

ONE HUNDRED AND TWENTY-THIRD PROGRESS REPORT
to the
INTERNATIONAL JOINT COMMISSION
by the
INTERNATIONAL ST. LAWRENCE RIVER BOARD OF CONTROL
Covering the Period
24 SEPTEMBER 2014 THROUGH 28 FEBRUARY 2015



28 FEBRUARY 2015

COVER PHOTO: Screen capture from remotely operated video camera (inset) installed by NYPA and OPG at Iroquois Dam (main photo) to monitor ice formation in the upper St. Lawrence River
(Photo credit: Jamie Dickhout, January14, 2015)

EXECUTIVE SUMMARY

REGULATION STRATEGY AND RESULTS

Generally dry conditions within the Lake Ontario basin were offset by above-average Lake Erie inflows, such that net total water supplies to Lake Ontario were near or above average throughout the reporting period, but within the range of those used in the design of the regulation plan, Plan 1958-D.

The Board's strategy at the end of September 2014 was to maintain Lake Ontario outflows at plan-specified flows whenever possible, and continue to permit additional over- or under-discharges that may be necessary to address unforeseen critical conditions. During the month of September, both OPG and NYPA had scheduled bank outages which resulted in discharges above Plan-specified flows during the first 3 days of the reporting period, but as of 27 September, Plan flow was followed for the remainder of the month. Generally, Plan flow was followed in October, and November with the exception of a short period of under discharges to assist boat haul-out in early October. In December, weekly outflows were adjusted in order to reduce the week-to-week variations that normally occur as the Plan 1958-D ice limits are applied during the second half of the month. The L-limit of Plan 1958-D was followed in the month of January as ice formation began on the St. Lawrence River. The flows was reduced for a brief period of time to attempt to create an ice bridge across the face of the Iroquois Dam; however, due to the unsuccessful formation of the ice bridge, seven gates were partially closed at Iroquois Dam and flow was increased back to the L-limit. By 29 January 2015, the ice cover stabilized and the Iroquois Dam gates were raised.

On 28 February 2015, the level on Lake Ontario was 20 cm (7.9 in) below the monthly long-term average, while outflows were consistent with those specified by Plan 1958-D.

BOARD ACTIVITIES

The Board met in-person once during the reporting period to conduct business, assess conditions, and affirm its outflow strategy. The Regulation Representatives continued to provide the Board with weekly information on conditions in the system, monthly assessments of hydrologic conditions and forecasts, risk assessments, and responses to queries from Board members. The Board reviewed the information each month through emails, since more in-depth consultation to revise or affirm the regulation strategy was unnecessary. The Operations Advisory Group continued its weekly teleconference to apprise the Regulation Representatives of operational requirements and constraints

COMMUNICATION ACTIVITIES

The Board's Communication Committee held a strategic planning workshop on 13 January 2015. At the meeting, the Committee, along with Regulation Representatives, developed a draft communication strategy and agreed to continue semi-annual webinars, but increase a focus on individual Board Members presenting to community and stakeholder groups within the basin. The communication strategy will be discussed at the 4 March 2015 Board meeting.

Additionally, the Board has scheduled a public webinar/teleconference on 17 March 2015. The Board will provide an overview of this activity in the one hundred and twenty-fourth semi-annual report.

An appendix provides the background material that was repeated in the semi-annual reports of the Board to the Commission prior to 2010. Providing the material in this manner allows the report to be focused on the issues and conditions of the reporting period, allowing the interested reader to refer to this appendix for the background information. The appendix has been sent under separate cover.

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1 HYDROLOGICAL CONDITIONS

1.1 Lake Ontario Basin - Net Basin Supply

The local net basin supplies (NBS) to Lake Ontario (see appendix for definition) were below average for each month of the reporting period except December. The six-month average NBS has been exceeded 81% of the time. Monthly NBS values for the reporting period are provided in Table 1.

1.2 Precipitation

Monthly precipitation amounts for the Great Lakes and Lake Ontario basins are provided in Table 2. Lake Ontario's basin precipitation was below average in each month of the reporting period. The total amount of precipitation in the six-month reporting period was 312 mm (12.3 in), which was 70% of average and has been exceeded 98 % of the time. Total precipitation for the entire Great Lakes basin for the six-month period was 360 mm (14.2 in), which was 92% of average and has been exceeded 70% of the time.

1.3 Supply from Lake Erie

The inflows to Lake Ontario from Lake Erie during the reporting period are provided in Table 1. With Lake Erie's level above average during most of the reporting period, its flow to Lake Ontario was also above average. The six-month average outflow was about 6% more than the long-term average.

1.4 Lake Ontario – Net Total Supply

The monthly net total supplies (NTS) to Lake Ontario (see appendix for definition) are provided in Table 1 and shown graphically in Figure 1. Figure 1 shows the long-term average monthly NTS for the period 1900 to 2013 and the supplies for this reporting period. Also shown, for comparison purposes, are the monthly NTS for 2013 and 2014. The horizontal bars above and below the curves on the graph are the long-term monthly net total supplies maxima and minima. The six-month NTS values for the past ten years are provided in Table 3 for comparison purposes. The monthly NTS values were above average from September to December, and below average thereafter. Overall, the total supply was 100% of average during this reporting period, and has been exceeded 47% of the time.

1.5 Ottawa River Basin

Figure 2 shows the Ottawa River flows. The outflow from the Ottawa River was generally above average throughout the reporting period, and reached near record highs at the end October. Ottawa River outflows (as shown in Figure 2) started the reporting period above the September average, rising well above normal in November, due to a heavy rainfall event in October that occurred in the northern and central part of the Ottawa River basin. Snow pack on the Ottawa River basin at the end of the reporting period was generally below average.

