

**Cobourg
June 2019**



Understanding Lake Ontario Water Levels

Impacts and call for action – United Shoreline

Lake Ontario Drainage Basin

Legend

- Lake Ontario Drainage Basin
- St. Lawrence Drainage Basin
- Provincial Border
- International Border
- Tributaries
- Cities/Towns



2) Rain/Snow melt makes up the rest of the inflow

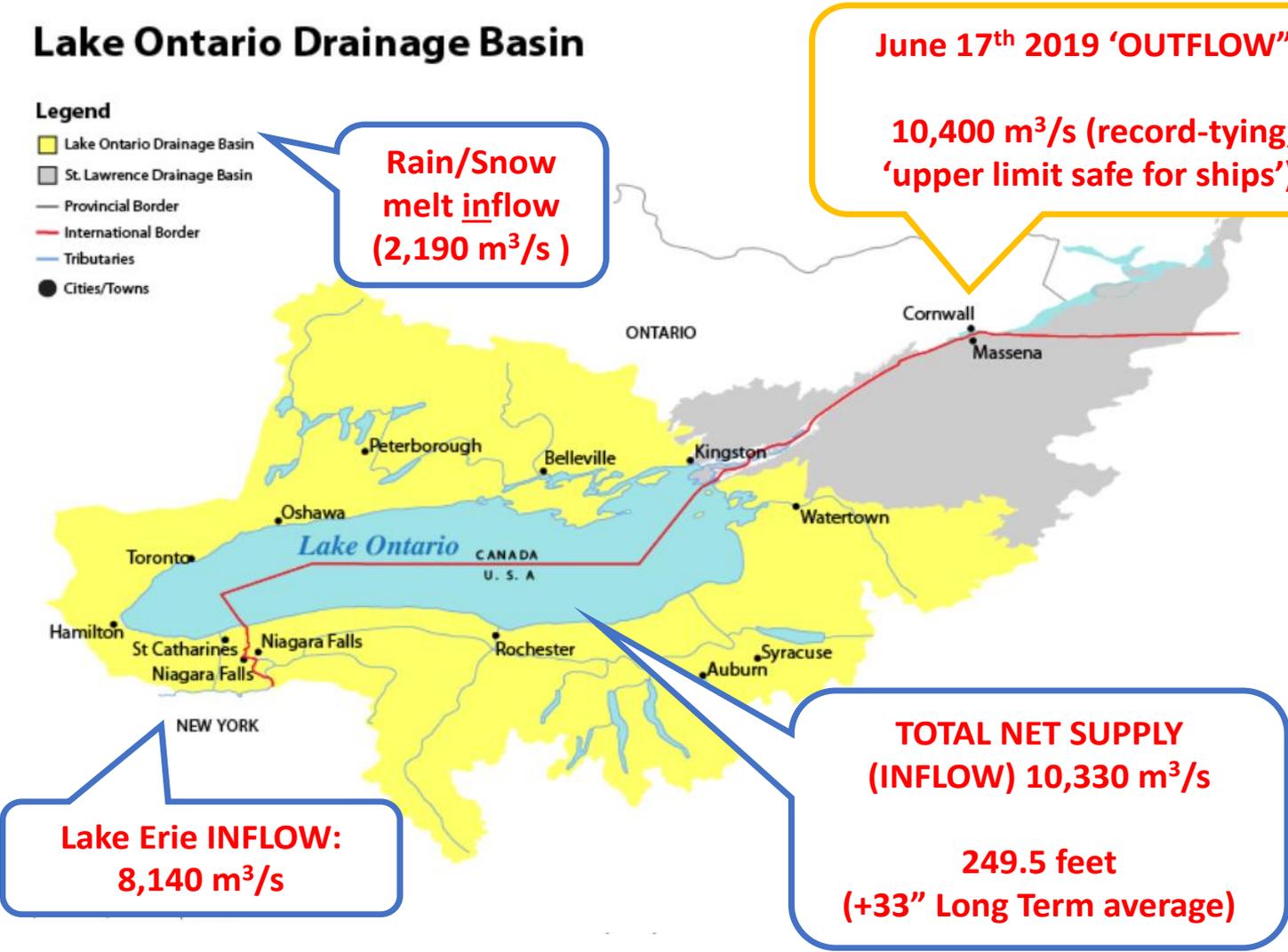
4) When Ottawa and Montreal are **flooding**, L.O outflows are reduced and L.O rises. When levels are allowed to reach this extreme, they are powerless to stop L.O. flooding. (1"= 11")

1) 85% of Lake Ontario inflow comes from Lake Erie (*record high*)

3) The outflows into the St. Lawrence River is controlled by the Moses Saunders Dam in Cornwall

Lake Ontario Drainage Basin

- Legend**
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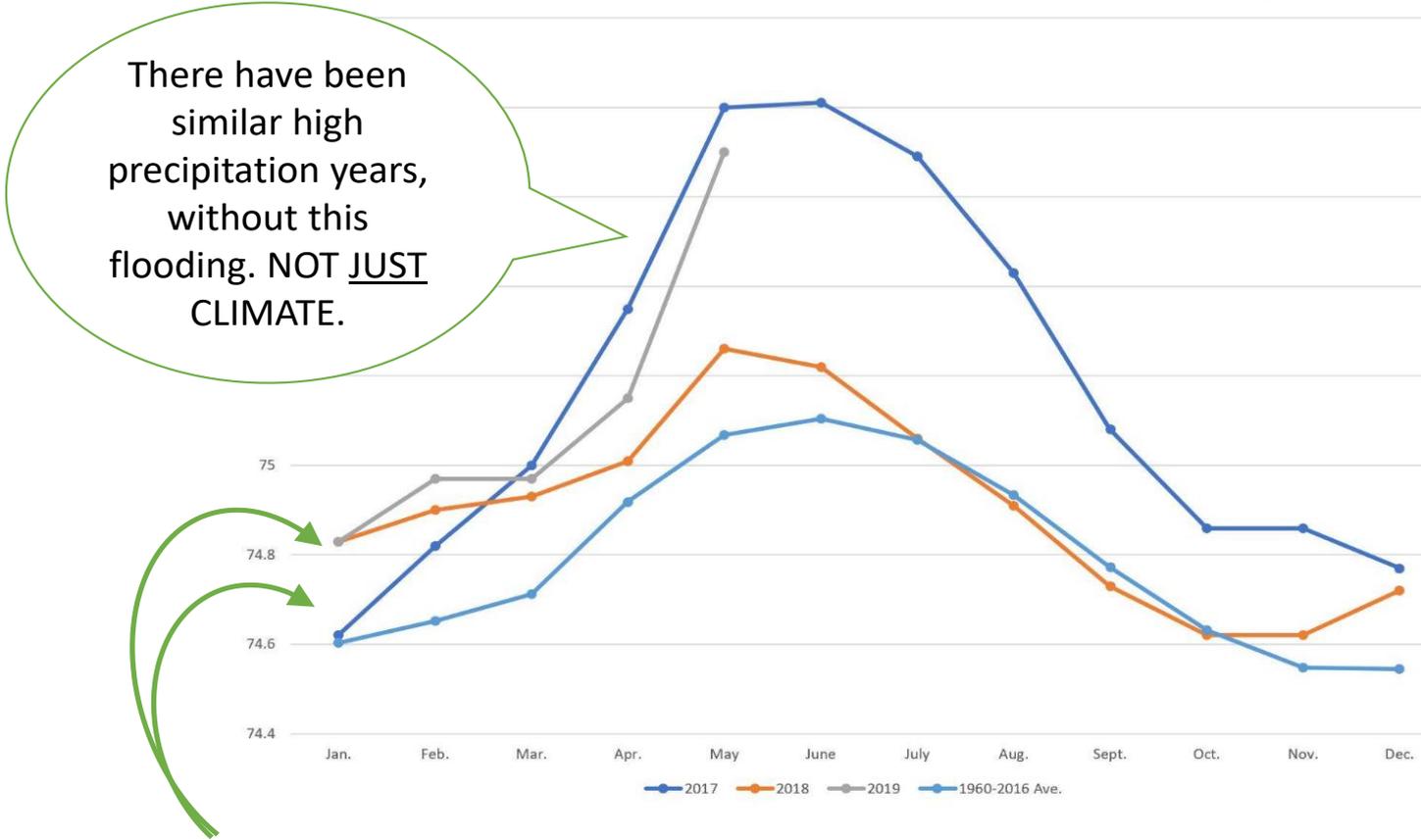
Rain/Snow melt inflow (2,190 m³/s)

