245.21) | 74.89 (245.70) | -0.15 (-0.49) | 7450 (263) | 6900 (244) | 550 (19) |
| Nov 06 | 74.79 (245.37) | 75.03 (246.16) | -0.24 (-0.79) | 8120 (287) | 7180 (254) | 940 (33) |
| Dec 06 | 74.83 (245.50) | 75.18 (246.65) | -0.35 (-1.15) | 7870 (278) | 7480 (264) | 390 (14) |
| Jan 07 | 74.98 (245.99) | 75.30 (247.04) | -0.32 (-1.05) | 7010 (248) | 7710 (272) | -700 (-25) |
| Feb 07 | 74.97 (245.96) | 75.23 (246.81) | -0.26 (-0.85) | 7590 (268) | 7430 (262) | 160 (6) |

Figure 13 Lake Ontario Actual, Preproject & Plan Levels

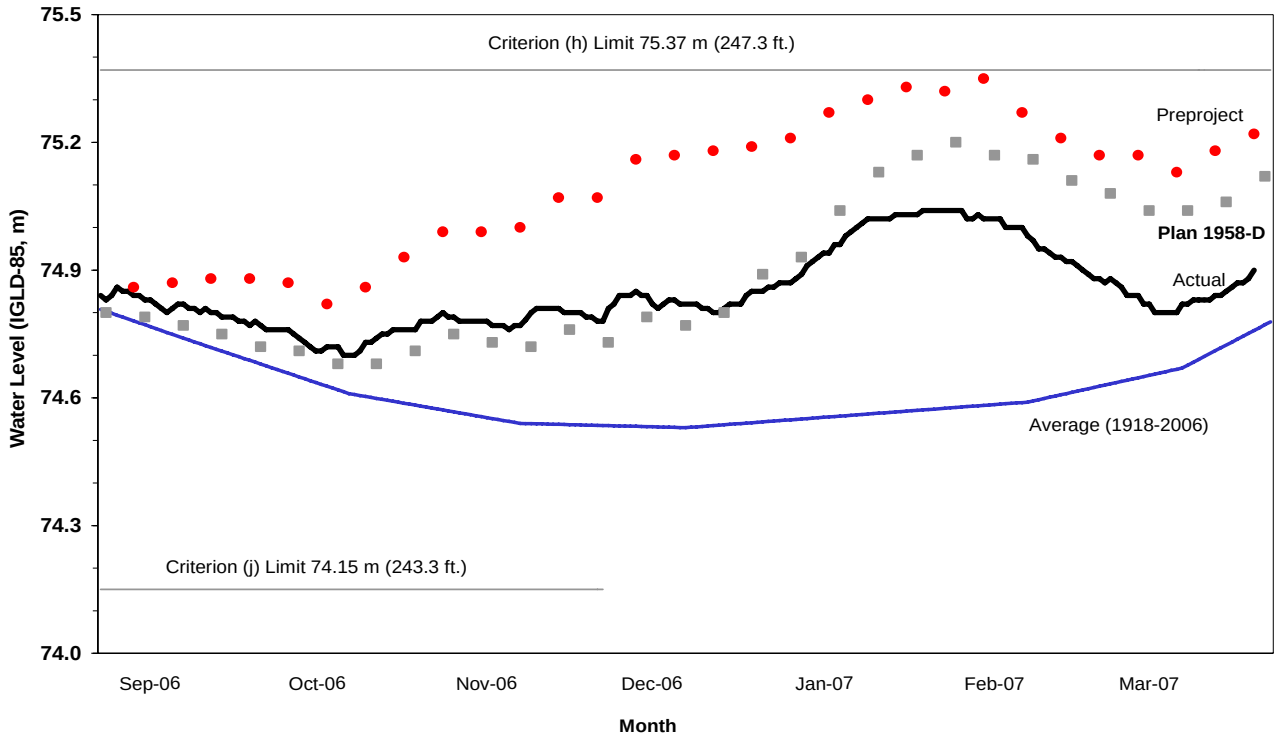
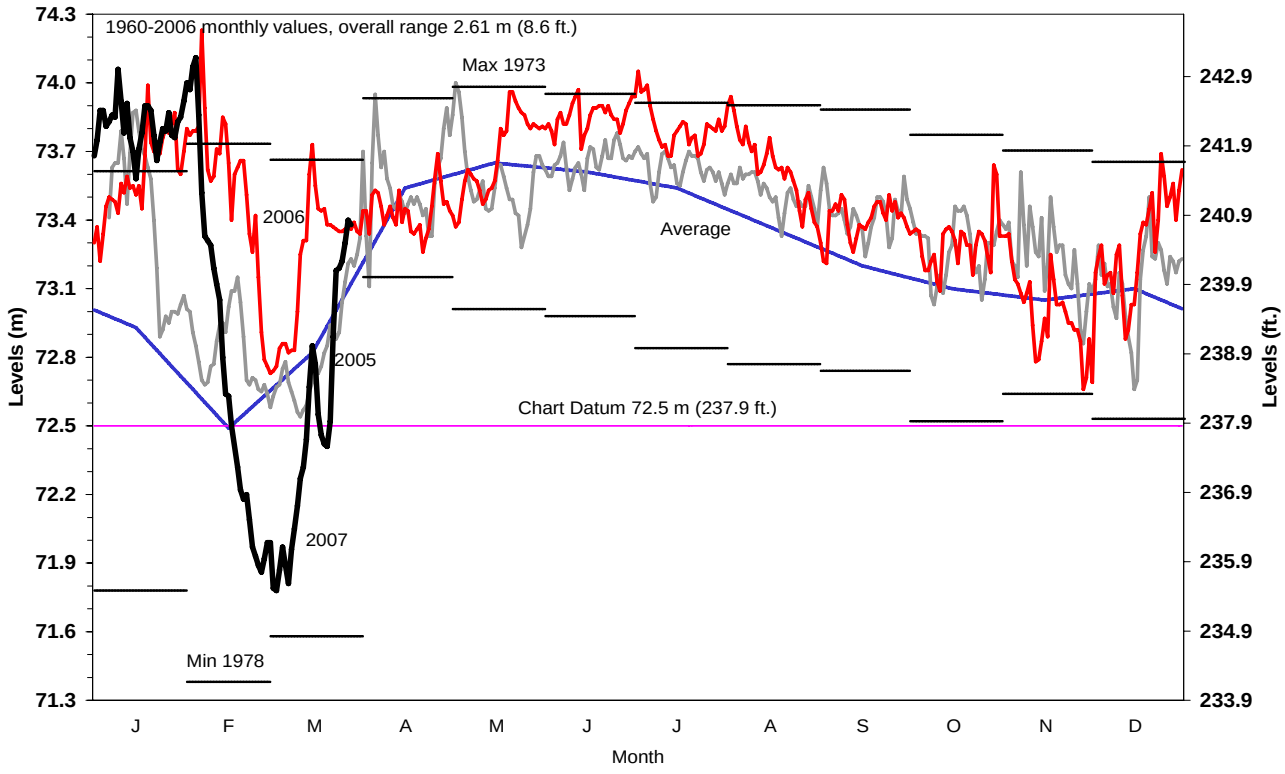