2 REGULATION OF FLOWS & LEVELS

2.1 Board's Regulation Strategies and Resulting Actions

In order to be responsive to conditions and the needs of interests in the Lake Ontario – St. Lawrence River system, the Board assessed conditions throughout the year, once in meetings and in numerous email exchanges, and developed outflow strategies with the aid of regular monthly reports from the Regulation Representatives that reviewed conditions. The strategies for the reporting period, and their rationale, are available on the Board's website: http://www.ijc.org/en/islrbc/News_Releases. Figure 4 shows the actual Lake Ontario outflows for the year to 28 February 2015 in comparison to the long-term average, calculated pre-project and plan-specified outflows. In summary, the Board strategy at the beginning of the reporting period was to release outflows in accordance to the regulation plan while allowing minor

deviations to respond to critical needs, such as boat haul-out in Lake St. Lawrence, ice formation, and shipping requirements.

2.2 Deviations from Regulation Plan 1958-D

Table 4 summarizes the Board's discretionary deviations during the reporting period and are shown graphically on Figure 3. On 23 September 2014 the level of Lake Ontario was 1 mm (0.04 in) above the level had flows been those prescribed by Plan 1958-D. At its October meeting, the Board agreed the outflows be set at those specified in Plan 1958-D, continuing to permit additional under- or over-discharges that may be necessary to address unforeseen critical conditions. Additionally, the Board assisted a boat haul out on Lake St. Lawrence by under-discharging 600 m³/s (21,200 cfs), relative to plan-specified flow, for one day on 4 October. Following the week of October 4th, outflows were modestly increased to remove the stored water on Lake Ontario. During the month of November a minor, unintentional decrease in flows occurred, but was corrected the following week. On 24 November flows were increased to fulfill a request at the Port of Montreal, and then reduced the following week to restore water to Lake Ontario. On 17-20 January 2015, flows were decreased for ice management, and flows were subsequently adjusted to smooth flows and restore the Lake Ontario levels through the reporting period.

2.3 Iroquois Dam Operations

Beginning 5 January, the L-limit of Plan 1958-D was followed as ice formation began on the St. Lawrence River. The flow was reduced for three days starting on 17 January in an attempt to assist in the formation of a natural ice bridge across the face of the Iroquois Dam. Due to the unsuccessful formation of the ice bridge, seven gates of the dam were partially closed on 20 January to facilitate bridging of the ice cover. The flow was then increased back to the L-limit on 21 January. By 29 January, the ice cover stabilized and allowed the gates at the dam to be raised.

2.4 Results of Regulation

2.4.1 Upstream

Lake Ontario

The effects of Regulation Plan 1958-D and the Board's outflow strategies on the levels of Lake Ontario are shown in Figure 5. For comparison purposes, the daily levels of 2013, 2014 and 2015 to 28 February 2015 are shown. During this reporting period, levels started slightly below average and remained below average with the exception of a portion of January, where the lake level rose to 1 cm above average. At the end of the period, the level was at 74.43 m (244.19 ft), 20 cm (7.9 in) below the February long-term 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 occurred 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 Lake Ontario ranged from 0.40 m (1.31 in) to 0.50 m (1.64 in) lower than it would have been without regulation. A comparison of the daily levels to long-term average, and weekly computed Plan 1958-D levels is also shown in Figure 4.

Lake St. Lawrence

The water levels of Lake St. Lawrence are shown on Figure 6. Levels started the reporting period below average, and remained below average until mid November, and then well above average by the end of December following significant flow reductions. Lake St. Lawrence then dropped below average by the end

of January owing to heavy ice cover. The water level was 72.05 m (236.38 ft), 52 cm (20.5 in) below the long-term average at the closing of the reporting period.

2.4.2 Downstream

Lake St. Francis

Daily water levels at Summerstown on Lake St. Francis fluctuated modestly above and below average during the beginning of the reporting period, until December where lake levels temporarily fell just below the Seaway Low Alert level of 45.58 m (152.8 ft) once. In early January, levels returned to average then fell slightly below average throughout the remainder of the reporting period. Recent and historic water levels of Lake St. Francis are shown graphically in Figure 7.

Lake St. Louis

Daily Lake St. Louis levels at Pointe-Claire are shown in Figure 8. As shown on the graph, water levels on Lake St. Louis varied above and below average throughout the reporting period, but remained above the Seaway Low Alert level of 20.60 m (67.6 ft) and below the flood alert level of 22.10 m (72.5 ft).

Port of Montreal

The daily levels at the Port of Montreal began the reporting period near the long term mean (1967-2013), then climbed above average during October. As shown in Figure 9, water levels dropped below average by mid November and generally remained below average for the remainder of the reporting period.

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, 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 Committee on River Gauging continued to monitor the Power Entities' program for operation and maintenance of the gauging system required for Board operations, to hold teleconferences and to report annually.

The Board continued to assess conditions in the basin and adjust or affirm its regulation strategy accordingly. Conditions were such that the Board used email exchanges monthly, since more in-depth consultation to revise or affirm the regulation strategy was unnecessary. During the reporting period, the Board held one meeting on 21 October 2014 in Gatineau QC. Table 6 provides a list of Board Members in attendance at the meeting. Additionally the Board made appearances in front of the Commissioners Wednesday morning, 22 October 2014 in Ottawa, ON.

3.2 Meetings with the Public and Input from the Public

The Board continued its efforts to improve its 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, the Secretaries and the Regulation Representatives 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. Weekly postings on the Board's Facebook pages occur in both French and English. The comment interchange reaches an average of 150 people in a single week, with less interest when levels are near average.

3.3 Board and Committee Membership Changes

Mr. Jean Aubry-Morin was appointed as a Canadian Board member on 22 October 2014. After many years of service, US Alternate Regulation Representative, Paul Yu, retired and was replaced by Keith Koralewski.

OPG alternate Mike McNiven has been replaced by Don Ferko. On 17 February 2015, a letter was sent to US IJC Chair, Lana Pollack, requesting Mr. Stephen Durrett, Regional Business Director of the US Army Corps of Engineers, replace Colonel Steven J. Roemhildt as the Alternate US Chair for the Board. The request has not yet been confirmed by the IJC.

4 COMMUNICATIONS COMMITTEE REPORT

A strategic communication planning workshop was held 13 January 2015. It was agreed to continue with semi-annual webinars but increase a focus on individual Board Members presenting at community and stakeholder groups within the basin. An Access database developed by the USACE could be modified to track these outreach activities. Finally, improvements to the website and list-serve service were discussed. The 4 March 2015 Board meeting will discuss and approve the strategy.