June 17th 2019 'OUTFLOW': 10,400 m³/s (record-tying, 'upper limit safe for ships')

Lake Erie INFLOW: 8,140 m³/s

TOTAL NET SUPPLY (INFLOW) 10,330 m³/s
249.5 feet (+33" Long Term average)

Monthly Lake Level 2017, 2018, and 2019 as compared to 1960-2016 monthly average



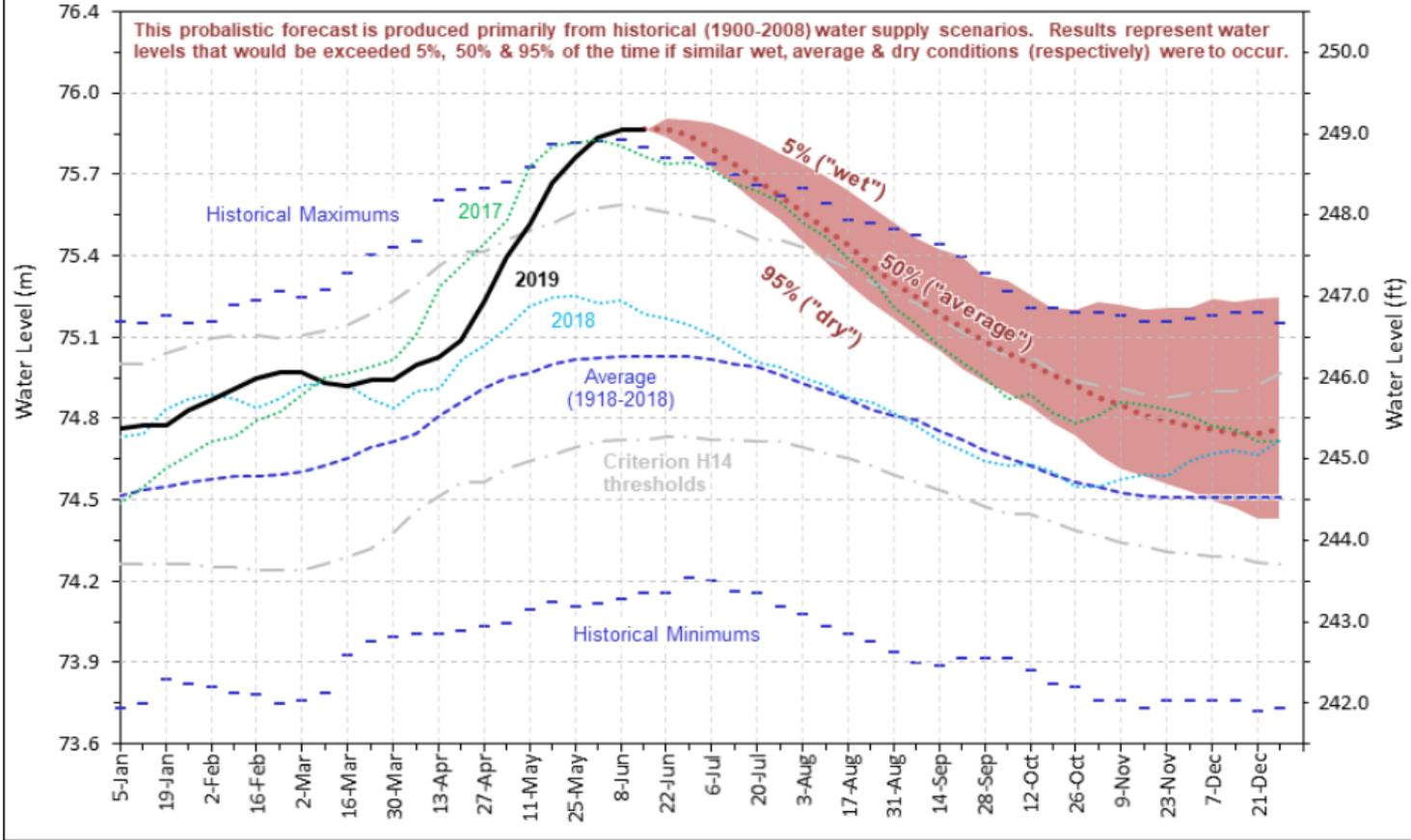
There is something dramatically different in how lake levels are being managed in the spring (Jan - May) due to Plan 2014.

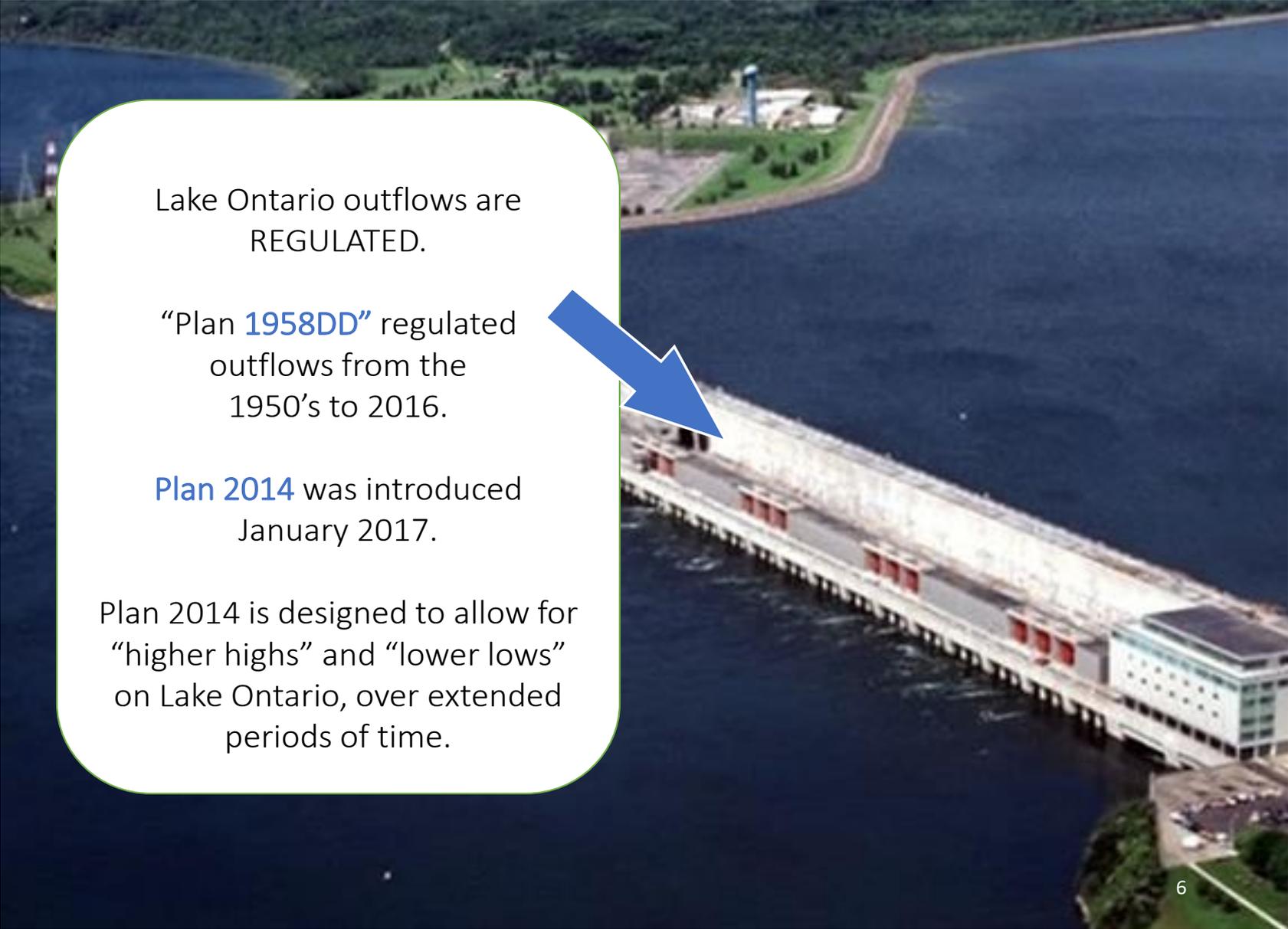
DATA FROM:

https://www.glerl.noaa.gov/data/dashboard/GLWLD.html?fbclid=IwAR39rhBhTS2-5XZdCsC3li03iLOpLM2e9GzJW0zgW9V7D4G_h-COjW4qFc

Lake Ontario Water Level Forecast

for the weeks ending 14 June through 31 December 2019 (issued on 06 June)



An aerial photograph of a dam on Lake Ontario. The dam is a long, concrete structure with several red gates. A large blue arrow points from the text box to the dam. The surrounding area includes a green shoreline with trees and a small building with a blue tower.

