



# Toronto and Region Conservation Authority

## Regional Watershed Alliance Agenda

#3/19

September 11, 2019

6:30 P.M.

HEAD OFFICE, 101 EXCHANGE AVENUE, VAUGHAN

### Members

Acting Chair: Jennifer Drake

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1. ACKNOWLEDGEMENT OF INDIGENOUS TERRITORY
2. WELCOME AND INTRODUCTIONS
3. APPROVAL OF MINUTES OF MEETING #2/19, HELD ON MAY 22, 2019  
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4. DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF
5. CORRESPONDENCE
6. ITEMS FOR THE ACTION OF THE REGIONAL WATERSHED ALLIANCE

#### 6.1 APPOINTMENT OF ACTING CHAIR AND VICE CHAIR

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Report by Victoria Kramkowski

To appoint an Acting Chair and an Acting Vice Chair to the Regional Watershed Alliance for the remainder of the Chair's term.

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	Summary of current and future initiatives to improve flood risk management, associated stakeholder outreach and overview of projects funded by the National Disaster Mitigation Program (NDMP), as presented to Toronto and Region Conservation Authority (TRCA) Board of Directors on June 21, 2019.	
6.3	<b>CARRUTHERS CREEK WATERSHED PLAN: PHASE 2 UPDATE</b> <b>Report and Presentation by Cameron Richardson</b>	22
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	To update and inform the Regional Watershed Alliance on TRCA responses to the <i>Conservation Authorities Act</i> review and amendments, the Provincial Policy Statement review, and the new draft Great Lakes Canada-Ontario Agreement.	
9.	<b>NEW BUSINESS AND GOOD NEWS STORIES</b>	
9.1	<b>Andrew McCammon, Executive Director, Ontario Headwaters Institute, on High Consensus: Deep Concerns - Report on a Sustainable Planning Survey of Ontario's Environmental Stewardship Community</b>	
10.	<b>ADJOURNMENT</b> NEXT MEETING OF THE REGIONAL WATERSHED ALLIANCE #4, TO BE HELD ON NOVEMBER 13 AT 6:30 P.M. AT HEAD OFFICE, 101 EXCHANGE AVENUE, VAUGHAN  Chandra Sharma, Director, Watershed Strategies  /jm	

### Items for the Action of the Regional Watershed Alliance

**TO:** Chair and Members of the Regional Watershed Alliance  
Meeting #3/19, Wednesday, September 11, 2019

**FROM:** Chandra Sharma, Director, Community Engagement and Outreach

**RE:** **Appointment of Acting Chair and Acting Vice Chair**

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#### KEY ISSUE

To appoint an Acting Chair and an Acting Vice Chair to the Regional Watershed Alliance for the remainder of the Chair's term.

#### RECOMMENDATION

**WHEREAS the current Chair of the Regional Watershed Alliance is no longer a member of the Toronto and Region Conservation Authority Board of Directors and hence, is no longer a member of the Regional Watershed Alliance;**

**AND WHEREAS the Regional Watershed Alliance currently has a Vice Chair and an Alternate in place;**

**AND WHEREAS the current term of the Chair ends with the Regional Watershed Alliance meeting taking place Wednesday, November 13, 2019 (Meeting #4/19)**

**THEREFORE LET IT BE RESOLVED THAT the Regional Watershed Alliance appoint the current Vice Chair as the Acting Chair and appoint the current Alternate as the Acting Vice Chair for the remainder of the current term of the Chair.**

#### BACKGROUND

The 2017-2021 Terms of Reference: TRCA Regional Watershed Alliance state that members will be appointed for a two-year term with a possible extension of up to two more years. The term of the current Chair will end after the RWA meeting taking place on November 13, 2019 (#4/19).

TRCA Vice Chair and RWA member, Councillor Jack Heath served as Acting Chair beginning with the first RWA meeting on November 15, 2017. At the Regional Watershed Alliance (RWA) meeting on November 14, 2018 (#3/18), Jennifer McKelvie was elected Chair of the RWA. Jennifer Drake was elected Vice Chair and Andy Wickens was elected Alternate.

The City of Toronto made new appointments to TRCA Board of Directors on July 18, 2019 and Jennifer McKelvie was not reappointed. Section 4.1.4 of the Terms of Reference state that in the absence of the Chair, the Vice Chair will perform the Chair's functions. However, it is recognized that there is a distinction between the absence of the Chair and the Chair vacating their position, and that as such, the Vice Chair cannot fill the role of Chair when the Chair's position has been vacated without approval of the RWA.

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### **RATIONALE**

Given that there remain two RWA meetings (September 11, 2019 and November 13, 2019) in the current Chair's term, it is recommended that the current Vice Chair, Jennifer Drake, be appointed Acting Chair for the remainder of the term. It is also recommended that the current Alternate, Andy Wickens, be appointed Acting Vice Chair for the remainder of the term. If the RWA confirms these appointments, an election for the new Chair and Vice Chair will be held upon the commencement of the next RWA term.

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

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

**Strategy 5 – Foster sustainable citizenship**

**Strategy 12 – Facilitate a region-wide approach to sustainability**

### **DETAILS OF WORK TO BE DONE**

A new Chair and Vice Chair will be elected at the beginning of the next term of the RWA.

**Report prepared by: Victoria Kramkowski, extension 5707**

**Emails: Victoria.Kramkowski@trca.on.ca**

**For Information contact: Victoria Kramkowski, extension 5707**

**Emails: Victoria.Kramkowski@trca.on.ca**

**Date: August 16, 2019**

### Section I – Items for Board of Directors Action

**TO:** Chair and Members of the Regional Watershed Alliance  
Meeting #3/19, Wednesday, September 11, 2019

**FROM:** Sameer Dhalla, Director, Development and Engineering Services

**RE:** **FLOOD RISK MANAGEMENT UPDATE**

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#### KEY ISSUE

Summary of current and future initiatives to improve flood risk management, associated stakeholder outreach and overview of projects funded by the National Disaster Mitigation Program (NDMP), as presented to Toronto and Region Conservation Authority (TRCA) Board of Directors on June 21, 2019.

#### RECOMMENDATION

**THAT Regional Watershed Alliance members receive this modified report, originally presented to the TRCA Board of Directors on June 21, 2019, as background on Flood Risk Management activities;**

**AND FURTHER THAT Regional Watershed Alliance members receive the presentation entitled “Flood Risk Outreach”;**

**AND FURTHER THAT Regional Watershed Alliance members review the list of Frequently Asked Questions to assist in preparing for possible inquiries from the public regarding flood risk management activities.**

#### BACKGROUND

One of the core mandates of TRCA is to provide services to partner municipalities to reduce flood risk. Activities within this realm include flood forecasting, issuing flood warning messages, operating flood infrastructure, implementing flood mitigation projects, and the regulation of development in floodplains. TRCA has continued to invest in all aspects of flood risk management, and this work has been accelerated since 2015 by successfully securing over \$3.9 Million in matching funds through the National Disaster Mitigation Program (NDMP).

The roles and responsibilities for ensuring public safety during flood events are shared between various levels of government, conservation authorities, and individuals. Municipalities are legislated, through the Provincial Emergency Management and Civil Protection Act, to develop emergency plans and undertake response actions, including road closures and evacuations. In order to provide support to our municipal partners to meet their obligations for emergency management, the TRCA operates a Flood Forecasting and Warning (FFW) Program in accordance with the Ministry of Natural Resources and Forestry (MNRF) *Provincial Flood Forecasting and Warning Guidelines*. The program is designed to:

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- Support municipal flood emergency planning,
- Monitor weather and watershed conditions daily and maintain a local data collection network,
- Issue flood messages to municipalities, applicable agencies, media and the public, to advise of potential flooding when appropriate,
- Operate TRCA dams and flood control structures to reduce the effects of flooding when appropriate,
- Maintain communications with municipalities and the MNRF Surface Water Monitoring Centre during a flood event.

In order to fulfil this role, TRCA works closely with partner municipalities, and with meteorological authorities such as the Ontario Storm Prediction Centre (OSPC) operated by Environment Canada and Climate Change (ECCC).

This mandate was tested on August 7, 2018 when an unexpected storm hit the Black Creek watershed and portions of the Don and Lake Ontario watershed in Toronto. The sudden appearance of a storm that caused flooding raised questions regarding responsibilities and communication protocols in responding to these types of events. At TRCA Executive Meeting #6/18, held on August 10, 2018, the following resolution was approved:

*THAT Toronto and Region Conservation Authority (TRCA) in response to the August 7 2018 storm event prepare a preliminary report regarding potential improvements to responses to flooding issues within the TRCA municipalities, including suggestions for improving the municipal planning process including consideration of how to better involve TRCA in the review of Committee of Adjustment and other planning applications in flood prone areas; explore installation of additional gauges in flood prone systems where gaps may exist; working with municipalities to improve the dispatch and communication protocols; engagement with municipal members, provincial and federal governments for additional resources; improved public alert systems and coordination with media, and emergency management training.*

While this report will summarize TRCA's response to the August 7, 2018 flood event, it is primarily meant to outline the work that has long been underway to improve TRCA's flood risk management program. In addition, this report will provide an update on NDMP projects that TRCA has been undertaking to strengthen the program and fulfil Resolution #A109/16 approved at Authority Meeting #6/16, held on July 22, 2016.

### **RATIONALE**

TRCA's Flood Risk Management program plays a keystone role in fulfilling our Strategic Plan objectives to reduce flood risks and protect communities. The program spans the full spectrum of emergency management: from risk assessment, support of preventative measures, preparedness planning, outreach with municipal partners, Flood Forecasting

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and Warning during flood events, to flood event documentation and analysis after the storm. TRCA's flood management program is one of the most advanced in Canada, incorporating state of the art technologies in real-time gauging, hydrology and hydraulic modeling and multi-mode communications. The program is staffed by a complement of Flood Duty Officers (FDOs) and Chief Flood Duty Officers (CFDOs) who are on-call 24/7. During flood events, the information provided by TRCA plays a critical role assisting municipal partners in making decisions for emergency response.

The characteristics of TRCA's watersheds, however, present unique challenges. Many of the catchments in TRCA's jurisdiction are small, steep, and highly urbanized. Intense rainfall thus quickly accumulates in rivers and streams, leaving little lead-time before flooding actually occurs. Flooding in the TRCA jurisdiction can happen at any time of year; fall storms can draw on tropical moisture from Atlantic hurricanes, mid-winter thaws present the risk of ice jams, spring warm-ups melt the seasonal snowpack, and summer brings the risk of thunderstorms. These summer storms present particular challenges because they are highly unpredictable from a meteorological perspective. The potential energy and moisture for a serious convective storm may exist on many summer days, but determining exactly where, and if, they will form, remains challenging.

In addition to utilizing weather forecasts and warnings from our partners in weather science, TRCA operates a network of telemetered rainfall and stream gauges to provide real-time situational awareness throughout our watersheds. As an additional layer of precaution, the real-time gauges are assigned thresholds, and notification alarms are enabled to alert FDOs when these thresholds are exceeded.

With the August 7, 2018 event, an unexpected tropical rainstorm formed over portions of North York and moved slowly south across downtown Toronto. This very localized storm inundated the Black Creek watershed and western parts of the Don River catchment. It caused flooding in low-lying areas, specifically in the historically flood vulnerable community adjacent to Black Creek between Rockcliffe Blvd. and Weston Rd. This storm was unusual in the following ways:

- It was unexpected – heavy rainfall was not forecast by the Ontario Storm Prediction Centre and no weather warnings were issued prior to the event.
- It was highly localized and intense – only small portions of TRCA's jurisdiction were impacted, but those areas received an extremely high amount of rainfall in a very short period of time.
- It followed a track that evaded detection by TRCA's network of real-time rain gauges. Rain gauges can provide warning for unexpected severe storms, as they trigger alarms when unusually high rain is detected, well before river levels respond. Typically, this allows for longer lead-time for FDOs to issue messages and contact municipal partners.
- The first indication of a storm event that the FDO received was a stream gauge alarm indicating a high water level for Black Creek at Highway 401.

Upon receipt of this alarm and subsequent review of radar information (since there was

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no significant precipitation at TRCA rain gauges), the FDO contacted OSPC to obtain information on the storm. The FDO then proceeded to release a Flood Watch message, indicating that flooding was possible in the vicinity of Black Creek and Lower Don River. Flood messages are issued to TRCA's website, to an e-mail and text distribution list which includes media as well as emergency management/first responder staff at all partner municipalities, and via Twitter (@TRCA\_Flood). The CFDO also contacted City of Toronto Transportation Central Dispatch staff to advise of possible road closures in the affected area. In the case of the August 7 storm, all protocols of TRCA's flood forecasting and warning responsibilities were met; however, the storm being so localized as to not be detected by the rain gauge network delayed the issuance of the Flood Watch message.

Although the nature of certain storms and our watershed characteristics make it difficult to increase the lead-time in identifying a flood threat, TRCA has been working to develop a decision support system for FDOs that incorporates the next generation of flood forecasting models. In addition to this, TRCA has been continuously pursuing initiatives to facilitate a faster dissemination of flood warnings and quicken corresponding action by affected municipalities. To fulfill the request in resolution #B70/18, the following sections of this report will summarize specifically how TRCA is expanding its flood gauging network, enhancing flood outreach and communication, informing emergency management, and improving flood alert systems, and provide suggestions for improving the municipal planning process.

### **National Disaster Mitigation Program**

In 2016, TRCA's Board of Directors approved a 5-year plan to enhance TRCA's flood risk management program with funding from the National Disaster Mitigation Program (NDMP). Projects included updating TRCA's flood risk assessment, developing new state of the art flood modeling and mapping, installing additional flood monitoring gauges, undertaking flood infrastructure optimization studies, and improving flood communication and outreach programs. As an early adopter of this program, TRCA is completing numerous projects and has provided guidance and leadership to other conservation authorities pursuing similar studies. Through this program over \$3.9 Million has been secured for projects specifically dedicated to reducing flood risk. Attachment 1 includes a full list of the NDMP projects, and an update on their current status. In many cases, outputs and processes developed specifically for one project have found myriad uses in other flood risk reduction activities, such as the inundation mapping used for the Lake Ontario High Water Level events this year and in 2017, as well as the Bolton Ice Jam in March 2019.

### **Flood Risk Assessment and Ranking**

While the application of appropriate planning and development regulations remains a primary tool to prevent flood risk, there are many areas that were developed prior to hazard management policies. These communities, where there is a high concentration of structures within the regulatory floodplain, are TRCA's Flood Vulnerable Clusters, and represent areas of historic flood risk to people and property. Currently, 41 such



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Clusters have been identified across TRCA's jurisdiction as priority areas. Leveraging funding from the NDMP, TRCA recently completed the Flood Risk Assessment and Ranking project. The purpose of this project was to combine current riverine flood hazard information with an updated database of exposure information and utilize the latest flood vulnerability functions in order to quantify flood risk at a granular level. The overlaying of this information, together with expert research and stakeholder input, was used to develop data-driven risk rankings of the 41 Flood Vulnerable Clusters. The data generated through this project includes detailed information of exactly what is at risk with rising flood levels. With the resulting information, staff continue to work in partnership with municipalities to develop flood mitigation strategies for the priority areas, including enhanced warning and emergency management tools, flood remediation capital works, and the appropriate application of planning and development policies.

### **Installation of Additional Gauges**

TRCA has constructed an extensive network of real-time stream and rain gauges to provide the most up to date and accurate data to the Flood Forecasting and Warning information to FDOs. Stream gauges provide water level readings, and corresponding alarm notifications, every 15 minutes. Rain gauges provide readings every 5 minutes. These gauges have been strategically placed throughout TRCA's jurisdiction in locations with known flood risk.

In 2006, the network consisted of four stream gauges. The network has expanded significantly since then, and now comprises 15 real-time stream gauges and 20 real-time precipitation gauges. In 2018, TRCA obtained NDMP funding to expand the real-time stream gauging network to 17 and the real-time precipitation gauges to 22. Increasing the density of the real-time network reduces "blind spots" and the probability of undetected storms. Future network expansion is being considered as TRCA is currently investigating a flood forecasting tool that will incorporate real-time data with weather radar data to provide site-specific flood forecasts. In order to meet the gauge density requirements to make this tool as accurate as possible, TRCA will have to expand the network substantially, and it is the maintenance of such a network that presents logistical challenges. To reduce the number of new gauges that would need to be installed, TRCA is investigating the possibility of incorporating existing networks owned by other municipalities and agencies. City of Toronto, Region of Peel, Environment and Climate Change Canada and others operate networks that could be incorporated into TRCA's network, thus reducing costs. Staff are currently exploring solutions to overcome technical challenges associated with using external networks.

TRCA will continue to identify feasible expansions to the real-time network to increase warning times for flood messages and has most recently upgraded the existing gauge at Westmount Park into a real-time gauge to provide precipitation information in the Rockcliffe neighborhood.

### **Communications with Municipal Partners and Emergency Management Training**

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TRCA is continually communicating with municipal partners and improving processes through engagement and training. Flood Risk Management staff attend working group meetings, preparedness workshops, outreach events, and collaborate on annual exercises with the various emergency management departments of our local partners. Some recent examples include:

### **Toronto:**

- TRCA is part of the City of Toronto Emergency Management Working Group (EMWG), which includes representatives from Toronto Police, Toronto Fire, Toronto Transit Commission, Toronto Hydro and all major City of Toronto divisions. Risk specific plans for flooding are co-ordinated through EMWG and TRCA participates in emergency management exercises to test emergency plans and response protocols. Additionally, the CEO of TRCA sits on the Toronto Emergency Management Program Committee.

### **Durham:**

- TRCA provided leadership and input in the Durham Flood Response Plan, and annually attends the Durham Emergency Management Office P3 Symposium

### **Peel:**

- TRCA and CVC have jointly presented at CEMC meetings in Peel Region
- TRCA collaborated on the 2018 table-top exercise with Brampton Emergency Management, and routinely attends their annual workshop
- TRCA has provided input into Mississauga's severe weather response procedures

### **York:**

- TRCA has been a content partner for the York Emergency Management fair and Markham's Master of Disaster summer camp
- TRCA staff have attended training with Vaughan Emergency Management, who is also circulated on relevant development applications in flood vulnerable areas

TRCA, in conjunction with other GTA Conservation Authorities and the Ministry of Natural Resources and Forestry (MNRF), hosts both the Floods Happen Workshop and the Provincial Flood Forecasting and Warning Committee workshop annually. Municipal partners, emergency management staff, first responders and water resource agencies are invited to discuss the latest issues in flood risk management.

In 2018, TRCA also finalized the G. Ross Lord Dam Emergency Preparedness Plan that involved participation and coordination with numerous responding partners, such as Toronto's Office of Emergency Management, Police and Fire Services. A public information session was also held in early 2018 for communities downstream of the dam to increase the awareness of the risk of the dam, information about the emergency plan and describe the actions to undertake in the event of an emergency directly related to dam failure or operations of the dam.

TRCA has also implemented the Incident Management System (IMS), an industry

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standard organizational tool for coordinating a response for emergencies and is used by all response agencies. IMS allows for seamless coordination between different stakeholders in order to coordinate emergency response efficiently.

TRCA will continue to engage with stakeholders to ensure that all parties understand their role during flood emergencies. The streamlining of communications through the embedding of TRCA warnings and real-time flood monitoring information within municipal websites will be specifically pursued. In conjunction with municipal partners, TRCA is also working to create public outreach strategies to inform flood vulnerable communities about their risk and individual preparedness responsibilities. This work includes partnering with municipalities to offer public information sessions to flood vulnerable communities, creating webpages specific to each flood vulnerable area and developing a list of Frequently Asked Questions (Attachment 2) related to riverine flooding for these sites. Most notably, NDMP funding approval has been received for the development of site-specific flood emergency plans. These plans, to be developed in conjunction with municipal partners will utilize the updated flood risk mapping to allow better communication and resource deployment for road closures and evacuations during flood emergencies. TRCA has already convened a working group for the Rockcliffe site-specific response plan, which will form a template for the remainder of plans in our jurisdiction. This work will be completed by March 2020.

### **Alert Systems and Media Coordination**

Coordination with media is managed by Flood Risk staff with assistance from TRCA's Communications and Marketing team. TRCA sends all flood messages to media contacts in the Flood Forecasting and Warning program distribution list. Media requests regarding storms and flooding are answered by Flood Risk Management staff with the assistance, coordination and oversight of TRCA's marketing personnel. Occasionally the opportunity is presented for TRCA to provide a more in-depth and educational perspective on flood risk. For example, in April 2018, CTV News did a live broadcast at G. Ross Lord Dam to provide information about the structure and various hydrometric tools used by TRCA.

It is important to underscore the utility of social media, particularly Twitter, in disseminating information to the public. Members of the public, and even traditional media, are known to seek information from Twitter on emerging situations. The expanded use of the @TRCA\_Flood account as a source of flood risk and response information is critical.

In 2018, federal and provincial emergency management officials introduced Alert Ready messages for mobile devices. In the past, these messages could only be sent through television and radio. The new mobile device Alert Ready system will now automatically push critical public safety information to all cell phones within the area of risk. TRCA has an agreement with the Provincial Emergency Operations Centre to push Alert Ready messages to residents during activation of the G. Ross Lord Dam Emergency

Preparedness Plan.

### **Planning and Development Considerations**

TRCA follows a process for receiving planning applications for all properties mapped within TRCA's regulated areas. These regulated areas include lands that are prone to riverine flooding, but do not specifically include properties that may be subject to flooding from municipal storm sewer infrastructure, as this is the responsibility of the municipality. This process is established either through Memorandums of Understanding (MOU) with our municipal partners, or through long-established protocols with municipal staff. The applications TRCA staff review include everything from large subdivisions down to minor variance and land division applications. TRCA also works with municipal building departments to ensure that they notify applicants under applicable law provisions when a TRCA permit is required prior to the release of a building permit. Applications within TRCA's mapped regulated area are circulated to TRCA and our staff communicate issues related to natural hazards back to the municipality and the landowner.

There are a number of processes that our municipal partners could improve upon to ensure natural hazard issues are addressed, with the first being clear early engagement with the landowner. For Committee of Adjustment applications in particular, the first time TRCA typically sees any problematic applications is after the hearing is scheduled on the committee agenda. This leaves very little time for staff to review and engage the landowner and advise the committee prior to a decision being made. In some cases, municipal planning staff may be unaware that approval of certain applications will be inconsistent with the natural hazard policies of the Provincial Policy Statement, Official Plan or TRCA's Living City Policies. Additional awareness of input on applications in flood vulnerable or hazard areas from municipal planning staff would be of assistance in identifying issues earlier in the planning process. Secondly, Councillors and Committee members change over time, and incorporating watershed management and awareness of Provincial policy considerations in flood vulnerable areas in their jurisdiction into their orientation could help avoid inappropriate decisions being made on hazard-prone lands. Finally, staff encourage both the upper and lower tier municipalities to include clear policies and processes for natural hazard and natural heritage management in up to date Official Plans, Zoning By-laws, Procedural manuals and Memorandums of Understanding with TRCA.