Other communication activities included:

- Preparation of news releases: The Board issued media releases after each Board 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 1-800-833-6390, and in Canada the numbers are 1-800-215-8794 (English) and 1-800-215-9173 (French));
- Operation of the Board's website on the internet, http://www.ijc.org/en/_islrbc/home. The website includes:
 - Slider photos indicating interests in the Lake Ontario – St. Lawrence River system
 - Weekly updates on water levels and outflows;
 - General information about the Board, its activities and its structure;
 - Announcements about the Board's outflow strategies and "related media" releases;
 - A list of Frequently Asked Questions and responses
 - Posting of the Board's semi-annual progress reports, meeting minutes, teleconference summaries, and data updates
 - Information on the Board's next semi-annual teleconference/webinar with the public, and
 - Recordings and presentations of recent past semi-annual public teleconferences.
- Weekly updates of the Board's English (www.Facebook.com/ISLRBC) and French (www.Facebook.com/CICFSL) Facebook pages, and frequent interaction with the public through the Facebook pages.

The Board's Regulation Representatives sent weekly updates on Lake Ontario regulation and water level and outflow conditions, to approximately 300 e-mail subscribers. Stakeholders are encouraged to subscribe to this free service.

5 ADAPTIVE MANAGEMENT COMMITTEE

The three Great Lakes Boards of Control proposed the establishment of an Adaptive Management Committee (AMC) of technical experts in a joint letter dated 24 April 2014. The Committee would provide information to the Boards on the effects that the various structures approved in the Commission's Orders of Approval and Directives have on levels and flows within boundary waters and the impacts these have on the affected interests.

On 16 January 2015, the IJC approved the Directive to the Great Lakes –St. Lawrence River Adaptive Management Committee (GLAM) and appointed fourteen of an expected total of sixteen members to establish the Committee. On 25 February the fifteenth member was appointed. The sixteenth member is expected to be appointed during the first week of March.

The GLAM committee held its first meeting via conference call on Friday, 13 February 2015. At the meeting, Co-chairs Wendy Leger (CAN), and Kyle McCune (USA) introduced the committee members, and reviewed the IJC directive. The committee scheduled its first in person meeting 3 March 2015 in Buffalo, New York.

6 GAUGING COMMITTEE

The Gauging Committee oversees water level gauging on behalf of the Board. In various ways, the Committee ensures the accuracy of reported outflows and water levels related to the regulation of the St. Lawrence River. In addition to monthly power audit checks by the Gauging Committee (verifying the accuracy of flows being reported), weekly water level tape checks are also performed by the hydropower entities, ensuring the accuracy of water level data.

To continue providing consistent, the Gauging Committee drafted a procedural guide entitled "St. Lawrence River Water Level Gauging Procedures and Standards" for Board approval and implementation consideration. This document addresses the specifications and accountabilities for the maintenance and inspection procedures of water level gauges used by the Board to regulate flows. Also included in the document are specifications and accountabilities for water level and flow data quality, reporting, archiving, and auditing throughout the international section of the river.

During this reporting period, the Gauging Committee held teleconferences on 25 September 2014 and 20 January 2015, to discuss and finalize the draft document for discussion with the Board at their 04 March 2015 meeting.

Between 2000-2012, NYPA underwent a multi-year upgrade of its sixteen turbines at its St. Lawrence River Power Project. Eight Allis-Chalmers units (Units 19, 20, 23, 24, 27, 28, 31 and 32) were upgraded to Alstom turbines between 2007-2012. As this upgrade process moved forward, interim ratings based on model tests had been prepared and used. By a letter dated 20 October 2014, the Gauging Committee recommended that the Board accept final rating tables for these upgraded units. On 13 November 2014,

the Board accepted the new rating tables for implementation. NYPA will implement the new rating tables in NYPA's SCADA system on 4 March 2015.

The 77th 2013 Gauging Committee report is currently in progress, and the next annual inspection of the water level gauging network on the St. Lawrence River is tentatively scheduled for 8-16 June 2015.

7 ST. LAWRENCE SEAWAY REPORT

The Seaway navigation season for the Montreal-Lake Ontario Section officially closed 31 December 2014 at 1600 hours.

8 HYDROPOWER PEAKING AND PONDING

The peaking and ponding report for 2014 is currently in draft. The report is expected to be complete prior to the IJC appearances in April.

9 ICE BOOM INSTALLATION

Stage one of the ice boom installation was completed on 28 November 2014. During stage one, the entire B, C, D, and E booms were installed. The majority of the A and G booms were also installed; however, sections were left open to allow ships to pass through the booms. The Seaway was officially closed on 31 December 2014, and on 2 January 2015, work commenced to close the open sections of A and G booms. The open sections of the A and G booms were completely closed on 6 January 2015. OPG will work with the Seaway and the ice boom contractor to remove the booms prior to the opening of the Seaway early next reporting period.

Respectfully submitted,

MEMBERS FOR THE UNITED STATES

MEMBERS FOR CANADA

BG KAISER, CHAIR

P. MOREL, CHAIR

T. BROWN

P. CLAVET

R. CAMPANY

J. FRAIN

F. SCIREMAMMANO

M. HUDON

J. AUBRY-MORIN

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 ⁽¹⁾	m ³ /s	tcfs	Exceed. Prob. ⁽¹⁾	m ³ /s	tcfs	Exceed. Prob. ⁽¹⁾	% of LTA ⁽¹⁾
Sep 14	6240	220	32	105	0	0	58	6240	220	36	103
Oct 14	6290	222	24	108	160	6	52	6450	228	32	106
Nov 14	6370	225	19	109	170	6	77	6540	231	44	101
Dec 14	6260	221	26	107	880	31	44	7140	252	32	107
Jan 15	6050	214	30	106	550	19	73	6600	233	49	99
Feb 15	5780	204	40	104	20	1	98	5800	205	79	87
6-month Average	6170	220	28	106	300	10	81	6460	230	47	100