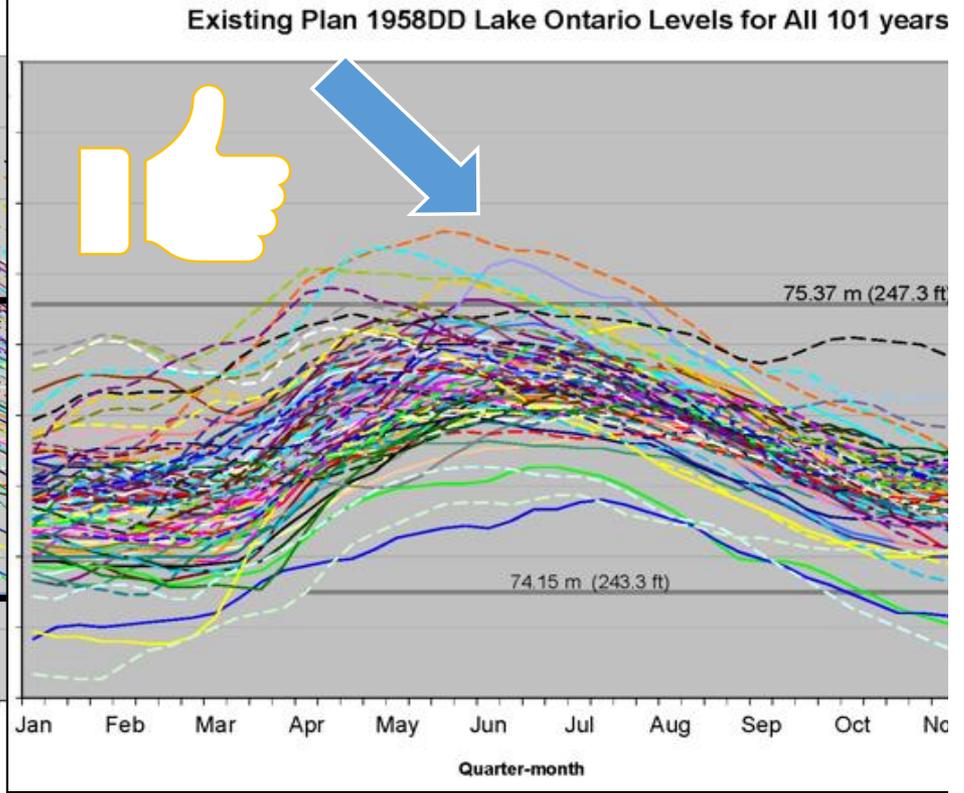
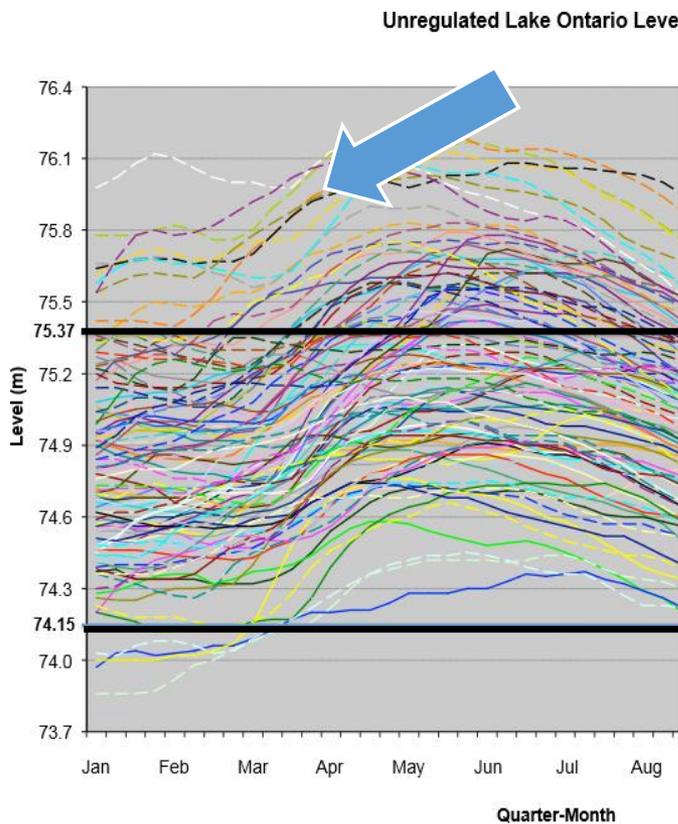
Lake Ontario outflows are
REGULATED.

“Plan **1958DD**” regulated
outflows from the
1950’s to 2016.