Figure 14 Water Level on Lake St. Lawrence (at Long Sault Dam)



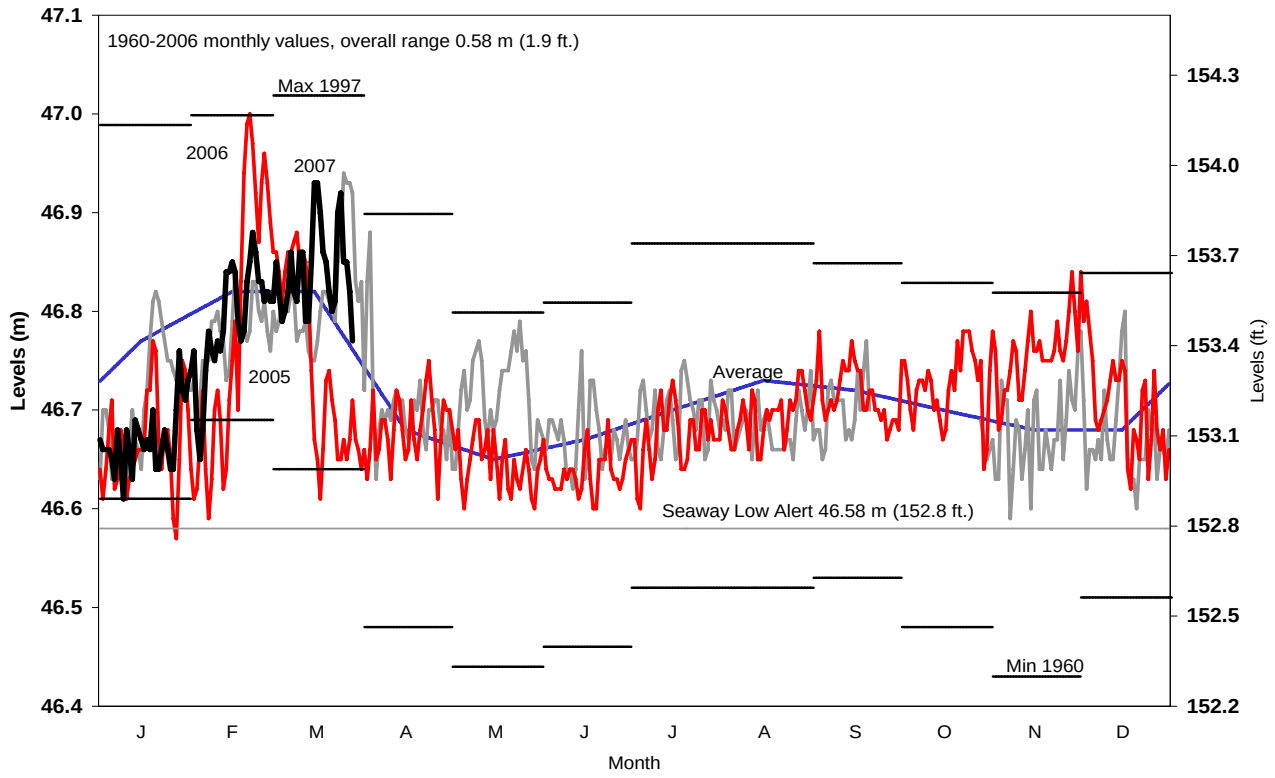
### 2.3.2 Downstream

The release of water above that specified by the regulation plan in order to lower Lake Ontario did not result in any known problems with regard to downstream levels. All levels downstream generally 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 of Lake St. Francis 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 started the reporting period generally above average, declined to below average in December, and remained below average until February (Figure 15). Levels were above the Seaway Low Alert level at all times during the reporting period.

Figure 15 Water Level on Lake St. Francis (at Summerstown)



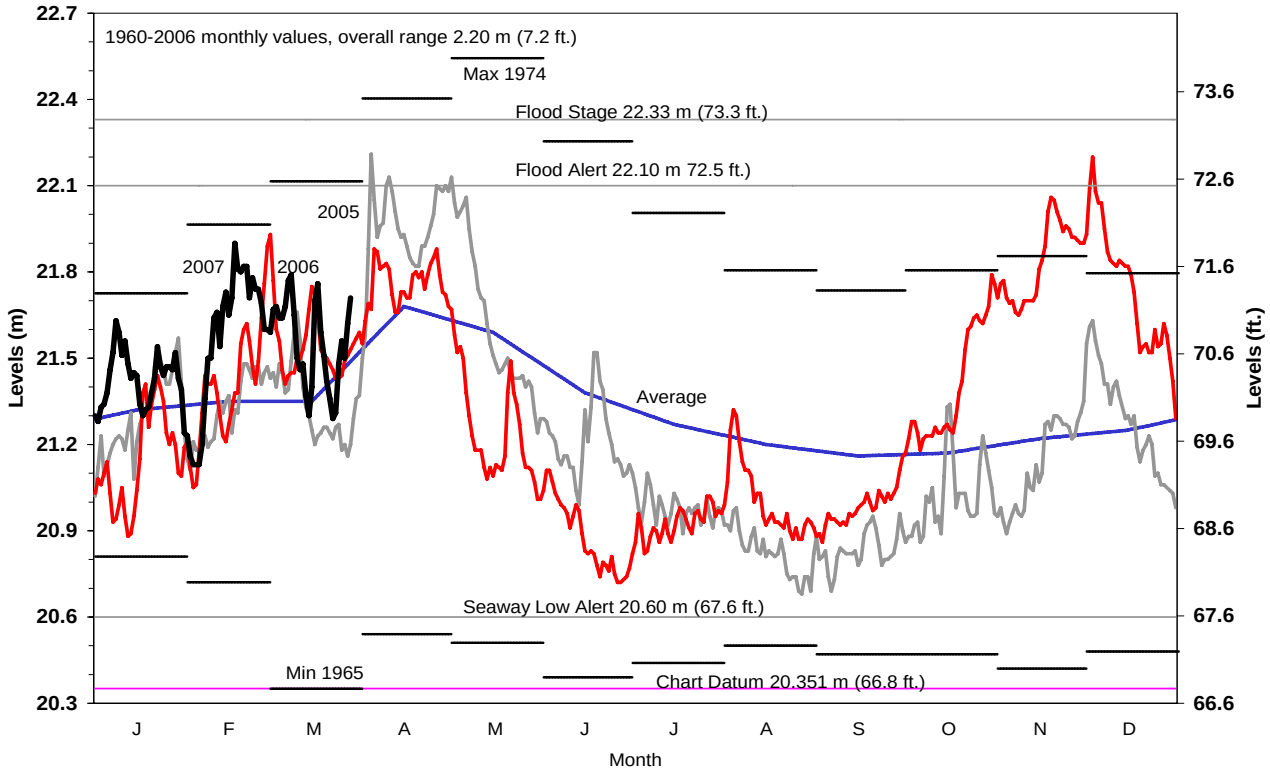

Lake St. Louis

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 (Figure 16) were generally above average (based on the period 1960 through 2006) throughout the reporting period. November and December monthly average levels came close to establishing new record highs. Levels rose above the flood alert level of 22.10 m (72.5 ft) on December 3, but quickly fell below in response to a series of Lake Ontario outflow reductions. The levels were briefly below average in February (due to lack of an ice cover). 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 (Figure 17) generally remained above average, except for fluctuating about average in January and February. Levels in November and December were close to establishing new record high monthly averages. Levels at the Port remained above chart datum throughout the reporting period.