### **CONCLUSION**

TRCA manages a multi-disciplinary approach to the reduction of flood risk. Watershed monitoring with real-time gauges, flood plain regulation, stakeholder engagement, public education and communication all have a role in the reduction of flood risk. TRCA's urbanized watersheds and the increasing threat from extreme events require advanced technology and robust response protocols to manage flood events efficiently. TRCA is consistently improving the flood management program, leveraging best-available technologies and processes to mitigate risk for priority areas. These improvements

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include updating flood mapping/modeling, expanding the real time flood gauging system and improving communications with municipal partners in emergency management and land use planning.

### **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**

### **FINANCIAL DETAILS**

Funds for general FFW operations are available in operating account 115-60 (Flood Warning Program) and 115-62 (Flood Risk Management and Communications).

Gauging is funded through capital account 107-01 (Flood Forecasting and Warning System). NDMP projects are funded through various capital accounts. A list of NDMP projects is available in Attachment 1. These accounts are funded by City of Toronto, York, Peel and Durham Region. Funds for Planning and Development operations are available in operating account 110-01 and 110-05. These accounts are funded through planning and development application fees.

**Report prepared by: Rehana Rajabali, extension 5220; Sameer Dhalla, extension 5350; Steven Heuchert, extension 5311**

**Emails: [rrajabali@trca.on.ca](mailto:rrajabali@trca.on.ca); [sdhalla@trca.on.ca](mailto:sdhalla@trca.on.ca); [sheuchert@trca.on.ca](mailto:sheuchert@trca.on.ca)**

**For Information contact: Rehana Rajabali, extension 5220**

**Emails: [rrajabali@trca.on.ca](mailto:rrajabali@trca.on.ca)**

**Date: April 8, 2019**

**Attachments: 2**

Attachment 1: National Disaster Mitigation Program (NDMP) Project Summary

Attachment 2: Frequently Asked Questions Related to Flood Vulnerable Area Outreach

# Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
	NDMP INTAKE #1						
1	A4 Flood Vulnerable Database	Oct-16	Complete - Sep-18	10709	\$195,000.00	\$195,000.00	<i>This project generated an updated geospatial database of exposure information, which was layered with riverine flood hazard information and the latest flood vulnerability functions in order to quantify flood risk at a granular level. This allowed for a data-driven risk ranking of TRCA's 41 Flood Vulnerable Clusters. The quantified damage estimates have already been used to inform Return on Investment calculations for flood remediation projects. Furthermore, the geospatial mapping products that were developed as part of this project are already being used in site-specific flood emergency response scenarios. This project also enabled the purchase of LiDAR data that has been leveraged for all subsequent floodplain modelling and mapping activities.</i>
2	2 Dimensional Modeling of High Risk - Flood Vulnerable Areas	Oct-16	Complete - Mar-18	10708	\$110,000.00	\$110,000.00	<i>This project developed advanced 2-dimensional flood modelling within two high risk complex flow areas: Rockcliffe Special Policy Area in Toronto and Pickering/Ajax special Policy Area in Durham Region. This information has been used to update regulations, to validate flood remediation plans, and to enhance emergency preparedness.</i>
	NDMP INTAKE #3						
3	A31 2 Dimensional Modeling Studies of High Risk Flood Areas	Oct-17	Complete - Mar-19	10758	\$60,000.00	\$60,000.00	<i>This project provided accurate and reliable modelling updates incorporating recent LiDAR topographic data. The revised floodline information was provided to TRCA's municipal partners for the purpose of land use and emergency management planning.</i>

# Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
4	A30 2017 Stouffville and Claireville Dam Feasibility Studies	Oct-17	Underway Aug-19	10710	\$140,000.00	\$140,000.00	<i>This project assesses the viability of implementing the recommendations from the recently completed Dam Safety Reviews for the Claireville and Stouffville Dams located in the City of Brampton, and Town of Whichurch-Stouffville respectively.</i>
5	A27 2017 Floodplain Mapping Updates	Oct-17	Underway-Aug-19	10756	\$156,750.00	\$156,750.00	<i>This project includes updating approximately 65 floodplain maps for the Humber River Watershed within the City of Toronto and City of Vaughan, as well as the update of approximately 16 floodplain map sheets within the Carruthers Creek Watershed within the Town of Ajax.</i>
6	A28 2017 Mimico Creek Hydrology Update	Oct-17	Underway Aug-19	10755	\$30,000.00	\$30,000.00	<i>This project entails a comprehensive hydrology update for the Mimico Creek watershed. The Mimico Creek is an urban watershed located within the Cities of Mississauga and Brampton in the Regional Municipality of Peel and the City of Toronto.</i>
7	A29 2017 Real-Time Gauge Improvement Program	Oct-17	Underway Aug-19	10757	\$60,000.00	\$60,000.00	<i>This project expanded the coverage of TRCA's network of rain and stream gauges through the provision of four additional gauges, as well as redundancy equipment to increase the resilience of the current system. The real-time gauging network provides enhanced situational awareness during flood event which benefits emergency response.</i>
	NDMP INTAKE #4						
8	A47 - Flood Risk Community Outreach Program	Jul-18	Underway - Mar-20	10754	\$130,000.00	\$130,000.00	<i>This project will build on the results from TRCA's intake 1 flood risk assessment project by supporting public awareness of potential flood emergencies. This project will enable targeted information sessions for flood vulnerable neighbourhoods, involving municipal partners.</i>

# Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
9	A45 - Don River Watershed Floodplain Mapping Update	Oct-18	Underway - Mar-20	10737	\$130,500.00	\$130,500.00	<i>This project will allow comprehensive floodplain mapping update of approximately 80 floodplain map sheets within the municipalities of the City of Vaughan, Town of Richmond Hill, City of Markham and City of Toronto.</i>
10	A48 - G. Ross Lord Dam Safety Risk Assessment & Flood Operations	Oct-18	Underway - Mar-20	10757	\$125,000.00	\$125,000.00	<i>The risk assessment would enable TRCA to quantify the impacts of modifying the dam operations relative to overall risk. This project would provide stakeholders with a better understanding of the dams risk levels</i>
11	A49 - Highland Creek Hydrology & Floodplain Mapping	Jul-18	Underway - Mar-20	10753	\$124,000.00	\$124,000.00	<i>This project will complete a comprehensive hydrology model and floodplain mapping update for the Highland Creek watershed within the City of Toronto. The project will result in a new hydrology model for the Highland Creek, as well as the update of approximately 30 floodplain map sheets.</i>
12	Mimico Creek Floodplain Mapping Update	Oct-18	Underway - Mar-20	10739	\$31,000.00	\$31,000.00	<i>This project will complete a comprehensive floodplain mapping update of approximately 20 floodplain map sheets within the municipalities of the Cities of Brampton, Mississauga, and Toronto.</i>
13	A51 - Rouge River Watershed Floodplain Mapping	Oct-18	Underway - Mar-20	10738	\$167,000.00	\$167,000.00	<i>This project will complete a comprehensive floodplain mapping update of approximately 103 floodplain map sheets within the municipalities of the City of Toronto, Town of Richmond Hill, City of Markham, City of Pickering and the Town of Whitchurch-Stouffville.</i>



**Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary**

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
14	Brampton Riverwalk (Partnership with City of Brampton)	Oct-18	Underway - Mar-20	*Funded by City of Brampton	\$1,500,000.00	\$1,500,000.00	<i>In partnership with the City of Brampton, the purpose of this endeavour is to identify a preferred alternative that is sustainable and will eliminate the risk due to flooding from Etobicoke Creek to the Downtown Core of Brampton, up to the Regulatory Event Regional Storm (Hurricane Hazel), while taking into consideration the natural, social, cultural and built environment, and incorporates Brampton's Urban Design and Land Use Study Objectives.</i>
15	Toronto Island Flood Characterization and Risk Assessment (Partnership with City of Toronto Parks)	Oct-18	Complete – Jun-19	*Funded by City of Toronto	\$150,000.00	\$150,000.00	<i>The focus of TRCA's previous risk assessment applications was on riverine flooding, and did not include the Toronto Islands. This flood characterization and risk assessment project will help facilitate an understanding of lake-based flood hazards, community and infrastructure vulnerabilities, potential impacts and risk to residents and municipal assets, which in turn can inform future structural and non-structural flood mitigation investments. This project has already proactively informed the mitigation and response work underway to protect the Islands from the historically high levels this year.</i>
	NDMP INTAKE #5						
16	Duffins Creek Watershed Floodplain Mapping Update	Apr-19	Underway – Mar-20	10770	\$110,000.00	\$110,000.00	<i>This project will update approximately 73 floodplain maps for the Duffins Creek watershed within the City of Pickering and Towns of Ajax and Uxbridge in Durham Region, and the City of Markham, and Town of Whitchurch-Stouffville in the Region of York, using new topographic information based on LiDAR, as well as the results from the 2012 Duffins Creek Hydrology Update.</i>

# Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
17	Next Generation Flood Forecasting and Warning System Development	Apr-19	Underway – Mar-20	10774	\$75,000.00	\$75,000.00	<i>This project will advance the development of a next-generation flood forecasting and warning system, which will have the capability to provide site specific flow forecasting at critical areas as well as enhanced, real time flood information to emergency responders.</i>
18	Petticoat Creek Watershed Hydrology Update	Apr-19	Underway – Mar-20	10771	\$40,000.00	\$40,000.00	<i>The proposed project will consist of a comprehensive hydrology update of the Petticoat Creek watershed within the City of Pickering in Durham Region. The previous hydrology update was completed in 2005 and was developed using the best available information of the time.</i>
19	Pickering Ajax Dyke Rehabilitation Environment Assessment	Apr-19	Underway – Mar-20	10769	\$250,000.00	\$250,000.00	<i>In April 2018 TRCA completed a study of the flood control infrastructure located within the Pickering and Ajax SPA's within the City of Pickering and Town of Ajax in Durham Region. The study included a number of technical assessments intended to characterise the conditions of the flood control dykes. This project would allow TRCA to undertake an Environmental Assessment to identify a preferred restoration plan, balancing flood mitigation requirements with environmental impacts, social needs, and cost.</i>
20	Flood Emergency Management Plan for the TRCA	Apr-19	Underway – Mar-20	10773	\$125,000.00	\$125,000.00	<i>The proposed project will involve preparing comprehensive flood emergency response plans for the flood vulnerable areas located within the Toronto and Region Conservation Authority jurisdiction. This study builds upon the Intake 1 project which detailed the risks and damages to people and property within each of TRCA's Flood Vulnerable Clusters. Furthermore, this project will include updates</i>

**Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary**

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
							<i>and enhancements to the flood risk management website, and monitoring sites.</i>
21	Black Creek at Rockcliffe Special Policy Area Flood Remediation and Transportation Feasibility Study	Apr-19	Underway – Mar-20	10772	\$200,000.00	\$200,000.00	<p><i>The Rockcliffe area is one of TRCA's previously identified Flood Vulnerable Clusters and also a Special Policy Area. Many of these properties have experienced surface and basement flooding during severe storms due to riverine flooding and/or overloading of the local sewer systems. TRCA and the City of Toronto have been coordinating efforts to reduce flooding risks in the Rockcliffe area, completing two separate EA studies that examined options to reduce riverine and sewer system related flooding, respectively, in 2014. In 2019, TRCA, Transportation Services, and Toronto Water initiated a Feasibility Study that will develop new flood protection alternatives (with focus on high risk areas), develop and refine cost estimates and benefits, confirm construction feasibility, and identify design considerations and other implementation requirements for the TRCA EA recommended flood protection berms, channel widening and naturalization, and the flood protection measures for the Jane Street Crossing.</i></p> <p><i>The project will include an assessment of the performance of the recommended flood</i></p>

**Attachment 1 - National Disaster Mitigation Program (NDMP) Project Summary**

	Project Name	Start Date	Deadline	Account Code	TRCA/Partner Funding	Federal Program Funding	Project Outcomes / Outline
							<i>remediation approaches taking into account the new modelling work completed by TRCA including updated watershed flows from the 2018 "Humber River Hydrology Update Addendum", and 2 Dimensional hydraulic modelling as developed by DHI as part of TRCA's "Rockcliffe SPA 2D Modelling and Mapping Update". It is anticipated that this work will assist with the definition of scope and alternatives to be assessed further as part of a joint-proponency Municipal Class Environmental Assessment by the City of Toronto and the TRCA.</i>

## Attachment 2 - Anticipated Frequently Asked Questions

Please note that answers to many (but not all) of these questions are posted on the floodplain mapping viewer page: <https://trca.ca/conservation/flood-risk-management/flood-plain-map-viewer/#faq>

1. What is a flood plain?
2. Why is the flood plain important?
3. What is the regulatory flood plain?
4. How are the boundaries of the regulatory flood plain determined?
5. Can the regulatory flood plain boundaries change?
6. Is it possible to be in a flood plain that hasn't yet been mapped?
7. What is the undefined flood plain or spill areas illustrated on the flood plain map viewer?
8. Urban flooding vs. Riverine flooding
9. Is flooding still possible outside the flood plain?
10. What is the regional storm (Hurricane Hazel)?
11. What is a 100-year storm?
12. Under what legal authority does TRCA map and manage the flood plain?
13. What does it mean if my property is within the regulatory flood plain?
14. What is a Flood Vulnerable Area (Cluster)?
15. Is my property still regulated if it is outside the flood plain?
16. What are the roles and responsibilities for flooding in Ontario?
17. In the event of a flood, where do I go?
18. Where can I get more information?
19. Is this information available in multiple languages?
20. What are the changes to the risk?
21. Why TRCA? Why Now? Why the changes?
22. What is LiDAR, & what new technology is being used?
23. Why is my property within the regulatory flood plain, but my neighbour's is not?
24. Will this information affect my property value?
25. What is a spill area?
26. Why am I only finding out now that my property is in the flood plain?
27. Why wasn't this on the title of my property?
28. When selling, do you have to disclose if your property is within the flood plain?
29. How will being within the regulatory flood plain affect my property value?
30. What are the flood insurance requirements for being in the flood plain?
31. Will it take longer to obtain a municipal building permit if my property is within the regulatory flood plain?
32. Further information on our regulatory authority

### Items for the Action of the Regional Watershed Alliance

**TO:** Chair and Members of the Regional Watershed Alliance  
Meeting #3/19, Wednesday, September 11, 2019

**FROM:** Gary Bowen, Government and Community Relations Specialist, Durham  
Watersheds, Community Engagement & Outreach

**RE:** **CARRUTHERS CREEK WATERSHED PLAN: PHASE 2 UPDATE**

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#### KEY ISSUE

To update the Regional Watershed Alliance on the Carruthers Creek Watershed Plan Workplan, including stakeholder consultation, and to solicit feedback on the draft Management Framework presented by staff.

#### RECOMMENDATION

**THAT the Regional Watershed Alliance receive the report and staff presentation for information;**

**AND FURTHER THAT Regional Watershed Alliance members provide feedback on the Carruthers Creek Watershed Plan Management Framework and be encouraged to participate in Stage 2 consultation on this plan.**

#### BACKGROUND

On April 1, 2015, Durham Region Council authorized Regional staff to engage the Toronto and Region Conservation Authority (TRCA) in a fee for service arrangement to update the 2003 Carruthers Creek Watershed Plan (CCWP) on the Region's behalf. In June 2015, the TRCA received authority from the TRCA Board of Directors to enter into a service level agreement with the Region and to initiate the project.

The CCWP update is being completed in two Phases. Phase 1 culminated in the preparation of seven peer reviewed technical reports that characterized the watershed's existing conditions. Phase 2 was initiated in October 2017 and includes land use scenario development, technical analysis, public consultation, and an examination of a management framework. The CCWP is scheduled for completion by the end of 2019. The last update on the CCWP to the Regional Watershed Alliance was at meeting #1/18 (May 23, 2018) and included a detailed description of Phase 2 activities.

As part of Phase 2, extensive public consultation is occurring in three stages:

Stage 1: The first stage of consultation took place between December 2017 and was completed in October 2018. The *CCWP Communications and Consultation Summary Phase 2, Stage 1* (Attachment #1) provides a detailed summary of Stage 1 activities and results and was approved by Region of Durham Planning and Development Committee on May 7, 2019.

Stage 2: The second stage of consultation is currently underway and has the objective of gathering feedback on the draft Management Framework including Goals, Objectives, Indicators, Targets, and Management Recommendations from all stakeholders. Stage 2 will

## Item 6.3

culminate in Fall 2019 with Public Open Houses being hosted in both Ajax and Pickering. Regional Watershed Alliance members are encouraged to take part in the Public Open Houses and provide comments.

Stage 3: The third stage of consultation will solicit feedback on the draft Watershed Plan.

### **RATIONALE**

TRCA has assessed the many changes and impacts which have occurred in the Carruthers Creek watershed since 2003. The updated CCWP will guide future decision-making by proposing recommendations for the protection, restoration, enhancement and overall management of the watershed. Public and stakeholder consultation planned for Fall of 2019 will be critical to identify current issues and potential solutions that will guide the development of the CCWP management framework.

The Regional Watershed Alliance is an advisory committee to the TRCA Board of Directors and as such, will be consulted throughout the CCWP development process. This consultation with the Regional Watershed Alliance will include consultation on the future draft Carruthers Creek Watershed Plan.

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

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

**Strategy 2 – Manage our regional water resources for current and future generations**

**Strategy 3 – Rethink greenspace to maximize its value**

**Strategy 4 – Create complete communities that integrate nature and the built environment**

**Strategy 5 – Foster sustainable citizenship**

**Strategy 12 – Facilitate a region-wide approach to sustainability**

### **FINANCIAL DETAILS**

The CCWP is a multi-year project funded entirely by the Region of Durham through a service agreement with TRCA.

### **DETAILS OF WORK TO BE DONE**

Phase 2 of the CCWP will continue to proceed in accordance with the approved workplan and *CCWP Communications and Consultation Strategy* (Attachment #3). The remaining high-level tasks to be completed are as follows:

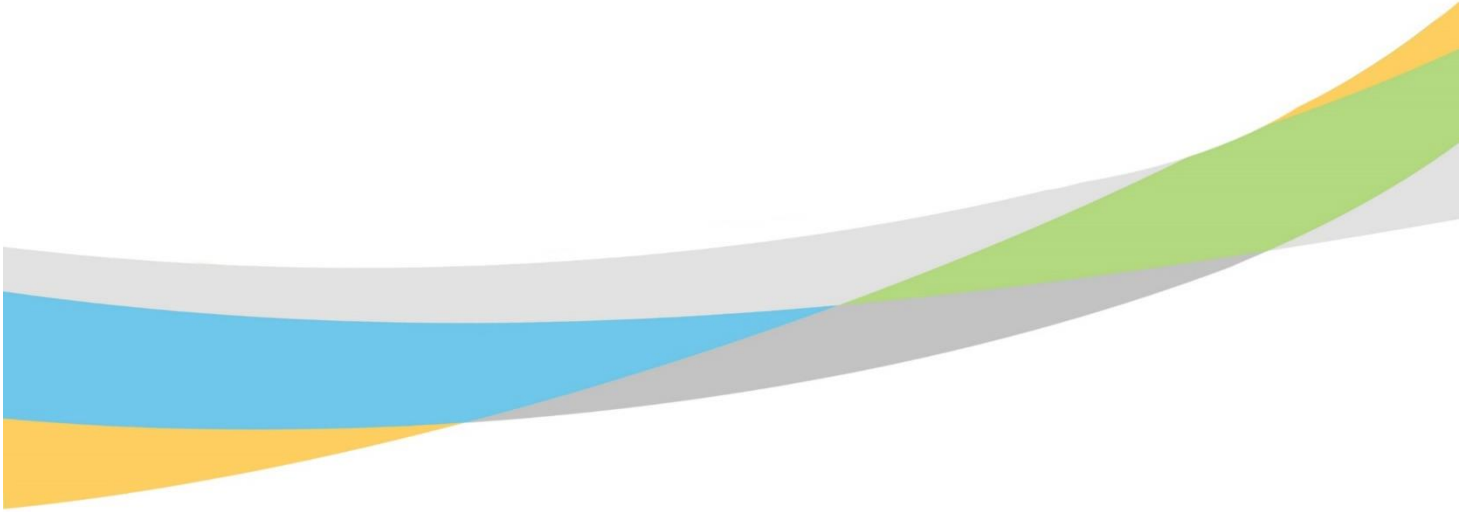
- All Phase 2 technical reports will undergo external peer review, like Phase 1 technical reports, and be integrated to develop the Management Framework.
- Phase 2, Stage 2 consultation will focus on the CCWP Management Framework and will be completed in Fall 2019. Interactive workshops were hosted with internal TRCA technical experts as well as with municipal partners in July 2019. Public Open Houses will be hosted in October 2019 (one in Ajax and one in Pickering) to solicit feedback on the Management Framework from all stakeholders.
- Feedback from Phase 2, Stage 2 will be integrated into the draft Watershed Plan.
- Phase 2, Stage 3 consultation will focus on soliciting feedback on the draft Watershed Plan and is scheduled for completion in December 2019.
- TRCA will continue to consult monthly with municipal staff and present at Durham, Ajax and Pickering councils and/or standing committees of council as required.

## Item 6.3

**Report prepared by: Cameron Richardson, extension 5639**  
**Emails: Cameron.Richardson@trca.ca**  
**For Information contact: Cameron Richardson, extension 5639**  
**Emails: Cameron.Richardson@trca.ca**  
**Date: June 26, 2019**  
**Attachments: 3**

Attachment 1: CCWP Communications and Consultation Summary Phase 2, Stage 1  
Attachment 2: CCWP Communications and Consultation Strategy





**Carruthers Creek Watershed Plan  
Communications and Consultation Summary  
Phase 2, Stage 1**

January 2019

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# 1 Context for This Report

Carruthers Creek is a relatively small watershed with a drainage area of approximately 3,748 hectares, ranging from 2-3km in width and 18km in length (See Appendix 1). It is the easternmost watershed in Toronto and Region Conservation Authority's jurisdiction and is located entirely within the Region of Durham with a population of approximately 41,000 residents. Carruthers Creek's headwaters form to the south of the Oak Ridges Moraine, in the City of Pickering, and the creek enters Lake Ontario in the Town of Ajax. The watershed is mainly rural north of Highway 7 and urbanized south of Taunton Road to the lakeshore. From Highway 7 south to Taunton Road, the majority of lands are in the Protected Countryside of the provincial Greenbelt.

Toronto and Region Conservation Authority (TRCA), in partnership with the [Region of Durham](#) is undertaking an update to the last Watershed Plan for Carruthers Creek, which was completed in 2003. TRCA will assess the many changes and impacts which have occurred in the Carruthers Creek watershed since 2003 and review the current conditions of the watershed through a multi-year process. The updated Watershed Plan will not make decisions about land use however; it will make recommendations for the protection, restoration, enhancement and overall management of the watershed that will guide future decision making for the watershed.

The goal of communication and consultation is to inform and consult with the public and stakeholders in and neighbouring the watershed to create awareness about the updated Watershed Plan and to review and consider input as the watershed plan progresses. TRCA hired a third party Consultation Advisor to ensure an independent, credible consultation process. Public input is important to establish the updated Watershed Plan [Vision Statement](#) and to consider public and stakeholder feedback on Management Recommendations. A new Watershed Plan will aim to protect Carruthers Creek's ecological health now and for years to come.