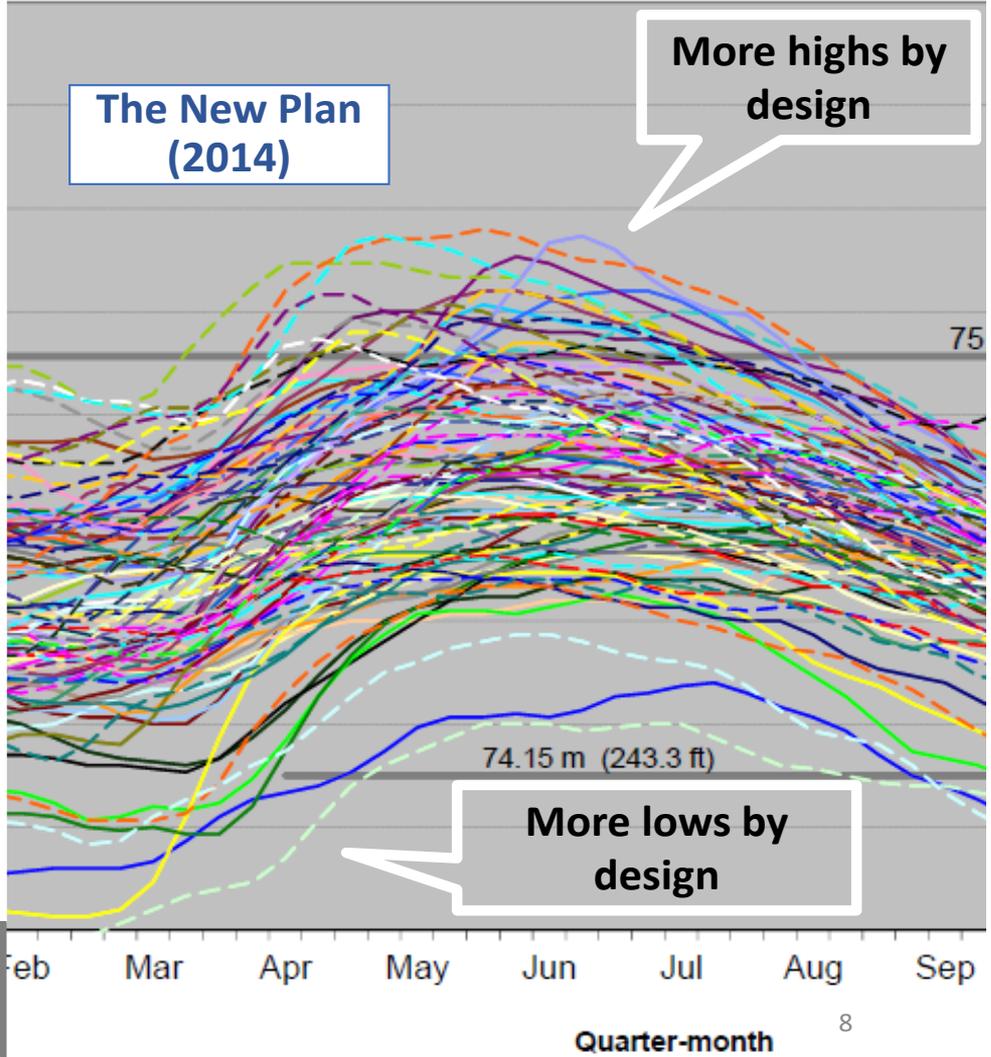
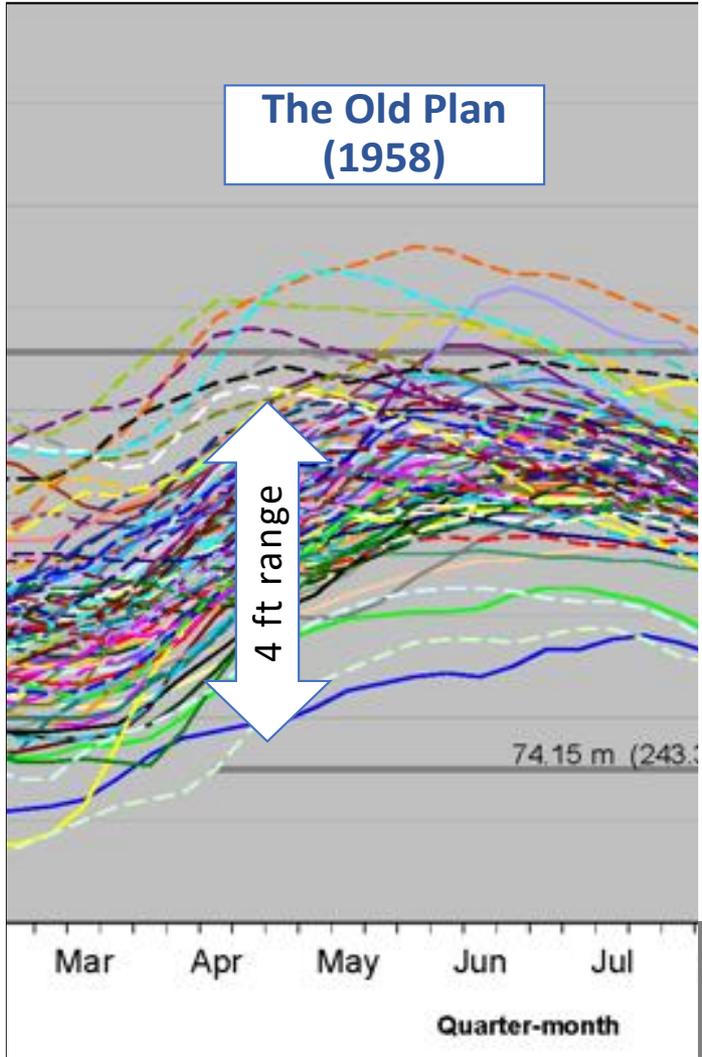
Plan 2014 was introduced
January 2017.

Plan 2014 is designed to allow for
“higher highs” and “lower lows”
on Lake Ontario, over extended
periods of time.

For 50+ years, Federal, Provincial and Municipal authorities **trusted** the limits of 1958DD in setting engineering designs and policies for such things as set backs, boat launches, public and private docks, public infrastructure as well as private shore protections permits.



From a 4' range to a 7' range... then add ½ – 2 meter waves!



If you introduce more water,
which glass will overflow first?



Plan
1958DD



Plan
2014

*They 'could'
have
released
more water
in the fall so
we were
lower
coming into
the spring (L.
Erie record
highs...).*

***But Plan
2014 does
not allow it.
The levels
are left high,
by design.***



Plan 2014 is LESS FLEXIBLE. *Climate Change?*

“Some of the benefits now [1958DD] ...are the result of ad hoc, discretionary decisions by the International St. Lawrence River Board of Control. Plan 2014 will make these benefits more assured and predictable, by removing the discretionary aspect of many of these decisions and formally making them part of the Plan’s regulation rules.” (Pg. 10, Plan 2014)

Plan 2014 will use the releases prescribed ... until Lake Ontario levels reach specified high or low trigger elevations. If levels reach the high trigger levels, then the Board will... (deviate).” (pg. 32, Plan 2014)

Cobourg 2019

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Listen critically to the news:

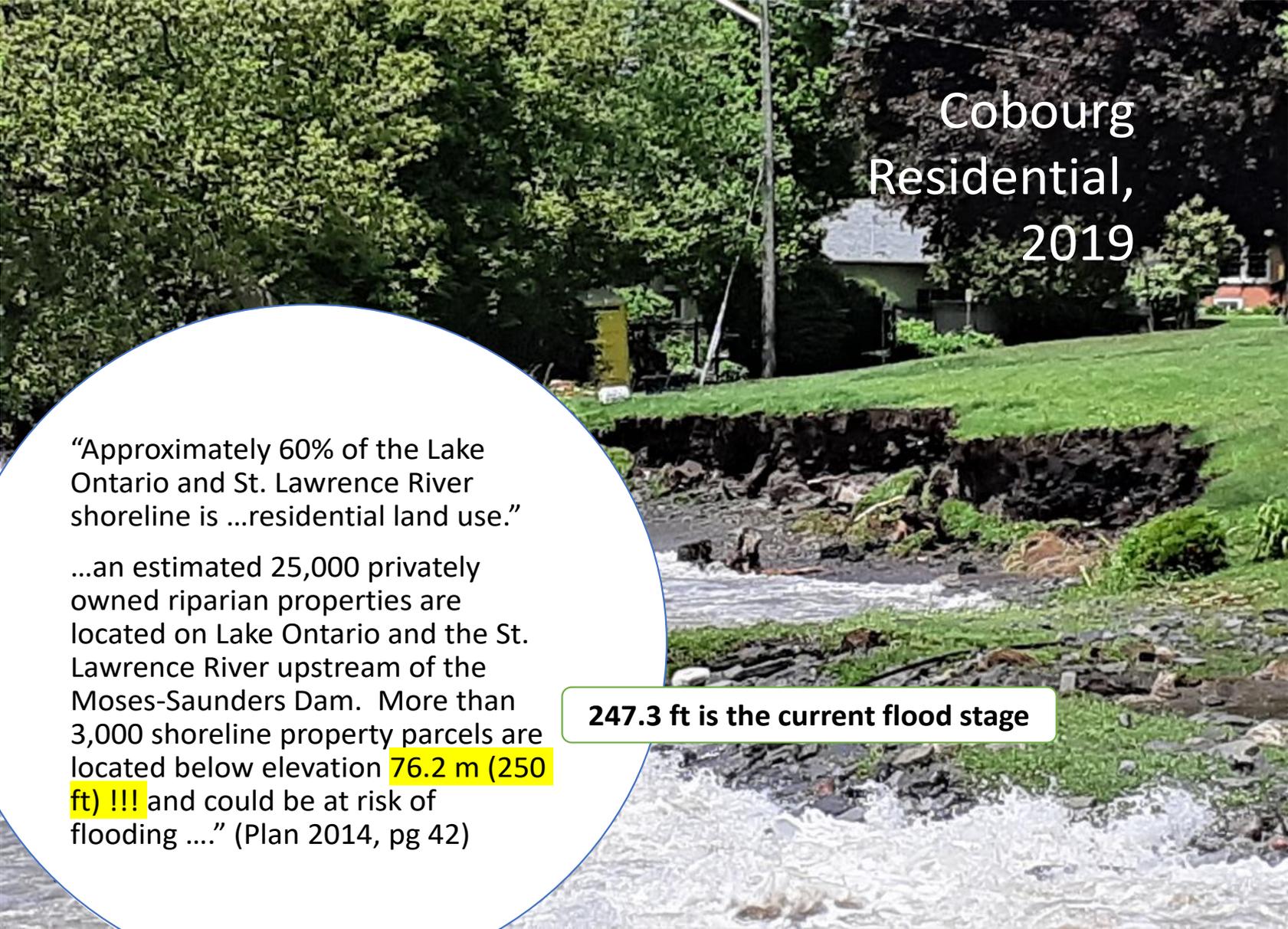
“The board did not miss any opportunities to remove water in 2018,” said Frank Bevacqua, public information officer for the IJC. “The goal was to remove as much water **as possible**, based on conditions in the St. Lawrence River.” *May 22nd 2019, Watertown Daily Times*

When they say they are releasing the 'maximum possible', they actually mean the maximum **permissible** by Plan 2014, not the maximum HUMANLY possible.