Figure 16 Water Level on Lake St. Louis (at Pointe-Claire)

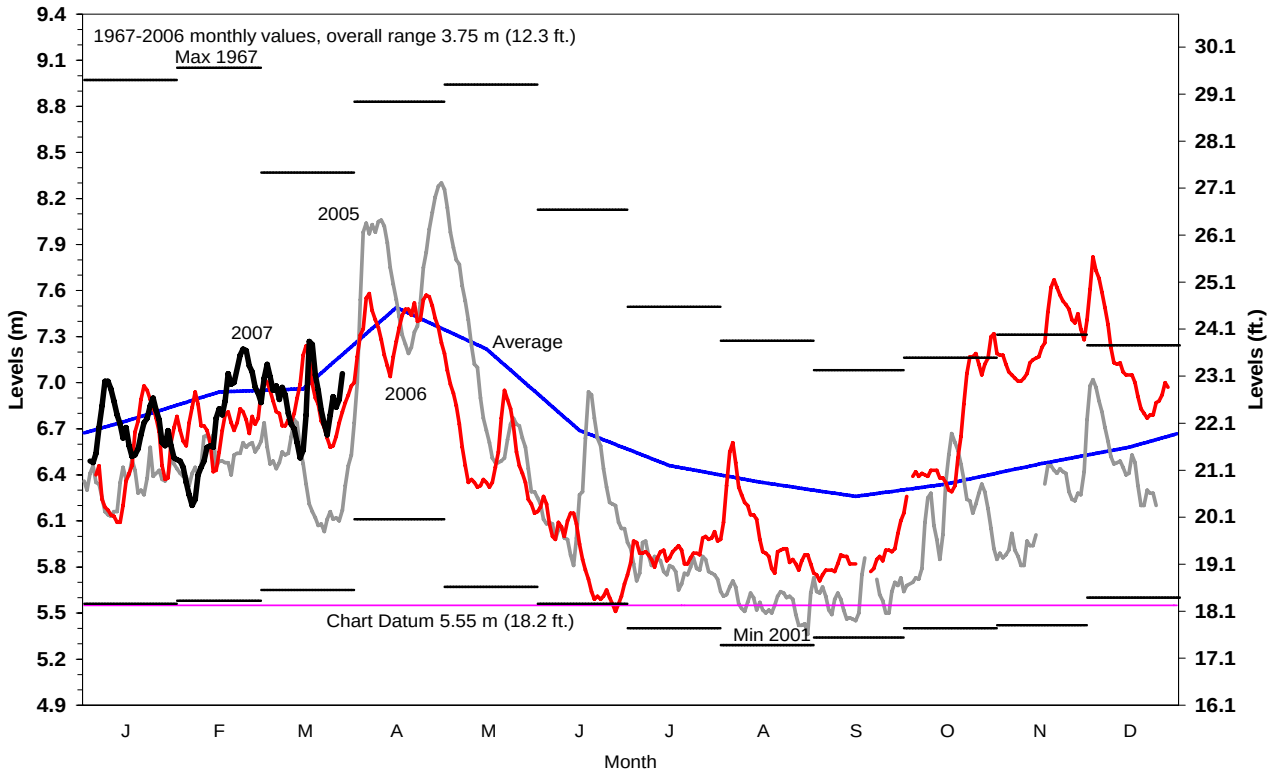



## 3 BOARD ACTIVITIES

### 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 conditions 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 10 to 19, 2006 and worked to clear a backlog of annual reports on water levels and attend to several gauge operation and maintenance issues.

Figure 17 Water Level in the Port of Montreal (at Jetty #1)




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 18 in Ottawa, and March 27-28 in Detroit. Board teleconferences were held during November, December, January, February and March to determine regulation strategy. Table 6 provides a list of Board Members in attendance at these meetings and teleconferences.

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

The Board held a public teleconference on March 20 to inform the public on conditions (recent, forecast) and Board activities, as well as to receive public input about local conditions and concerns related to water levels and flows in Lake Ontario and the St. Lawrence River. The city locations were Rochester (8 public attendees) and Dorval (Montreal, 4 public attendees). The Board again allowed the public to participate by telephone and provided access to presentation materials ahead of time. About 29 members of the public called in (26 English-, 3 French-speaking). Several attendees represented larger groups. The Board heard comments on the regulation strategy, local conditions, and received questions regarding the new regulation plan. The next public teleconference is scheduled for September 18, 2007, with on-site meetings at Oswego and Cornwall.

