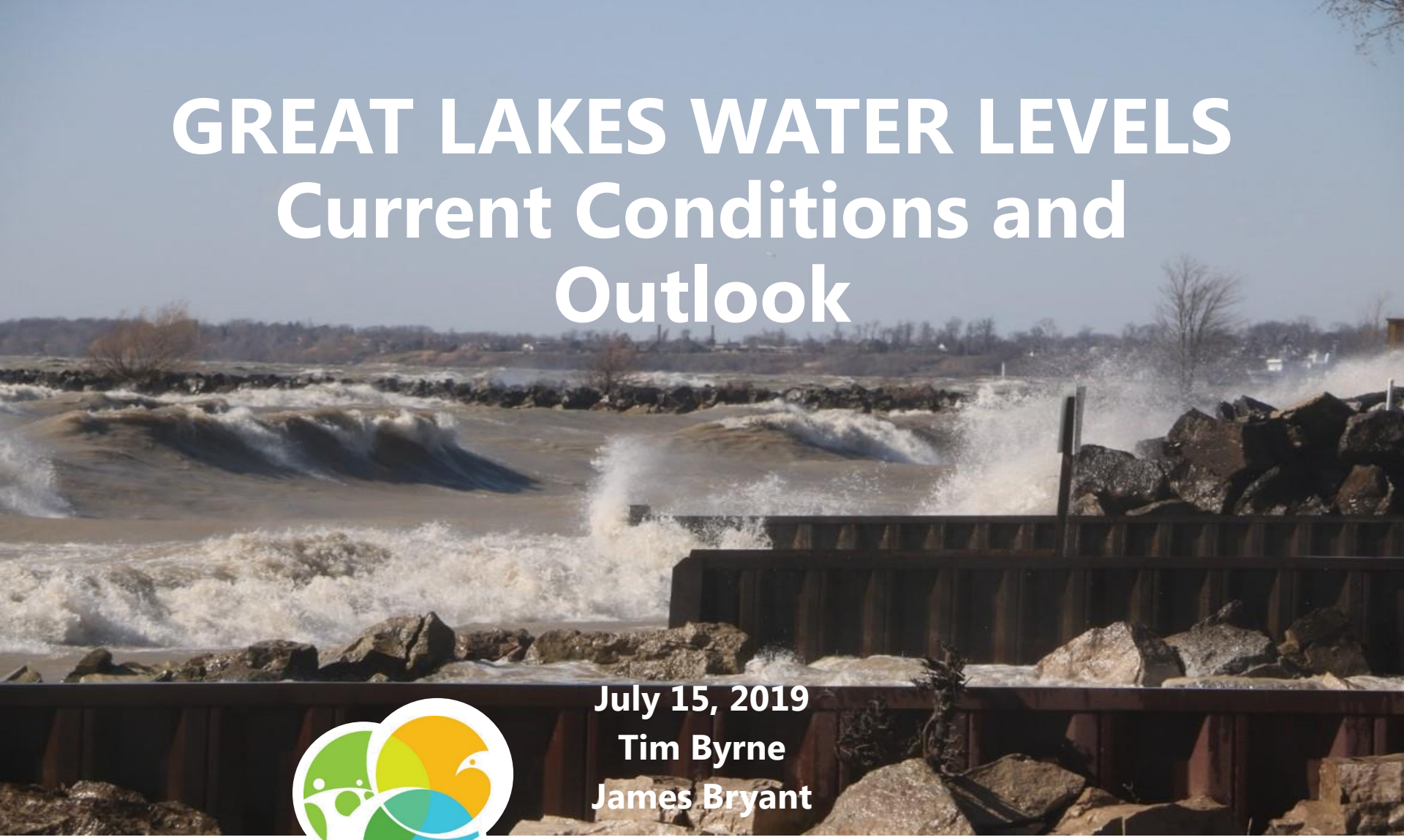


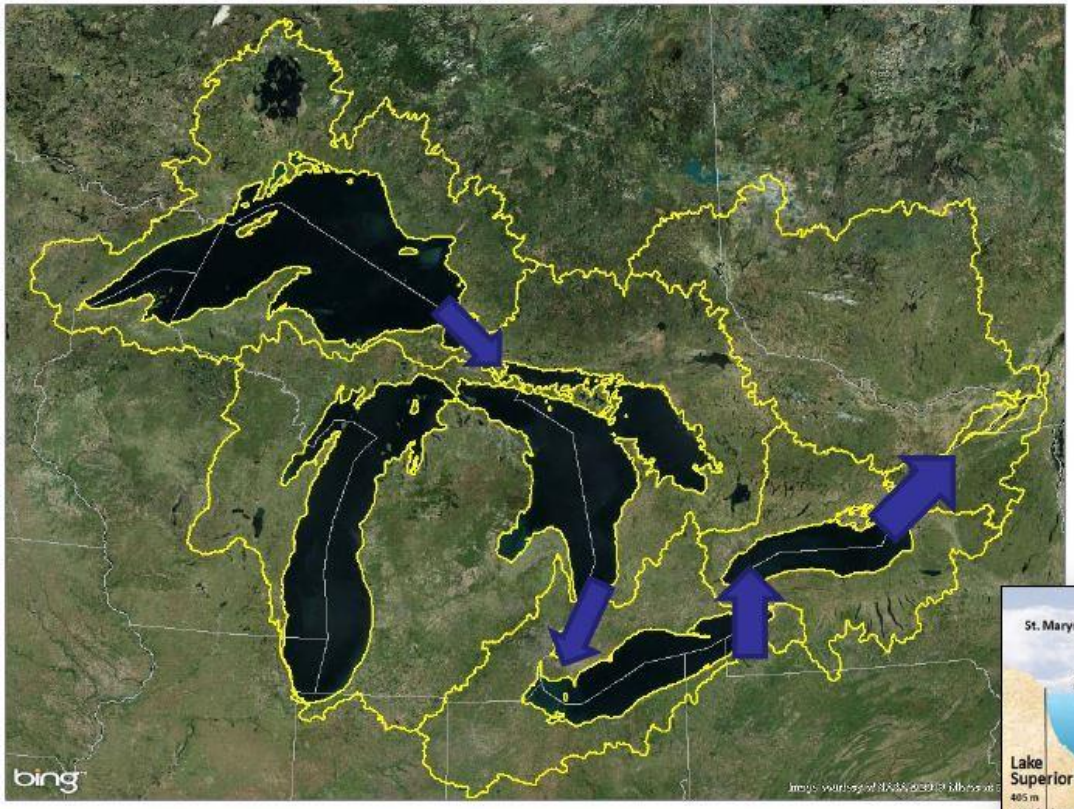
GREAT LAKES WATER LEVELS
Current Conditions and Outlook