⁽¹⁾ Based on period of record 1900-2013

Table 2: Provisional Precipitation over the Great Lakes and Lake Ontario Basins

Month	Great Lakes Basin			Lake Ontario Basin		
	mm (inches) ⁽¹⁾	% of LTA ⁽²⁾	Exceed. Prob. ⁽³⁾	mm (inches) ⁽¹⁾	% of LTA ⁽²⁾	Exceed. Prob. ⁽³⁾
Sep 14	98 (3.86)	114	29	60 (2.36)	72	77
Oct 14	98 (3.86)	132	16	78 (3.07)	98	48
Nov 14	66 (2.60)	96	56	56 (2.20)	70	82
Dec 14	41 (1.61)	68	90	44 (1.73)	59	93
Jan 15	34 (1.34)	61	92	40 (1.57)	58	93
Feb 15	23 (0.91)	51	95	34 (1.34)	57	92

⁽¹⁾ Provisional

⁽²⁾ Based on period of record 1900-2014

⁽³⁾ Based on period of record 1900-2010

Table 3: Average and Recorded Six-Month Total 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 05 – Feb 06	6430	227	7000	247	25	570	20	9
Sep 06 – Feb 07	6430	227	7590	268	10	1160	41	18
Sep 07 – Feb 08	6430	227	6540	231	43	110	4	2
Sep 08 - Feb 09	6430	227	6910	244	28	480	17	7
Sep 09 - Feb 10	6430	227	6500	230	45	70	2	1
Sep 10 – Feb 11	6430	227	6270	221	56	-160	-6	-2
Sep 11 – Feb 12	6430	227	7540	266	10	1110	39	17
Sep 12 - Feb 13	6430	227	6130	216	62	-300	-11	-5
Sep 13 - Feb 14	6430	227	6520	230	44	90	3	1

⁽¹⁾ Based on period of record 1900-2013.

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

Date 2014-2015	Deviation (cms)	Dev. (cms-wks)	Acc. Dev. rounded (cms-wks)	Cum. Effect on Lake Ont. rounded (cm)	Reason for Deviation
Sep 23			-30	0.1	
Sep 24-26	70 for 72 hrs	30	0	0	Eliminate stored water due to bank outage
Oct 4 Oct 4	-600 for 24 hrs 10 for 24 hrs	-86 1	-80	0.2	To aid boat haul-out on Lake St. Lawrence Unintentional (on boat haul-out day)
Oct 11-16	90 for 144 hrs	77	0	0	Remove stored water from Lake Ontario
Oct 25-31	-10 for 168 hrs	-10	-10	0	Unintentional – minor operational deviation
Nov 1-7	10 for 168 hrs	10	0	0	Remove (unintentional) stored water from Lake Ontario
Nov 24	400 for 24 hrs	57	60	-0.2	Port of Montreal request
Nov 29-Dec 5	-60 for 168 hrs	-60	0	0	To restore water
Dec 6-12	-100 for 168 hrs	-100	-100	0.3	To smooth the transition in flows
Dec 13-19	80 for 168 hrs	80	-20	0.1	To smooth the transition in flows
Dec 20-26	-30 for 168 hrs	-30	-50	0.2	Error in I-limit estimation
Dec 27-Jan 2	180 for 168 hrs	180	130	-0.4	Error in I-limit estimation
Jan 3-5	70 for 72 hrs	30	160	-0.5	To smooth the transition in flows
Jan 17-20	-230 for 96 hrs	-131	30	-0.1	Ice Management at Iroquois Dam
Jan 24-30	220 for 168 hrs	220	250	-0.8	To smooth the transition in flows
Jan 31-Feb 6	-50 for 168 hrs	-50	200	-0.6	To smooth the transition in flows
Feb 7-13	-200 for 168 hrs	-200	0	0	To smooth the transition in flows

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 14	74.78 (245.34)	75.19 (246.68)	-0.41 (-1.34)	7860 (278)	7460 (263)	400 (14)
Oct 14	74.59 (244.71)	75.05 (246.22)	-0.46 (-1.51)	7450 (263)	7200 (254)	250 (9)
Nov 14	74.46 (244.29)	74.96 (245.93)	-0.50 (-1.64)	7210 (255)	7030 (248)	180 (6)
Dec 14	74.46 (244.29)	74.95 (245.90)	-0.49 (-1.61)	6680 (236)	7000 (247)	-320 (-11)
Jan 15	74.56 (244.62)	74.98 (245.99)	-0.42 (-1.37)	6280 (222)	6980 (246)	-700 (-25)
Feb 15	74.50 (244.42)	74.90 (245.73)	-0.40 (-1.31)	6800 (240)	6400 (226)	400 (14)

Table 6: Attendance at Meeting 21 October 2014

Board Member	Country	21 Oct
COL S. Roemhildt ¹	U.S.	X
Mr. P. Morel ²	Can.	X
Mr. J. Aubry-Morin ³	Can.	X
Mr. T. Brown	U.S.	X
Mr. R. Company	U.S.	X
Ms. P. Clavet	Can.	X
Ms. J. Frain	Can.	X
Dr. F. Sciremammano, Jr.	U.S.	X