The Board has scheduled its annual meeting with the public for June 19, 2007 in the Brockville, Ontario, area. 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 Committee is preparing a list of "plain language materials" to be developed and used in a variety of ways.

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 128 e-mail subscribers. Stakeholders are encouraged to subscribe to this free service.

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.

At its meeting in Detroit, the Board saw a Powerpoint presentation by the Ottawa River Regulation Planning Board that describes that Board and how the Ottawa system works. The Board agreed it would be useful to develop a similar presentation.

## 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. 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 67th (2003) and 68th (2004) draft reports were reviewed by the Committee members and associates and submitted to the Board on March 27. The finalized reports are expected to be submitted to the Board in the near future. It is anticipated that the 69th (2005) draft report will be submitted to the Committee members and associates in 2007.

A report reviewing the origin and confirming the Committee's terms of reference and conditions was completed by Mr. Metcalfe and submitted to the Board in March. A list of 10 recommendations, focusing on gauge monitoring and Committee reporting, was included. These were referred to the Committee for a response.

### 5.1 Raisin River

The Raisin River Diversion was opened on July 20 and was closed on October 4. The diverted outflow was minimal and averaged less than a cubic foot per second (about 0.01 – 0.03 $m^3/s$). The diversion channel remains severely overgrown, which restricts the amount of water diverted.

### 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 10 to 19, 2006 and worked to clear a backlog of annual reports on water levels and attend to several gauge operation and maintenance issues.

### 5.3 Turbine Upgrades

Moses Unit 30 was removed from service for upgrade to an Alstom turbine on May 1, 2006 and returned to service on November 29, 2006. Unit 27 was removed from service for a similar upgrade on February 1, 2007 and is expected to return to service in October. Flows through the upgraded units are calculated using an Interim Rating Table. A final rating table is expected to be reviewed by the Board later this year.

## 6 ST. LAWRENCE SEAWAY REPORT

Navigation ceased in the Montreal-Lake Ontario Section with the passage of the last downbound commercial vessel, the "M/V Kathryn Spirit" through Snell Lock on December 29 and St. Lambert Lock on December 30. The last upbound vessel, the "M/V Voyageur Independent" cleared Cape Vincent on December 29.

The Seaway navigation season opened on March 21 with the upbound passage of the vessel "M/V Atlantic Erie" through the St. Lambert Lock. This was the earliest opening of the Seaway. The first downbound vessel,the "M/V Frontenac" cleared Eisenhower Lock on March 24.

The Seaway reported no problems related to water levels or ice during the shipping season.

## 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. In October 2005 the IJC renewed the approval for peaking and ponding for a 2-year period.

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

## 8 BOARD AND COMMITTEE MEMBERSHIP CHANGES

Board Members Jim Bernier, Bob Metcalfe, and Frank Sciremammano had their appointments renewed for a year (through February 2008), or until the Commission makes changes pursuant to the Lake Ontario St. Lawrence River Study, whichever comes first. There is a vacancy on each section of the Board.

**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** |

**Table 6**

**Attendance at Meetings and Teleconferences (September 23, 2006 - March 28, 2007)**

| Board Member | Country | Oct. 18 Mtg.. | Nov 8 T. Conf. | Dec. 13 T. Conf | Jan. 10 T. Conf. | Feb. 14 T. Conf. | Mar. 14 T. Conf | Mar. 27-28 Mtg. |
|---|---|---|---|---|---|---|---|---|
| BG Bruce A. Berwick [1] | U.S. | | | | | | | |
| Mr. J. Bernier | U.S. | X | X | X | | | X | X |
| Mr. A. Carpentier | Can. | X | X | X | X | X | X | X |
| COL J. Drolet [2] | U.S. | X | X | X | X | X | | |
| Dr. T. Hullar | U.S. | X | X | | | X | X | X |
| Mr. J. Lorquet [3] | Can. | X | X | X | X | | | |
| Mr. R. P. Metcalfe | Can. | X | X | X | X | X | | X |
| Dr. F. Sciremammano, Jr. | U.S. | X | X | X | X | 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

**Location of Meetings**:
October 18, 2006, Ottawa, Ontario.
March 27-28, 2007, Detroit, Michigan

## Lake Ontario Outflow Strategy (Released October 2, 2006)

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to continue to follow the outflows called for by Plan 1958-D. The Board has been following Plan 1958-D outflows since March of this year except for small deviations to assist interests with critical needs. Several factors contributed to the current decision to remain on Plan flow.

The total supply of water to the Lake Ontario basin in September was well above average. This slowed the normal rate of decline in the lake level during September. Currently the levels are about 7 cm (2.8 in.) above average. The current levels are well within the mandated range specified in the criteria for the regulation of Lake Ontario levels.