Phase 1 of the project, which culminated in the preparation of seven peer-reviewed technical reports characterising the watershed's existing conditions, was completed in Fall 2017. Phase 1 did not include public consultation as the work was completed by technical staff. Phase 2 of the Carruthers Creek Watershed Plan update has been initiated; the process is shown in Table 1.

Table 1: Phase 2 Key Tasks for updating the Watershed Plan

1	Establish updated goals and objectives for the watershed.
2	Based on the conditions observed through Phase 1 and other watershed health assessments, develop targets for the watershed and identify the actions required to achieve the goals and objectives.
3	Establish watershed response methodologies / assessments that will be used to measure how the watershed could be expected to respond to changes in land use and other factors, such as climate change.
4	Develop, model and evaluate five scenarios for the watershed, consisting of historic conditions, existing conditions, approved development (as per current Official Plan designations), enhanced natural heritage system, and a development scenario with an enhanced natural heritage system.
5	Formulate and evaluate candidate management actions to achieve the desired state of watershed health.
6	Develop Management Recommendations.
7	Deliver the completed Watershed Plan.

As part of Phase 2, TRCA is undertaking extensive stakeholder and public consultation. Consultation will occur in stages throughout Phase 2 of the Watershed Plan update and will follow the [\*Carruthers Creek Watershed Plan Communications and Consultation Strategy\*](#). The *Communications and Consultation Strategy* was received by [\*Durham Regional Council\*](#) in May 2018, and time lines were refined at Council's request in June 2018. It is a dynamic document that is adapted to respond to communications and consultation needs and opportunities as the work proceeds.

Phase 2, Stage 1 involved updating the Vision which will guide this new Watershed Plan. During this initial stage, communications and consultation were undertaken to seek input on the Vision for the Watershed Plan. Consultation will also be undertaken in subsequent stages to solicit feedback on the draft Management Recommendations and draft Watershed Plan, including the technical work completed as part of Phase 2. This consultation is set to occur starting in mid-2019.

This report is a compilation of the communications and consultation by TRCA on Phase 2, Stage 1 which were undertaken from December 2017 to October 2018. It outlines the public process objectives which guided the communications and consultation and describes the methods and activities used to inform and consult the public and stakeholders. It also describes what was heard and how public input is reflected in the new draft Vision and ongoing Phase 2 work.

## 2 Communications and Consultation for Phase 2

### 2.1 Public Process Objectives

A key objective of Phase 2, Stage 1 was to promote awareness and interest in the watershed planning process and to seek feedback on the 2003 Vision Statement. Durham Region and TRCA are committed to a process to develop the Watershed Plan that provides opportunities for residents and stakeholders to learn about the health of the watershed and to share issues and ideas for protecting the health of Carruthers Creek watershed.

The purpose of the consultation for Phase 2, Stage 1 was to:

- Raise awareness about the Carruthers Creek Watershed Plan.
- Inform partners, stakeholders, and the general public about the process for updating the Watershed Plan.
- Gather feedback on the Vision developed for the 2003 Watershed Plan and preliminary issues and ideas to be considered in all the Phase 2 work.

### 2.2 Audiences for Communications and Consultation: Who was consulted?

The Region of Durham, Town of Ajax, and City of Pickering (Councils, Staff and Advisory Committees) have a key role in protecting the health of the watershed and implementing the 2003 Watershed Plan and the new updated plan. As such, the groups mentioned above are a key audience and stakeholder in all stages of the watershed planning process and some were already actively engaging the public on issues they identified within the Carruthers Creek watershed prior to the initiation of the Watershed Plan update.

The Carruthers Creek Watershed Plan will also be of interest to residents across Ajax and Pickering (in and neighbouring the Carruthers Creek watershed), environmental stakeholders, land owners, farmers, golf course operators, businesses, and land developers.

Various audiences have different levels of knowledge of, and interest in, the watershed and communications and consultation methods were geared to these different audiences. Methods utilized are outlined in section 2.3 of this report.

Additional stakeholders expected to be affected by, and who will have an interest in, this Watershed Plan continue to be identified as work to develop the plan progresses.

### 3 Communications and Consultation Activities: What methods were used?

The communications and consultation efforts used various formats and tools to share information and gather input. The following provides an overview of the communications and consultation methods used during stage 1 and should be read in conjunction with section 4 of this report which describes what was heard.

**Carruthers Creek Watershed Plan Project Website:** The website [yoursay.ca/carruthers-creek](https://yoursay.ca/carruthers-creek) was developed for the Carruthers Creek Watershed Plan update as a mobile device-friendly online portal for information on watershed features, current issues, and projects occurring in the watershed. Information available includes the Carruthers Creek Watershed Plan Technical Reports completed in 2017. The website provides information on how the Plan is being developed, identifying the Phases of work, and includes feedback mechanisms for receiving comments. As of 1 October 2018 (the end of Phase 2, Stage 1), the website has received more than 1000 visits.

**Dedicated Carruthers Creek email – [carruthers@trca.on.ca](mailto:carruthers@trca.on.ca):** A dedicated email address was established for the Carruthers Creek Watershed Plan update to provide a single point of contact for residents and stakeholders to provide input. This dedicated email address was promoted through a media release and post cards distributed throughout the watershed. The TRCA's Project Manager receives, responds to, and documents emails from this address.

**Online Survey:** From February to August 2018, a survey was live on the website to receive input on the 2003 Carruthers Creek Vision and issues and opportunities for the watershed. A total of 72 people participated in the survey. Specific questions on the Vision provided responses which guided the drafting of a new Vision for the watershed. Survey responses were reviewed by TRCA staff and the Consultation Advisor and where possible, incorporated into the Vision statement. The responses will continue to be reflected in the Watershed Plan as it is developed.

**Post Cards:** A post card was developed and distributed by TRCA, the Town of Ajax and the City of Pickering at public events in 2018 to raise awareness of the Watershed Plan and direct people to the project website and project email address. Over 1500 post cards were distributed.

**Pop-Ups:** Pop-up outreach was undertaken from June 2018 to September 2018. TRCA staff with public outreach training and experience facilitated the pop-ups. Each pop-up consisted of a three panel display with photos (with the exception of the GO Station pop-ups) of the watershed and a future Visioning exercise. At some of the pop-ups, interactive children's activities with bright graphics were incorporated to draw attention from families and spark

interest in conversation with staff. The pop-ups generally took place over several hours with a few occurring over a full day. The pop-up workshops were conducted at the following locations / events:

- Ajax Trail Fest
- Ajax Electric Vehicle Show
- Ajax Canada Day
- Pickering Auxiliary Rescue Association (PARA) Waterfront Festival
- Ajax National Tree Day celebration
- Ajax GO Station (morning commute peak hours)
- Pickering GO Station (morning commute peak hours)

By going to where public already gather and high pedestrian traffic locations, staff reached residents who might not attend an open house event, and who were able to offer ideas to TRCA and informally learn about the watershed. The pop-ups were effective at raising awareness of the watershed and project website. Approximately 600 residents were reached through the pop-ups. Post cards were distributed to encourage visits to the project website and participate in the online survey.

**Stakeholder Workshops:** Interactive, small group, stakeholder workshops were held with key stakeholders who have an interest in or are affected by the watershed. Each meeting occurred over several hours and included a short presentation on the Watershed Planning process, key findings on the health of the watershed and review of the 2003 Vision. Following the presentation, roundtable discussion occurred to identify issues and concerns, observations and ideas for protecting the health of the watershed. Three stakeholder workshops were held with:

- Former members of the Carruthers Creek Task Force (an advisory and action-based TRCA committee) who participated in the 2003 Carruthers Watershed Planning process.
- Golf Courses within the watershed (Bunker Hill Golf Course, Hawthorne Valley Golf Course, and Deer Creek Golf Club).
- Environmental Non-government organisations with interests in the watershed and the watershed's context in environmental issues across Southern Ontario (Ducks Unlimited, Environmental Defense, Green Durham Association).

The small group stakeholder workshops facilitated reciprocal dialogue on suggested changes to the 2003 Vision and ideas to be incorporated in the new Watershed Plan. The golf course operators shared their observations about changes in stream conditions over time. They also provided information on their best management practices in the field.

**Staff to Staff meetings:** Interactive meetings were held between staff of the Town of Ajax, City of Pickering, Region of Durham, and TRCA. Two meetings were held, one in December 2017 and one in October 2018. The first meeting involved a presentation and discussion on the watershed planning process and review of the 2003 Vision and Management Philosophy. The second meeting involved a presentation and discussion on the status of Phase 2 technical work as well as communications and consultation for Stage 1. The meetings provided an opportunity for a broad discussion amongst different departmental staff from each municipality. Further, TRCA regularly coordinates directly with municipal staff through teleconferences, emails and correspondence on a variety of issues and technical studies throughout the process. Group meetings will continue at regular intervals and key milestones throughout Phase 2.

**Presentations to Councils and Committees:** TRCA presented to Councils and Advisory Committees to provide an overview of the watershed planning process, information on the health of the watershed, and to seek feedback on the relevance of the 2003 Vision. Presentations to Councils and Committees were effective for clarifying the purpose and approach for the watershed planning process and receiving input. An important outcome of the presentations to Councils and Committees was for TRCA to clarify that the Watershed Plan does not make recommendations about Greenbelt expansion, as this was a major misconception.

Presentations were made to the following groups:

- Town of Ajax Council
- City of Pickering Executive Committee (of Council)
- TRCA Regional Watershed Alliance
- Ajax Environmental Advisory Committee (EAC)
- Durham Agricultural Advisory Committee (DAAC)
- Durham Environmental Advisory Committee (DEAC)
- Ontario Power Generation Pickering Nuclear Generating Station Community Advisory Committee

In addition to the presentations, two tours of the Carruthers Creek watershed were hosted for councillors from Ajax and Pickering. The tours with elected officials and TRCA staff were to observe various sites and conditions within the watershed.

A comprehensive list of the communications and consultation activities undertaken for Phase 2, Stage 1 can be seen in Appendix 2.

## 4 What we Heard

Key goals of Phase 2, Stage 1 of the communications and consultation were to promote awareness of the watershed planning process, to inform the public and stakeholders on how they could provide input, and to seek input on the relevance of the 2003 Watershed Plan Vision. Public input received throughout Phase 2, Stage 1 could be categorised in four key topics as follows:

- Discussion and understanding of the watershed planning process including clarification on expectations and outcomes
- Feedback on the 2003 Vision
- Challenges facing the watershed
- General themes and key messages for input to the development of the new Watershed Plan

Section 4 of this report provides a synthesis of what was heard with respect to these three topics.

### 4.1 Discussion and Understanding of the Watershed Planning Process

The consultation and outreach activities undertaken were important for raising awareness of the Watershed Plan. The pop-ups were effective for informing residents about the Plan and the watershed, and to promote their involvement through the project website and survey.

The postcard was effective for connecting people to the website and email address. Many people commented that they didn't really know anything about Carruthers Creek watershed and were interested to learn more as the

process continues. With over 1000 visitors to the website as of October 2018, there was good uptake with many reviewing multiple documents on the site. Those that completed the survey provided detailed comments on what they perceive as challenges facing Carruthers Creek today, along with ideas about the 2003 Vision.

Additional input was received through the focused stakeholder workshops which identified ideas for updating the Vision and concepts and approaches for consideration in the development of recommendations which will result from the technical work in Phase 2. At one workshop, specific information about how conditions in the Creek have changed over time was shared by golf course operators.

The presentations to Councils and Committees identified many important questions about how the Watershed Plan process is undertaken. It was important to be able to hear and respond to these questions, to learn about concerns, and to clarify that the watershed planning process and Watershed Plan will guide future decision-making for the watershed but that it will not make decisions about land use.

The communications and consultation activities will continue through Phase 2, adapting to continuously improve how information is shared with stakeholders, with both online and in-person opportunities for residents and stakeholders to provide input and feedback.

## 4.2 Feedback on the 2003 Vision

Generally, the feedback received on the 2003 Watershed Vision is that it is a good statement and remains relevant. When asked about what the public would like the Vision to say (question 7 in the online survey), some responses were:

*“The essence of the Vision is on the mark. Enhance and protect the Carruthers Creek Watershed to ensure that it continues to provide valuable environmental and societal benefits to the community.”*

**Watershed resident**

*“The Vision needs to emphasise sustainability, climate change and biodiversity and retrofitting existing areas. The importance of continued research and science are important to acknowledge.”*

**Environmental Stakeholder**

There is a desire to update the Vision with more current language and to incorporate new concepts and approaches. It was also noted that a shorter version for the Vision would make it easier to be understood and recalled by residents and stakeholders.

The following ideas were frequently suggested for inclusion in the new Vision:

- Incorporate resiliency and adaptation to climate change.
- Have more focus on biodiversity and improving ecological health and integrity through a systems management approach.
- Incorporate more emphasis on sustainability, restoration and retrofitting existing urban areas.
- Highlight the importance of continued research and science.
- More focus on health benefits of nature not just the risk versus benefit.
- Encourage all stakeholders to participate in the stewardship of the watershed.



### 4.3 Challenges facing the Carruthers Creek Watershed Today

The following is a synthesis of the frequently noted challenges and concerns that were identified through the consultation activities undertaken (specifically Question 5 of the survey that asked respondents to list what they think are the top 3 challenges that the Carruthers Creek watershed faces today):

- Impacts from urban development and continuing development pressure with concerns about the impact of more growth on the ecosystems
- Health of the natural environment, noting concerns about how to reduce the spread of invasive species.
- How to reduce habitat loss and increase biodiversity.
- Concerns about waste, illegal dumping, excessive fill placement in the headwater areas which are exacerbated by the perceived lack of enforcement of by-laws preventing such.
- Concerns about human/pet encroachment particularly in sensitive areas
- Insufficient storm water management in the urban portion of the watershed noting concerns about potential temperature increases impacting species of fish and the resulting poorer water quality
- Concerns about erosion, silt, and road salt, and pesticides in surface runoff
- Flooding risks downstream due to increasing upstream development and the impacts of climate change
- Political commitment and funding for maintaining a sustainable watershed.
- Climate change impacts.
- Perceived lack of environmental protection for Carruthers watershed because it is outside the Greenbelt.

### 4.4 General Themes and Key Messages Heard Throughout Phase 2, Stage 1

A synopsis of the general themes from key messages heard at the presentations, stakeholder workshops, pop-ups, online survey, and staff to staff meetings is provided in Table 3. Please note that these key messages are an amalgamation of what was heard from all engaged audience types including municipal staff and council, environmental organizations, business owners, landowners and developers, and residents in and near the watershed. Some of the themes and key messages heard throughout consultation may not be directly applicable to the updated watershed plan as they may be outside of the scope of the watershed planning process. These themes are being reviewed as part of the process to develop Management Recommendations in Phase 2 but some frequently heard key messages are outside of the scope of the Watershed Plan.

Table 3 – General themes and key messages heard

General themes	Key messages
<i>Address resiliency and adaptation to climate change</i>	<ul style="list-style-type: none"> <li>• TRCA should clearly identify how the Carruthers Creek Watershed Plan will incorporate consideration of climate change and adaptation, as this is a major change since the last Watershed Plan was completed in 2003.</li> <li>• Protecting the watershed is critical to prevent flooding.</li> <li>• Climate change modelling is of interest, especially as related to flooding, impacts on biodiversity, and determining the ecological restoration and natural area protection needed to prepare for 500-year floods.</li> </ul>
<i>Incorporate sustainability, restoration, and adaptive</i>	<ul style="list-style-type: none"> <li>• Integrate sustainability principles and incorporate newer concepts such as green infrastructure, restoration and adaptive management</li> </ul>

General themes	Key messages
<i>management practices</i>	<p>practices.</p> <ul style="list-style-type: none"> <li>• More emphasis is needed on mitigating urban development impacts in the watershed. Management actions to retrofit urban areas should be considered such as tree planting to address heat islands, edible fruits and forests promote connection to the earth, and increasing green infrastructure.</li> <li>• More consideration of building practices that do not harm wildlife or environment.</li> <li>• Highlight good practices being taken by landowners (e.g., golf courses) to inspire and encourage others.</li> <li>• Ensure use of buffers, best management practices and low impact development techniques for agriculture and urban development.</li> <li>• Explore ways to increase local food and food systems.</li> </ul>
<i>Enhance the natural heritage system.</i>	<ul style="list-style-type: none"> <li>• Improve the ecological health and integrity of the watershed.</li> <li>• Ensure that the headwaters are protected.</li> <li>• Increase biodiversity of species.</li> <li>• Protect and enhance habitat for wildlife.</li> <li>• Consider how a systems management approach focusing on environmental gain and ecological integrity could enhance the natural heritage system of Carruthers Creek watershed.</li> </ul>
<i>Consider health benefits and appropriate public use that place priority on the ecological health of the watershed.</i>	<ul style="list-style-type: none"> <li>• While there is an interest in having more focuses on human health and the benefits of nature, priority should be afforded to ecological health and connectivity of natural areas.</li> <li>• Many residents want to be able to walk throughout the watershed and experience such things as a healthy active fishing community. There is a desire for more trails and public use facilities.</li> <li>• Residents are also concerned that there is too much access in sensitive areas, citing issues with human and pet encroachment, dogs off leash, increasing litter and waste left in natural areas.</li> <li>• TRCA should consider how trails and public use can contribute to human health and increased stewardship and support for implementation, without compromising the ecological integrity of the watershed.</li> </ul>
<i>Develop strategies for land use working with private land owners to reduce impacts of human activity on the watershed.</i>	<ul style="list-style-type: none"> <li>• Agriculture is important for the Region and best management practices should be applied to reduce nutrient runoff from agricultural lands.</li> <li>• Ensure buffers for agricultural lands and urbanization are adhered to. Require LID (low impact development techniques/practices) for developments where stormwater flows into the creek.</li> <li>• More thought needs to be put into how our building practices harm wildlife; storm drains are death traps to small animals, work with builders to find solutions.</li> </ul>

General themes	Key messages
	<ul style="list-style-type: none"> <li>• Private land owners should maintain a certain proportion of their lot as permeable surface; slow stormwater by de-paving, put in rain gardens and use permeable paving.</li> <li>• Highlight good practices and pilot projects currently being undertaken by landowners in the watershed to inspire and encourage others.</li> </ul>
<i>Strengthen controls and enforcement of activities that impact the health of the watershed.</i>	<ul style="list-style-type: none"> <li>• Address concerns raised by what is described as excessive fill placement in the headwaters.</li> <li>• Increase enforcement of illegal dumping.</li> <li>• Address concerns about road salt.</li> </ul>
<i>Increase public education, awareness and stewardship.</i>	<ul style="list-style-type: none"> <li>• More focus is needed on stewardship, partnerships and collaboration, and responsibility for the watershed, along with accountability and transparent decision making.</li> <li>• Priority should be placed on showcasing demonstration projects on sustainable living and sustainable community design. School projects were also noted to be key to building awareness and action in the watershed.</li> <li>• All stakeholders should be encouraged to participate in the stewardship of the watershed. Everyone's efforts are needed.</li> <li>• There is a general concern that many residents and community members in and near the watershed do not know much about it. There needs to be more education and awareness of the importance of its health and ways for people to participate and contribute.</li> <li>• Increased knowledge is seen as important to increase compliance among all types of property owners to protect the watershed.</li> <li>• Would like to see TRCA continue ongoing stewardship programs in conjunction with local government and the public.</li> <li>• Opportunities could be pursued to engage with Indigenous groups for stewardship and environmental protection.</li> </ul>
<i>Develop an effective implementation and compensation plan as a key part of the new Watershed Plan.</i>	<ul style="list-style-type: none"> <li>• TRCA should describe how the Carruthers Creek Watershed Plan will be used and how implementation and action will be measured, including establishing priorities, targets, follow-up, monitoring and how stakeholders such as Environmental Non-Government Organisations can help to achieve priorities for the watershed.</li> <li>• There should be more focus on ecological restoration and how to measure outcomes, including how to work with developers and use compensation offsetting to achieve biodiversity and improve environmental function. Offsetting discussion should include restoration of lost wetlands.</li> <li>• Private businesses should be forced to provide compensation for any damage caused to the natural environment and be required to make capital investments to ensure prevention. This includes developers, manufacturing industries, commercial vehicles, etc.</li> <li>• Enforcement needs to be included in the implementation plan to address ongoing concerns raised that by-laws are not being enforced</li> </ul>

General themes	Key messages
	<p>and resulting in damage to the natural environment.</p> <ul style="list-style-type: none"> <li>• TRCA should continue to monitor and report on watershed health and ecological integrity to ensure the Vision established is realised.</li> </ul>

## 5 Conclusion

This report is a compilation of the communications and consultation by TRCA on Phase 2, Stage 1 which were undertaken from December 2017 to October 2018. It outlines the public process objectives which guided the communications and consultation and describes the methods and activities used to inform and consult the public and stakeholders. It also describes what was heard and how public input is reflected in the new draft Vision and ongoing Phase 2 work. As the watershed plan continues to develop, consultation and communication with partners, stakeholders, and the public will be an important tool in helping to create the final Carruthers Creek Watershed Plan.

We would like to give our sincere gratitude to everyone who took the time and effort to become involved in the Carruthers Creek Watershed Plan by sending in their questions and comments, attending meetings, and completing the survey during Phase 2, Stage 1 consultation. All of your efforts and passion will help develop a new Watershed Plan that will protect, restore, enhance, and manage the Carruthers Creek watershed now and in the future. You can continue to be involved as the Watershed Plan progresses by visiting <https://yoursay.ca/carruthers-creek> to stay up-to-date and submit any questions/comments you may have.