¹Alternate US Co-Chair²Canadian Co-Chair³Appointed 22 October 2014

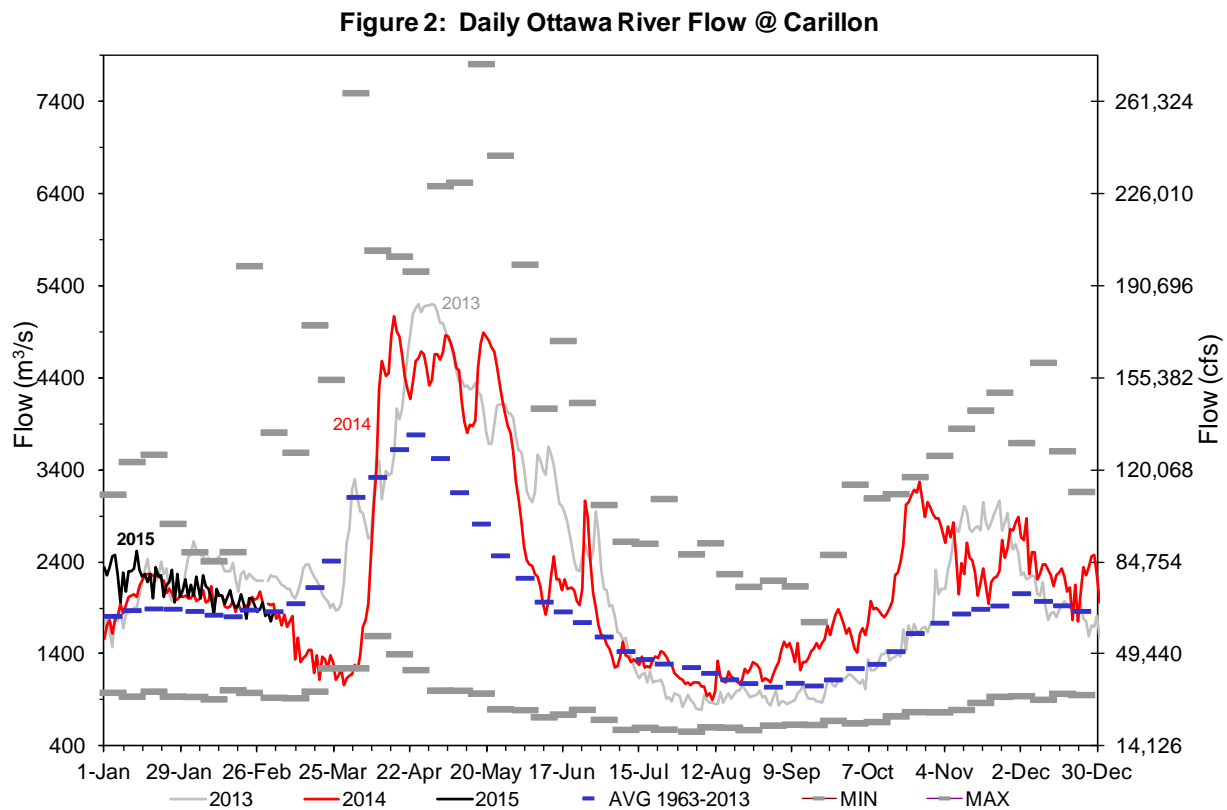
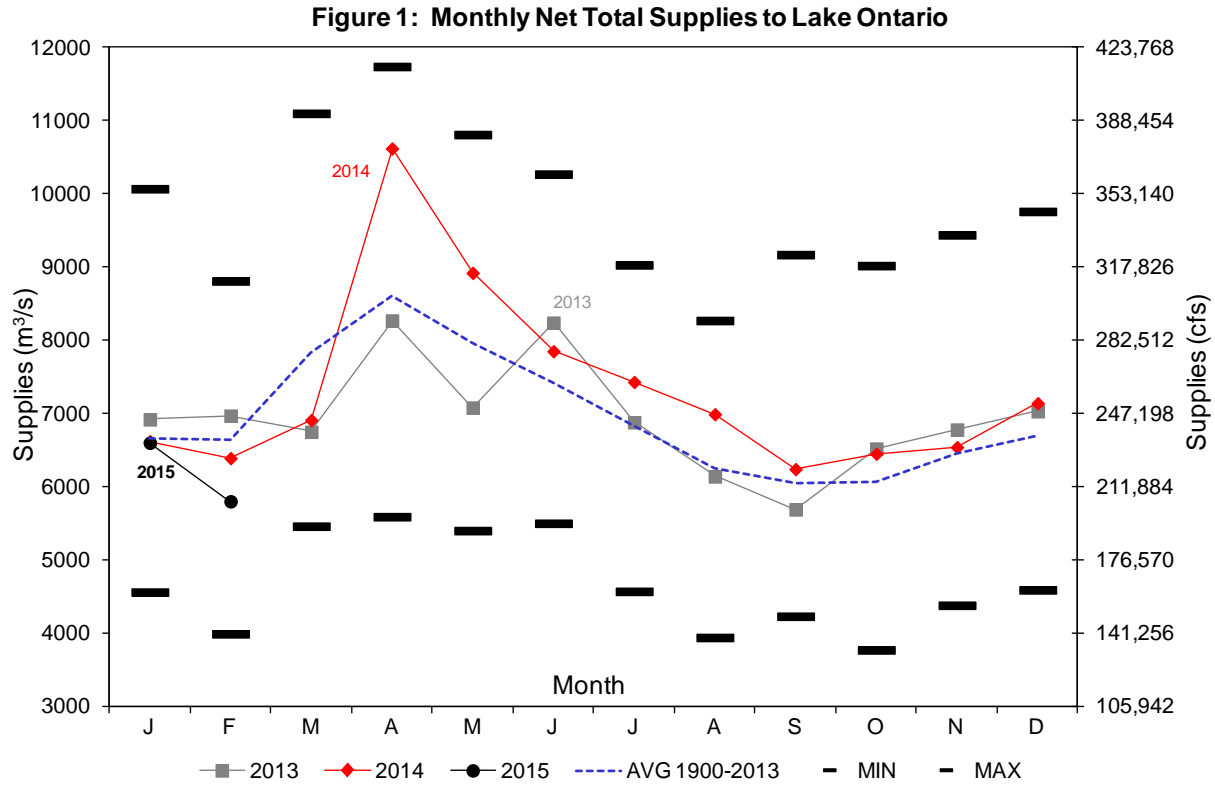