The level of Lake St Lawrence remains above average while water levels downstream in the Montreal area remain somewhat below average. The level at Pointe Claire on Lake St. Louis is not expected to fall to the Seaway 'alert level' (the level at which commercial ships begin to be impacted by low levels) during the next couple of months. The water level in Montreal Harbour is currently around 0.3 m (1.0 ft.) or more above chart datum and is not expected to drop to chart datum in the near future. However, there is a good chance that it will reach datum, at least briefly, before the end of the year.

The forecast for Lake Ontario levels indicates near average levels for the next several months. There is almost no chance this year that Lake Ontario levels will exceed the upper or lower level limits as prescribed in the Orders of Approval for the operation of the system.

Currently, there are 4.6 cm (1.8 in.) of water stored on Lake Ontario. The Board's long-term strategy is to maintain this water to assist with any critical needs later in the year and make other minor deviations from Plan flow to assist with other critical water level situations that may arise.

## Lake Ontario Outflow Strategy (Released October 20, 2006)

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to continue to follow the outflows called for by Plan 1958-D. The Board has been following Plan 1958-D outflows since March of this year except for small deviations to assist interests with critical needs. Several factors contributed to the current decision to remain on Plan flow.

The total supply of water to the Lake Ontario basin in September was well above average. This slowed the normal rate of decline in the lake level during September. Currently the levels are about 9 cm (3.5 in.) above average. The current levels are well within the mandated range specified in the criteria for the regulation of Lake Ontario levels.

The level of Lake St. Lawrence remains above average while water levels downstream in the Montreal area are near average. The level at Pointe Claire on Lake St. Louis is not expected to fall to the Seaway 'alert level' (the level at which commercial ships begin to be impacted by low levels) during the next couple of months. The water level in Montreal Harbour is currently around 1.0 m (3.3 ft.) or more above chart datum and is not expected to drop to chart datum in the near future. However, there is a good chance that it will reach datum, at least briefly, before the end of the year.

The forecast for Lake Ontario levels indicates near average levels for the next several months. There is almost no chance this year that Lake Ontario levels will exceed the upper or lower level limits as prescribed in the Orders of Approval for the operation of the system.

Currently, there are 4.6 cm (1.8 in.) of water stored on Lake Ontario. The Board's long-term strategy is to maintain this water to assist with any critical needs later in the year and make other minor deviations from Plan flow to assist with other critical water level situations that may arise.

## Lake Ontario Outflow Strategy (Released November 14, 2006)

The International St. Lawrence River Board of Control (Board), after a recent review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to continue to follow the outflows called for by Plan 1958-D through mid-December. After mid-December, the Board anticipates some over-discharges during the transition to winter flows. The Board has been following Plan 1958-D outflows since March of this year except for small deviations to manage Lake St. Lawrence levels.

The regulation plan will likely specify sharply reduced flows the second half of December to assist with ice formation. Unless ice is actually forming, the Board intends to moderate the flow reduction by decreasing flows gradually over two or three weeks. This will moderate Lake St. Lawrence and downstream river level fluctuations, provide more consistent levels for navigation, and more efficiently use the water for hydropower production. The actual rate of outflow decline will depend on conditions between now and late December. Overall, this will result in outflows greater than those specified by Plan 1958-D during the transition and is expected to reduce the amount of water retained on Lake Ontario. There are 4.6 cm (1.8 in.) of water on the lake relative to what the level would be if the Plan had been strictly followed. The Board strategy also provides for minor deviations from Plan flow to assist with unforeseen critical water level situations.

The total supply of water to Lake Ontario in October was well above average, causing the lake to rise by 4 cm (1.6 in.). This was the second consecutive month of wet conditions. The regulation plan has responded with successive weeks of flow increases resulting in the highest outflows for this time of year since 1997. Currently the Lake Ontario levels are about 59 cm (23 in.) below the upper limit, about 63 cm (25 in.) above the lower limit, and 23 cm (9 in.) above long-term average. The regulation plan does not target average levels; rather, it responds to supplies to keep the levels within the upper and lower limits established by the IJC. The current levels are well within their mandated range.

The level of Lake St. Lawrence remains near average. The level at Pointe Claire on Lake St. Louis is not expected to fall to the Seaway 'alert level' before the end of the navigation season. The water level in Montreal Harbour is currently around 150 cm (59 in.) above chart datum and is not expected to drop to chart datum in 2006.

The forecast for Lake Ontario levels indicates a transition to below-average levels over the next several months. There is very little chance in the next 12 months that Lake Ontario levels will go beyond the limits prescribed in the Orders of Approval for the operation of the system.

## Lake Ontario Outflow Strategy (Released December 20, 2006)

The International St. Lawrence River Board of Control (Board), after a recent review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to release more water than called for by Plan 1958-D through early January.