THEY CANNOT DEVIATE until extreme triggers are reached.



**Cobourg Monks Cove
June 2019**



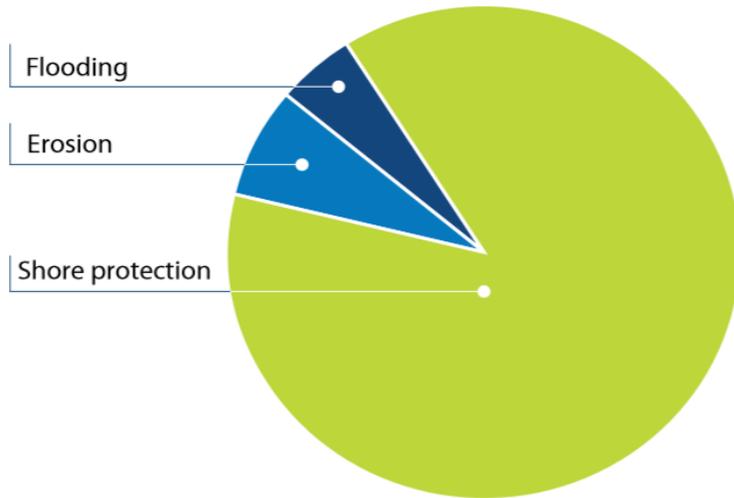
Cobourg Residential, 2019

“Approximately 60% of the Lake Ontario and St. Lawrence River shoreline is ...residential land use.”

...an estimated 25,000 privately owned riparian properties are located on Lake Ontario and the St. Lawrence River upstream of the Moses-Saunders Dam. More than 3,000 shoreline property parcels are located below elevation **76.2 m (250 ft) !!!** and could be at risk of flooding” (Plan 2014, pg 42)

247.3 ft is the current flood stage

Increases in Lake Ontario Coastal Damage under Plan 2014, by Type



Coastal damage will occur no matter the regulation plan

Most of the damage is to shore protection structures, not homes

More often than not, Plan 2014 would increase damages compared to Plan 1958DD

Plan 2014, Pg. 45

Plan 2014 acknowledges the increase in flooding, erosion and damages.

But Municipalities were not warned or given funds to prepare, mitigate or respond.

“Based on historical supplies, Plan 2014’s projected maximum level would be 2.4 inches (6 centimeters) higher than the maximum level under 1958DD --- about as tall as a tennis ball”

Plan 2014 changes the real trigger levels for April, May and June **by over a foot (30 cm)**, allowing the lake to go up a **foot higher** during the wet season and averaging it out with lower levels during the winter.

A foot higher during unpredictable rainy seasons =
more erosion and flooding

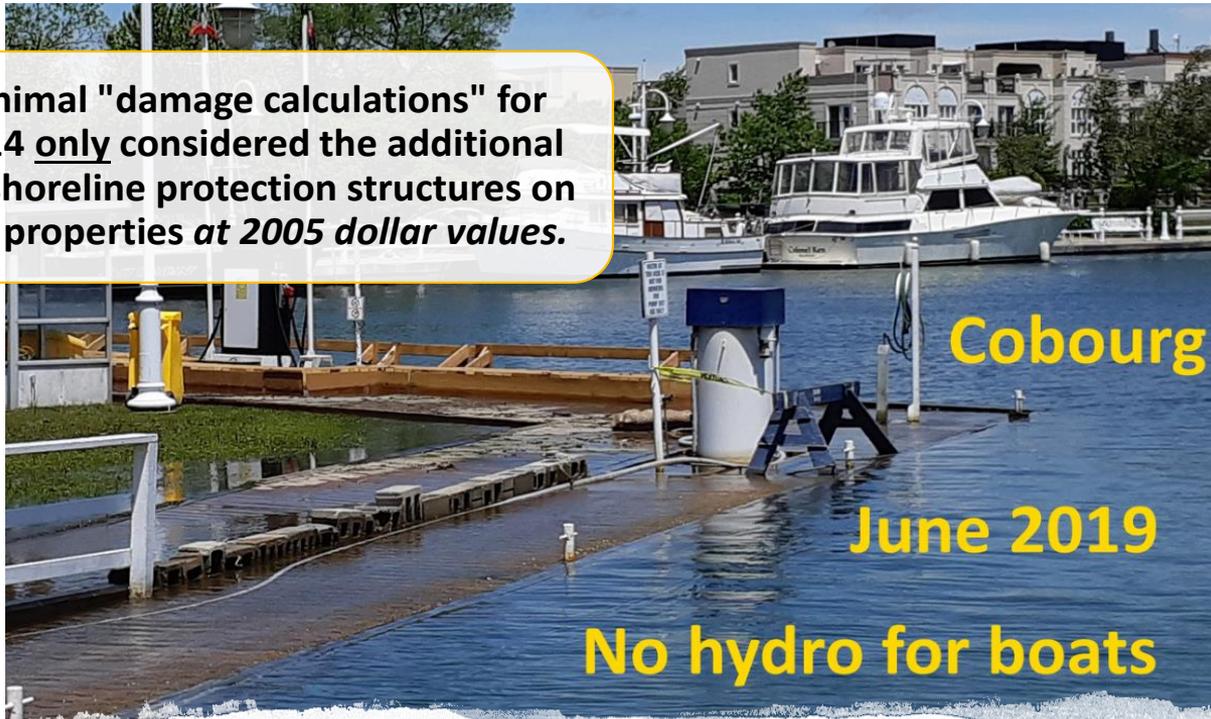
<https://www.ijc.org/sites/default/files/2019-04/Plan2014.pdf>



**THIS IS
AN
ANNUAL
AVERAGE!**

Plan 2014,
Pg. 35

The minimal "damage calculations" for Plan 2014 only considered the additional costs of shoreline protection structures on PRIVATE properties at 2005 dollar values.



The following costs were not included:

- × emergency response
- × damages to municipal infrastructure (roads, drainage, sewer)
- × damages to public parks and beaches
- × damages to properties on bays and creek inlets
- × lost economic activity from shoreline businesses
- × lost taxes due to decreased property values

Cobourg June 2019

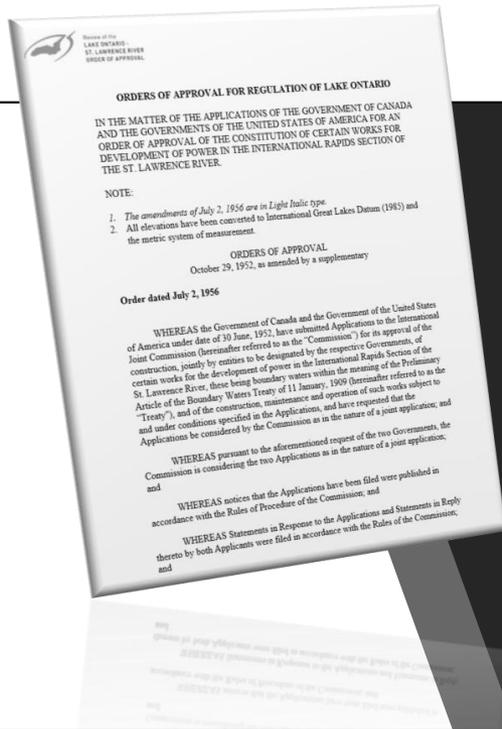
*Municipalities appear
to be the losers in
Plan 2014.*

*(Hydro and Shipping
are winners)*

Plan 2014

“Order of Approval”

December 2016



CONDITIONS:

“In Accordance with article VIII of the [1909 Boundary Waters] Treaty, interests on either side of the International Boundary that are injured by reason of the construction, maintenance and operation of the works shall be given suitable and adequate protection and indemnity as provided by the laws in Canada, or the Constitution and laws in the United States respectively.”