Figure 3: Lake Ontario Daily Outflows

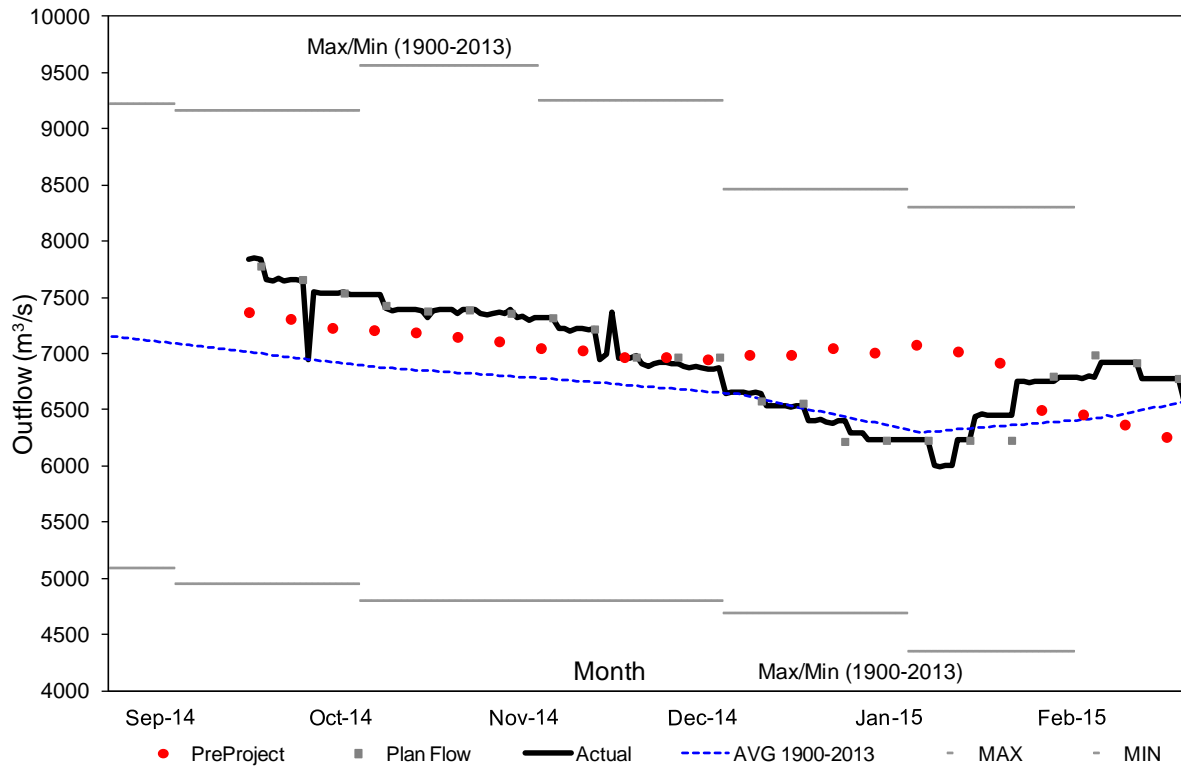


Figure 4: Lake Ontario Actual, Preproject & Plan Levels

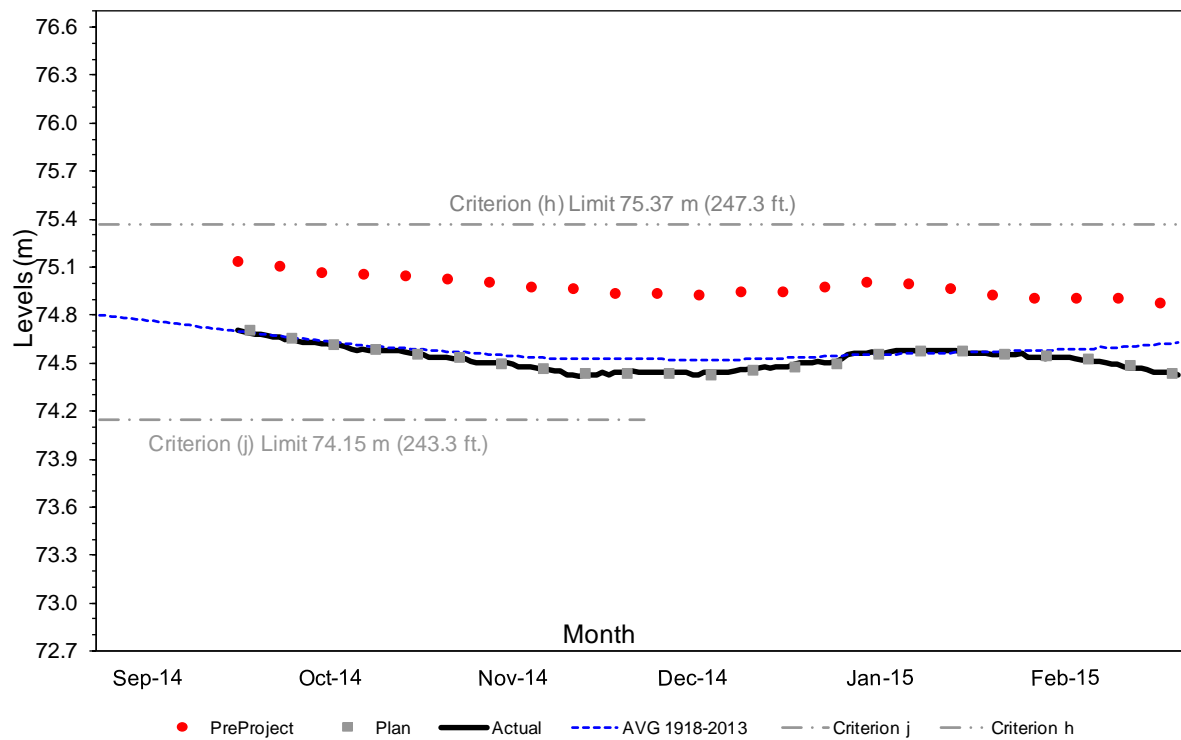


Figure 5: Daily Lake Ontario Water Levels