The regulation plan is specifying sharply reduced flows the second half of December to assist with ice formation. However, ice is not expected to form within the next few weeks as water temperatures are well above average. The Board will moderate the regulation plan's prescribed flow reduction by decreasing flows gradually over three weeks. The week-to-week flow decrease will be limited to about 700 cms (25,000 cfs) per week until the January plan outflow is reached, or ice begins to form. This will moderate level fluctuations on Lake St. Lawrence and the St. Lawrence River downstream in the Montreal area, provide more consistent levels for navigation, and more efficiently use the water for hydropower production. This will result in outflows greater than those specified by Plan 1958-D during the transition and is expected to eliminate the water currently retained on Lake Ontario before December 22. Following that, the Board has authorized overdischarges up to the equivalent of 10 cm (4 in.) of water from Lake Ontario. The level of Lake Ontario in early January is expected to be as much as 10 cm (4 in.) lower than the level

would be if the Plan had been strictly followed. The Board strategy also provides for minor deviations from Plan flow to assist with unforeseen critical needs.

The total supply of water to Lake Ontario in November and early December was well above average, causing the lake to rise by 3 cm (1.2 in.) at a time when the lake is usually falling. The regulation plan has responded with successive weeks of flow increases resulting in the highest outflows for this time of year since 1997. Currently the Lake Ontario levels are about 54 cm (21 in.) below the upper limit, about 68 cm (27 in.) above the lower limit, and 30 cm (12 in.) above long-term average for this time of year. The regulation plan does not target average levels; rather, it responds to supplies to keep the levels within the upper and lower limits established by the IJC. The current levels are well within their mandated range. The forecast for Lake Ontario levels indicates a transition to below-average levels over the next several months. There is a slight chance (less than 5%) that Lake Ontario levels in 2007 might exceed the upper limit prescribed in the Orders of Approval for the operation of the system.

The level of Lake St. Lawrence remains near average. The level at Pointe Claire on Lake St. Louis, which rose above its flood alert level earlier this month, remains well above average.. The water level in Montreal Harbour is currently around 160 cm (62 in.) above chart datum and is not expected to drop to chart datum in 2006.

## Lake Ontario Outflow Strategy (Released January 12, 2007)

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to continue releasing more water than called for by Plan 1958-D through early February.

The regulation plan limits outflows in January to assist with ice formation. However, the Lake Ontario water temperature was at a record high of 4.5 $^{o}$ C on January 9$^{th}$, and water temperatures in the St. Lawrence River are also above record levels. Ice is not expected to form in the near future. This will allow the Board to continue its strategy of releasing more water than specified by the regulation plan. The Board anticipates these overdischarges will continue until early February, when the regulation plan is expected to specify sharply higher outflows. If ice begins to form, outflows will be decreased as required to assist in forming a stable ice cover. The Board has authorized overdischarges up to the equivalent of 20 cm (8 in.) of water from Lake Ontario. If flows do not have to be reduced for ice formation, the level of Lake Ontario by mid-February could be as much as 20 cm (8 in.) lower than the level would be if the Plan had been strictly followed. The Board strategy also provides for minor deviations from Plan flow to assist with unforeseen critical needs.

The total supply of water to Lake Ontario in December was again well above average, causing the lake to rise by 6 cm (2.4 in.) at a time when the lake usually rises 1 cm (0.4 in). The levels of Lakes Erie and Michigan-Huron have also risen in response to the recent months of wet conditions. Lake Erie is about 31 cm (12 in) and Michigan-Huron is about 14 cm (5.5 in) above last year at this time. The flow of water from the upper lakes to Lake Ontario is expected to stay above average for at least several months. The Board's action will reduce the risk that Lake Ontario might reach its upper regulation limit in 2007. Currently the Lake Ontario levels are about 43 cm (17 in.) below the upper limit, about 79 cm (31 in.) above the lower limit, and 39 cm (15 in.) above long-term average for this time of year. The regulation plan does not target average levels; rather, it responds to supplies to keep the levels within the upper and lower limits established by the IJC. The current levels are well within their mandated range. The forecast for Lake Ontario levels indicates a transition to near-average levels by early summer. There is a slight chance (less than 10%) that Lake Ontario levels in 2007 might exceed the upper limit prescribed in the Orders of Approval for the operation of the system.

The level of Lake St. Lawrence is above average. The levels at Pointe Claire on Lake St. Louis, and in Montreal Harbour, remain well above average.

The Board notes the unusual weather experienced in many areas this fall and early winter. In conjunction with its staff, the Board is monitoring the situation carefully and is prepared to take quick action if required. The Board will meet in February to assess the situation, or earlier if there is a significant change in conditions.