“The IJC is well aware that Plan 2014 will increase shoreline erosion and costs.”
Municipalities, business and home owners,
WHERE IS THAT PROTECTION AND INDEMNITY??

Plan 2014 appears to violate three Principle Guidelines of the IJC Study.

1. “If damages result from any plan, they should not fall disproportionately on any one geographic area or interest group.”
 - **Almost all the damages from Plan 2014 fall to the Lake Ontario shoreline*
2. “If damages are anticipated, mitigation and compensation measures should be in place prior to implementation.”
 - **Plan 2014 has none.*
3. “Any plan should be developed in an open process with wide public participation.”
 - **Plan 2014 was developed **in secret** by a group that only consulted with environmental advocates.*



*Dr. Frank Sciremammano was a member of the IJC study and is a current member of the International St-Lawrence River Board of Control.

In summary:

- × **Plan 2014** puts your shoreline infrastructure built to Plan 1958DD at risk;
- × **Plan 2014** will cost millions in coastal damages and emergency response;
- × **Plan 2014** violates the IJC Study “Principle Guidelines”
- × **Plan 2014** violates international treaty provisions for *protection and indemnity*.
- × **Plan 2014** transfers the risk and the burden of cost to those that can afford it the least (shoreline citizens), and to those with the fiduciary duty to protect them (Municipalities), *without mitigation or compensation*.



Toronto, Ontario
Spring flooding, 2017

Ontario opposition to Plan 2014 is growing...

Niagara Lake
on-the-lake
Department of Corporate Service
1593 Four Mile Creek Road
P.O. BOX 100, Virgil, ON L0S 1
905-468-3266 • FAX: 905-468-29
www.notl.org

April 19, 2018
Clerk's Department
Municipal Administration Centre

Town of Ajax
By the Lake
The Right Honourable
Prime Minister of Canada
Office of the Prime Minister
80 Wellington Street

Clarington
General Government Committee
Minutes
June 19, 2017
That all interested parties listed in Report EGD-015-17 and any delegations be advised
of Council's decision.
Carried
20.2 Request to Strike Committee to Review Mitigation and Safety Plan for Great
Lakes and St. Lawrence Seaway Communities
#GG-357-17
Mayor Foster, seconded by Councillor Woo
national, national and international resource;
the International

Northumberland County
Resolution
Moved By *[Signature]*

Todd Smith, MPP
Bay of Quinte
Ontario

June 14, 2019
Hon. Catherine McKenna
Minister of Environment and Climate Change
200 Sacre-Coeur Blvd
Gatineau, QC K1A 0H3
Dear Minister,
For the second time in the past three years, waters on Lake Ontario and the Bay of Quinte have risen
to the point where shoreland in my riding has been flooded and landowners negatively affected.
As you are aware, it has been three years since the International Joint Commission (IJC) introduced
Plan 2014 to control water levels on the St. Lawrence River and Lake Ontario. Given the regular occurrence
of these catastrophic floods since and recognizing the calls from New York State and from representatives
of these states on both shores of Lake Ontario, New York State and the IJC to immediately re-evaluate
the fact they were still relevant.

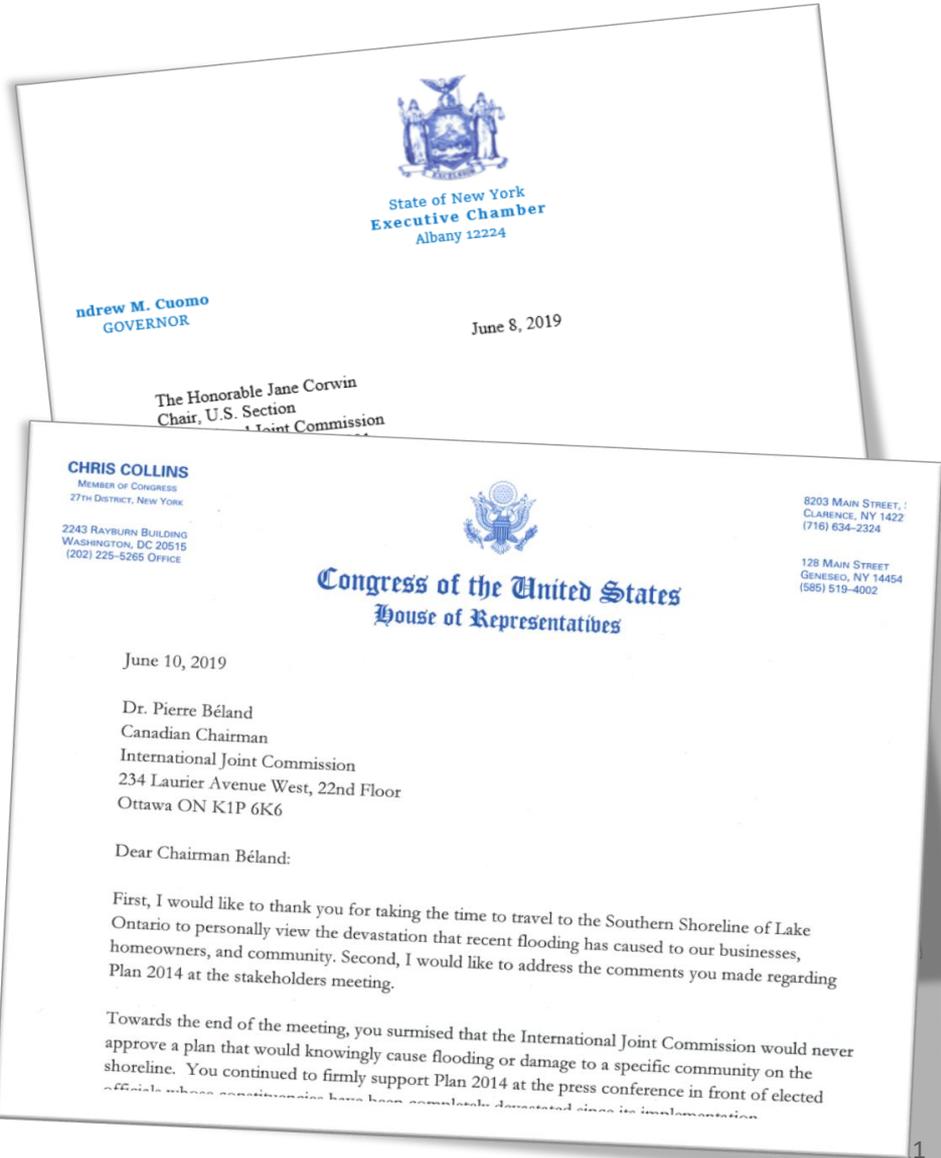
Steve Clark, MPP
Leeds-Grenville-Thousand Islands
and Rideau Lakes
June 17, 2019
Pierre Béland & Jane Corwin
Commission Co-Chairs
International Joint Commission
Canadian Section
234 Laurier Avenue West, 22nd Floor
Ottawa, ON K1P 6K6
Dear Co-Chairs Béland & Corwin:
As MPP for Leeds-Grenville-Thousand Islands and Rideau Lakes, I'm writing on behalf of the residents,
businesses and municipalities in my riding who have suffered significant losses due to this year's
flooding along the St. Lawrence River.
This is the second time in just three years that record-high water levels have inundated
people I represent. In addition to the damage to property and the loss of
substantial revenue that they will never see, the fact they were still relevant.

Constituency Office:
101 Stouffville Blvd
Suite 111
Brookville, Ontario
K2V 5J9
Tel: (913) 942-9622
Toll Free: 1-813-267-110
Fax: (913) 342-2601

New York is not prepared to accept Plan 2014

There are many elected
officials in NY that have
written such letters.

