Item 9.1

Section III – Items for the Information of the Regional Watershed Alliance

TO: Chair and Members of the Regional Watershed Alliance
Meeting #2/19, Wednesday, May 22, 2019

FROM: Nancy Gaffney, Government and Community Relations Specialist, Community Engagement and Outreach

RE: **UPDATE ON LAKE ONTARIO WATER LEVELS**

KEY ISSUE

To brief the Regional Watershed Alliance (RWA) on TRCA role and response to rising water levels of Lake Ontario.

RECOMMENDATION

WHEREAS members of the Regional Watershed Alliance have a potential interest in the rising water levels of Lake Ontario;

WHEREAS the TRCA regularly reports on and issues warnings related to Lake Ontario water levels;

THEREFORE LET IT BE PROPOSED THAT the Regional Watershed Alliance be informed of TRCA's role and response to the Lake Ontario water level situation through this report and an accompanying presentation by staff.

BACKGROUND

Lake Ontario water levels are influenced by several factors, including (unregulated) inflow from Lake Erie, (uncontrolled) runoff from watersheds that drain into Lake Ontario, and the outflow from the lake, which is controlled at Moses-Saunders Dam by the International Lake Ontario-St. Lawrence River Board (ILOSRB) under the International Joint Commission. Regulation of Lake Ontario outflows does not ensure full control of Lake Ontario levels or river levels downstream. Regulation of Lake Ontario outflows is influenced by flows in the Ottawa River in order to balance upstream risks (along Lake Ontario Shoreline) and downstream flood risks (below the confluence of the Ottawa River and the St. Lawrence River. Ottawa River flows and drainage into Lake Ontario will influence the water level response in Lake Ontario. As a result of the continued high inflows from Lake Erie, decreased outflows, and additional runoff into Lake Ontario from surrounding watersheds, there has been a significant and rapid rise in Lake Ontario water levels over in late April and into May. The expectation is that water levels will continue to rise into late May/early June.

As outlined in the Toronto and Region Conservation Authority Flood Contingency Plan, TRCA issues Shoreline Hazard Warnings specific to the Toronto Region when either of the following criteria are met for Toronto:

1. Static water level equal to or greater than 75.50 m

2. Static water level equal to or greater than 75.10 m AND projected (offshore) wave heights of 2.0m or greater.

These values were determined based on impacts to infrastructure and property during the 2017 event and were evaluated through the Toronto Islands Flood Risk Assessment study. Naturally expected impacts to beaches (ie: shortened beaches, dynamic beach effects) may occur at lower lake/wave levels. However, the above thresholds are based on impacts to infrastructure and property, which were first observed at a sustained static level of 75.60m at Toronto Islands in 2017.

CURRENT SITUATION

Lake Ontario water levels began rising in April as the snow melt and rain supplied increased waterflow in the basin.

The lake levels and wave uprush have caused erosion and impairment of public infrastructure and private property along Lake Ontario Shoreline and Toronto Island Park.

The International Joint Commission (IJC) manage control on water levels in Lake Ontario and the St. Lawrence and follow the prescribed Plan 2014 to balance upstream and downstream risks. As of May 12, 2019 flows to the St. Lawrence seaway from lake Ontario have been increased to 7300 m^3/s to decrease the rate of rise in Lake Ontario.

As of May 12, 2019 water levels in Lake Ontario have reached 75.64masl which is 17cm below levels in 2017, however are 62cm above average.

On April 30, 2019 TRCA issued the Shoreline Hazard Warning, which remains in effect.

It is anticipated that Lake Ontario Water levels will crest at the end of May and will begin it gradual decline in June. It is anticipated that lake levels will resume to normal seasonal levels by September.

RATIONALE

TRCA receives communications from the International Lake Ontario - St. Lawrence River Board (ILOSRB, established by the IJC) regarding water levels. Regarding any potential flooding in our jurisdiction from riverine or shoreline, TRCA is an advisory agency.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 2 – Manage our regional water resources for current and future generations

DETAILS OF WORK TO BE DONE

E-mail updates to municipal partners and stakeholders, with a list of links to information and forecasts from the ILOSRB and Environment Canada have been circulated and communication with partners is ongoing. Additional steps completed and ongoing by TRCA include:

- Restoration and Infrastructure (R&I) is monitoring and tracking shoreline damage;
- R&I is working to protect TRCA and municipal partner assets;

- R&I has already been engaged by partners municipalities to assist with response operations. R&I staff are prepared to undertake response and mitigation activities on behalf of our municipal partners, at their commission (cost-recovery);
- Government and Community Engagement and Marketing have prepared and provided public and strategic partner messaging, including Councilors, MP's and MPP's (in shoreline areas);
- Media coverage for this event has been substantial in the last week, approximately 15 interviews in total completed by the Planning Chief/Liaison Officer and have included radio, TV and print; and
- Flood Risk Management and Marketing are monitoring social media.

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