## 6 Appendix 1

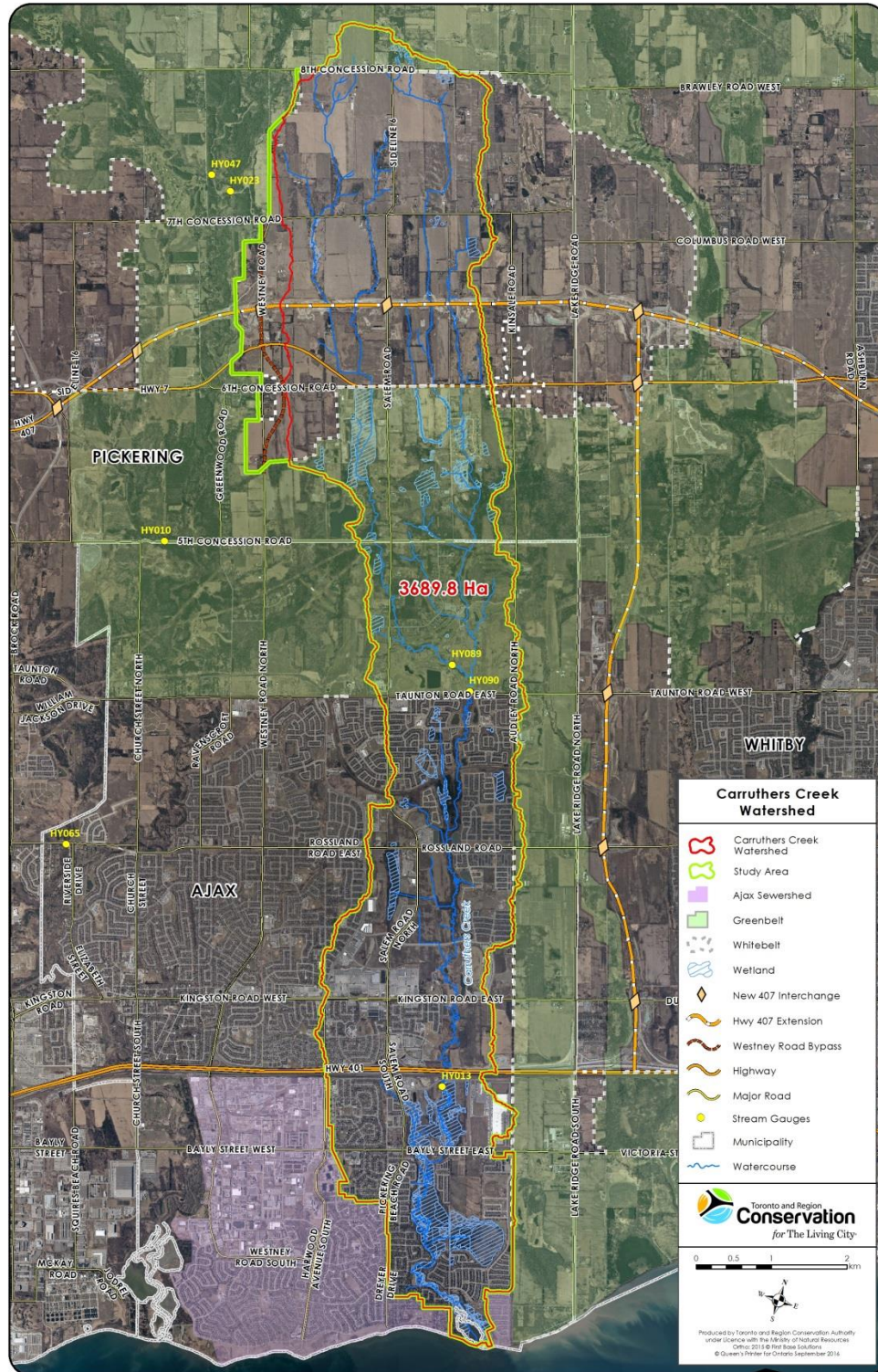


Figure 1: A map of the Carruthers Creek watershed and study area for the updated Carruthers Creek Watershed Plan.

## 7 Appendix 2

Table 2 –Phase 2, Stage 1 Communications and Consultation Activities

	Phase 2, Stage 1 Consultation Activities	Date
1	Staff to Staff meeting: Durham, Pickering, and Ajax staff	12 December 2017
2	Launch website and online survey	7 February 2018
3	Stakeholder workshop: golf courses	20 March 2018
4	Responded via email, or postal mail where no email address available, to all stakeholders who contacted TRCA regarding Carruthers Creek Watershed Plan since the project began in 2015	22 March 2018
5	Media release, in partnership with Region of Durham, to local news outlets	4 April 2018
6	Stakeholder workshop: former members of Task Force for 2003 Watershed Plan for Duffins Creek and Carruthers Creek	27 April 2018
7	Carruthers Creek Watershed Tour	11 May 2018
8	Presentation to Town of Ajax Council	22 May 2018
9	Presentation to TRCA Regional Watershed Alliance	23 May 2018
10	Presentation to Town of Ajax Environmental Advisory Committee	07 June 2018
11	Presentation to Region of Durham Agricultural Advisory Committee	12 June 2018
12	Stakeholder workshop: ENGOS	13 June 2018
13	Presentation to City of Pickering Executive Committee	18 June 2018
14	Presentation to Ontario Power Generation Pickering Nuclear Generating Station Community Advisory Council	19 June 2018
15	Presentation to Region of Durham Environmental Advisory Committee	21 June 2018
16	Pop-Up at Ajax Trail Fest	24 June 2018
17	Pop-Up at Ajax Electric Vehicle show	24 June 2018
18	Pop-Up at Ajax GO station	26 June 2018
19	Pop-Up at Pickering GO station	27 June 2018
20	Pop-Up at Ajax Canada Day Celebrations	1 July 2018
21	Carruthers Creek Watershed Tour	19 July 2018
22	Pop-Up at PARA (Pickering Auxiliary Rescue Association) Waterfront Festival	25 August 2018
23	Pop-Up at Ajax National Tree Day celebration	26 September 2018
24	Staff to Staff meetings: Durham, Pickering, and Ajax staff	3 October 2018

# Carruthers Creek Watershed Plan

## Communications and Consultation Strategy

### 1.0 GOAL OF THE COMMUNICATION AND CONSULTATION

The goal is to inform and consult with the public and stakeholders in and neighbouring the watershed to create awareness about the new Watershed Plan, and to review and consider input on the vision and management philosophy, draft management recommendations, and finally the draft Carruthers Creek Watershed Plan.

### 2.0 OBJECTIVES FOR THE REVIEW AND WATERSHED PLAN UPDATE

The primary objectives of the Carruthers Creek Watershed Plan are:

- To update the understanding of existing conditions in the watershed through scientific research and analysis of the physical characteristics of the watershed.
- To identify important watershed management priorities and action in urban and rural areas of the watershed for the present and into the future.
- To continuously build on and refine, sustain, and reinforce the 2003 implementation framework. The vision and management philosophy for the watershed will be updated and supported with new goals and objectives based on the study findings.
- To ensure that Durham Region has the right information and knowledge base to make decisions which affect the watershed.
- To ensure that this Watershed Plan meets or exceeds new provincial guidance for mandatory Watershed Plans to municipal land use planning.
- To showcase leading edge scientific methodology and analyses demonstrating TRCA's Watershed Plan development process as state-of-the-art, and exemplify our "next generation" of Watershed Plans.

### 3.0 KEY AUDIENCES

The focus of the communications is informing the general public, and consulting residents and stakeholders in and neighbouring the watershed. Stakeholders expected to be affected by, and who will have an interest in, this Watershed Plan will be identified as consultation progresses. A summary table on communication and consultation methods categorised by audience accompanies this strategy.

### 4.0 HIGH LEVEL CONSIDERATIONS FOR DEVELOPING THE WATERSHED PLAN

**Phase 1:** Completion of extensive scientific studies to update Carruthers Creek watershed's baseline physical conditions and establish the technical foundation for the Watershed Plan.

**Phase 2:** Build on the work completed in Phase 1, review potential land use scenarios, and short and long-term watershed management actions.

The starting point for this update is the Watershed Plan for Duffins Creek and Carruthers Creek (2003).



The management philosophy and past objectives and management actions will be the basis for developing the updated Watershed Plan. Key considerations for developing the new Watershed Plan include the following:

- Build an understanding amongst the public and stakeholders of what the Watershed Plan is, how it is being developed, the process and timelines.
- Explain how this Watershed Plan meets and exceeds the provincial requirements for Watershed Plans which serve municipal interests.
- Address the status of the 2003 Watershed Plan (*i.e.*, goals, objectives, and management actions, progress to date).
- Identify sensitivities of Carruthers Creek watershed's natural heritage.
- Communicate how the Watershed Plan's development will benefit from new information and studies completed since the 2003 plan.
- Demonstrate how the Watershed Plan will be used to guide and direct activities in the watershed in the future – including public and private use.

## **5.0 KEY MESSAGES ABOUT THE WATERSHED PLAN**

An important aim is to provide clear information about the purpose of the Carruthers Creek Watershed Plan. Key messages will be used to develop website material, responses to frequently asked questions (FAQs), stakeholder materials, and information for online consultation and the news media. Key messages will focus on the anticipated needs of different audiences and be updated as necessary. Clear, consistent and direct communication on what the study is about, and what it is not, will contribute to greater public understanding about the watershed and the Watershed Plan.

Content for key messages to be used in the consultation materials will be prepared by TRCA in collaboration with the Region of Durham. The following key messages communicate the purpose, scope, and expected outcomes for the Carruthers Creek Watershed Plan:

- The purpose of the Watershed Plan update is to undertake a review of the watershed considering the 2003 management actions, existing conditions, new information and studies since 2003, as well as current scientific thinking, in order to develop a comprehensive plan to protect, restore, and enhance the whole watershed – lower, middle, and upper reaches.
- The 2003 Watershed Plan included a set of eight goals and twenty-five objectives which made up the overall management strategy. There has been significant progress in implementing these recommendations. This plan is a unique investment by the Region of Durham in original work to understand the environmental conditions in the watershed that have evolved since 2003.
- The work is being undertaken by the TRCA on a fee-for-service basis on behalf of the Region of Durham. TRCA's role is to provide professional, scientific, and evidence based recommendations for the protection, restoration, and enhancement of Carruthers Creek watershed. This involves providing information, analysis, and management recommendations to assist the Region with its consideration of planning and infrastructure decisions, as well as protection of Durham's natural heritage and water resources.
- TRCA will ensure the final Plan meets and exceeds the provincial guidance for Watershed Plans.



- The recommendations from this update will be based on peer reviewed scientific research and analysis. Peer review is being undertaken by an independent third party to ensure impartiality and rigour in the review and findings.
- Land use planning decisions are outside the scope of the Watershed Plan. This plan is not about making land use recommendations or commenting on development proposals or Greenbelt designation in Carruthers Creek watershed.
- The update will examine alternative land use scenarios in order to analyse the potential implications associated with land use changes and identify measures for protection, restoration, and enhancement. The analysis will not recommend a preferred scenario but rather identify recommendations which are important to ensure the sustainability of the watershed regardless of land use changes. This will ensure that the Region of Durham has the best knowledge base in order to make decisions about planning policy.

## 6.0 PROPOSED CONSULTATION ACTIVITIES

The communications and consultation strategy for the Watershed Plan focuses on interrelated streams of stakeholder and public consultation. Specific deliverables include the following:

Phase 2 Consultation Methods and Deliverables	
1.	<b>Project Website</b> with notice that Phase 2 is underway, scope of work, timelines; Frequently Asked Questions (FAQs); mailing list for updates at key milestones; revisit 2003 vision statement and management philosophy with feedback mechanism for public comments.
2.	Use a <b>dedicated email address</b> on the project website as a one-window approach for receiving emails pertaining to the plan: <a href="mailto:carruthers@trca.on.ca">carruthers@trca.on.ca</a> . Respond to inquiries where appropriate.
3.	<b>Conduct online survey(s)</b> to receive input on the 2003 Carruthers Creek Vision and Management Philosophy and input on issues and opportunities (2018) and feedback on draft management recommendations (2019).
4.	<b>Create outreach/communication tools</b> <i>i.e.</i> , postcards for distribution by TRCA, area municipalities, and other groups, at public events over 2018/2019 to raise awareness of Watershed Plan (drive people to website for more info).
5.	<b>In-person outreach</b> to reach a wide array of audiences through “pop-ups” throughout the watershed (2018 - 2019). Potential Public Information Centre (2019) to receive feedback on draft management recommendations.
6.	<b>Stakeholder outreach</b> through small group meetings to provide information and discuss watershed management objectives and recommendations: TRCA Regional Watershed Alliance, Durham Environmental Advisory Committee, Durham Agricultural Advisory Committee, Ajax Environmental Advisory Committee, golf courses, former Task Force members, ENGOS, other stakeholder groups.
7.	<b>Reports to Region of Durham Council</b> at key milestones at the direction of Durham staff.
8.	<b>Staff to Staff meetings:</b> Interactive coordination meetings with Durham, Pickering, and Ajax at key milestones.
9.	<b>Media and Social Media Communications</b> through the preparation of content for social media, news releases, and updates on study deliverables.

## **7.0 CONTINUOUS IMPROVEMENT AND RISK MANAGEMENT**

As the communications and consultation strategy is delivered, it will be adapted to meet project needs. The following actions have been identified upfront to minimise and manage risk:

- Establish principal point of contact at Region of Durham and at TRCA for inquiries about the Carruthers Creek Watershed Plan and issues management.
- Use a dedicated email address as a one-window approach for receiving emails pertaining to the Watershed Plan.
- Monitor and adapt communications and consultation approach as needed. Undertake continuous improvement based on the response to issues.
- Review media coverage and outreach.

### Items for the Action of the Regional Watershed Alliance

**TO:** Chair and Members of the Regional Watershed Alliance  
Meeting #3/19, Wednesday, September 11, 2019

**FROM:** Victoria Kramkowski, Government and Community Relations Specialist, Peel Watersheds, Community Engagement & Outreach

**RE:** **2020 WATERSHED FORUM**

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#### KEY ISSUE

To initiate feasibility work on a proposal for the 2020 Watershed Forum and to thank the existing Watershed Engagement Working Group for their work developing and implementing the events surrounding 20<sup>th</sup> Anniversary of the Humber River designation as a Canadian Heritage River.

#### RECOMMENDATION

**THAT preliminary information regarding the proposed 2020 Watershed Forum be received;**

**THAT the current members of the Watershed Engagement Working Group be thanked for their contributions to the year-long celebration of the 20<sup>th</sup> Anniversary of the designation of the Humber River as a Canadian Heritage River;**

**THAT the Watershed Engagement Working Group solicit new and/or additional members from the Regional Watershed Alliance (RWA) in order to discuss the feasibility and options for TRCA and other potential partners to host the 2020 Watershed Forum in collaboration with other Regional Watershed Alliance working groups (Greenspace and Ecosystem Services, Integrated Planning and Civic Engagement, and Youth Council);**

**AND FURTHER THAT a proposal, that includes an outreach and communication plan, potential funding sources, and partnerships considerations for the 2020 Forum be brought back to the RWA for input.**

#### BACKGROUND

Over the course of several Regional Watershed Alliance (RWA) meetings on November 17, 2017 (#1/17), February 21, 2018 (#2/17) and May 23, 2018 (#1/18), RWA members discussed interests, priorities and potential projects and consolidated these areas of work into themes that served as the basis for the creation of the RWA Working Groups, including the Watershed Engagement Working Group (formerly the Watershed Forum Working Group). One purpose of the Watershed Engagement Working Group is to develop an annual Watershed Forum to share the newest and best watershed science with municipalities, stakeholders and other partners, as well as discuss associated opportunities for policy and action.

At the RWA meeting on Wednesday, September 19, 2018 (#2/18), members approved the following recommendations for the Watershed Engagement Group to take on the role of Planning Committee for the celebrations surrounding the 20<sup>th</sup> anniversary of the Humber River's designation as a Canadian Heritage River:

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*THAT staff report on the 20<sup>th</sup> anniversary celebration plan of the designation of Humber River as a Canadian Heritage River be received for input of RWA members;*

*THAT the RWA Watershed Forum Working Group consider adopting the Humber Heritage Theme as a priority for 2019 and acting as the 20<sup>th</sup> Anniversary Planning Committee;*

*THAT FURTHER THAT other interested RWA members consider participating in the 20<sup>th</sup> Anniversary planning activities as appropriate.*

Watershed Engagement Working Group members have contributed to the Humber River 20<sup>th</sup> Anniversary celebrations, which have included:

- Humber 20<sup>th</sup> Anniversary Launch Event: TRCA partnered with McMichael Canadian Art Collection to launch the Humber 20<sup>th</sup> Anniversary Celebration on April 12<sup>th</sup>, 2019
- Bolton Camp Discovery Garden: Working Group members provided input to the Bolton Camp Discovery Garden Design Charette hosted on July 11<sup>th</sup>, 2019
- Humber River Stories: Working Group members submitted their personal Humber River stories/narratives to the Humber's 20<sup>th</sup> Anniversary Engagement HQ webpage
- Humber by Canoe: Working Group members helped plan the Humber by Canoe Event on Sunday September 8<sup>th</sup>
- Humber Heritage Committee Exhibit: Working Group members are planning an exhibit commemorating the Humber's 20<sup>th</sup> Anniversary, which will be hosted at Lambton House, Toronto from August 1<sup>st</sup> to October 31<sup>st</sup>, 2019
- Humber Public Art Project: TRCA in partnership with Greatness: The Great Lakes Project and Waterlution: A Water Learning Experience are working towards launching a public art project to develop a signature permanent public art piece along the Humber River. This art piece will pay lasting tribute to the importance of the Humber River, Lake Ontario and all Great Lakes through art, culture and natural heritage.
- Open House at Doctors McLean District Park: The City of Vaughan will be hosting an event to celebrate the Humber River's 20<sup>th</sup> Anniversary on Saturday, September 21<sup>st</sup> 2019 which will include wildflower plantings, guided nature walks and an opportunity to learn about the Humber River Urban River Valley and Vaughan's trail network

In addition to acknowledging the successful completion of the Humber River 20<sup>th</sup> Anniversary celebrations and the important role played in this initiative by the Watershed Engagement Working Group, it is now an opportune time to redirect the efforts of this Working Group towards the feasibility of 2020 Watershed Forum.

### **Watershed Forum 2020**

The inaugural 2020 Watershed Forum is intended to bring watershed planning to the forefront of the professional and public consciousness and to highlight TRCA's role with our partners as a leader in this field. The Watershed Forum is intended to focus on sharing the best science and best practices available in the field of watershed planning and to involve audiences and participants in the journey from knowledge gathering to action. The Watershed Forum is also intended to have a geographical focus and highlight the issues facing TRCA's urban and urbanizing watersheds. As such, it is suggested that the theme of Watershed Forum could be

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### *The Urban Watershed: From Science to Action.*

The Watershed Engagement Working Group will act as Planning Committee and will take the lead in determining the feasibility of carrying out the Watershed Forum with support and input from TRCA staff and partners. It is also intended that the other RWA Working Groups (Greenspace and Ecosystem Services, Integrated Planning and Civic Engagement, and Youth Council) will each lead the development of a particular component of the Watershed Forum. This could include, but not be limited to: events that engage youth, such as a hack-a-thon; a roundtable of industry leaders; screening the Watershed Forum in colleges and universities; interactive citizen science-based initiatives; panels; pop-up working group or breakout sessions resulting in a draft white paper; and other engaging opportunities that tie together science, policy and action.

In order to successfully carry out the planning process for the Watershed Forum, additional members and capacity will need to be added to the Watershed Engagement Working Group. As such, it is recommended that new members be recruited to the Watershed Engagement Working Group and existing members reaffirm whether they wish to continue their involvement or join a different Working Group.

Given the emphasis on highlighting the path from science to policy to action within TRCA's watersheds, the work of the Watershed Engagement Working Group in planning the Watershed Forum will be supported through several mechanisms. Partnerships with local academic organizations working in the field should be explored by the Watershed Engagement Working Group. Further, in addition to a TRCA staff lead and relevant subject matter experts for the Working Group, a liaison from TRCA's Science Committee will also be assigned to the Watershed Engagement Working Group to help foster the connections between the science carried out by TRCA and the opportunity to share it and engage audiences via the Watershed Forum.

The Watershed Forum will meet regularly to develop and carry out a feasibility plan, work program and key milestones for the 2020 Watershed Forum.

### **RATIONALE**

Watershed Planning has been recognized as an important component of both environmental protection and growth planning through the 2017 updates to the Provincial Plans for the Oak Ridges Moraine, Greenbelt and Niagara Escarpment, as well as the Growth Plan for the Greater Golden Horseshoe. The Growth Plan recognizes that watersheds are the most important scale for protecting the quality and quantity of water and requires municipalities, partnering with conservation authorities as appropriate, to undertake watershed planning to inform:

- Settlement area boundary expansions;
- Infrastructure planning for water and wastewater systems;
- Stormwater management master plans;
- Identification of water resource systems, including key hydrologic features, key hydrologic areas and their functions; and
- Climate change adaptation goals.

The July 2019 draft Provincial Policy Statement that is currently maintains references to watershed planning as a means for ensuring coordinated and integrated land use planning. The

## Item 6.4

Forum will help to ensure best practices are applied to support provincial, municipal and TRCA policy objectives.

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

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

**Strategy 5 – Foster sustainable citizenship**

**Strategy 6 – Tell the story of the Toronto region**

**Strategy 8 – Gather and share the best sustainability knowledge**

**Strategy 12 – Facilitate a region-wide approach to sustainability**

### **FINANCIAL DETAILS**

Staff will be involved in the development of the Watershed Forum as part of their existing roles. Any additional funds that may be required for additional expenses associated with the Watershed Forum will be detailed in the Watershed Forum feasibility plan to be developed and shared at the next RWA meeting on November 22, 2019. This work will inform potential budget requests from TRCA to partner municipalities or other potential sponsors or partners.

### **DETAILS OF WORK TO BE DONE**

The following work has yet to be completed:

- Work program options and key potential milestones for 2020 Watershed Forum to be developed;
- Other working groups to be consulted on assigned specific components; and
- Program options, including an outreach and communication plan with funding options that can be brought back to the RWA for their input and endorsement for TRCA consideration.

**Report prepared by: Victoria Kramkowski, extension 5707**

**Emails: Victoria.Kramkowski@trca.on.ca**

**For Information contact: Victoria Kramkowski, extension 5707**

**Emails: Victoria.Kramkowski@trca.on.ca**

**Date: August 9, 2019**

### Items for the Information of the Regional Watershed Alliance

**TO:** Chair and Members of the Regional Watershed Alliance  
Meeting #3/19, Wednesday, September 11, 2019

**FROM:** Laurie Nelson, Director, Policy Planning

**RE:** **TRCA Responses to Conservation Authorities Act Review and Amendments, Provincial Policy Statement Review and Great Lakes Canada-Ontario Agreement Update**

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#### KEY ISSUE

To update and inform the Regional Watershed Alliance on TRCA responses to the *Conservation Authorities Act* review and amendments, the Provincial Policy Statement review, and the new draft Great Lakes Canada-Ontario Agreement.

#### RECOMMENDATION

**THAT the Regional Watershed Alliance accept this report for information purposes.**

#### BACKGROUND

Toronto and Region Conservation Authority (TRCA) has an interest in legislation, regulations and policy related to land use planning affecting watersheds and Lake Ontario, and in TRCA's mandate, roles and responsibilities as a conservation authority. As such, TRCA frequently provides responses to governments' proposed updates and amendments that may affect these interests. TRCA staff previously reported to the Regional Watershed Alliance (RWA) on a number of these responses to provincial initiatives: "A Place to Grow: Growth Plan for the Greater Golden Horseshoe", "A Made-In-Ontario Environment Plan," Bill 66 (*Restoring Ontario's Competitiveness Act*), and the consultation on "Increasing Housing Supply in Ontario" (Item 10.1, Meeting #2/19, February 13, 2019).

The RWA also heard from staff on modernizing the *Conservation Authorities Act* and its development permit regulation (Item #9.2, Meeting #2/19, May 22, 2019). At RWA Meeting #2/19, TRCA staff reported that the then proposed Bill 108 (now the *More Homes, More Choice Act*), contained proposed wording of the amendments to the *Conservation Authorities Act* (Bill 108, Schedule 2), and that TRCA staff would provide additional comments to the Province. The summary below of TRCA submissions to the Province pertains to all of the recent postings on conservation authorities, including the amendments made to the *Conservation Authorities Act* through Schedule 2 of Bill 108.

Also summarized below are TRCA's responses to more recently posted provincial proposals regarding the Great Lakes Canada-Ontario Agreement (review complete) and the Provincial Policy Statement (review still in progress).