July 15, 2019

Tim Byrne
James Bryant

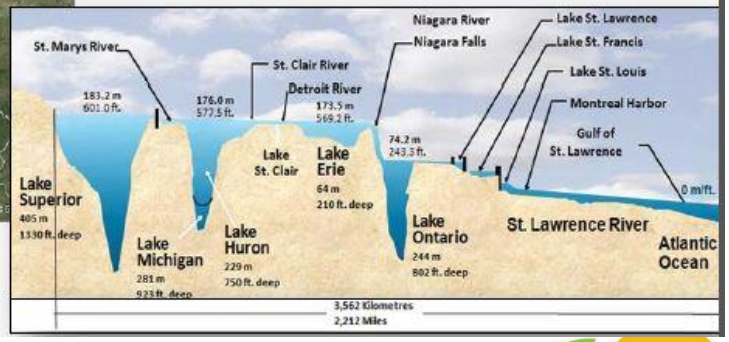
Essex Region Conservation Authority
sustaining the place for life

The Great Lakes – St. Lawrence System



	Surface Area
Superior	82,100 km^2
Michigan-Huron	117,000 km^2
Erie	25,700 km^2
Ontario	19,000 km^2

	Volume
Superior	12,100 km^3
Michigan-Huron	8,460 km^3
Erie	484 km^3
Ontario	1,640 km^3



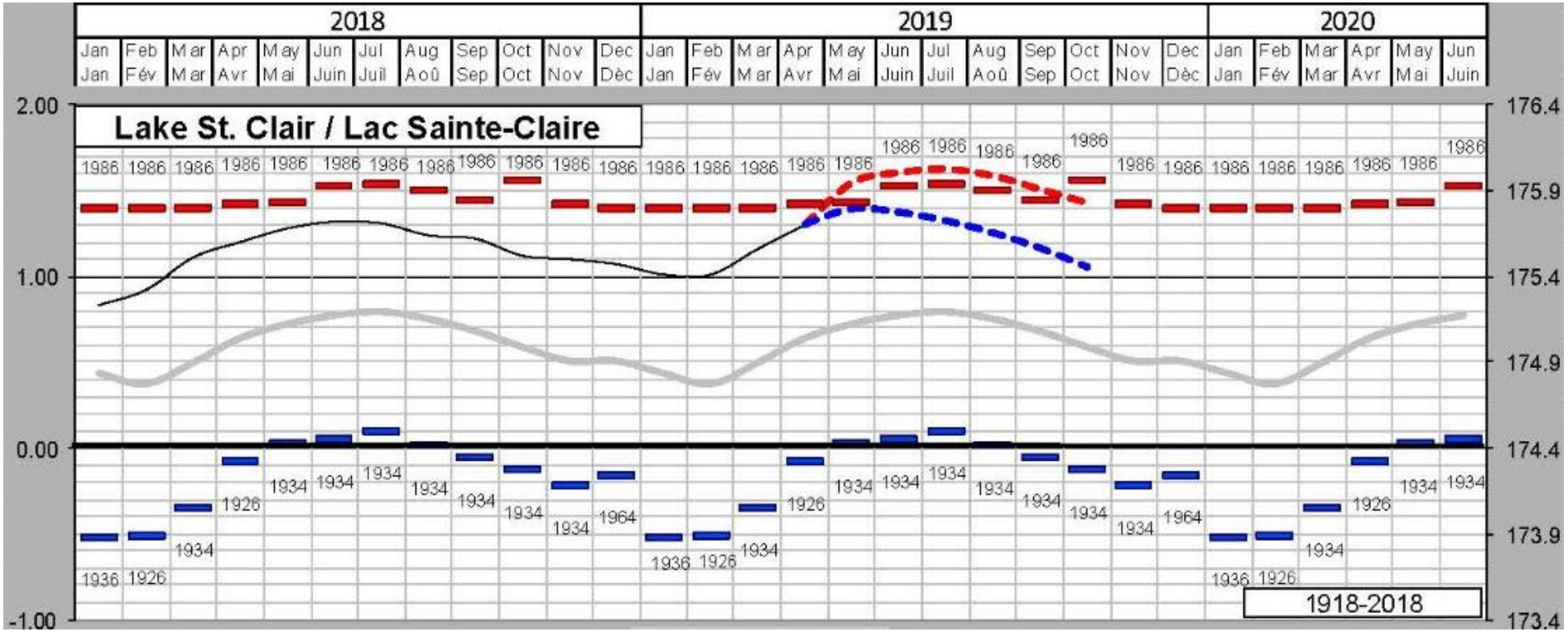
Environment and Climate Change Canada
Environnement et Changement climatique Canada

Canada

IJC Great Lakes Boards of Control

Ability to alter lake levels through the Regulation Plans is limited and is dominated by changes in water supply which could be exacerbated by climate changes