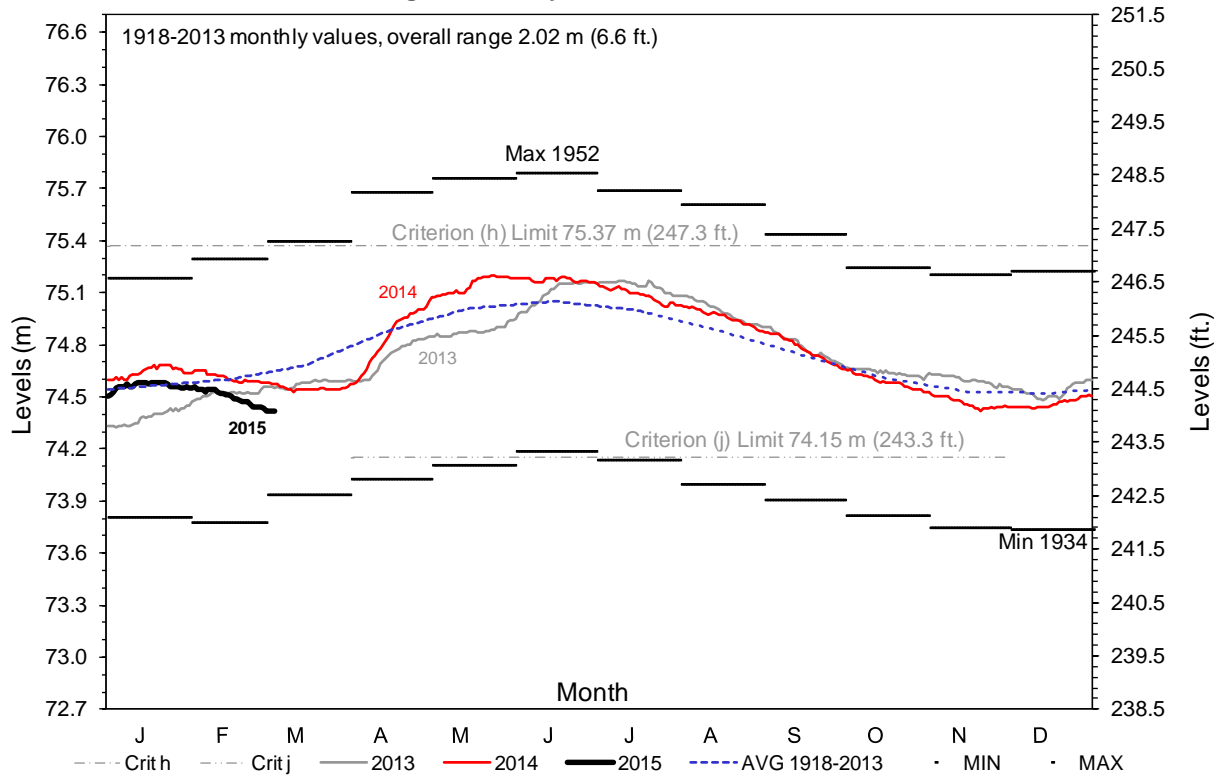


Figure 6: Daily Lake St. Lawrence Levels @ Long Sault Dam

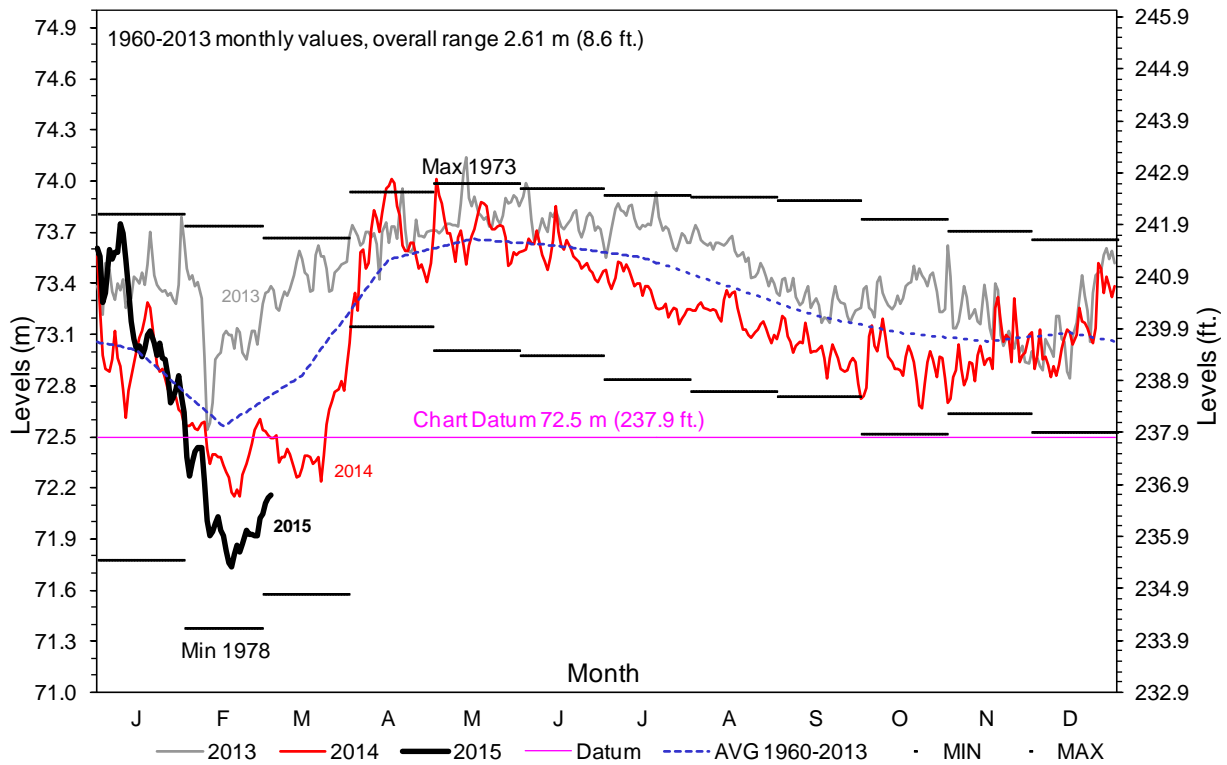


Figure 7: Daily Lake St. Francis Levels @ Summerstown