#### RATIONALE

**Conservation Authorities Act Review and Amendments (ERO#013-5018, #013-4992, Bill 108 – Schedule 2)**

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On April 5, 2019, the Government of Ontario had proposed updates to the *Conservation Authorities Act* and associated regulations. The proposed amendments were described and posted online on the Environmental Registry of Ontario (ERO) for the public to provide comment:

- **Modernizing Conservation Authority Operations – *Conservation Authorities Act***  
[ERO #013-5018](#)  
(Comment period now closed)
- **Focusing Conservation Authority Development Permits on the Protection of People and Property**  
[ERO #013-4992](#)  
(Comment period now closed)

TRCA reviewed the proposed amendments and consulted with its municipal partners, Conservation Ontario and other stakeholders to consider the implications of what was proposed. TRCA submitted comments to the Province through the ERO:

- [TRCA Comments: Modernizing Conservation Authority Operations – \*Conservation Authorities Act\*](#)
- [TRCA Comments: Focusing Conservation Authority Development Permits on the Protection of People and Property](#)

On May 2, 2019, the Province introduced [Bill 108](#), entitled the *More Homes, More Choice Act*, as part of its [Housing Supply Action Plan](#). Schedule 2 of this omnibus bill contained proposed revised wording of the amendments to the *Conservation Authorities Act*. (Comment period now closed).

As such, TRCA provided additional comments by separate letter (Attachment 1), which can also be viewed here:

- [TRCA Comments: Modernizing Conservation Authority Operations – \*Conservation Authorities Act\*; Bill 108, \*More Homes, More Choice Act\*, Schedule 2, 2019](#)

### Passing of Bill 108

On June 6, 2019, Bill 108 passed Third Reading and received Royal Assent. A final version of the *More Homes, More Choice Act* can be found [here](#).

### Next Steps: Enacting Regulations

While Bill 108 is now law, its provisions will come into effect at various times. This includes the amendments to the *Conservation Authorities Act*.

Some provisions came into force when the Bill received Royal Assent, while others will come into force on a day to be proclaimed by the Lieutenant Governor (through Cabinet) or by the



## Item 8.1

Minister through regulation(s). (See the grey shaded portions of the Act [here](#), which need to be proclaimed to be enacted.)

The key legislative amendments (not yet enacted) for conservation authorities can be found in section 21.1 (1) of the amended [Conservation Authorities Act](#). They require conservation authorities to provide programs or services that meet the following descriptions and that have been prescribed in regulations:

- i. Programs and services related to the risk of natural hazards
- ii. Programs and services related to the conservation and management of lands owned or controlled by the authority, including any interests in land registered on title
- iii. Programs and services related to the authority's duties, functions and responsibilities as a source protection authority under the [Clean Water Act, 2006](#)
- iv. Programs and services related to the authority's duties, functions and responsibilities under an Act prescribed by the regulations

This same section also enables conservation authorities to provide a program or service other than those listed above, but it must first be prescribed in a provincial regulation. Thus far, the Province has not indicated definite timelines for the new regulations or enactment of the new provisions.

The changes to the Act are primarily focused on clearly defining the core mandatory programs and services provided by conservation authorities, in addition to a number of other administrative and governance amendments.

Significant advocacy efforts by [Conservation Ontario](#) and conservation authorities (CAs), including TRCA, were put into highlighting the critical role that CAs play as watershed and natural resource management agencies and the need for the addition of "conserving natural resources" as a core mandatory program.

Although this wording was not chosen, a partial "win" was achieved with the Province's late inclusion of the last category of mandatory programs and services, allowing for any programs or services not otherwise covered in clauses (i) to (iv) in section 21.1(1) to be potentially included in a regulation.

### **Provincial Policy Statement Review - Proposed Revisions (ERO#019-0279)**

On July 22, 2019, the Ministry of Municipal Affairs and Housing posted proposed changes to the Provincial Policy Statement, 2014 on the Environmental Registry of Ontario (ERO) for a 90-day review period (comments due October 21st). The stated intent of the revisions is to:

- Encourage the development of an increased mix and supply of housing
- Protect the environment and public safety
- Reduce barriers and costs for development and provide greater predictability
- Support rural, northern and Indigenous communities
- Support the economy and job creation

Under the theme of protecting the environment and public safety, the government's objectives are to:

## Item 8.1

- Enhance direction to prepare for impacts of a changing climate
- Enhance stormwater management policies to protect water and support climate resiliency
- Promote the on-site local reuse of excess soil
- Maintain current policies related to natural and human made hazards which directs development away from hazardous areas including flood-prone areas in order to protect public health and safety, while work by the Special Advisor on Flooding is underway
- Maintain current policies that require municipalities in southern Ontario to identify natural heritage systems, and provide flexibility as to how to achieve this outcome
- Maintain protections for the Greenbelt

TRCA Policy Planning staff are coordinating comments from various divisions at TRCA to respond to the [proposed changes](#) as well as the following questions from the ERO posting:

- Do the proposed policies effectively support goals related to increasing housing supply, creating and maintaining jobs, and red tape reduction while continuing to protect the environment, farmland, and public health and safety?
- Do the proposed policies strike the right balance? Why or why not?
- How do these policies take into consideration the views of Ontario communities?
- Are there any other policy changes that are needed to support key priorities for housing, job creation, and streamlining of development approvals?
- Are there other tools that are needed to help implement the proposed policies?

Some preliminary observations on the proposed changes to the Provincial Policy Statement are:

- Changes generally reflect the numerous provincial initiatives for legislative and policy changes posted on the ERO over the past several months.
- There is more emphasis on climate change adaptation and that it be done at the watershed level.
- A policy on municipal management of non-provincially significant wetlands has been added, though it is unclear what provincial guidelines will guide their management.
- Planning authorities *will* engage Indigenous communities, instead of encouraging consultation only.
- Extraction of aggregates could be considered within natural heritage features outside the Greenbelt, subject to certain criteria.
- Policies in the health and safety section (including Natural Hazards) are still subject to ongoing review by the Province's Special Advisor on flooding (for which TRCA will recommend further engagement, given the development pressures in our jurisdiction, and the need to update the provincial guidelines on natural hazards and Special Policy Areas).
- Thus far, the only change to the sub-sections on natural hazards is minor text edits around climate change and risk from natural hazards.
- Specific definitions for housing options and impacts of a changing climate have been added.

TRCA staff will bring forward a draft submission to the Board of Directors at their meeting of September 27, 2019 for members' input and endorsement, before finalizing and submitting a final letter response to the ERO.

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### Great Lakes Canada-Ontario Agreement – Proposed Draft Update (ERO#019-0198)

On July 5, 2019, the Ministry of the Environment, Conservation and Parks posted on the Environmental Registry of Ontario for a 61-day review period (comments due September 4th), a proposed new agreement between Canada and Ontario to restore, protect and conserve Great Lakes water quality and ecosystem health. The stated intent of the revisions is to restore, conserve and protect the Great Lakes in accordance with the Province's [Made-in-Ontario Environment Plan](#).

The current Canada-Ontario Agreement expires in December 2019. To support the continued partnership on Great Lakes restoration, Canada and Ontario have negotiated a [draft new Canada-Ontario Agreement](#). This would be the ninth agreement between the two levels of government. It is designed to advance action on key challenges facing the Great Lakes such as improving wastewater and stormwater management and reducing pollution, including a new focus on road salt and plastic pollution.

Once finalized, the new Canada-Ontario Agreement would be signed by:

- the Ontario Minister of the Environment, Conservation and Parks
- the Ontario Minister of Natural Resources and Forestry
- the Ontario Minister of Agriculture, Food and Rural Affairs
- six federal ministers

Commitments in the draft new Canada-Ontario Agreement would:

- support the implementation of Great Lakes-related commitments in the Province's [Made-in-Ontario Environment Plan](#) (draft released November 2018)
- advance the purposes of the Province's [Great Lakes Protection Act, 2015](#)
- align with the goals of [Ontario's Great Lakes Strategy](#) (2012, currently under review)
- support Canada's commitments under the [Canada-United States Great Lakes Water Quality Agreement](#)
- respond to priorities raised by many Great Lakes partners in recent discussions with federal and provincial agencies

The draft new Canada-Ontario Agreement is comprised of a Framework Agreement and 13 annexes. The Framework Agreement has 13 Articles which describe the purpose, principles and administration of the Canada-Ontario Agreement. An Executive Committee will oversee the Canada-Ontario Agreement and consist of senior representatives from the ministries, departments and agencies of the Parties who are responsible for commitments in the Canada-Ontario Agreement.

Each annex of the Canada-Ontario Agreement includes:

- a preamble describing what Canada and Ontario will strive to achieve
- intended results for the Great Lakes specific to each annex
- commitments Canada and Ontario will deliver jointly or separately to achieve the intended results

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The 13 annexes of the draft new Canada-Ontario Agreement are as follows:

### **Protecting Waters**

Annex 1: Nutrients

Annex 2: Harmful Pollutants

Annex 3: Wastewater and Stormwater

Annex 4: Discharges from Vessels

### **Improving Coastal Areas**

Annex 5: Areas of Concern

Annex 6: Lakewide Management

### **Protecting Habitat and Species**

Annex 7: Aquatic Invasive Species

Annex 8: Habitat and Species

### **Enhancing Understanding and Adaptation**

Annex 9: Groundwater Quality

Annex 10: Climate Change Impacts and Resilience

### **Engaging Communities – From Awareness to Action**

Annex 11: From Awareness to Action

Annex 12: Métis and the Great Lakes

Annex 13: First Nations and the Great Lakes

TRCA Policy Planning staff coordinated comments from various divisions at TRCA to respond to the proposed new agreement, drafted and submitted a final letter response to the ERO by its deadline of September 4, 2019 (Attachment 2). Staff will report to the Board of Directors at their September 27, 2019 meeting to summarize the proposal and TRCA's response.

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

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

**Strategy 2 – Manage our regional water resources for current and future generations**

**Strategy 4 – Create complete communities that integrate nature and the built environment**

**Strategy 8 – Gather and share the best sustainability knowledge**

**Strategy 12 – Facilitate a region-wide approach to sustainability**

### **FINANCIAL DETAILS**

Staff is engaged in this policy analysis work per the normal course of duty, with funding support provided by TRCA's participating municipalities to account 120-12.

### **DETAILS OF WORK TO BE DONE**

TRCA response to the Provincial Policy Statement review will be compiled and developed by staff and brought forward to the TRCA Board of Directors and subsequently shared with the Regional Watershed Alliance. The TRCA response to the Great Lakes Canada-Ontario Agreement will be shared with the Board of Directors.

**Report prepared by: Mary-Ann Burns, extension 5763 and Victoria Kramkowski, extension 5707**

**Emails: Maryann.Burns@trca.ca, [Victoria.kramkowski@trca.ca](mailto:Victoria.kramkowski@trca.ca)**

## Item 8.1

For Information contact: Laurie Nelson, extension 5281 or Mary-Ann Burns, extension 5763

Emails: [laurie.nelson@trca.ca](mailto:laurie.nelson@trca.ca), [Maryann.Burns@trca.ca](mailto:Maryann.Burns@trca.ca)

Date: August 19, 2019

Attachments: 2

Attachment 1: TRCA Response to Schedule 2 of Bill 108

Attachment 2: TRCA Response to Great Lakes Canada-Ontario Agreement



May 21, 2019

**BY E-MAIL ONLY** ([glo@ontario.ca](mailto:glo@ontario.ca))

Ms. Carolyn O'Neill  
Ministry of the Environment, Conservation and Parks  
Great Lakes and Inland Waters Branch  
40 St. Clair Avenue West, Floor 10  
Toronto, Ontario  
M4V 1M2

Dear Ms. O'Neill:

**Re: Modernizing Conservation Authority Operations  
Conservation Authorities Act (ERO #013-5018)  
Bill 108, More Homes, More Choices Act, Schedule 2, 2019**

On May 8, 2019, Toronto and Region Conservation Authority (TRCA) submitted comments to the Environmental Registry of Ontario (ERO) on the proposal to amend the *Conservation Authorities Act* (CA Act). As noted in our letter, these comments were prepared and approved by TRCA Board of Directors in advance of the release of Bill 108, the "More Homes, More Choices Act", on May 2, 2019. As the proposed amendments to the CA Act are now detailed in Schedule 2 of Bill 108, we take this opportunity to offer the following additional comments. Furthermore, as many of the proposed amendments to the Act are subject to the details of future enabling regulations, it is requested that conservation authorities and municipalities be engaged in the development of these regulations prior to their release in order to successfully achieve implementation of the Province's objective of modernizing conservation authority operations.

TRCA is pleased that the current purpose and objects in the *Conservation Authorities Act* remain broad and unchanged, to facilitate continued innovation and adaptation for local watershed-based solutions to current and emerging natural resource issues. The role of conservation authorities (CAs) has evolved over time to become critical on-the-ground implementers for a number of provincial and municipal goals and objectives related to natural resource management and protection of the natural environment. In the Greater Golden Horseshoe, TRCA has played a critical role in addressing climate change risks and the impacts of rapid growth and urbanization within its area of jurisdiction and beyond through partnerships with other CAs and municipalities. This work supports the Province's and municipalities' efforts to facilitate and manage growth while addressing pressing environmental issues such as Lake Ontario water quality, flood and erosion hazard management, stormwater management, conserving natural resources and source water protection.

The suite of recommendations regarding the proposed amendments to the CA Act and associated implementing regulations as provided in our submission of May 8, 2019, continue to remain applicable

based upon our review of the details provided in Schedule 2 of Bill 108. We would, however, like to highlight and reiterate some of our previous comments and recommendations, in addition to providing some new comments.

### **Defining core mandatory programs and services**

Bill 108 Schedule 2 provides a new clause 21.1 (1):

*21.1 (1) If a program or service that meets any of the following descriptions has been prescribed by the regulations, an authority shall provide the program or service within its area of jurisdiction:*

- 1. Programs and services related to the risk of natural hazards.*
- 2. Programs and services related to the conservation and management of lands owned or controlled by the authority including any interests in land registered on title.*
- 3. Programs and services related to the authority's duties, functions and responsibilities as a source protection authority under the Clean Water Act, 2006.*
- 4. Programs and services related to the authority's duties, functions and responsibilities under an Act prescribed by the regulations.*

Conservation Authorities undertake watershed-based programs to protect people and property from flooding and other natural hazards, and TRCA recognizes hazard management as a provincially mandated program. To provide clarity and intent in describing programs and services, it is recommended that the wording in the ERO posting, "natural hazard protection and management" be used instead of "the risk of natural hazards" as proposed in Bill 108.

Tree planting, restoring natural areas and conservation services programs are examples of conservation authority activities that improve the landscape and make the watershed more resilient to the variations in precipitation patterns resulting from climate change. As such, natural hazards and natural heritage are intrinsically linked, and best addressed in a holistic manner through integrated watershed planning. Further, the integration of natural hazard, natural heritage and other watershed-based programs provides optimum cost savings and efficiencies. Accordingly, as previously requested, we recommend the following:

**To be consistent with the purpose and objects of the CA Act, as well as the *Made in Ontario Environment Plan*, TRCA continues to recommend that the management and conservation of natural resources be included in the core mandatory programs.**

### **Minister appointed investigator(s) for audits**

As indicated in our previous comments, transparency to our funders and stakeholders is of utmost importance to TRCA. We accomplish this through financial accountability clauses in Memorandums of Understanding/Service Level Agreements, in addition to our annual financial statement audit. However, having reviewed the powers of an investigator, reporting and cost of an investigation as set out in section 23.1(4-8), we continue to have concerns about frivolous requests at the cost (time and/or financial) of conservation authorities. As such, we reiterate our previous recommendation that the Act be amended to reflect the following:



**That the Minister or any partner municipality be allowed to request an audit of special purpose financial information limited strictly to how their funds have been spent, at their cost, and that overall financial accountability remain as a fiduciary responsibility of the Conservation Authority's Board of Directors.**

This would allow our Board of Directors to retain their right to request additional audits/investigations by third parties as they deem necessary, in accordance with their fiduciary duties to the organization. This would provide peace of mind to our partners, while respecting the vital role that our Board of Directors plays in governing our not-for-profit organization. Further to this point, if any stakeholder would like the opportunity to request that a CA undergo another type of investigation, they are able to attend a Board meeting and explain their motivation and have the Board vote on the requirement for such an examination in a transparent manner.

**Additional Amendments:**

**Risk Management/Indemnification Clause**

Although it is not included in the Ministry's proposal, TRCA would like to reiterate our request for additional wording regarding risk management.

Given the potential liability associated with the operation of flood and erosion control infrastructure and programs for which conservation authorities are responsible, particularly in the face of increased liability exposures associated with climate change, some form of statutory immunity for the good faith operation of this essential infrastructure and programming is warranted. TRCA requests:

**That a clause of indemnification or statutory immunity for the good faith operation of essential flood and erosion control infrastructure and programming be added to the CA Act.**

**Enforcement and Compliance Enhancements**

TRCA supports proclaiming un-proclaimed sections of the Act for better deterrents to non-compliance with section 28 regulations. During the 2017 CA Act review and amendments, TRCA was pleased to see substantial amendments were made to the Act to enhance enforcement mechanisms and the significantly higher (offence) penalties than those currently identified in the Act. The immediate need for improved deterrents to non-compliance is acute in TRCA's highly urbanized watersheds given current development and population pressures, increasing risks to health and safety and property damage from illegal activities, trespass, dumping and extreme weather events. To that end, as detailed in our previous comments, TRCA recommended:

**That enhanced provisions for enforcement and compliance be added to the CA Act, including stop work orders, orders to comply, clarification for "after the fact" permits and a definition of an "officer" for enforcement purposes.**

Further to the above, TRCA offers the following new comments regarding enforcement and compliance provisions under section 29 of the CA Act related to conservation lands, owned and managed by conservation authorities.



As urbanization pressures increase and the population expands within our communities, there is a growing responsibility on CAs to preserve and protect these valuable greenspaces. Ongoing abuse by a relatively small number of irresponsible users continues to degrade the ecological integrity of the lands and poses a significant threat to the public's enjoyment and safety. Community expectations to address unlawful activities on these lands in an efficient and effective manner and to provide patrons with a safe and enjoyable environment poses a significant challenge to CAs due to current legislative restrictions.

Deterrence and protection of conservation authority lands within the Province through s.29 of the CAA and associated regulation(s) should be consistent to the protections afforded under the *Provincial Parks and Conservation Reserves Act (PPCRA)*. Further, these efforts should demonstrate a commitment to providing CAs with the necessary tools to fulfill the obligations under a core mandate in the conservation and management of our lands. Attachment 1 to this letter identifies the current legislative restrictions in more detail along with recommended amendments to the CA Act and any associated regulations that would address these challenges.

**On the basis that programs and services related to the conservation and management of lands owned or controlled by the authority, including any interests in land registered on title, are considered mandatory, TRCA recommends that section 29 provisions of the CA Act and associated regulations for enforcement and compliance be consistent with the protections afforded under the *Provincial Parks and Conservation Reserves Act*.**

Thank you once again for the opportunity to provide comments on this important initiative. TRCA would be pleased to discuss these and other opportunities for modernizing conservation authority operations and governance through amendments to the *Conservation Authorities Act* and associated regulations. Should you have any questions, require clarification, or wish to meet to discuss any of the above remarks, please contact the undersigned at your earliest convenience.

Sincerely,



John MacKenzie, M.Sc.(PI), MCIP, RPP  
Chief Executive Officer

Enclosure: Attachment 1: Conservation Authorities Act, S.29 Enforcement and Compliance Enhancements

BY E-MAIL

cc: Mr. Alex MacLeod, Ministry of Natural Resources and Forestry Conservation Policy Branch

## **Attachment 1:**

### **Conservation and Management of Conservation Authorities Lands Conservation Authorities Act. S.29 Enforcement and Compliance Enhancements**

#### **Background:**

Conservation lands, owned and managed by Ontario's Conservation Authorities (CAs), are often a gateway to the public, exposing them to the significant contributions of CAs in the protection and enhancement of the watersheds within the Province. They provide valuable opportunities for people to connect with nature and explore numerous outdoor recreational opportunities within their communities such as camping, hiking, swimming, picnicking, and relaxing within these natural spaces. CAs, combined, own approximately 146,000 hectares of property throughout the Province, often located within or adjacent to urban centres.

Officers appointed under s. 29 of the *Conservation Authorities Act (CAA)* are required to regulate and govern the use of conservation areas, campgrounds, and large land tracts, comparable to the role of Park Wardens within the Provincial Parks system. CA officers are customer service oriented and focus on a compliance-based approach through education and awareness, as opposed to taking punitive actions to achieve a desired outcome.

#### **Compliance Challenges:**

As urbanization pressures increase and the population expands within our communities, there is a growing responsibility on CAs to preserve and protect these valuable greenspaces. Ongoing abuse by a relatively small number of irresponsible users continues to degrade the ecological integrity of the lands and poses a significant threat to the public's enjoyment and safety. Community expectations to address unlawful activities on these lands in an efficient and effective manner and to provide patrons with a safe and enjoyable environment poses a significant challenge to CAs due to current legislative restrictions.

Deterrence and protection of conservation authority lands within the Province through s.29 of the CAA and associated regulation(s) should be consistent to the protections afforded under the *Provincial Parks and Conservation Reserves Act (PPCRA)* and should demonstrate a commitment to provide CAs with the necessary tools to fulfill the obligations under a core mandate in the conservation and management of our lands.

Unlawful activities in which CA officers are confronted with range from illegal and often commercial harvesting of flora and fauna; illegal hunting; drug cultivation; illegal dumping of waste soils and garbage; damage or theft of property; illegal use and damaging effects of off-road vehicles; liquor offences and criminal offences. These undesirable activities are proportionate to the pressures and challenges experienced within our Provincial Parks.

When comparing the CAA and the PPCRA, the short-form offence wording prohibitions of user activities are similar in nature, however, CA officers do not possess similar lawful authority to require identification, stop vehicles, inspect, search and seize items involved with substantial offences on our lands. Having similar officer authorities, as those defined within the PPCRA, achieves a coordinated compliance and enforcement approach within the Province for addressing unauthorized, unsafe and damaging activities within our protected parks and greenspace lands, particularly as it relates to Provincial Offences matters.

### **Legislative Restrictions:**

Currently there is no definitive definition of an “officer” within the CAA, and the pending provisions under s. 30 of the CAA only identifies that “An authority may appoint officers for the purposes of ensuring compliance with the Act and regulations”. Appointed officers of the CAA are currently provided a class designation as Provincial Offences Officers through the Minister of Natural Resources and Forestry under section 1(3) of the *Provincial Offences Act* (POA), with enforcement powers limited to the CAA and the *Trespass to Property Act*.

The PPCRA defines “officers” under s. 5(1) to include “a conservation officer, a park warden, a park ranger, a district manager, a conservation reserve manager, a superintendent and an assistant superintendent designated under s. 12”, which states that “The Minister may designate a person or class of persons as park wardens for the purpose of this Act and the regulations”. The “Powers of Officers” under the Act are outlined in s.37 where “An officer has all the power and authority of a member of the Ontario Provincial Police within a Provincial Park or conservation reserve”.

The authority afforded to “officers” within Provincial Parks is prescribed by specific Ontario Parks policies and provides lawful access to other relevant Provincial legislation in the execution of their duties, including the *Liquor Licence Act* (LLA), *Off-Road Vehicles Act* (ORVA), *Motorized Snow Vehicles Act* (MSVA), and applicable provisions of the *Highway Traffic Act* (HTA). Officers appointed under the CAA are not currently afforded the same level of authority.