Current Water Levels / Projections



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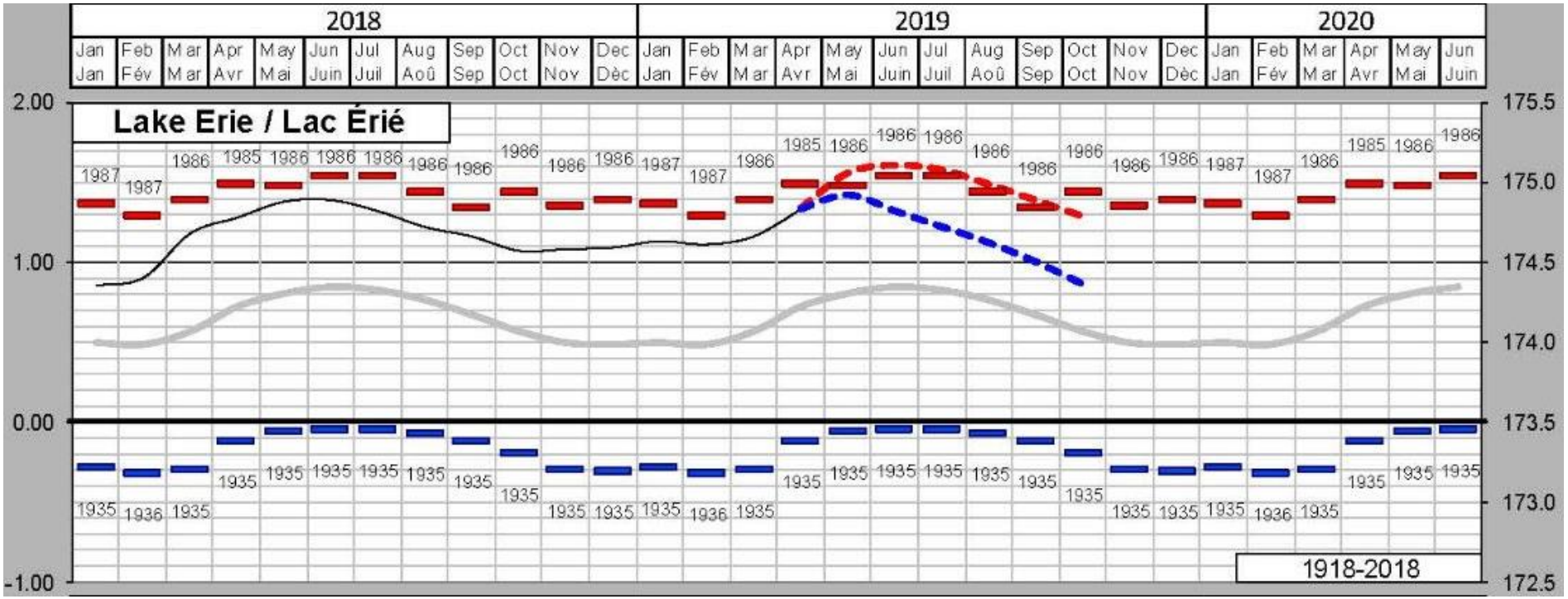
Canada

Current Water Levels / Projections



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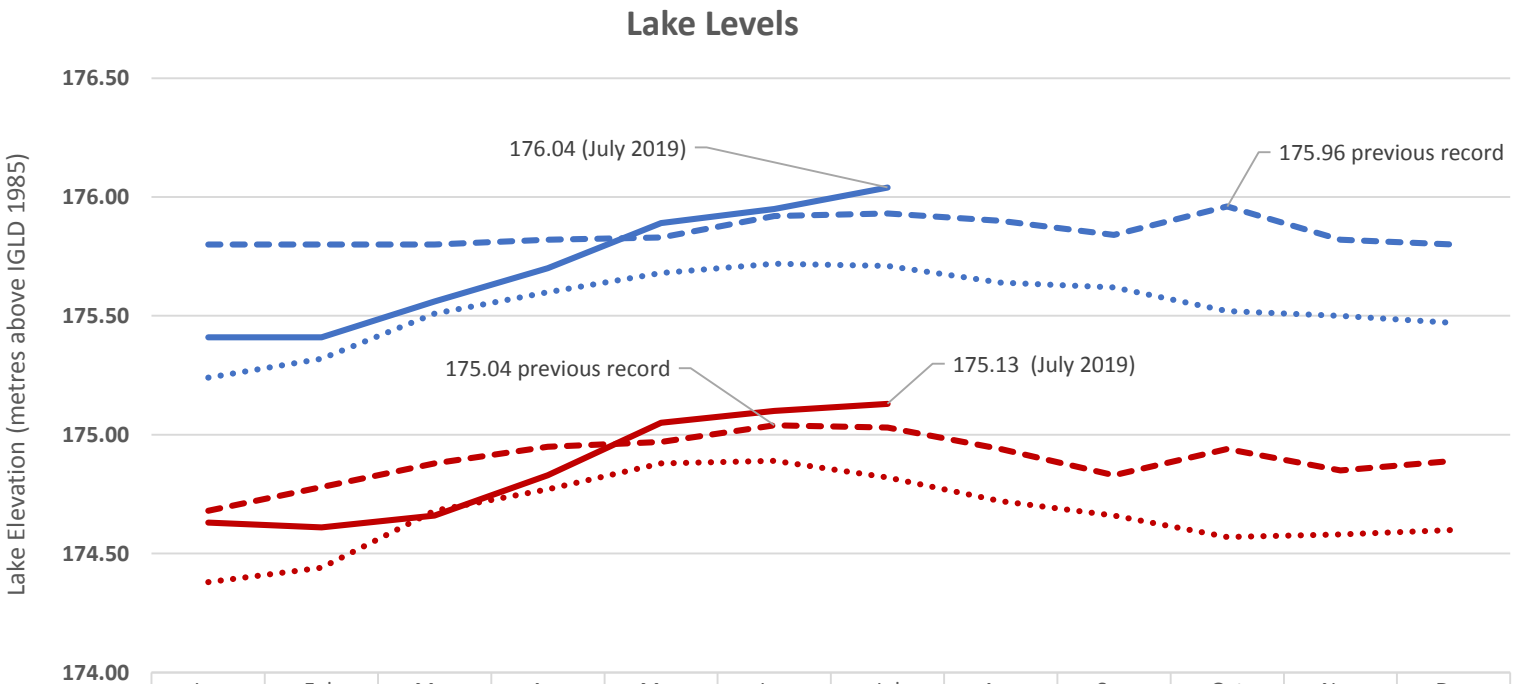
Canada

Current Water Levels



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
St. Clair 1986	175.80	175.80	175.80	175.82	175.83	175.92	175.93	175.90	175.84	175.96	175.82	175.80
St. Clair 2018	175.24	175.32	175.51	175.60	175.68	175.72	175.71	175.64	175.62	175.52	175.50	175.47
St. Clair 2019	175.41	175.41	175.56	175.70	175.89	175.95	176.04					
Erie 1986	174.68	174.78	174.88	174.95	174.97	175.04	175.03	174.94	174.83	174.94	174.85	174.89
Erie 2018	174.38	174.44	174.68	174.77	174.88	174.89	174.82	174.72	174.66	174.57	174.58	174.60
Erie 2019	174.63	174.61	174.66	174.83	175.05	175.10	175.13					