## Lake Ontario Outflow Strategy (Released February 16, 2007)

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to lower water levels by significantly increasing the release of water from Lake Ontario through early March.

Ice did not begin to form on the St. Lawrence River until the last 10 days of January. In accordance with the strategy announced last month, this allowed the Board to release flows at a much higher rate than called for by the regulation plan, Plan 1958-D. Outflows were reduced the last week of January and first part of February to assist in forming a stable ice cover, before being increased again on February 10. As of February 15, the accumulated over-discharges were equivalent of about 16 cm (6.3 in). That is, the level of Lake Ontario was about 16 cm lower than it would have been had the Board strictly flowed Plan 1958-D. The Board strategy of significantly increased outflows will be tempered by ice conditions, the obligation to not cause flooding downstream, and the availability of hydropower units to pass the water.

The total supply of water to Lake Ontario in January was again well above average, causing the lake to rise by 18 cm (7.1 in) at a time when the lake usually rises only 4 cm (1.6 in). The level of Lake Erie has also risen in response to the recent wet conditions and is about 23 cm (9.1 in) above average and 16 cm (6.3 in) above last year at this time. The flow of water from the upper lakes to Lake Ontario is expected to stay above average for at least several months. Lake Ontario is at elevation 75.00 m (246.06 ft), which is close to what the lake normally peaks at in June. The Board's action will reduce the risk that Lake Ontario might reach its upper regulation limit of 75.37 m (246.29 ft), as a monthly mean, in 2007. Currently the Lake Ontario level is about 37 cm (14.6 in.) below the upper limit, and 41 cm (16.1 in.) above long-term average for this time of year. The regulation plan does not target average levels; rather, it responds to supplies to keep the levels within the upper and lower limits established by the IJC. The current levels are well within their mandated range. The Board's strategy is to reduce, as much as possible, the risk of exceeding the upper limit. Without further over-discharges, there is about a 20% chance that Lake Ontario levels in 2007 might exceed 75.37 m this year. Further increasing the outflows, as outlined above, will reduce that risk.

The levels of Lake St. Lawrence and Lake St. Louis are above average, while Montreal Harbour is below average.

The Board notes the unusual weather experienced in many areas this winter, and the lake-effect snow accumulation in a portion of the basin. The Board will be receiving an assessment of snow conditions throughout the basin in mid-March. In conjunction with its staff, the Board is monitoring the situation carefully and is prepared to take further action if required. The Board will meet in March to assess the situation, or earlier if there is a significant change in conditions.

## Lake Ontario Outflow Strategy (Released March 19, 2007)

The International St. Lawrence River Board of Control (Board), after a review of conditions in the Lake Ontario-St. Lawrence system, announced today its intent to return outflows to those prescribed by the regulation plan, Plan 1958-D. The strategy the past three months of releasing more water than called for by the regulation plan ("over-discharging") has significantly reduced the risk of extreme levels on Lake Ontario later this year. The Board's actions reduced the risk of reaching the upper monthly mean limit of 75.37 m (246.29 ft) this year from 20% to about 2%.

As of March 13, the accumulated over-discharges were equivalent of about 23 cm (9.1 in). That is, the level of Lake Ontario was about 23 cm (9.1 in) lower than it would have been had the Board strictly followed Plan 1958-D. The

Board strategy of returning to the regulation plan's prescribed outflows will be tempered by ice conditions and the obligation to not cause flooding downstream.

The total supply of water to Lake Ontario in February was well below average. The low water supplies and high outflows caused the lake level to fall by 16 cm (6.3 in) in February, when the lake usually rises about 3 cm (1.2 in). Lake Ontario is at elevation 74.80 m (245.40 ft), 13 cm (5.1 in) above average, and 2 cm (0.8 in) below where it was last year at this time. Lake Erie also had low water supplies; it is about 15 cm (5.9 in) above average and 10 cm (3.9 in) above last year at this time. The Lake Ontario level is about 57 cm (22.4 in.) below the upper limit. The regulation plan does not target average levels; rather, it responds to supplies to keep the levels within the upper and lower limits established by the IJC. The current levels are well within their mandated range.

The levels of Lake St. Lawrence and Montreal Harbour are below average, while Lake St. Louis is above average for this time of year.

The Board noted that most of the snow cover has melted in the basin, with the notable exception of a narrow band in the Tug Hill plateau. Preliminary reports indicate that the snow cover in early March was below average. In conjunction with its staff, the Board is monitoring the situation carefully and is prepared to take further action if required. The Board will meet again in late March to assess the situation.

The Board will be conducting a public teleconference on Tuesday evening, March 20 to review basin conditions, Board actions, and receive public comment. Please visit the Board's web site for details on how you may participate either in-person or by telephone.

**APPENDIX I**

**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 |
| $m^3/s$ | Cubic metres per second |
| m | Metres |
| 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 |