Previous class designations, through the Minister of Natural Resources and Forestry, did provide CA officers the lawful authority under the LLA, ORVA, MSVA and the ORVA, however these legislative abilities were removed as a result of restrictions within those Acts, particularly regarding CA officer appointments and “officer” definitions. The enforcement of these additional Acts is restricted to defined “police officers” or “peace officers”, depending on the legislation.

Currently, Police resources to assist CA officers in the enforcement on our lands is becoming increasingly limited. Providing CA officers, the authority to effectively address unauthorized, unsafe and damaging activities serves the best interest of our stakeholders and patrons, reduces liability associated with unauthorized activities and better protects the integrity of the ecologically sensitive lands within our jurisdiction. Police Services provide invaluable assistance to CAs, particularly incidents of a criminal nature, however there is an expectation

that CA officers will address unlawful activities in an effective manner, particularly relating to Provincial offence-oriented matters.

In the past, Special Constable designations were provided to several CAs in the Province through the Ontario Provincial Police, and other Police Services, to assist officers in fulfilling the expectations of our communities to protect our greenspaces. These appointments provided lawful access to other important relevant Provincial Acts, such as *LLA*, *ORVA*, *MSVA*, *ORVA* and specific provisions of the *HTA*. In 2006, conservation authorities were notified that these designations would not be renewed past their expiry dates, not as a result of an abuse of power by any CA officer, but these “borrowed powers” would be better served by changing our existing legislation to enable CA officers to effectively address occurrences on our lands.

### **Requested CA Amendments and other Relevant Provincial Legislation:**

Updating enforcement provisions within the *CAA*, similar to those afforded within the *PPCRA*, such as the authority to require identification; stop vehicles; alleviate obstruction of officers; inspect, search and seize items associated with substantial offences, in addition to amendments to the *CAA* regulation, such as the ability to remove individuals and cancel permits, as cited in Appendix A, will allow for increased enforcement efficiencies, deterrence of undesirable activities and preservation of evidence associated with offences committed within conservation lands.

Providing a clear definition of “officer” within the *CAA* would provide clarification of the authority of CA officers and allow for additional legislative tools to be added to CA class designations. As previously noted, several useful Provincial statutes are unavailable to CAs as a result of the current “officer” explanation within the *CAA*, as enforcement provisions within requested legislation is restricted to either a “peace officer” or “police officer”.

The *CAA* does not differentiate between “officers” appointed under s.28 (development/ natural hazard regulations) and s.29 (CA owned lands). It would be advantageous to have all “officers” appointed under the *CAA* defined as “peace officers”, and further define officers appointed under s.29 have “the power and authority of a member of the Ontario Provincial Police within a conservation area for the purposes of the *Liquor Licence Act*, *Off-Road Vehicles Act*, *Motorized Snow Vehicles Act* and provisions of the *Highway Traffic Act*”. This would provide opportunities for the Ministry to increase class designation opportunities to CA s.29 “officers” to include this additional authority and provide for the enforcement of certain provisions of legislation. Opportunities would exist for the Province to work with CAs (i.e. Conservation Ontario’s Regulatory Compliance Committee) to develop policies, procedures and training requirements with relation to the enhanced legislative enforcement initiatives and tools.

“Peace Officer”, as defined under the Criminal Code of Canada, identifies a police officer, police constable, bailiff, constable, or other person employed for the preservation and maintenance of the public peace or for the service or execution of civil process. This definition encompasses the responsibilities of CA officers designated under s.29 of the *CAA*, and in the absence of a clear “officer” definition within the *CAA*, CA officers cannot rely on this broad definition when fulfilling their responsibilities, as it is open to interpretation by partnering

agencies, offending parties and defense attorneys, and significantly limits enforcement and compliance protections within our conservation areas.

### **Summary:**

Conservation Authority owned lands are available to the public for active recreational opportunities within conservation areas and campgrounds, utilized by families for social events, fishing, swimming, boating and camping, to passive outdoor opportunities within larger, more remote land tracts and wildlife areas, popular for hiking, photography and birdwatching. These lands are a well-used resource by numerous user groups and the general public due to the proximity to more populous centers, and occurrences which endanger public and staff safety and cause significant damage to the natural environment are occurring more frequently. Public expectations exist for CA officers, appointed under s.29, to appropriately address conservation land offences, which are factually restrictive under our current legislation.

CA officers appointed under the CAA are full time, or long term contract employees within our agencies, and the requested amendments to the CAA, along with the addition of other relevant legislative authority, will ensure services are provided to adequately respond to the needs of the public and the protection of these lands. The additional authorities requested, as outlined within the attached appendix, will substantially improve compliance initiatives, ensure public and CA officer safety, and effectively deter undesirable activities and behaviors on our lands:

## Attachment 2 – TRCA Response to COA Review



August 27, 2019

**BY E-MAIL ONLY** ([glo@ontario.ca](mailto:glo@ontario.ca))

Carolyn O'Neill  
Great Lakes Office  
Ministry of the Environment, Conservation and Parks  
40 St Clair Avenue West, Floor 10  
Toronto, ON  
M4V 1M2

Dear Ms. O'Neill:

**Re: Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health  
(ERO #019-0198)**

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' Environmental Registry posting on the proposed new Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (COA).

Toronto and Region Conservation Authority (TRCA) undertakes a number of roles affecting the health of the Great Lakes within its watershed-based jurisdiction: as a public commenting body under the *Planning Act* and *Environmental Assessment Act*, as a regulator of development under the *Conservation Authorities Act*, a proponent of restoration, remediation and recreational use projects on TRCA-owned or managed lands, and as a resource management agency and service provider to member municipalities and other public agencies. These roles are in addition to environmental education, stewardship and outreach services. TRCA and its partners strive to help communities understand, look after and enjoy the natural environment and to increase residents' and businesses' awareness of flood and erosion hazards that can threaten people, property and infrastructure.

### **Purpose of the Update**

We understand the Canadian and Ontario governments recognize the need to strengthen efforts to address new and continuing threats to Great Lakes water quality and ecosystem health, including aquatic invasive species, excessive nutrients, harmful pollutants, discharges from vessels, climate change and the loss of habitats and species.

### **Ecosystem Approach**

TRCA supports the proposed update to the COA and appreciates that it is premised on the belief that Great Lakes water quality and ecosystem health cannot be achieved by addressing individual threats in isolation, but rather depends upon the application of an ecosystem approach that addresses individually and cumulatively all sources of stress to the Great Lakes (page 3 of the draft COA). There is a strong alignment with conservation authorities' ecosystem approach and watershed-based work that serves to mitigate for the impacts of urbanization and climate change on the Great Lakes and improves ecosystem health. On a collective basis, conservation authorities and their partners' environmental protection and management of rivers, wetlands and headwaters provide downstream benefits to the Great Lakes, including those for water quality, habitat and recreation.



## **Attachment 2 – TRCA Response to COA Review**

### **Participation by Conservation Authorities**

In the Province's Great Lakes Strategy and the *Great Lakes Protection Act*, conservation authorities (CAs) are named as essential partners in the implementation of programs and project initiatives to protect and improve the health of the Great Lakes. With CAs as partners, the Province has initiated outreach and guidance on integrated stormwater practices, environmental farm plans, habitat restoration and environmental monitoring. TRCA works in concert with federal, provincial and municipal governments on aquatic and terrestrial shoreline restoration projects, as do many of the CAs on the Great Lakes. Therefore, as local watershed and partnership agencies, CAs are well-positioned to play a key role in many of the actions identified in the COA. This is particularly the case for the Greater Golden Horseshoe CAs with Great Lakes shorelines and In-take Protection Zones, such as TRCA's jurisdiction, where the impacts of urbanization and the compounding effects of climate change are acutely felt.

### **TRCA and the COA**

The draft COA contains many initiatives that align with TRCA's Strategic Plan, business units and current program delivery. The Toronto and Region Remedial Action Plan (RAP) is the largest program currently supported by COA. TRCA administers the RAP for the Toronto Area of Concern (AOC) as part of a 5-year (2015-2020), \$2.5 million agreement with Environment and Climate Change Canada and the Ministry of Environment, Conservation and Parks (matching funding). In addition to habitat restoration work, through development and infrastructure planning processes, TRCA staff work with municipalities and proponents to ensure restoration is directed toward strategic areas to address RAP priorities in the Toronto AOC.

Close working relationships with provincial staff have also been key to past COA partnerships. For your reference, we have attached a listing of TRCA programs, partnerships and interests that contribute to achieving the goals of the COA (Appendix 1). While the list may not be exhaustive, it makes evident TRCA programs' significant contribution to meeting federal and provincial objectives for Great Lakes water quality and ecosystem health.

### **Renewed Focus on Lake Ontario**

TRCA recognizes the importance of the many new activities outlined in the draft COA for Lake Ontario and is pleased to see a renewed focus on the Lake given that the previous COA focused mainly on Lake Erie. The renewed focus is timely as it aligns with major economic growth pressures experienced in the Greater Golden Horseshoe. This is a key improvement given that scientific understanding learned, and policy positions developed for Lake Erie (and as well for Lake Simcoe and Georgian Bay) may not be directly transferable to Lake Ontario. Therefore, we appreciate that the new COA and the new draft Lake Action Management Plan (LAMP) for Lake Ontario recognize the key role for Lake Ontario's science community to investigate the lake and make "lake specific" recommendations to COA Executive Committee and the LAMP Committee.

### **Implementing Mechanisms**

Although TRCA supports the proposed actions and goals ("Results") in the COA, we find that many actions lack specifics on implementation. For example, phrases such as "work with", "promote", "build on" are used but the mechanisms for triggering the effect of these actions on the ground (with implications for water quality and ecosystem health) are not referenced. Therefore, the COA could benefit from some indication of the tools each level of government, other agencies and partners might use to implement the important commitments described, which in turn would indicate the lead and supporting ministry or department. If not stipulated within each action or set of actions, this could be stated in a preface or an appendix to the COA to outline legislation, policies and regulations related to the Annex topics, where applicable. For example, under Annex 3, Wastewater and Stormwater component, the *Ontario Water Resources Act* - section 53 Certificates of Approval, could be cited as

## Attachment 2 – TRCA Response to COA Review

an example of an implementing mechanism, supported by technical guidance of a comprehensive update to the provincial Stormwater Management Planning and Design Manual (2003).

Other mechanisms for implementation of commitments made in the COA may be through land use planning policy and infrastructure planning. Including reference to the planning process, environmental assessment process and infrastructure master planning would better emphasize the connection between continued land development and water quality and ecosystem health. Annex 5, Areas of Concern, makes this connection in its preamble, but this should be a more prevalent theme throughout the COA. For example, there could be an upfront commitment in the COA for the Province to promote the environmental sections of the Provincial Policy Statement to recognize the link between, not only protection of coastal natural heritage, but the importance of natural heritage system planning throughout watersheds for downstream benefits to the Great Lakes.

This approach could also be taken for federal and provincial support in the COA of the Source Protection Plans under the *Clean Water Act*. It could be emphasized that Canada and Ontario support municipal implementation of the Source Protection Plans for the contribution it makes to lake health, particularly for those municipalities with Intake Protection Zones in the Great Lakes.

The exercise of listing key mechanisms could also serve as a gap analysis of sorts, given that it may reveal where actions from the COA do not have an existing pathway for implementation. A partner survey may also be helpful to determine if other agencies are already working in the same areas and are able to pool resources to avoid duplication and enhance efficiencies for the actions in the COA.

### Implementing Funding

Further to the above, resources and funding are crucial for supporting agencies that have the demonstrated ability to leverage partnerships and other types of collaboration to help achieve the actions in the COA. Indeed, TRCA's and other levels of governments' ability to deliver on the partnerships referenced in the new COA will depend upon the availability of resources. Past TRCA program contributions were undertaken in collaboration, and with the financial support, of municipal, provincial, federal, and non-government partners.

For partnerships to succeed, it may be beneficial for staff from all levels of government to attend meetings and information exchanges. While there have been limitations on travel imposed by governments, there should be consideration going forward to consider certain exceptions to allow travel within the Great Lakes area. This would be especially important for projects that require inter-agency and inter-governmental cooperation among subject matter experts.

Recent shifts in support at the provincial level to conservation authorities and municipal partners may have an impact on our abilities to contribute to the partnerships identified in the COA. It is important that the Province recognize the commitments made when it is developing its open for business policy and economic and growth management strategies.

### TRCA Comments and Recommendations

TRCA staff with technical expertise in each Annex have reviewed the draft COA and have provided detailed comments and editorial suggestions in the attached table (Appendix 2). In consideration of these and of the general comments above, TRCA makes the following recommendations for the Ministry's consideration:

- COA employs a holistic lens and reflects a watershed approach to supporting lake health; this approach should be replicated in the update.



## Attachment 2 – TRCA Response to COA Review

- Introduce a section or an appendix on implementation mechanisms, targeted timelines and funding;
- That the connection between land development and lake water quality and ecosystem health be a more prevalent theme throughout the COA;
- Maintain the ability of the current COA to encourage partnerships between agencies and the leveraging of funds for greater impact;
- Ensure a continuum of current and long-term program funding for TRCA and agencies/ministries with whom we collaborate to deliver on COA actions;
- Make new funding available in support of land-based actions such as watershed planning, stewardship and restoration (perhaps under the Western Lake Ontario Land to Lake Initiative).
- Maintain an ongoing commitment to the de-listing of Areas of Concern and to monitoring, community engagement, and maintenance following de-listing.

We trust that the above and the two detailed appendices are clear and of assistance. Thank you once again for the opportunity to provide input on the proposed new Great Lakes Canada-Ontario Agreement. Should you have any questions or wish to discuss any of the above, please contact the undersigned at 416.667.6290 or at [john.mackenzie@trca.ca](mailto:john.mackenzie@trca.ca).

Sincerely,



John MacKenzie, M.Sc.(PI), MCIP, RPP  
Chief Executive Officer

CC (by e-mail only):

Environment and Climate Change Canada: [ec.grandslacs-greatlakes.ec@canada.ca](mailto:ec.grandslacs-greatlakes.ec@canada.ca)

TRCA: Chandra Sharma, Director, Community Engagement and Outreach  
Moranne McDonnell, Director, Restoration and Infrastructure  
Sameer Dhalla, Director, Development and Engineering Services  
Laurie Nelson, Director, Policy Planning

# Attachment 2 – TRCA Response to COA Review

## Appendix 1

### TRCA Programs Contributing to the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health

<b>ANNEX 1: NUTRIENTS</b>
<b>PURPOSE:</b> To address the issue of excess nutrients and reduce harmful and nuisance algal blooms.
<b>SUMMARY OF ANNEX</b> <ul style="list-style-type: none"> <li>• The reasons for the occurrence of algal blooms are now more complex than in past decades. The introduction of invasive species such as zebra and quagga mussels and round gobies, changes in agricultural production systems, increased urbanization, and climate change are all contributing factors.</li> <li>• The Great Lakes are currently experiencing nutrient levels that impair human use and result in harmful effects on ecosystem functions. This Annex recognizes that the continued environmental, social and economic health of the Great Lakes basin requires the effective and efficient management of nutrients from human activities.</li> <li>• It addresses the need for improved understanding of nutrient issues while continuing to develop and promote actions to improve nutrient management and to reduce inputs from wastewater and stormwater.</li> </ul>
<b>TRCA INVOLVEMENT</b> <ul style="list-style-type: none"> <li>• TRCA is participating in tributary loading studies that are contributing to improved knowledge and understanding of phosphorus sources, the forms of phosphorus being discharge to Lake Ontario and their seasonal characteristics.</li> <li>• TRCA is monitoring nearshore and coastal marsh water quality in Ajax –Pickering nearshore area with support from York and Durham Regions and MECP and ECCC.</li> <li>• TRCA collaborated in water quality studies looking at eutrophication issues in the Toronto Harbour.</li> <li>• TRCA helping City of Toronto with wet weather flow study (tributary &amp; watershed monitoring).</li> <li>• TRCA helping MECP and ECCC with monitoring of nuisance algae and lakebed biota in Lake Ontario.</li> <li>• TRCA next generation of watershed studies- e.g. the Carruthers will promote local actions to improve nutrient management in both urban and rural areas.</li> <li>• STEP program offers significant advancements in LID and stormwater technology.</li> <li>• TRCA has Rural Clean water, restoration and stewardship programs that address sources of nutrients.</li> <li>• Regional Watershed Monitoring Network &amp; Watershed Report Cards &amp; RWMN Program Reporting document current nutrient conditions and trends within the TRCA.</li> <li>• TRCA provides plan input and review services related to development in regulated areas, including dogs off leash parks. Dog waste can be a contributor to nutrient loading in our watersheds. Particularly in the City of Toronto, where these facilities are often located within valleylands. TRCA staff work with municipal staff to ensure appropriate site drainage and servicing schedules, including flushing infrastructure, to minimize nutrient impacts on the watercourses.</li> </ul>
<b>TRCA INTERESTS</b> <ul style="list-style-type: none"> <li>• More work needs to be done on Lake Ontario.</li> <li>• There is a lot of scientific work needed to establish if additional nutrient reduction targets are needed for Lake Ontario</li> <li>• These studies need to consider ecology of the lake and fisheries it supports.</li> <li>• TRCA is interested in being part of this target setting effort when the focus turns to Lake Ontario.</li> <li>• TRCA proposing Citizen science algae watch to document current conditions and hot spots.</li> </ul>

## Attachment 2 – TRCA Response to COA Review

- TRCA's Next Generation Watershed Plans for its watersheds will focus on establishing better land to lake interactions and provide guidance on policy recommendations, stakeholder and community actions. We need to work closely with the Provincial and Federal government to make sure COA Goals are addressed.

### ANNEX 2: HARMFUL POLLUTANTS

**PURPOSE:** To guide cooperative and coordinated actions to reduce or eliminate harmful pollutants into the Great Lakes Basin.

#### SUMMARY OF ANNEX:

- Under the 1994 Canada-Ontario Agreement, specific harmful pollutants were targeted for action:
  - **Tier I Substances** (chemicals targeted for virtual elimination or zero discharge from sources within the Great Lakes as well as for global efforts to eliminate out-of-basin sources)
  - **Tier II Substances** (chemicals that had the potential for widespread impacts in the Great Lakes or were already causing local adverse impacts).
- Canada and Ontario are actively engaged in programs and initiatives designed to assess and manage the risks posed by certain chemicals to human health and the environment.
  - Federal – Chemical Management Plan, National Pollutant Release Inventory, Stockholm Convention on Persistent Organic Pollutants, Convention on Long-Range Transboundary Air Pollution.
  - Ontario – *Toxics Reduction Act, 2009*, Toxics Reduction Strategy, local air quality regulations

#### COMMITMENTS:

- 1) Complete a status report of chemicals identified as Tier I and Tier II substances;
- 2) Establish a Canada-Ontario Chemicals Management Committee;
- 3) Establish a process to identify Chemicals of Concern in the Great Lakes;
- 4) To cooperate on specific research, monitoring, surveillance, and risk management actions for these Chemicals of Concern; and
- 5) Take actions to reduce risks and impacts from environmental emergencies and spills, and from stormwater and wastewater contaminant loadings.

#### TRCA INVOLVEMENT:

- TRCA supports the work of municipalities and other stakeholders to increase diversion of materials containing Tier I and Tier II substances from the waste stream (i.e., Partners in Project Green);
- Continues education and outreach initiatives and activities to reduce releases of legacy substances through the promotion of environmentally sound practices and pollution prevention measures (i.e., Children's Water Festival participation).
- Supports and enhances stewardship programs to improve waste diversion, take-back and proper disposal of harmful pollutants (i.e., General education and outreach, policy implementation under the CTC Source Protection Plan);
- Works with academia, industry, municipalities and stakeholders to promote the development of green technologies and activities supporting green chemistry (i.e., Sustainable Technologies Evaluation Program);
- Continues to cooperate on activities to support the prevention of, preparedness for, response to and recovery from environmental emergencies and spills in the Great Lakes basin (i.e., Collaboration on implementation of CTC Source Protection Plan Policies related to Lake Ontario with the City of Toronto, Durham Region, Peel Region, and the Ministry of the Environment, Conservation and Parks.

## Attachment 2 – TRCA Response to COA Review

- Monitors the performance and effectiveness of stormwater and green infrastructure projects and communicate results (i.e., Sustainable Technologies Evaluation Program, Sustainable Neighbourhoods); and
- CTC Source Protection Plan requires the Province to review, amend or establish Environmental Compliance Approvals to ensure appropriate terms and conditions are in place to prevent a sewage treatment plant by-pass discharge to surface water or sewage treatment plant effluent as a result of a disinfection interruption at a Waste Water Treatment Plant (WWTP Diffuser).
- TRCA provides plan input and review services related to development in regulated areas, including roads, parking lots and salt storage facilities. Salt is a major contributor to watercourse toxicity in our watersheds. TRCA staff work with municipal staff to ensure appropriate site/road drainage to minimize salt impacts on the watercourses.
- TRCA will continue to work with municipal and provincial agencies to develop strategies and policies to minimize salt runoff to watercourses and wetlands, including appropriate draining and buffers.

### ANNEX 3: DISCHARGES FROM VESSELS

**PURPOSE:** To ensure that discharges from vessels do not adversely impact the Great Lakes.

#### SUMMARY OF ANNEX:

- The federal Parliament has exclusive jurisdiction over navigation and shipping. Existing laws, regulations, regulatory programs, inspection protocols and enforcement regimes are designed to address threats to the Great Lakes from vessel discharges.
- The Canada-United States Great Lakes Water Quality Agreement includes commitments to protect the Great Lakes from the discharge of ballast water, oil, hazardous polluting substances, garbage, wastewater, sewage, AIS, pathogens, and antifouling systems.
- The most recent binational report on Great Lakes water quality (April 2012) indicated that, with the exception of AIS found in ballast water, the impact on the Great Lakes from these (potential) discharges is low.

#### COMMITMENTS:

- 6) Actions to continue implementing existing ballast water and discharge requirements;
- 7) To advance new treatment technologies and control measures for AIS, and
- 8) To ensure that canals and waterways are considered in measures to prevent and control AIS.

#### TRCA INVOLVEMENT:

- The Lake Ontario Collaborative Group (Toronto, Durham, Peel, MECP) is considering discharges from vessels as an alternative spill scenario (and impact on municipal drinking water intakes drawing water from Lake Ontario) to investigate as an update to the CTC Source Protection Plan.

### ANNEX 4: AREAS OF CONCERN

**PURPOSE:** To restore water quality and ecosystem health in Areas of Concern (AOCs) and includes the goals of completing priority actions for delisting in five "goal 1" AOCs.

- Trca Involvement:
- TRCA administers the Toronto and Region Remedial Action Plan for the Toronto Area of Concern (AOC).
- Toronto is one of the 43 original AOCs identified in the mid-80s which were more impaired than other sites around the Great Lakes. Each AOC a Remedial Action Plan to address specific impairments (called Beneficial Use Impairments or BUIs).