Great Lakes Levels

Current Lake Levels with respect to Historical Levels (cm above or below)

Lake	Long-Term Monthly Avg [a]	Compared to one year ago	Compared to Monthly High	Compared to All-Time High
Lake Superior	+ 34	+ 20	+ 3	-6
Lake Michigan-Huron	+ 79	+ 39	-2	-13
Lake St. Clair	+ 86	+ 35	+ 13	+ 10
Lake Erie	+ 84	+ 35	+ 14	+ 13
Lake Ontario	+ 85	+ 80	+ 17	+ 5

[a] Period of Record is 1918 - 2018

Note: Information obtained from Environment and Climate Change Canada

Great Lakes Outflow Data

	Outflow from the Great Lakes [a]			
Lake	**December**	**January**	**February**	**March**
Lake Superior	112%	115%	135%	138%
Lake Michigan-Huron	116%	119%	118%	124%
Lake Erie	121%	126%	125%	122%
Lake Ontario	124%	116%	126%	128%

[a] As a percentage of monthly long-term average

Note: Figures are preliminary and obtained from Environtment and Climate Change Canada

Great Lakes Precipitation Data

February precipitation over the Great Lakes [a,b]

Lake	%
Great Lakes Basin	139%
Lake Superior	172%
Lake Michigan-Huron	143%
Lake Erie (including Lake St. Clair)	114%
Lake Ontario	105%

[a] As a percentage of February long-term average.

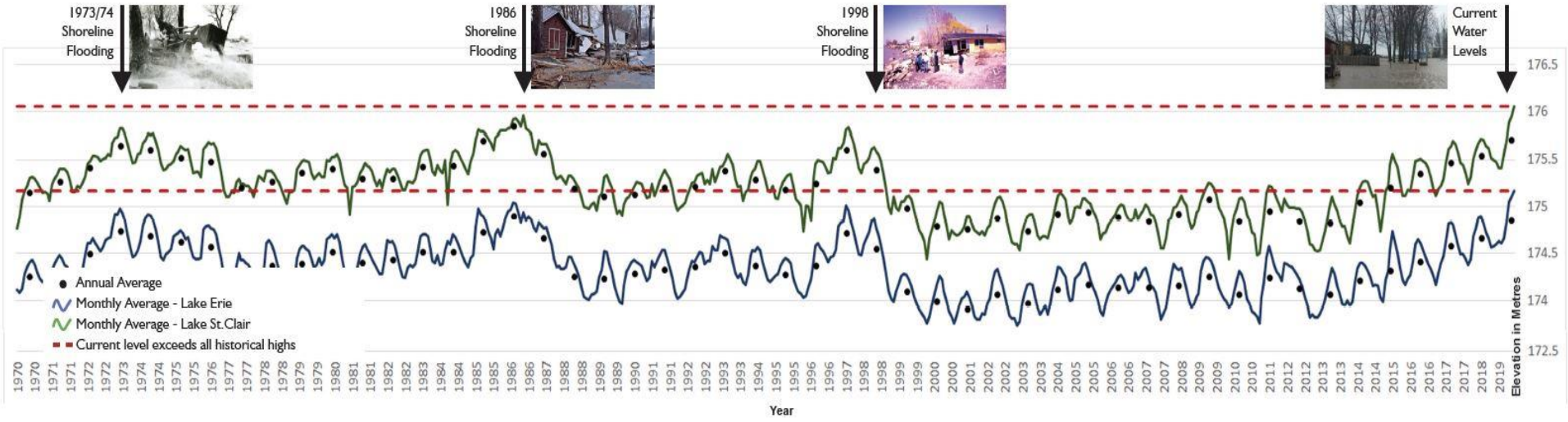
[b] United States Army Corps of Engineers

Note : These figures are preliminary.

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Canada

Lake Erie and Lake St. Clair



Little River – Little River Pump Station at Riverside Drive

March 2015

June 2017

Wind and Lake Flooding

Flood Watch/Warning

Essex Region Conservation Authority
sustaining the place for life

FLOOD WATCH

The Essex Region Conservation Authority advises that, due to predicted winds out of the southwest blowing at 30 to 40 kph, with potential gusts to 70 kph, the possiblitiy of shoreline erosion and flooding resulting from wave overtopping breakwalls and resulting spray exists within the region particularly for areas in the east limit of the Town of Essex, the Town of Kingsville and the western portions of the Municipality of Leamington west of Point Pelee National Park and the west side of Pelee Island.

People should take extra caution and avoid shoreline areas. Waves overtopping breakwalls/shorelines can be extremely dangerous. Standing water can also present its own unseen hazards. Children, pets and livestock should be kept away from flowing water, standing water and breakwall/shoreline areas.

Weather forecasts will continue to be monitored and updates provided as required.