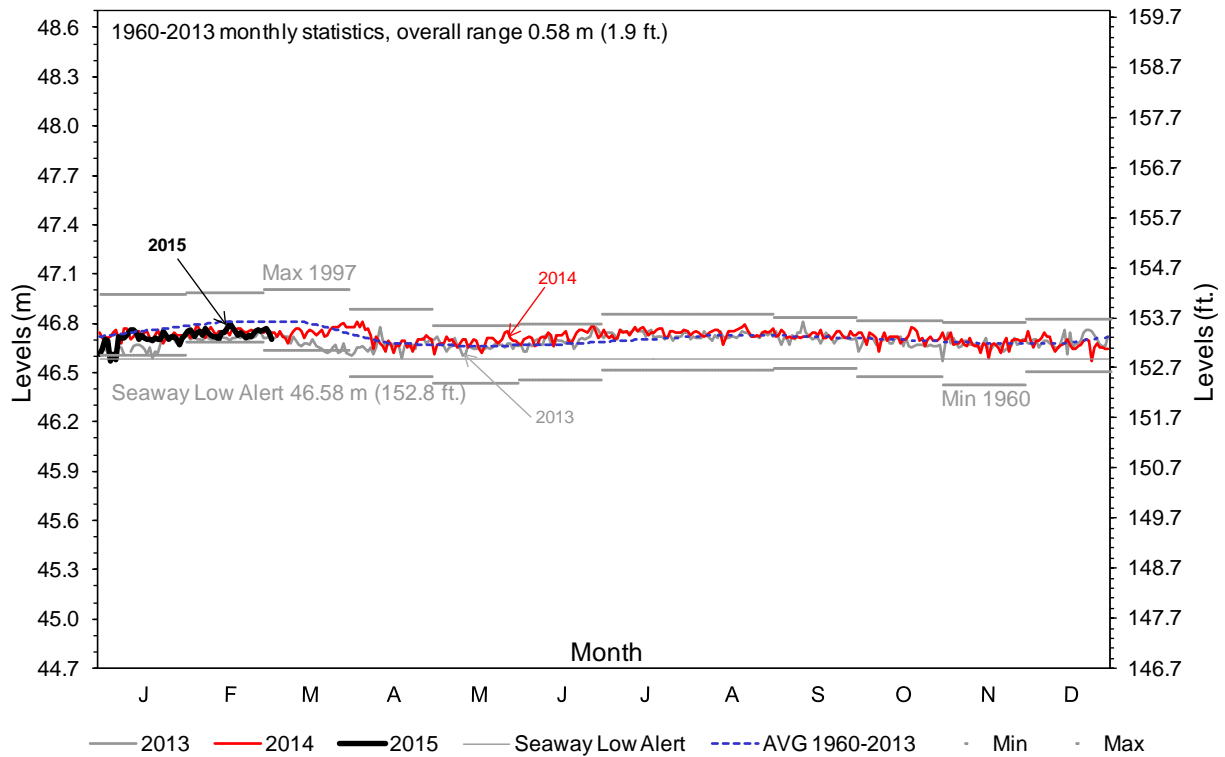


Figure 8: Daily Lake St. Louis Levels @ Pointe-Claire

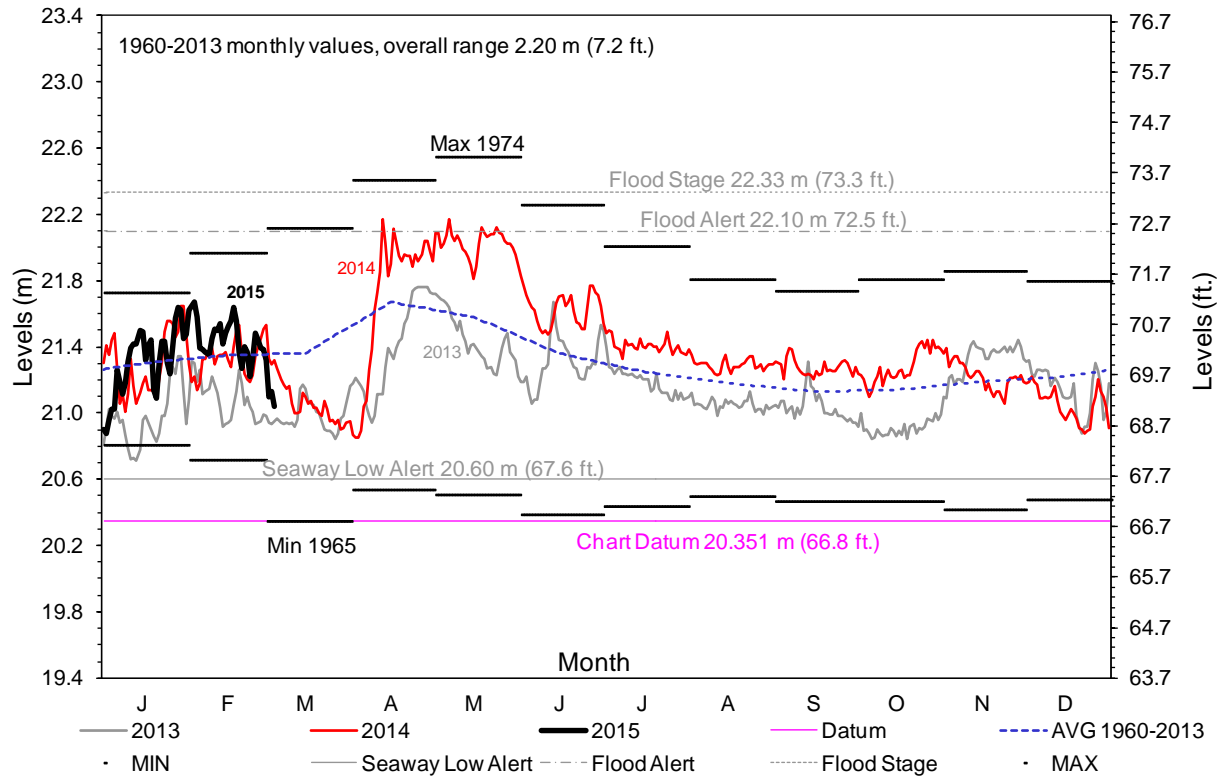


Figure 9: Daily Port of Montreal Levels @ Jetty #1