## Attachment 2 – TRCA Response to COA Review

- Ontario has de-listed three AOCs, has 3 “Goal 1” or high priority AOCs outlined in COA, and the remaining are “Goal 2” AOCs. Toronto is currently a “Goal 2” AOC.
- TRCA has a 5 year (2015-2020), \$2.5 million agreement with ECCC and MECP (matching funding) for administration of the Toronto RAP.
- Toronto has re-designated 4 BUIs – fish deformities, degradation of benthos, restrictions on dredging, bird deformities. A re-designation report for the aesthetic BUI is nearly complete and will be submitted to ECCC and MECP by the end of March.
- Actions taken to improve the Toronto AOC have resulted in:
  - More swimmable beaches - 8 of 11 beaches are now Blue Flag certified.
  - Improved water quality – Phosphorous levels along the waterfront now meet RAP targets.
  - Decrease in contaminants in fish so that there are no longer restrictions on consumption for most fish.
  - Improved aesthetic conditions of watercourses and the waterfront.
- Protection and creation of fish and wildlife habitats along the Toronto waterfront and Watersheds (e.g. Tommy Thompson Park wetlands, Mimico Waterfront Park, Spadina Quay Claireville Conservation Area and Rouge National Urban Park.)
- The Toronto Waterfront Aquatic Habitat Restoration Strategy (TWAHRS) was developed by TRCA in partnership with MNR and DFO, and in consultation with the City of Toronto and Waterfront Toronto to guide Toronto AOC restoration initiatives and address the fish and wildlife habitat and populations Beneficial Use Impairments (BUIs) under the RAP. The Strategy offers an integrated resource planning approach to achieve a net gain in aquatic habitat on the Toronto waterfront and provides a framework for restoration of these habitats.
- In 2007, Aquatic Habitat Toronto (TWAHRS Implementation Team) was established to provide the opportunity for waterfront project proponents to work with the relevant resource management agencies in a more time and cost-effective manner, and to apply science to support sustainable waterfront development. The Implementation Team includes representatives from TRCA, MNR, DFO, City of Toronto, and Waterfront Toronto. The main objective of the Implementation Team is to ensure that the approval of waterfront projects facilitate strategic improvements to aquatic habitat by providing information on waterfront environmental conditions, provide design advice to realize aquatic habitat improvements, and help coordinate the regulatory review and approval of the project.
- TRCA provides plan input and review services related to infrastructure and land development in regulated areas. TRCA staff work with municipalities and developers to avoid, minimize, restore or compensate for impacts related to the natural heritage system in our jurisdiction.

### TRCA INTERESTS:

- Continue to fund AOC programs and the associated RAPs. We are very close to de-listing (2025) and it is worthwhile to keep funding the RAPs to address the 6 remaining impairments (2 of which are in the process of being re-assessed).
- Toronto is currently a “Goal 2” AOC, but given the improvements we’ve made and our work plans for the next 5 years, we could recommend moving up to a “Goal 1” AOC.
- Through the infrastructure and land use development processes, TRCA planning staff work with TRCA Restoration and Infrastructure staff to ensure restoration and compensation requirements are directed toward strategic areas to address RAP AOC areas of interest.

## Attachment 2 – TRCA Response to COA Review

<b>ANNEX 5: LAKEWIDE MANAGEMENT</b>
<p><b>PURPOSE:</b> To advance restoration, protection and conservation of the Great Lakes through collaboration among jurisdictions domestically and binationally and with the Great Lakes community on a lake-by-lake basis.</p>
<p><b>SUMMARY OF ANNEX:</b></p> <p>Lakewide Action and Management Plans (LAMPs) provide a mechanism to assess and report on the state of the ecosystem, identify science and management priorities, conduct studies and outreach activities, and identify the need for and facilitate further action. It also contains commitments to develop Lake Ecosystem Objectives, a new nearshore framework, and consult and cooperate with the Great Lakes community to assess the status of each Great Lake and address environmental stressors on a lakewide scale.</p> <p>The nearshore areas of the Great Lakes have great biological diversity, provide numerous benefits and are the focal point for human interaction with the Lakes but are also subject to tremendous human impact. The Great Lakes are Ontario's primary source of drinking water.</p>
<p><b>COMMITMENTS:</b></p> <p>To further assess and address threats to sources of drinking water in connection with efforts under Ontario's <i>Clean Water Act, 2006</i> as well as through existing federal policies and programs.</p>
<p><b>TRCA INVOLVEMENT:</b></p> <ul style="list-style-type: none"> <li>• TRCA participates on both Lake Ontario LAMP Management Committee and Working Group.</li> <li>• LAMP help to address program needs in Durham Region (who's watershed and waterfront are outside of the Toronto AOC).</li> <li>• Through LAMP Annex, lakewide issues such as reappearance of Cladophora can be best addressed.</li> <li>• TRCA staff contribute to preparation of annual reports and participated in drafting new 5 Year LAMP Management Plan document</li> <li>• TRCA contributed to developed of Lake Ecosystem Objectives for Lake Ontario</li> <li>• Participated in development of nearshore framework and will help support its application in Lake Ontario.</li> <li>• Helped develop Western Lake Ontario Land to Lake initiatives that connects land activities and management actions by CA and municipalities with the health of Lake Ontario</li> <li>• One of several policies in the Credit Valley – Toronto and Region – Central Lake Ontario (CTC) Source Protection Plan (SPP) is to encourage collaboration on protecting our shared drinking water sources; and raise the profile of the importance of Lake Ontario as a source of drinking water for Ontario residents. TRCA is a partner in engaging with municipal, provincial, national, and international stakeholders on this outreach.</li> <li>• Toronto and Region Source Protection Authority in collaboration with the CTC Source Protection Committee has delineated vulnerable areas around the drinking water intakes on Lake Ontario which fall within the conservation authority's jurisdiction.</li> <li>• TRCA is a participant on the Lake Ontario Collaborative Group, a partnership between the Ministry of the Environment, Conservation and Parks, Environment and Climate Change Canada, the Region of Peel, City of Toronto, and Durham Region, which focuses on the implementation of policies from the CTC SPP intended to protect Lake Ontario as a source of drinking water. Some of the activities that this group is engaged in includes: <ul style="list-style-type: none"> <li>○ Sharing information about Lake Ontario circulation and water quality monitoring; and</li> <li>○ Sharing environmental monitoring data and using modelling to inform research on topics such as, but not limited to:</li> </ul> </li> </ul>



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<p>a) the effectiveness of risk management measures and spill contingency measures;</p> <p>b) cumulative impacts of point and non-point sources of contaminants on nearshore water quality; and</p> <p>c) the effectiveness of Source Protection Plan policies in reducing the risk related to pathogens (not limited to E. coli), including identifying the pathogens and the respective densities at different times; assessing the associated risk at intakes due to pathogens in non-disinfected wastewater and other known specific sources of these pathogens; and undertaking quantitative microbial risk assessments, using a structured research and development design (such as based on the protocols established by the US EPA), to assess the threat and adequacy of existing treatment on a plant-by-plant basis.</p> <ul style="list-style-type: none"> <li>• To protect drinking water sources on Lake Ontario from potential spills along highways, shipping lanes and railways, the CTC SPP requires that contingency plans incorporate risk reduction and mitigation measures, where appropriate.</li> <li>• A water budget has been completed across TRCA's entire jurisdiction to comply with the requirements of the Clean Water Act, 2006. This information will augment the understanding of the water budget for the entire Great Lakes basin.</li> </ul>
<p><b>TRCA INTERESTS:</b></p> <ul style="list-style-type: none"> <li>• New resources are needed to support TRCA in delivery of programs and services as a LAMP partner. Contributions to date come largely through municipal funding partnerships.</li> </ul>

<p><b>ANNEX 6: INVASIVE SPECIES</b></p>
<p><b>PURPOSE:</b> To ensure cooperative and coordinated efforts to reduce the threat of aquatic invasive species to Great Lakes water quality and ecosystem health. It includes a commitment to understand and respond to the potential for new or expanded ranges of Aquatic Invasive Species in the Great Lakes.</p>
<p><b>TRCA INVOLVEMENT</b></p> <ul style="list-style-type: none"> <li>• Under contract with DFO TRCA implements the Toronto Area portion of the Asian Carp Surveillance Program. It's a strategic monitoring program which targets Asian Carps along the Toronto Waterfront. The scope of the program is two-fold, targeting areas (a) that are habitats that are suspected to have high potential for sustaining Asian Carps, and (b) where Asian Carps have been reported during past monitoring efforts. With these data, TRCA, its partners and provincial and federal agencies will be better equipped to reduce the threat of the Lake Ontario ecosystem destruction by the highly invasive Asian Carps as well as implement an adaptive management approach of aquatic habitats, particularly coastal wetlands.</li> <li>• Under contract with DFO TRCA implements the Toronto Area trapping portion of the Sea Lamprey control program. This project involves operating Sea Lamprey traps in the Humber River and Duffins Creek during the Lamprey seasonal migration upstream (April - June). Trap operation involves removal and counts of Lamprey, performing mark and recapture on selected individuals, and identification of by-catch fish.</li> <li>• TRCA provides plan input and review services related to development in regulated areas. Wherever possible, TRCA supports municipalities and other agencies in the removal of invasive species and incorporates the benefits of such removals in negotiations for natural heritage restoration or compensation.</li> </ul>

<p><b>ANNEX 7: HABITAT &amp; SPECIES</b></p>
<p><b>PURPOSE:</b> To continue efforts to restore, protect and conserve the resilience of Great Lakes native species and their habitats.</p>
<p><b>TRCA INVOLVEMENT:</b></p>

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- The RAP and GLSF (Great Lake Sustainability Fund) have supported a large number of strategic habitat restoration project including: Coastal Wetland Creation (e.g. Cell 2, Cell 1, etc), Watershed Signature Wetlands (McMichael Gallery, Toronto Zoo), Habitat Regeneration (Professors Lake, Humber Bay Park, Toronto Islands). These projects have levered substantial financial project support including an investment for TTP Cell 2 from Coca Cola Canada in a Private Public partnership valued over 3 million dollars.
- TRCA has developed and delivered over 5.7 million dollars of strategic habitat restoration projects since 2014.
- TWAHRS Fish Habitat Assessment -Assess restoration and rehabilitation efforts to aquatic habitat along the Toronto Waterfront. Specifically, this includes evaluating the effectiveness of restoration techniques from the Toronto Waterfront Aquatic Habitat Restoration Strategy (TWAHRS) compendium of restoration techniques. This will be accomplished by calculating rehabilitation area by habitat type (embayment/wetland, open coast and rivermouth), restoration sites. Aquatic Habitat Toronto (AHT), Fisheries and Oceans Canada (DFO), Environment Canada and Climate Change (ECCC), Ministry of Natural Resources and Forestry (MNRF), City of Toronto, Ports Toronto and Waterfront Toronto.
- Rap and GLSF has supported the development and delivery of a number of strategic habitat planning initiatives including: the **Integrated Restoration Plan (IRP)** for the TRCA watersheds. This strategic habitat planning has defined prioritized restoration activities including forest cover, wetland, and riparian habitats on a watershed catchment basis. **Toronto Habitat Banking** Development and delivery of a DFO ready habitat banking scheme to improve regulatory approval process for projects. **"Fishing in Your Backyard – An Urban Recreational Fisheries Strategy for the Lake Ontario Northwest Waterfront"** which fostered a \$2.5 million investment from the City of Toronto to improve waterfront fishing access. These Strategic watershed planning initiatives supports annex 4, 9 and 10
- RAP and GLSF funding supported the development of the TRCA Terrestrial Natural Heritage System Strategy – a strategy that identified the amount and distribution of habitat required to protect and restore biodiversity within the TRCA jurisdiction. The science and approach to natural heritage planning advanced through the development of the strategy has helped to inform a number of TRCA and municipal ecosystem management and land use planning initiatives and has significantly contributed to improved restoration, protection and management of the natural system. This also helps support Annex 4 and 10
- Urban developed has been the major driver of habitat and species loss within the TRCA jurisdiction. RAP and GLFS funding have supported the development of a number of technical guidance tools to inform land use planning, helping to ensure natural features and systems are protected through the land use planning process. The suite of wetland water balance guideline documents as well as the guideline for determining ecosystem compensation have both been developed with support from RAP and GLFS funding. This also helps support Annex 4 and 10.
- Ontario Climate Consortium Secretariat supports Annex 7 by convening stakeholders to discuss Resilience Thinking and climate change vulnerability best practices associated with coastal wetlands.
- Through the TRCA plan input and review process, TRCA supports conservation and restoration of native species throughout our watershed for both infrastructure and land use development projects.

### TRCA INTERESTS:

- Advance progress on priority actions for the loss of fish and wildlife habitat and the degradation of fish and wildlife populations Beneficial Use Impairments. This project will evaluate the effectiveness of restoration efforts in the Toronto AOC by TRCA that have been implemented to support priority projects from the TWAHRS.



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<b>ANNEX 8: GROUNDWATER QUALITY</b>
<b>PURPOSE:</b> To gain a better understanding of how groundwater influences Great Lakes water quality and ecosystem health, and to identify priority areas for future action.
<b>SUMMARY OF ANNEX:</b> <ul style="list-style-type: none"> <li>• Groundwater may represent as much as 50 percent of the water entering the Great Lakes, either directly (via groundwater discharge along the coasts) or indirectly (via discharge into rivers and streams that then discharge into the lakes).</li> <li>• Groundwater-based contaminants and excessive nutrients can impair the quality of the waters of the Great Lakes, particularly the nearshore region, with potential effects on aquatic species and recreational waters.</li> <li>• Groundwater quality in the Great Lakes is linked to the successful delivery of key commitments in other Annexes, including Areas of Concern, Lakewide Management, Harmful Pollutants, Nutrients, and Habitat and Species.</li> </ul>
<b>COMMITMENTS:</b> <ol style="list-style-type: none"> <li>1) To develop a binational state of Groundwater Science Report;</li> <li>2) Create an interagency groundwater issues team;</li> <li>3) Identify priorities for future research, and</li> <li>4) Identify priority areas and sites for monitoring, management or remediation actions to address groundwater impacts and stressors.</li> </ol>
<b>TRCA INVOLVEMENT</b> <ul style="list-style-type: none"> <li>• The Groundwater Science Report was released for public review in December 2015 and Conservation Ontario provided a letter of support.</li> <li>• TRCA has a representative on the Annex Sub-Committee. This committee continues to work on development of a groundwater indicator (e.g. nitrates - rural, chlorides - urban) for the Annex 10 science indicators project.</li> <li>• As a member of the Oak Ridges Moraine Groundwater Program, TRCA has supported the augmentation of groundwater knowledge.</li> <li>• Municipally funded YPDT Groundwater program is supported by CLOCA and housed at TRCA. This program has made significant progress in harmonizing data and models across GTA and can be a valuable resource for this Annex.</li> <li>• TRCA provides plan input and review services related to development in regulated areas. In areas where groundwater dewatering may impact surficial features such as wetlands and baseflow in watercourses, and hence their habitats, TRCA requires comprehensive mitigation and monitoring strategies be developed and employed.</li> </ul>
<b>ANNEX 9: CLIMATE CHANGE IMPACTS</b>
<b>PURPOSE:</b> To build an understanding of climate change impacts and advance integration of knowledge into Great Lakes adaptation and management strategies.
<b>TRCA INVOLVEMENT:</b> <ul style="list-style-type: none"> <li>• TRCA serves as the Secretariat for the Ontario Climate Consortium (OCC). OCC brings together researchers from some of Ontario's leading academic institutions.</li> <li>• TRCA /OCC also collaborates with GLISA – Great Lakes Integrated Science Assessment Program based out of University of Michigan.</li> <li>• OCC offers support to Annex 9, Climate change Impacts, in identifying climate science knowledge gaps and convening experts around climate modeling and information at the Great Lakes Basin scale</li> <li>• OCC sits on the Annex 9 Extended Subcommittee (Climate Change Impacts).</li> </ul>

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- OCCC provides support to the Development of Great Lakes Annual Climate Summary (jointly produced by Annex 9 - Climate Change Impacts and Annex 10 - Science)
- OCCC also provides climate change related support to Annex 7, Habitat and Species, by convening stakeholders to discuss Resilience Thinking and climate change vulnerability assessment best practices associated with coastal wetlands.
- The 2017 update to the Ontario *Environmental Assessment Act* requires proponents to address impacts to climate change in all assessments. TRCA works closely with proponents to ensure such impacts are addressed, as related to flood and erosion control and natural habitat resilience.

### TRCA INTERESTS:

- Continue to support and invest in climate science and research TRCA/ OCC.
- Contribution to the scientific knowledge and understanding of Lake Ontario impacts and strategies through local and regional science and actions.
- TRCA is hosting a workshop with environmental assessment practitioners to address climate change impacts in infrastructure development, thereby ensuring consistency and relevance of approaches as it relates to TRCA's mandate and interests. TRCA Infrastructure Planning and Permits will partner with OCC in this regard.

### ANNEX 10: SCIENCE

**PURPOSE:** To enhance the effectiveness and efficiency of Great Lakes science activities through planning, cooperation, coordination and communication.

#### SUMMARY OF TRCA INVOLVEMENT:

- TRCA's Environmental monitoring activities along the Toronto and region waterfront are an important component of TRCA's Lake Ontario shoreline monitoring program. Understanding environmental conditions of the shoreline provides significant information and input into the restoration projects planning and implementation. Scientific information is used for effective decision making and for reporting on the conditions and progress in achieving environmental objectives and defining appropriate and necessary actions. Monitoring focuses on documenting local and regional conditions and bio-physical attributes of the shoreline. Monitoring activities include fish community surveys, wetland monitoring, bioaccumulation monitoring, sediment surveys, and aquatic habitat surveys.
- TRCA in cooperation with Aquatic Habitat Toronto (AHT), Fisheries and Oceans Canada (DFO) Science Group, and Carlton University, are continuing a study to monitor the abundance and health of the fish community inhabiting the Toronto Harbour. The study utilizes acoustic tags and receivers to allow researchers a more complete view of the individual fish activity throughout the entire year. Tagged fish are tracked throughout the inner and outer harbours of Toronto, including areas that underwent habitat restoration. Moreover, tagged fish movements are tracked by receiver networks installed outside of the Toronto area (e.g., Hamilton Harbour), providing a more complete picture of fish movement and habitat utilization along the north-western coast of Lake Ontario.
- Near Shore Community Index Netting (NSCIN) assessed fish community status for Toronto Harbour — fish community assessments of the Toronto Harbour were focused in the areas of Tommy Thompson Park and the Toronto Islands. Evidence collected toward maintenance or improvement in IBI scores and aquatic ecosystem health generally.
- The RAP and GLSF recognize the importance of assessing progress towards ecosystem goals and learning from past experience. As such important monitoring and evaluation studies have been supported such as Evaluating the Status of Wildlife Habitat Loss and Degraded Wildlife Populations. This study developed a number of key recommendations for additional actions to further protect wildlife and habitat within the Toronto region. This also helps support Annex 4 and 7.

## Attachment 2 – TRCA Response to COA Review

- The Great Lakes Protection Initiative is currently supporting the development of wetland key performance indicators, helping to develop a framework for monitoring and reporting on the success of wetland restoration projects. This also helps support Annex 4 and 7.

### TRCA INTERESTS:

- Provides a critical understanding of ecological conditions associated with our restoration project sites.
- Contributes directly to TRCA's Toronto Waterfront Aquatic Habitat Restoration Strategy (TWAHRS)
- Contributes Directly to Toronto's area of concern (RAP objectives)
- Benefits the City's Waterfront Revitalization Plans, Contributing to Waterfront Toronto's activities in waterfront development and waterfront park planning.
- Toronto Water Pollution Objectives: Water Quality - meet guidelines for water and sediment quality
- Water Quantity - reduce erosion impacts on habitats and property
- Natural Areas and Wildlife - protect, enhance and restore natural features and functions
- Natural Areas and Wildlife - achieve healthy aquatic communities
- Natural Areas and Wildlife - reduce fish contamination.
- Contributes to scientific knowledge and understanding of environmental health with jurisdictional boundaries and connections within a regional context.

### ANNEX 11: PROMOTING INNOVATION

**PURPOSE:** To create long-term, environmentally sustainable economic opportunities that improve water quality and ecological health and contribute to the well-being of the Great Lakes community. It includes working with companies to commercialize their new technologies in the water sector/market.

### TRCA INVOLVEMENT:

- The annex is aligned with the TRCA strategic plan strategy 1 - green the Toronto region's economy.
- Facilitated the market adoption of effective new green building practices and technologies throughout the jurisdiction. For example, in partnership with industry, TRCA piloted new construction technologies at The Living City Campus at Kortright Centre for Conservation; encouraged the adoption of more sustainable practices and new building technologies in new developments (e.g., Toronto Waterfront), and designed a new head office that demonstrates leadership in green office building design and construction.
- Helped create and strengthen partnerships between public, private, institutions and non-profit sectors to support the adoption of green infrastructure policy and investments by senior levels of government across the jurisdiction through the Green Infrastructure Ontario Coalition, Eco Health Ontario and the Ontario Climate Consortium.
- Partners in Project Green Eco-Zone program is a public-private partnership that works to enhance adoption of new technologies and turn sustainable practices into economic gains for businesses
- Sustainable Technologies Evaluation Program (STEP) Water, a partnership between TRCA, CVC, and Lake Simcoe Region CA, has received funding through GLSF, GLPI and the RAP. STEP focuses on technologies within the following key focus areas:
  - Urban runoff and low impact development;
  - Erosion and Sediment Control;
  - Healthy Soils;
  - Salt Management; and
  - Protection of Natural Features and Systems.

### TRCA INTERESTS:

- Continued support of innovation and particularly in the creation of environmentally sustainable economic opportunities.

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<b>ANNEX 12: COMMUNITY ENGAGEMENT</b>
<b>PURPOSE:</b> To empower communities by providing opportunities for individuals and groups to enjoy and help take care of the Great Lakes.
<p><b>TRCA INVOLVEMENT:</b></p> <p>TRCA serves an expanding population of over 3.5 million citizens across six 18 upper, single and lower tier municipalities, nine watersheds and Lake Ontario. Community Engagement activities are in large part undertaken in support of TRCA's Strategic Plan, watershed and waterfront plans, municipal programs and multi-partner strategies such as the Remedial Action Plan (RAP) and Canada-Ontario Agreement (COA) on Great Lakes Water Quality and Ecosystem Health.</p> <ul style="list-style-type: none"> <li>• Engagement activities are also focused around specific watershed land uses and stakeholders such as neighborhoods and business.</li> <li>• TRCA programs build capacity and community environmental leadership to undertake independent local actions towards the improvement and protection of watershed and great lakes health</li> <li>• TRCA engagement and education programs promote positive behavioral change that fosters individual and social health and well-being.</li> <li>• Through a diverse range of engagement programs and activities (listed below) TRCA provides year-round opportunities for communities and stakeholders to contribute to the protection and better understanding of Great Lakes and watersheds:             <ol style="list-style-type: none"> <li>1) Community-Based Engagement Programs – watershed and shoreline clean-up, restoration, citizen-science, learn to fish, sustainable neighbourhoods</li> <li>2) Education and Training Programs – educational workshops, school programs and day camps and educational resources and new Canadian outreach.</li> <li>3) Community/Watershed Engagement Events</li> <li>4) Public Stakeholder Consultations</li> <li>5) TRCA Parks and Campgrounds Programs</li> <li>6) Watershed and Stewardship Committees such as Regional Watershed Alliance and Youth Council</li> </ol> </li> <li>• TRCA works with municipal, provincial and federal agencies to provide development and infrastructure review and comment as related to our mandate and interests. Through this work, TRCA planning staff advocate for community and public realm benefits be included in the projects wherever practicable.</li> </ul>
<p><b>TRCA INTERESTS:</b></p> <ul style="list-style-type: none"> <li>• TRCA will continue to proactively seek involvement with and outreach to a broad cross-section of the Toronto region population to support the goals and objectives of COA and RAP (beyond delisting of AOC).</li> </ul>

<b>ANNEX 13 &amp; 14: METIS &amp; FIRST NATION ENGAGEMENT</b>
<b>PURPOSE:</b> To highlight the interests and important role of Metis and First Nations as participants in the restoration, protection and conservation of the Great Lakes. It includes collaborating with Metis and First Nations in the delivery of the Agreement and opportunities to collaborate with Metis and First Nations on traditional knowledge.
<p><b>TRCA INVOLVEMENT:</b></p> <ul style="list-style-type: none"> <li>• TRCA supports the goals of collaborating with First Nations and Métis and enhancing consideration of traditional knowledge:</li> </ul>

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- TRCA endeavors to engage first Nations and Metis Nations through our various programs. Mandatory engagement through environmental assessment process is a provincially delegated responsibility. TRCA's mission specific engagement programs have been successful in establishing excellent relationships with both Metis Nations and First Nation communities. Some of these programs include, watershed events, promotion of human heritage of TRCA's watersheds and rivers, healing gardens, archeology etc..