Essex Region Conservation Authority
sustaining the place for life

FLOOD WARNING

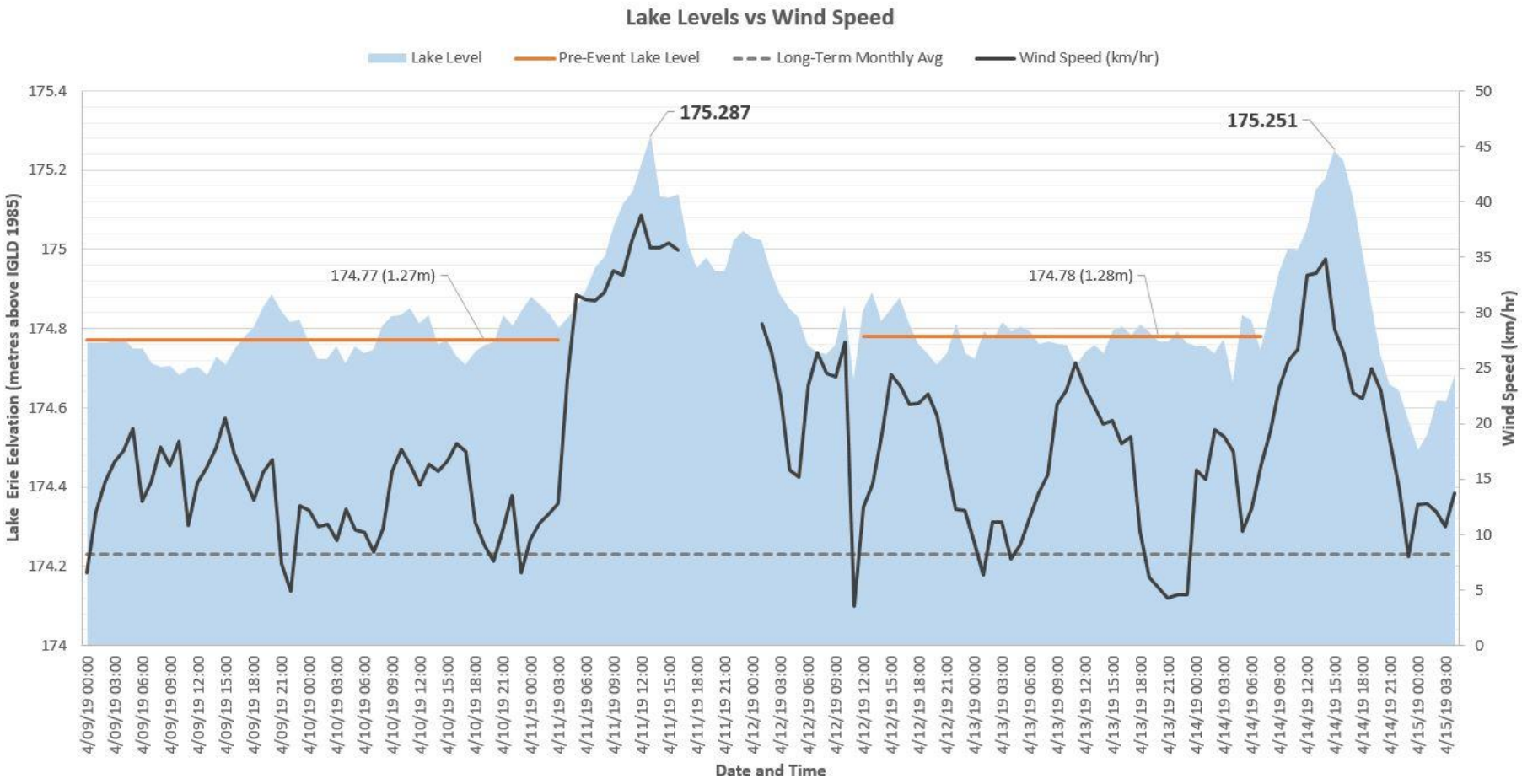
The Essex Region Conservation Authority advises that, the previously issued Watershed Conditions Statement – Water Safety (issued at 4:00 pm on Friday, May 19, 2017) has been upgraded to a **FLOOD WARNING** for portions of the Municipality of Leamington. Due to continuing winds from the east at 30 kph, with gusts to 50 kph, flooding is occurring within the Cotterie Park Road area. In the affected area, portions of the traveled road surface and private lands are covered with water. Flooding, shoreline erosion and damaging waves may also impact other shoreline areas throughout the night along the east shoreline of the Municipality of Leamington between Wheatley Harbour and Point Pelee National Park as the winds continue to blow from the east. The public is advised to avoid these areas. People who must access these areas are advised to use extreme caution when traveling through floodwater.

Due to the elevated lake levels and the easterly winds, the Municipality of Leamington should also monitor the dykes in the Southeast Leamington area.

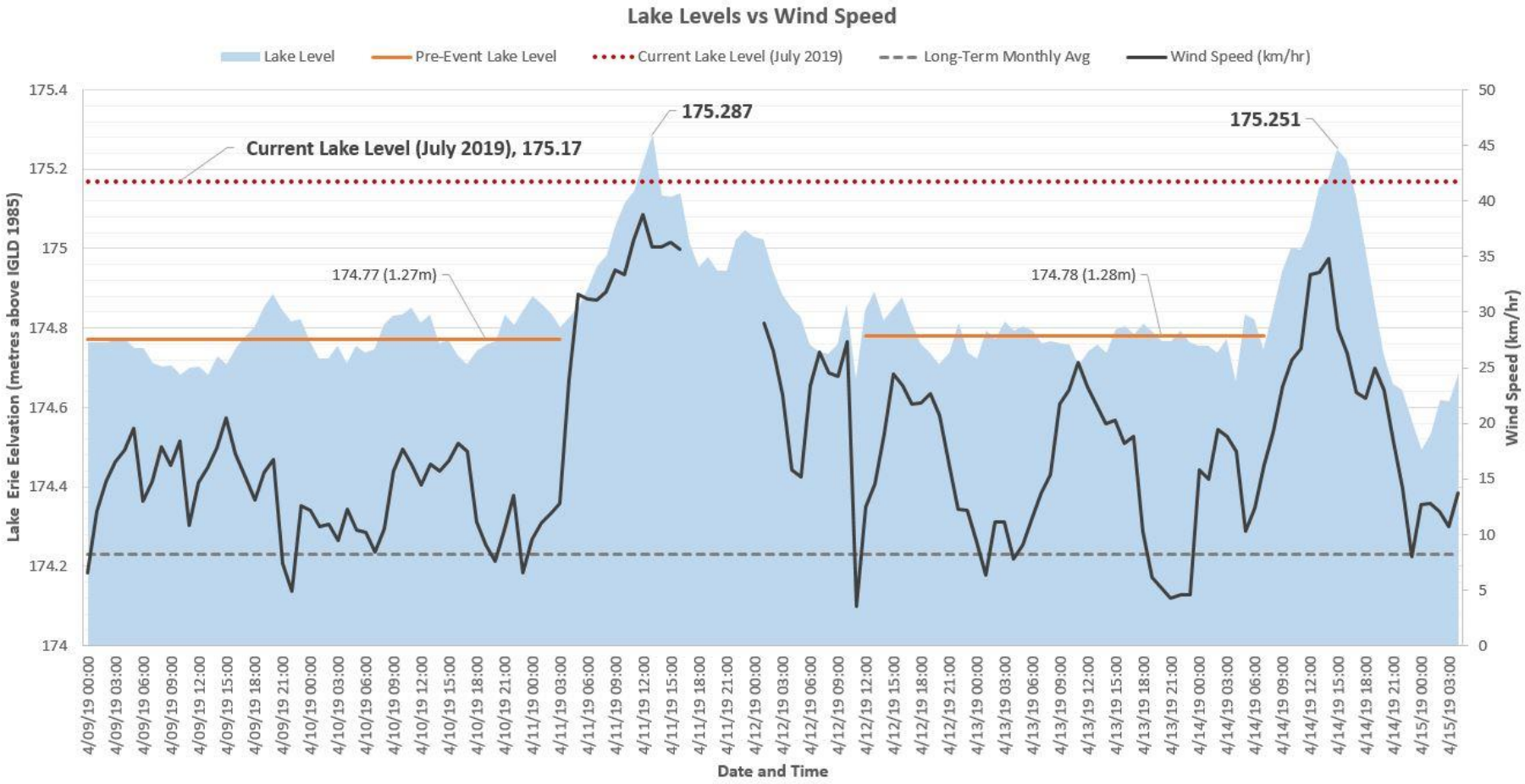
Due to the predicted wind speed and duration, areas along the Detroit River may experience increased water levels due to the lake setup.