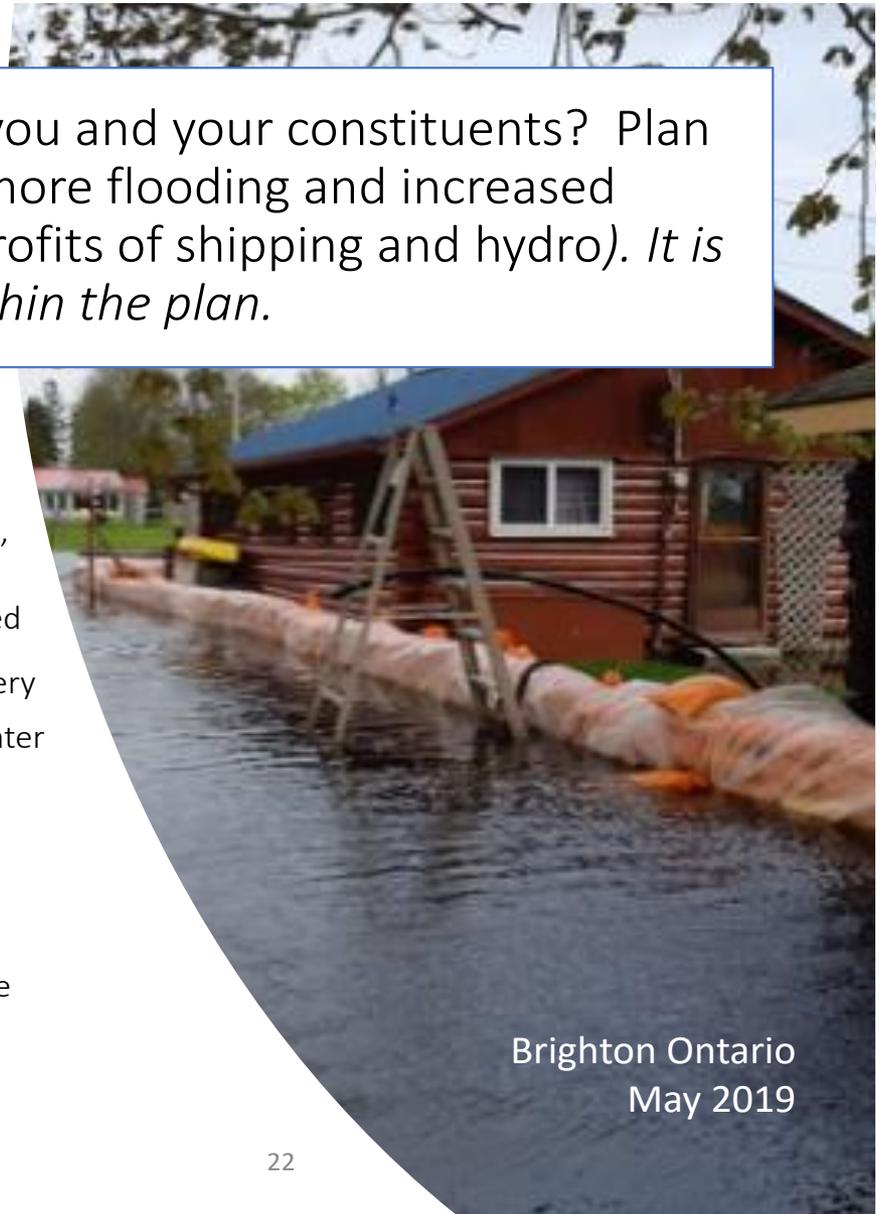
The first of many
promised class action
lawsuits has been filed.



What has 2017 and 2019 cost you and your constituents? Plan 2014 brings you higher highs, more flooding and increased erosion (while increasing the profits of shipping and hydro). *It is actually written that plainly within the plan.*

Please consider passing a resolution requesting:

- an immediate modification of Plan 2014 to better protect the interests of Municipalities, Emergency Responders and Riparian's
- a review and increase to the funding provided to municipalities for flood prevention, preparation, mitigation, response and recovery
- that the IJC, as required by the Boundary Water Treaty, protect and indemnify the Town of Cobourg and the town's shoreline residents and business owners from all damages resulting from Plan 2014.
- that the provincial and federal governments strike a committee to review mitigation and safety plans for the communities fronting the Great Lakes and St Lawrence Seaway



Brighton Ontario
May 2019



Emergency Management: What has Clarington done?

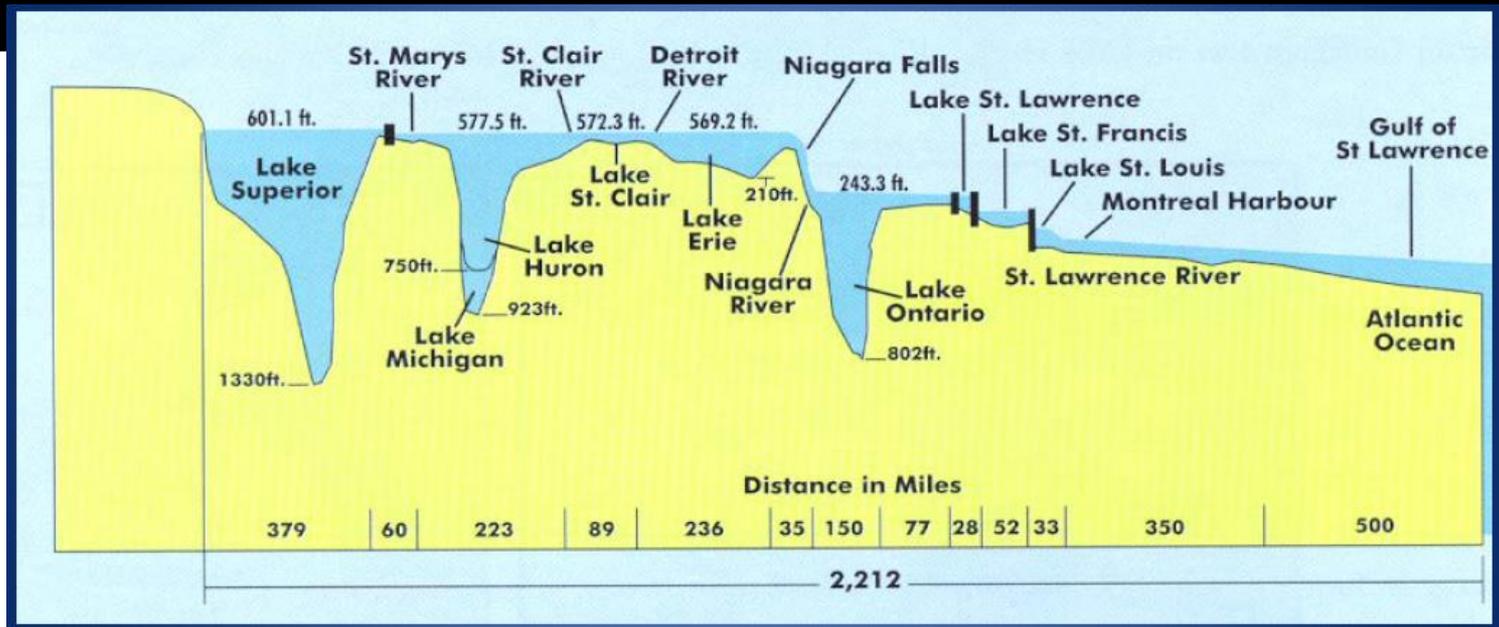
- Coordinated a municipal brigade of flood volunteers who have been trained and are on Rapid Notify
- Called in NGO Alliance - ADRA, the Red Cross, Knights of Columbus, St. John's Ambulance and OVERT
- Coordinated the efforts of 100's of volunteers to fill and deploy 1000's of sandbags, including multiple builds at local high schools.
- Bags were transported by the thousands and walls were built in partnership with the residents, wrapped in poly. It has taken heavy equipment and large daisy-chains of people to build walls over many weeks.
- Formed an emergency committee with residents to ensure effective response and communications, they meet weekly

Plan 2014

Background slides

Water flow and water levels are managed through 2 locations on the Great Lakes-St. Lawrence River system.