### **TRCA INTERESTS:**

- We encourage senior governments to lead the charge on Metis and First Nations engagement.
- Regional forums, supported by capacity-building funding, would enable conservation authorities to build local relationships with First Nations and Métis to support mutual watershed-based goals.
- TRCA encourages additional efforts to integrate traditional knowledge and western science into decision-making on Great Lakes issues.

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### Appendix 2

#### TRCA Detailed Comments (August 2019) on the Draft Canada-Ontario Great Lakes Water Quality and Ecosystem Health, (ERO#019-0198)

<b>Definitions</b>	<p>(g) "Great Lakes community" – TRCA is pleased to see conservation authorities are a part of this community along with municipalities and other stakeholders.</p> <p>(j) "Ontario's Environment Plan" is referred to as "the 2018 draft document"; We understand the Plan was final as of November 2018 and can be referred to as such.</p>
<b>Administration of the Agreement – COA Executive Committee</b>	<p>(f) As a member of the "Great Lakes community", TRCA would be pleased to meet with the COA Executive Committee and other members at roundtable discussions as it relates to our jurisdiction.</p>
<b>Annex 1: Nutrients</b>	<p>The call for nutrient reductions is a critical component of the Agreement. TRCA is an active participant in this research effort. Should future reductions be required, TRCA supports "ecosystem considerations" in any nutrient reduction target setting exercise; given the significance of the recreational fishery in Lake Ontario and the damaging impact of invasive mussels that changed the nutrient pathways in the Lake.</p> <p>TRCA has made significant investments in restoring fish communities and aquatic habitat in Lake Ontario, which requires a balance in nutrient allocation to ensure continued productivity of this fishery.</p> <p>TRCA has the knowledge to help target areas for these nutrient reductions and have advanced programming to implement urban and rural nutrient management strategies and best management practices across our watersheds.</p> <p>TRCA agrees there are a number of complementary initiatives that contribute to reducing nutrient loading in the Great Lakes, including research and monitoring, green infrastructure promotion and generally, improvements in urban and rural land use and land management practices.</p> <p>TRCA suggests that the agencies' work planning include working with partners, such as municipalities and conservation authorities, to develop watershed plans for key priority watersheds as a means of identifying science-based local level actions required to reduce the risk of excess nutrients, and wastewater and stormwater pollution. As provincial policy requires municipalities to undertake watershed plans to inform development and infrastructure planning decisions</p>

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	<p>(including stormwater and wastewater master plans), this is a natural opportunity for collaboration.</p> <p>TRCA's experience from administering our Rural Clean Water Program, undertaken jointly with neighbouring conservation authorities and municipalities, can inform actions to achieve Result 4, which discusses best management practices for reduced risk of nutrient loss from agricultural production.</p> <p>Dog waste is another contributor to nutrient loading in our watersheds and eventually to Lake Ontario. This is particularly true for older established areas like Toronto, where dogs off leash parks are often located within valleylands. Best management practices include vegetated buffers, site drainage and servicing schedules, including flushing infrastructure, to minimize nutrient impacts on watercourses that ultimately make their way to the Lake.</p> <p>Under Result 5, (l) and (m) both of these points mention "decision-making" but are not specific as to under which legislation, policies or regulations decisions would be pursuant.</p>
<b>Annex 2: Harmful Pollutants</b>	<p>Please consider the following revisions:</p> <p>to (b) under Result 4 (Canada and Ontario will):</p> <p>"Complete chronic toxicity testing studies for Polyaromatic Hydrocarbons (PAHs) to <del>develop</del> <b>create</b> a body of science sufficient to develop create appropriate Environmental Quality Guidelines."</p> <p>to (a) under Result 5 (Canada and Ontario will):</p> <p>"Support capture and clean up projects <del>for to</del> <b>remove</b> plastic pollution from our waterways and land;"</p> <p>Consider revision to (b) under Result 5 (Canada and Ontario will):</p> <p>"Working through the Canadian Council of Ministers of the Environment, <del>support the development of</del> <b>create</b> an action plan to implement the Canada-wide Strategy on Zero Plastic Waste"</p> <p>to (g)(ii) under Result 5 (Canada will):</p> <p>"Develop national performance <del>requirements</del> <b>indicators</b> and standards <del>including</del> for recycled content, compostability, reparability, and remanufacturing/refurbishment;"</p> <p>to (l) under Result 5 (Ontario will):</p> <p>"Consider <b>integrating the management of</b> plastic pollution into wastewater and stormwater policies."</p> <p>to description of Result 6:</p>



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	<p><b>Maintain an accurate scientifically derived inventory of Chemicals of Concern</b> <del>When scientific evidence identifies a need, new Chemicals of Concern are identified and designated, and existing Chemicals of Concern are periodically reviewed for removal.</del></p> <p>to third paragraph under description of Annex:</p> <p>“Improving wastewater and stormwater management requires significant investments, long-term planning, and clear standards and policies. <del>Many</del> <b>Multiple</b> partners play a role in the <b>successful management of wastewater and stormwater</b> including federal, provincial, and municipal governments.”</p>
<b>Annex 3: Wastewater and Stormwater</b>	<p>There are several actions listed in Annex 3 that conservation authorities can assist with as we have knowledge, expertise, research partnerships, and monitoring programs aligned with the intent the Annex's Results (e.g., water quality and stream discharge monitoring, exploring the water quality benefits of natural features, assessing impacts of salt us on aquatic ecosystems, etc.). Opportunities for further collaboration and partnership exist through watershed planning that gets undertaken jointly by municipalities and municipalities through the land use planning process as mentioned above under Annex 1, Nutrients.</p> <p>In the past TRCA has received special funding through Grant Agreements with both ECCC and MECP – to name a few recent examples: Western Lake Ontario – Land to Lake, Western Durham water quality monitoring program, Frisco Road Stormwater Retrofit study, Small Equine Stewardship Program, Cladophora studies, Community engagement and outreach for programs and activities outside of the Toronto AOC (Durham watersheds). Most recently, TRCA received approximately \$400K for tributary nutrient loading studies from MECP.</p> <p>Consider revision to (e) under Result 1 (Ontario will):</p> <p>“Update wastewater <b>management</b> policies and develop a new stormwater management policy, <b>which includes provisions</b> <del>including policies</del> specific to treatment requirements, <del>the as well as</del> sewage overflows and bypasses to enhance environmental protection and reduce nutrient loadings.”</p> <p>RE: (I) under Result 2 (Ontario will):</p> <p>While TRCA supports this action given that communication tools are needed about septic system impacts on Great Lakes water quality, it should be noted that municipalities and conservation authorities across the province have developed materials for public</p>



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	<p>consumption on septic contaminate risk for drinking water (to comply with Source Protection Plan policies).</p> <p>Re: (m) under Result 2 (Ontario will):</p> <p>Given the impact of harmful algae blooms on the use of public beaches, it is recommended that HABs be listed together with E. coli, as below:</p> <p>“Enhance understanding of the causes of E. coli, algae, or other substances that reduce use of beaches;”</p> <p>Re: (o) under Result 2 (Ontario will):</p> <p>Suggest that beach management tool be described, or examples provided in text.</p> <p>With respect to Result 2, (q) (pathways for road salt), Source Protection Regions established under the <i>Clean Water Act</i> undertaking an analysis of groundwater’s transport pathways, could aid the Province in its goal of assessing pathways for road salt into groundwater. This goal ties into Science Need Area 7 “Improve the understanding of the effects of urban development on groundwater” as identified in the <i>Groundwater Science Relevant to the Great Lakes Water Quality Agreement: A Status Report</i>.</p> <p>The Sustainable Technologies Evaluation Program could also support the Province in addressing objectives of this Science Need including base data acquisition and monitoring of urban water balances and research on urban groundwater contaminate fate.</p> <p>We note that the removal of sodium and chloride from the Provincial Water Quality Objectives feels at odds with this goal. Salt is a major contributor to watercourse toxicity in our watersheds. TRCA staff work with municipal staff to ensure appropriate site/road drainage to minimize salt impacts on the watercourses. TRCA continues to work with municipal and provincial agencies to develop strategies and policies to minimize salt runoff to watercourses and wetlands, including appropriate draining and buffers.</p>
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<b>Annex 5: Areas of Concern</b>	<p>The Toronto and Region Remedial Action Plan (RAP) for the Toronto Area of Concern (AOC) is the largest program currently supported by the COA. TRCA administers the RAP as part of a 5-year (2015-2020), \$2.5 million agreement with Environment and Climate Change Canada and MECP. The COA under the RAP and the Great Lakes Sustainability Fund have fostered the development and delivery of strategic habitat planning and project initiatives that value over 10 million dollars.</p> <p>TRCA projects under the RAP include the Integrated Restoration Plan, Toronto Habitat Banking, “Fishing in Your Backyard – An Urban Recreational Fisheries Strategy for the Lake Ontario Northwest Waterfront”, and projects that focus on coastal wetlands and habitat restoration in high profile public spaces. Moreover, through development and infrastructure planning processes, TRCA staff work with municipalities and proponents to ensure ecological restoration projects are directed toward strategic areas to address RAP priorities in the Toronto AOC.</p> <p>Under Result 12 (b) conducting “monitoring of wildlife populations to assess progress towards achievement of delisting criteria” seems out of place given that, while we have monitored wildlife, this is not a priority activity. The reason for listing of the fish and wildlife populations BUI was fish. “Wildlife populations and habitat” was always a joined BUI with fish. In 2015, the RAP determined that the wildlife part of both BUIs needed to be reported on separately as we moved towards delisting these. This was not meant to indicate a lack of concern for wildlife. Rather, there was a focus on the Lake rather than watersheds. Therefore, at that time, there were no real objectives set for wildlife. However, while there are limited opportunities to speak to wildlife if the focus is strictly the Lake, the process to delist allowed the RAP team to do this.</p> <p>Further to the above, another suggested commitment could be for the Toronto RAP team and Aquatic Habitat Toronto to provide financial and technical support to priority actions to advance progress towards achievement of delisting criteria for Loss of Fish and Wildlife Habitat and Degradation of Fish and Wildlife Populations.</p> <p>Also under Result 12, the Ashbridge’s Bay Treatment Plant upgrades will be an additional key action for addressing the beach closures and eutrophication BUIs.</p> <p>The Toronto AOC is on track to delist by 2025. While there is a sunset for the RAP, there is some expectation that efforts and investment will continue once the AOC is de-listed, primarily through monitoring, engagement and maintenance activities to ensure ongoing resilience.</p>
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<p><b>Annex 6: Lakewide Management</b></p>	<p>Erosion plays a role in impairing water quality so it should be included in the COA. Erosion should be featured more prominently in commitments especially given the high-water level events of 2017 and 2019 in Lake Ontario.</p> <p>In order to accommodate the increased volume and velocity of surface runoff from urbanization, widening and undercutting of receiving waterbodies can occur, in turn causing steep banks to slump and fail during severe storms. In addition, the bed of the watercourse may change due to sediment covering the natural substrate with shifting deposits of mud, silt, and sand, thereby affecting aquatic habitat; downcutting of the channel bed creates instability which can lead to increases in the velocity of stream flow and erosion downstream. Loss of riparian tree canopy cover results from the constant undercutting and failure of the stream banks, exposing tree roots and other woody vegetation that would otherwise serve to stabilize the banks of the watercourse. The impairments from these impacts have ramifications downstream at the river mouth where it meets Lake Ontario.</p> <p>Result 1, (b) in this Annex could be a good point to include wording about erosion threats in riverine and shoreline systems ((b) highlights this arguably under "physical"). Annex 3 where stormwater management is discussed is where another connection could be made to issues of erosion for ecosystem health. We note that erosion is referenced in Annex 10, Climate Change Impacts and Resilience, but the focus in Annex 6 on threats to water quality could include actions regarding erosion.</p> <p>Re: (e) under Result 5 (Ontario will), suggest that action be expanded as follows:</p> <p>"Maintain and/or develop programs to provide education and outreach on the protection of drinking water sources, and to:</p> <ul style="list-style-type: none"> <li>• identify and support actions to mitigate potential threats to source water,</li> <li>• encourage collaboration on protecting our shared drinking water sources; and</li> <li>• raise the profile of the importance of the Great Lakes as a source of drinking water for Ontario.</li> </ul> <p>Suggest the addition of another action: Canada and Ontario will work with municipalities responsible for providing water from systems with intakes in the Great Lakes to undertake actions to support the implementation of source protection plan policies to protect these sources of drinking water.</p>
<p><b>Annex 8: Habitat and Species</b></p>	<p>Result 1 (a) and (b) - The references to "net habitat gain" and "restoration" imply a habitat off-setting strategy is needed to augment the current protections for habitats under the <i>Planning Act</i> and <i>Environmental Assessment Act</i> review and approval processes.</p>

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	<p>The current review of the Provincial Policy Statement alludes to provincial guidance for municipalities to “manage” non-provincially significant wetlands, however, the Agreement’s commitments cited above would require guidance on managing a broader range of habitat.</p>
<b>Annex 9: Groundwater Quality</b>	<p>TRCA is highly supportive of the commitments in the Agreement related to protecting groundwater quality. However, as identified by Conservation Ontario, the link between groundwater quality and quantity is not emphasized. Please see comments above under Annex 3, Wastewater and Stormwater on how conservation authorities might aid the Province in connecting groundwater flow regimes (rural and urban) to groundwater quality and ecosystem health.</p> <p>TRCA is pleased to see the Province committing to updating its SWM criteria and there are commitments in the COA to studying LID and other green water management infrastructure. Nonetheless, the Agreement could benefit from more focus on implementation (see General Comments on Implementing Mechanisms). For example, through our roles in the planning and permitting processes, TRCA provides direction on mitigation in areas where groundwater dewatering may impact baseflow to natural features such as wetlands and watercourses.</p> <p>The Agreement speaks to the importance of monitoring, and provincial responsibilities for that. This is not consistent with the recent MECP decision to reduce funding for the Provincial Groundwater Monitoring Network. Indeed, the reduction in funding seems at odds with the goals outlined in this Annex.</p> <p>Many of the AOCs that fall within conservation authority boundaries and large projects that rely on conservation authority expertise, such as the Don River Naturalization and Portlands Flood Protection project, can generate significant data on water quality and ecosystem health of the Great Lakes, including nearshore areas. In addition, the Oak Ridges Moraine Groundwater Program (ORMGP) can provide a significant service in data retention for such projects.</p> <p>With respect to Result 2 (a), (surface water- groundwater conceptual and numerical models), the ORMGP could assist the Province with this Result in developing groundwater-surface water (GW/SW) models at various scales. The ORMGP has retained the modeling files for all the models produced by the nine conservation authorities located on the ORM and has undertaken a comparative analysis of the various models, especially where overlap of the model boundaries exists. The ORMGP is also working with its CA and municipal partners on a Terms of Reference with respect to future modeling projects.</p>

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	<p>The Agreement's Result 2 goal for improved understanding of GW/SW interactions also ties into three different Science Need Areas as identified in the <i>Groundwater Science Relevant to the Great Lakes Water Quality Agreement: A Status Report</i>:</p> <ul style="list-style-type: none"> <li>• Science Need Area 1: Advance assessment of regional-scale groundwater discharge (quantity) to surface water in the Basin</li> <li>• Science Need Area 5: Develop better tools for monitoring surveillance and local-scale assessment of groundwater-surface water interaction</li> <li>• Science Need Area 8: Develop scaled-up models of regional effects of groundwater on Great Lakes water quality.</li> </ul> <p>In particular, watershed planning exercises' future land and water use scenarios could be considered in the context of the model outputs generated by Source Protection Regions.</p> <p>With respect to Result 2 (b), (Undertake and promote monitoring and research to improve understanding of groundwater), this goal ties into Science Need Area 4 "Advance research on local-scale assessment of interaction between groundwater and surface water" as identified in the <i>Groundwater Science Relevant to the Great Lakes Water Quality Agreement: A Status Report</i>. Conservation Authorities could aid the Province in its goal of improving understanding of groundwater influences on ecosystem health through local knowledge. TRCA recently undertook an exercise in identifying Ecologically Significant Groundwater Recharge Areas using outputs from groundwater models that were produced by the Source Protection Region. The model outputs were verified by undertaking statistical analysis of known groundwater dependent ecosystems captured by the model outputs.</p> <p>With respect to (c) (provincial groundwater, surface water and integrated climate change monitoring), this goal ties into Science Need Area 3 "Advance monitoring and surveillance of groundwater quality in the Great Lakes Basin" as identified in the <i>Groundwater Science Relevant to the Great Lakes Water Quality Agreement: A Status Report</i>. Conservation authorities, with sufficient funding, can aid the Province through identifying priority watersheds in which to focus research efforts, compiling historical groundwater quality data, and increasing availability of hydrogeological mapping products.</p> <p>With respect to Result 3 (a) (Facilitate the coordination, sharing and exchange of information and research), this goal aligns with Science Need Area 6 "Advance research on the role of groundwater in aquatic habitats in the Great Lakes Basin" as identified in the <i>Groundwater Science Relevant to the Great Lakes Water Quality Agreement: A Status Report</i>. As groundwater-dependent ecosystems are mapped within the Great Lakes Basin, conservation authorities can support the Province in collecting local data such as</p>
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	<p>habitat patch and species distribution as well as assess their exposure and sensitivity to groundwater variation and other stressors.</p> <p>For Result 3 (b) (Identify priority sites or areas where point sources may impact...), this goal relates to Science Need Area 2 “Establish science-based priorities to advance the assessment of the geographic distribution of known and potential sources of groundwater contaminants relevant to Great Lakes water quality, and the efficacy of mitigation efforts” as identified in the <i>Groundwater Science Relevant to the Great Lakes Water Quality Agreement: A Status Report</i>.</p>
<b>Annex 10: Climate Change Impact and Resilience</b>	<p>TRCA and the Ontario Climate Consortium (OCC) are established, credible partners that can offer strategic planning support to many of the commitments made in the Climate Change Impact and Resilience Annex. TRCA serves as the Secretariat for the OCC. OCC brings together researchers from some of Ontario’s leading academic institutions, as well as municipalities, conservation authorities, and the broader public sector. TRCA/OCC also collaborates with GLISA – Great Lakes Integrated Science Assessment Program - based out of the University of Michigan; GLIS is a leading group on climate modelling in the Great Lakes Basin and communicates climate change impacts to the broader community.</p> <p>TRCA/OCC has been supporting the Climate Change Annex (previously Annex 9 – Climate Change Impacts) in identifying climate science knowledge gaps and convening experts around climate modeling and information at the Great Lakes Basin scale. OCC also sits on the Extended Subcommittee for the Climate Change Annex and contributes to the development of the Great Lakes Annual Climate Summary. OCC Projects with the public sector include conducting vulnerability assessments in the Great Lakes Basin and hosting an annual climate science and planning workshop.</p> <p>OCC also provides climate change-related support to Annex 7, Habitat and Species, by convening stakeholders to discuss Resilience Thinking and climate change vulnerability assessment best practices associated with coastal wetlands.</p> <p>TRCA/OCC looks forward to continuing to support the objectives of the Agreement in tackling climate change into 2020 and beyond. We offer the following comments and questions on the draft new Agreement Annex 10 for climate change.</p> <p>Second paragraph - suggest revising sentence to “warmer water temperatures” and adding “increasingly variable waves and winds, extreme weather events.”</p>

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	<p>Third paragraph - The impacts of climate change will also have a significant effect on communities in the Great Lakes Basin. For example, harsh lake-effect snow and ice storms can disrupt critical services and damage infrastructure. Therefore, the third paragraph should also include how climate change impacts will affect communities.</p> <p>Further to the above, we suggest rephrasing sentence to “Regional adaptation planning, decision-making and action are supported through this program with the aim of helping communities and industries prepare for and adapt to local climate impacts <del>resulting from a changing climate</del> including the increase in droughts, floods and coastal erosion.” TRCA also suggests adding problems with water and air quality, forest fires, crop changes, extreme weather events, and health impacts, to the list of local impacts.</p> <p>Suggest providing more details around the climate projections Ontario intends on using. For example, will Ontario use the data provided by the Canadian Centre for Climate Services? Or will the Province be undertaking its own regional climate modeling? It may be helpful to outline this here, since there are many uncertainties and gaps around climate modeling, specifically in the Great Lakes Basin (e.g., many climate models do not account for the Great Lakes).</p> <p>It would be helpful for the COA to provide more details on the on-line tool that the Province will be developing. For example, will this be similar to that of the Canadian Centre for Climate Services? Will the Province be running this tool, or will there be a provincial climate “hub” organization that will be leading this?</p> <p>Suggests adding “and with other Annexes of the GLWQA and enhancing inter-Annex collaboration and communication on climate change” in the last paragraph, when talking about sharing climate change information with the Great Lakes community.</p> <p>For Result 1, (Enhance knowledge and understanding of existing and future climate change impacts...), in (c), suggest adding “Great Lakes water levels” as Environment and Climate Change Canada is already doing this.</p> <p>For (j), is there a reason why this action only involves Lake Ontario? Suggest including all Great Lakes in Ontario, if possible.</p> <p>In Result 2, (Assess existing and future climate change risks and vulnerabilities...), suggest moving subsection d) “Share information and results from the Provincial Climate Change Impact Assessment and the Canada in a Changing Climate series of reports” to Result 3, as this is more focused around sharing information on climate</p>
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	<p>change impacts, risks and vulnerabilities with the Great Lakes community.</p> <p>Under subsection g), revise “flood mapping” to “floodplain mapping”.</p> <p>Result 3, (Share information on climate change impacts, risks and vulnerabilities....and advance the integration of climate change considerations...), in section (a), include other Annexes of the COA in the knowledge sharing, as there is a lack of inter-annex communication on climate change.</p>
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## **Attachment 2 – TRCA Response to COA Review**