Due to continuing easterly winds, the previously issued Watershed Conditions Statement – Water Safety (issued at 4:00 pm on Friday, May 19, 2017) has been upgraded to a **FLOOD WATCH** for the Lake Erie shoreline on the east side of Pelee Island to include the possibility of

Recent Storm Events (Apr. 11, 14)



Recent Storm Events (Apr. 11, 14)



Recent Storm Events

Lake Erie - Sturgeon Creek Outlet

Recent Storm Events

Lake Erie – Point Pelee Drive

Recent Storm Events

Lake Erie – Cotterie Park Road 2019 (April 11, 14 and May 1, 8, 12)

Recent Storm Events

Lake Erie – Cotterie Park Road (2019)

Recent Storm Events

Lake Erie – Cotterie Park Road (2018)

Recent Storm Events

Lake Erie – Cotterie Park Road (2018)

Recent Storm Events

Lake Erie – Pelee Island

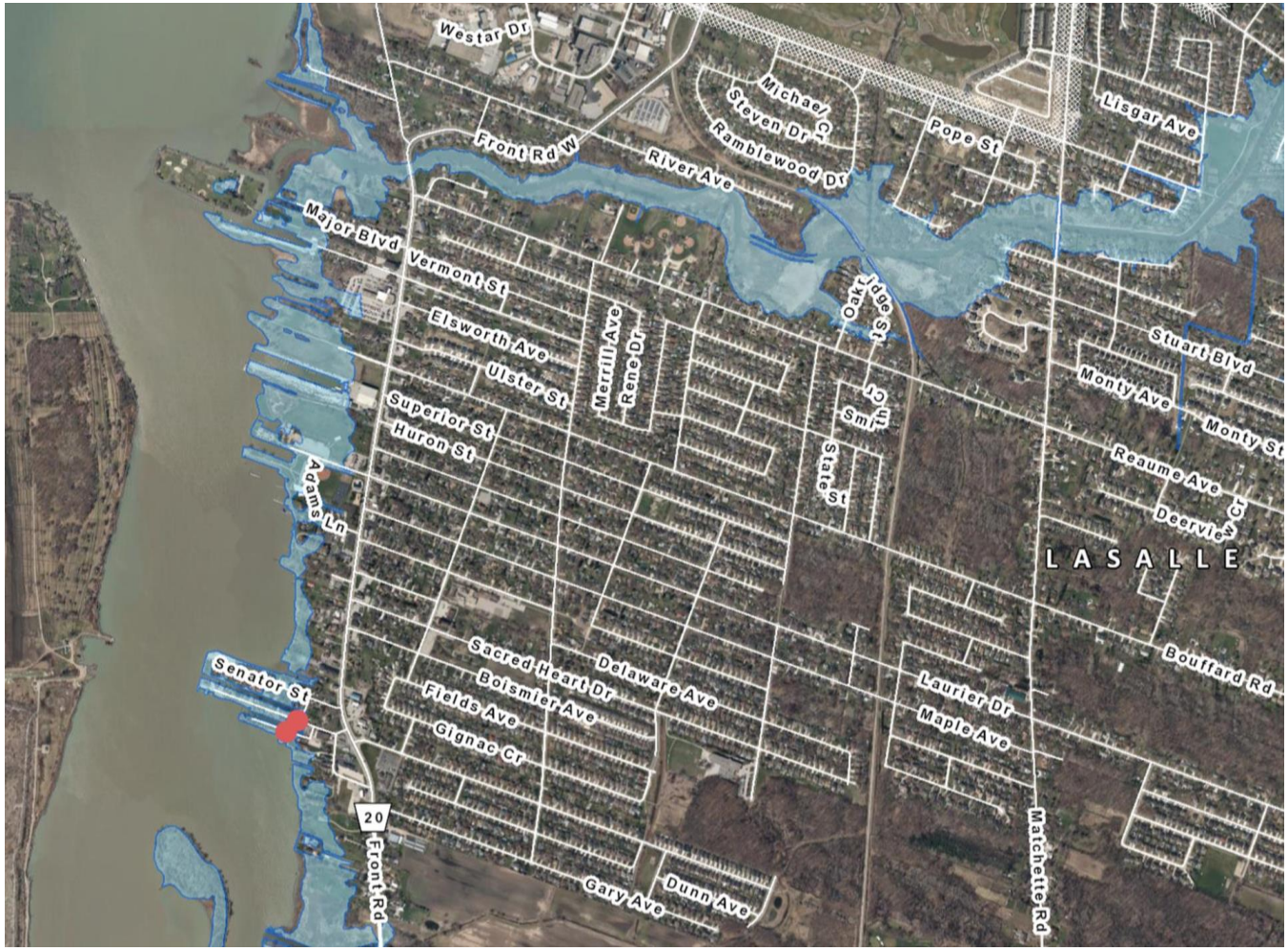
Recent Storm Events

Lake Erie – Pelee Island

Recent Storm Events

Lake St. Clair

Potential Lake Flooding (key map)