Lake Ontario is the lowest lake of the Great Lakes Basin, separated from the upper basin by the large drop at Niagara Falls.



Like dominos, if any of the upstream Great Lakes has rising water, that lake dumps into the next, ultimately going through the Moses Saunders Dam to the Atlantic Ocean

No disproportionate losses, no mitigation necessary... (IJC)

- P 94 of the Study Board's report states: The Study Board considered mitigation requirements for each of the candidate Plans. There were mixed views on this, with a Study Board majority determining that **there were no disproportionate losses and, hence, that no mitigation was necessary for implementation of any of the Plans.**
- This view held that all the candidate Plans fulfilled the Study Board Guidelines and principles, with a net improvement in ecological and economic benefits....



Colborne, Ontario, 2017

The Study Board Report (issued in 2006) did not have Plan 2014 in front of it.

“Plan 2014 and its predecessor Plan Bv7, which increased the damages to Lake Ontario while holding all others harmless, **were not developed and announced until after 2011.**”

So the Study Board could not have any opinion regarding mitigation or compensation for Plan 2014 since the Board did not exist after 2006.”

Dr. Frank Sciremammano was a member of the IJC study and is a current member of the International St-Lawrence River Board of Control.

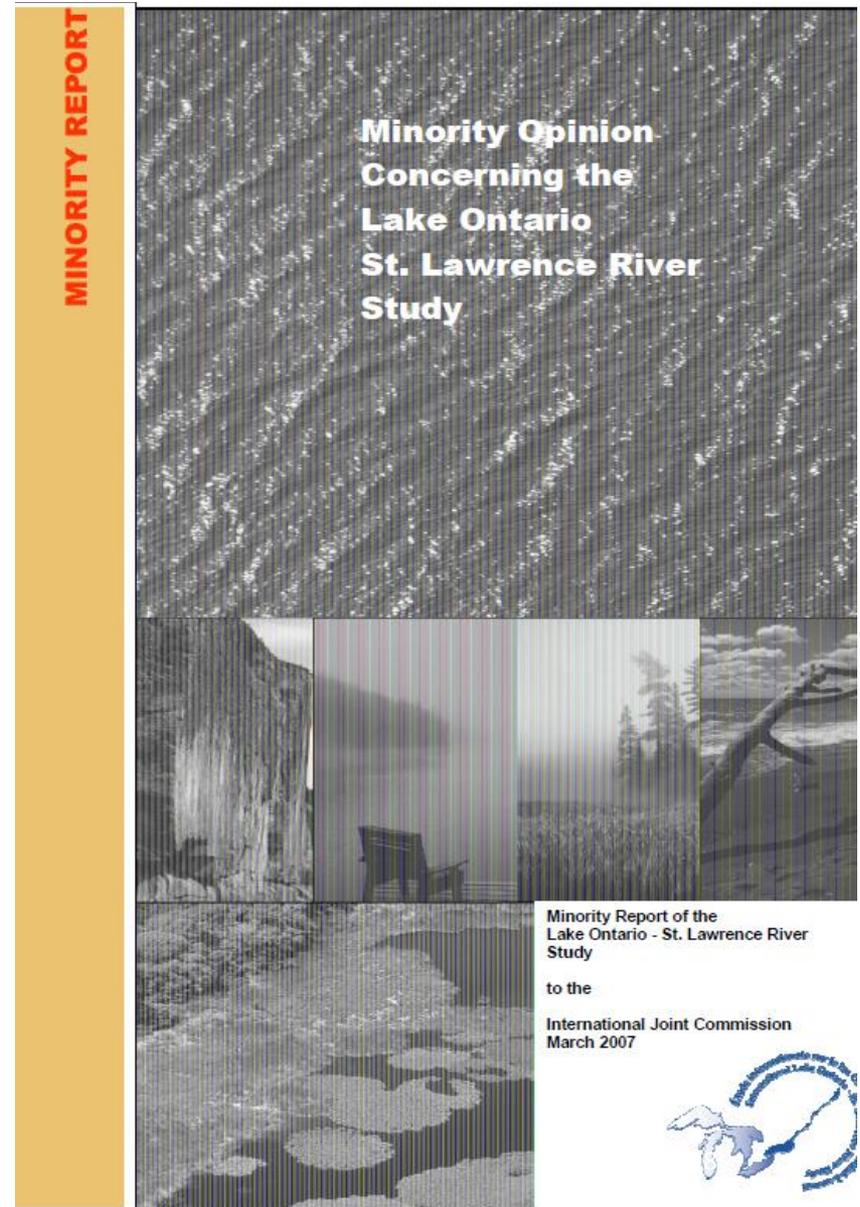
The 'science' is questionable.

“The Study was conducted and reported in a manner biased against residents and businesses located on the shoreline and embayments of Lake Ontario;

The Study lacks the scientific data, analysis and justification to reach the stated conclusions and recommendations;

In reviewing the scientific basis for the Study conclusions, a special panel of the **National Research Council** concluded that the scientific work done is neither sufficient nor adequate to support the kind of decision-making attempted.

Even if the above two factors are discounted, the Study recommendations represent poor public policy, ignoring essential social and economic considerations that should be factored into decisions regarding the operation of the system.”



		Lake Ontario level (m IGLD85)		Lake Ontario level (ft IGLD85)	
		High Trigger	Low Trigger	High Trigger	Low Trigger
1	1-Jan	75.03	74.13	246.16	243.21
2		75.07	74.13	246.29	243.21
3		75.10	74.13	246.39	243.21
4		75.13	74.12	246.49	243.18
5	1-Feb	75.14	74.12	246.52	243.18
6		75.14	74.12	246.52	243.18
7		75.13	74.11	246.49	243.14
8		75.14	74.11	246.52	243.14
9	1-Mar	75.16	74.13	246.59	243.21
10		75.18	74.15	246.65	243.27
11		75.22	74.19	246.78	243.41
12		75.27	74.25	246.95	243.60
13	1-Apr	75.33	74.33	247.15	243.86
14		75.40	74.40	247.38	244.09
15		75.45	74.46	247.54	244.29
16		75.50	74.51	247.70	244.46
17	1-May	75.53	74.55	247.80	244.59
18		75.56	74.58	247.90	244.69
19		75.60	74.61	248.03	244.78
20		75.62	74.62	248.10	244.82
21	1-Jun	75.63	74.64	248.13	244.88
22		75.62	74.65	248.10	244.91
23		75.60	74.65	248.03	244.91
24		75.59	74.65	248.00	244.91
25	1-Jul	75.57	74.65	247.93	244.91

		Lake Ontario level (m IGLD85)		Lake Ontario level (ft IGLD85)	
		High Trigger	Low Trigger	High Trigger	Low Trigger
26		75.54	74.64	247.83	244.88
27		75.50	74.63	247.70	244.85
28		75.47	74.61	247.60	244.78
29	1-Aug	75.43	74.59	247.47	244.72
30		75.39	74.56	247.34	244.62
31		75.34	74.53	247.18	244.52
32		75.30	74.50	247.05	244.42
33	1-Sep	75.26	74.46	246.92	244.29
34		75.20	74.42	246.72	244.16
35		75.15	74.39	246.56	244.06
36		75.10	74.35	246.39	243.93
37	1-Oct	75.06	74.31	246.26	243.80
38		75.01	74.27	246.10	243.67
39		74.97	74.24	245.96	243.57
40		74.95	74.20	245.90	243.44
41	1-Nov	74.94	74.18	245.87	243.37
42		74.92	74.17	245.80	243.34
43		74.91	74.16	245.77	243.31
44		74.92	74.16	245.80	243.31
45	1-Dec	74.93	74.15	245.83	243.27
46		74.93	74.15	245.83	243.27
47		74.95	74.14	245.90	243.24
48		75.00	74.13	246.06	243.21

We could see April levels as high or higher than 247.3 (which is the current flood stage) and these catastrophic levels could remain for 5 months in a row and the board would not be required to act.