Sunnyside Drive, Wahneta Avenue

Potential Lake Flooding

Sunnyside Drive

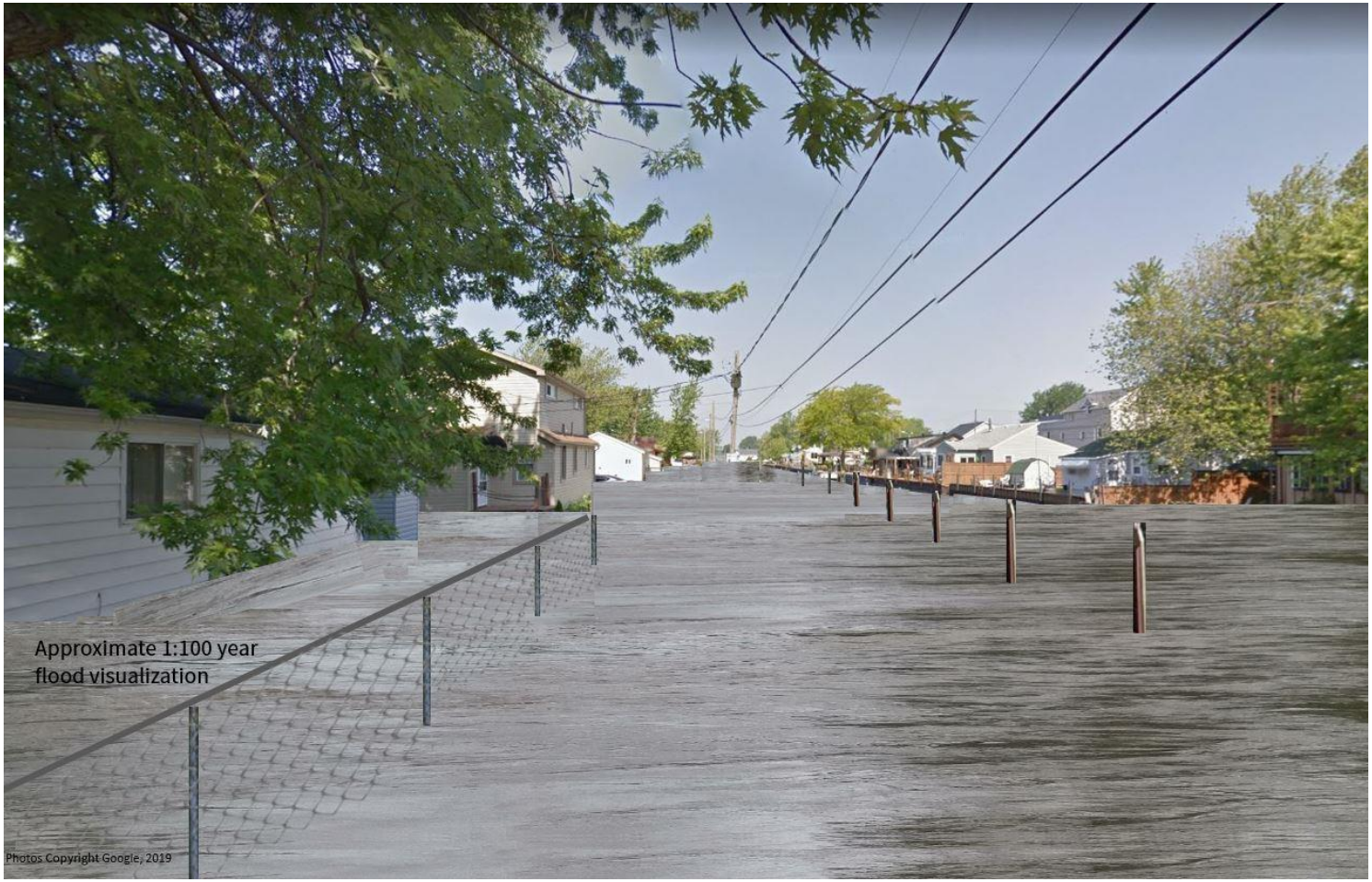
Potential Lake Flooding

Sunnyside Drive

Potential Lake Flooding

Sunnyside Drive

Potential Lake Flooding



Sunnyside Drive

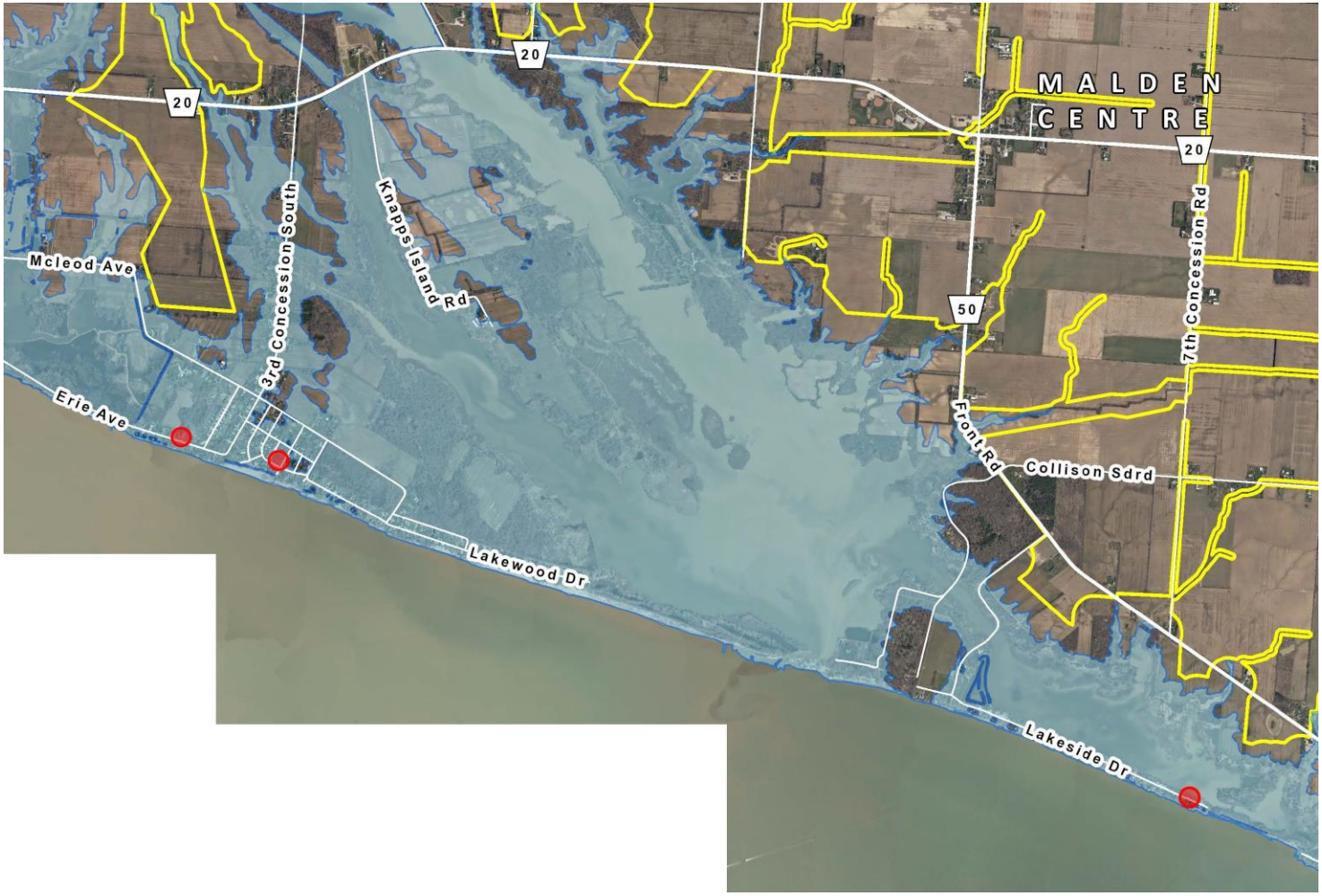
Potential Lake Flooding

Wahneta Ave. and Manhattan St.

Potential Lake Flooding

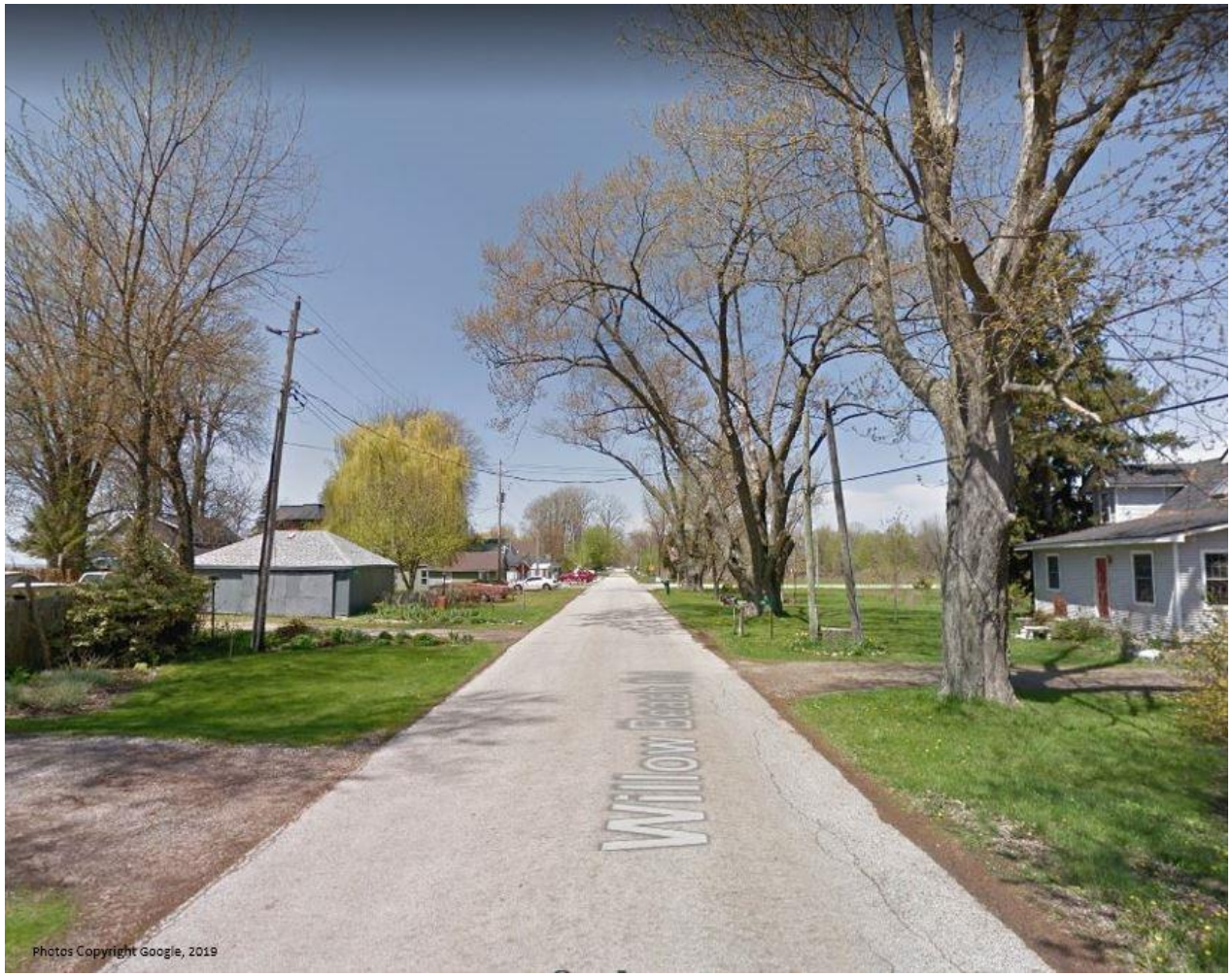
Wahneta Ave. and Manhattan St.

Potential Lake Flooding (key map)



Willow Beach Road, Claremont Lane, Lakeside Drive

Potential Lake Flooding



Willow Beach Road

Potential Lake Flooding

Willow Beach Road

Potential Lake Flooding

Claremont Lane

Potential Lake Flooding

Claremont Lane

Potential Lake Flooding

Lakeside Drive

Potential Lake Flooding

Lakeside Drive

Recent Storm Events (Rainfall)

Lesperance Road

Recent Storm Events (Rainfall)

Lesperance Road – one block south of Riverside Drive

Questions