

Town of Ajax Report



Report To: Community Affairs and Planning Committee

Prepared By: Sean McCullough, MCIP, RPP
Senior Planner

Subject: Carruthers Creek Watershed Plan - Phase 2 Update

Ward(s): 2 & 3

Date of Meeting: June 3, 2019

Recommendations:

- 1. That the Report entitled “Carruthers Creek Watershed Plan – Phase 2 Update” be received for information.**

1.0 Purpose:

The purpose of this report is to provide background on the Carruthers Creek Watershed, and an overview and status update on the Carruthers Creek Watershed Plan currently being prepared by the Toronto and Region Conservation Authority (TRCA) on behalf of the Region of Durham (Region).

2.0 Background:

Watershed Planning provides a framework for establishing goals, objectives, and direction for the protection of water resources, the management of human activities, land, water, aquatic life, and resources within a watershed; and assesses cumulative impacts. Watershed planning examines numerous aspects within a watershed, including but not limited to, watershed characterization; nutrient loading assessments; climate change impacts; and identification, protection and restoration of hydrologic features, environmental features and riparian areas. Watershed plans also evaluate how a watershed responds to various land use scenarios based on forecasted growth and servicing, which is then used to inform land use planning decisions (e.g. Official Plans).

The Carruthers Creek Watershed is the eastern most watershed in the TRCA’s jurisdiction. It is approximately 3,754 hectares (9,261 acres) in size with its headwaters originating just south of the Oak Ridges Moraine in northeast Pickering. Carruthers Creek flows south to Lake Ontario, meandering through eastern Ajax (see Figure 1).

The northern Carruthers Creek watershed consists of predominantly agricultural land uses in northeast Pickering and north Ajax (north of Taunton Road), and consists of a mix of residential, employment and commercial land uses within the Ajax Urban Area Boundary. The Carruthers Creek watershed contains two Areas of Natural and Scientific Interest (ANSI): the Kinsale Raised Shoreline Earth Science ANSI, and the Shoal Point Marsh Life Science ANSI. The watershed also contains the Carruthers Creek Wetland Complex Provincially Significant Wetland; and two locally significant wetlands, the Rossland Road Wetland Complex and the Salem Road Wetland Complex.

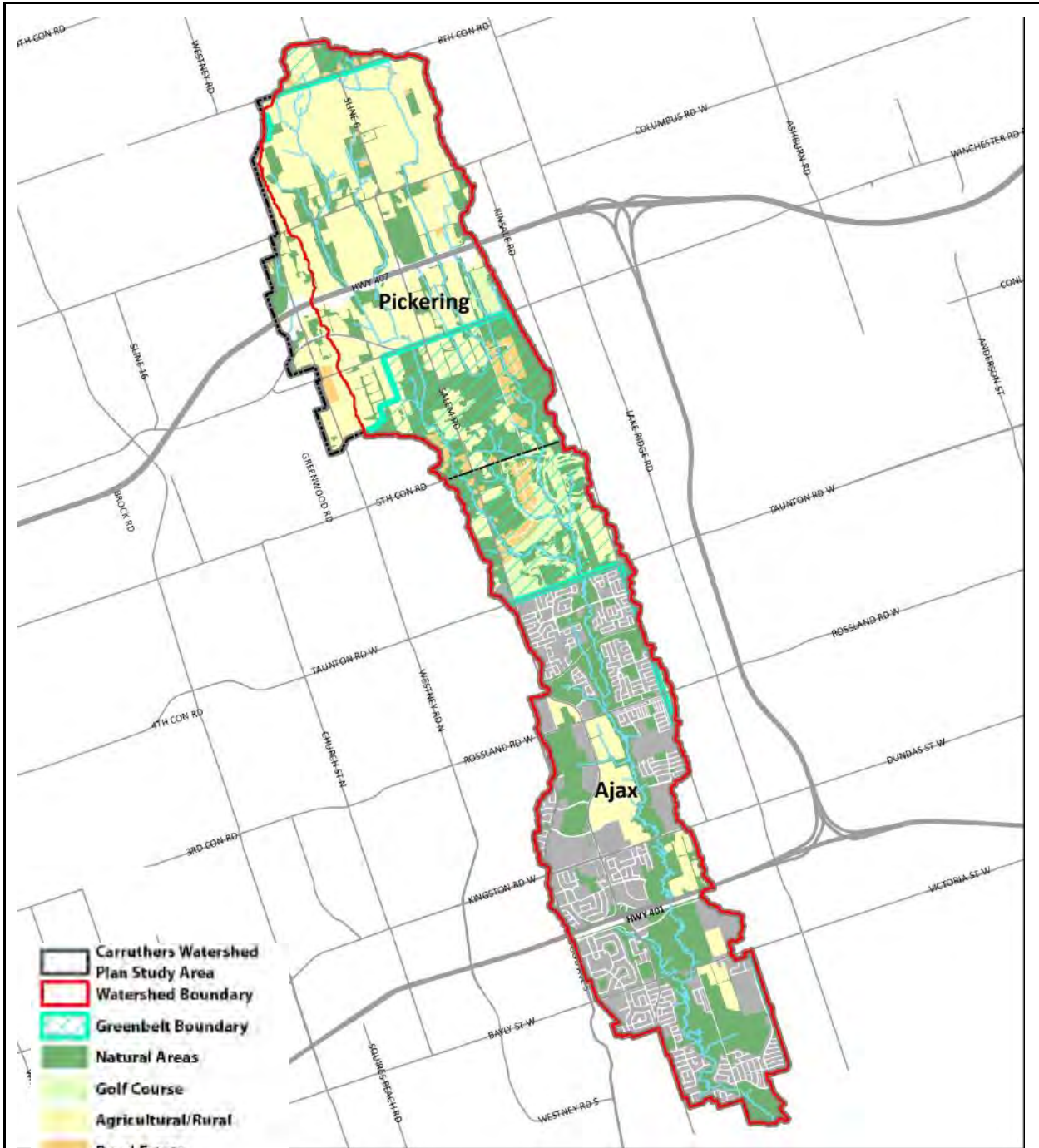


Figure 1:
Carruthers Creek Watershed and Study Area
(2015 Land Use)

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In 2003, the TRCA released *A Watershed Plan for the Duffins and Carruthers Creek*, setting the future vision, a management philosophy, and a framework for management goals, objectives and actions for the two watersheds.

Carruthers Creek Flood Management and Analysis Environmental Assessment

In 2009, the TRCA completed a comprehensive review of the flood plain mapping for a number of creek systems across the TRCA's jurisdiction. The updated Regulatory Floodplain Mapping for Carruthers Creek quantified a "spillway" through the Pickering Beach Neighbourhood to Lake Ontario (see Figure 2). This analysis was based on future land uses in approved Official Plans within the Watershed.

In 2010, the Town retained Cole Engineering to complete a Municipal Class Environmental Assessment (EA) which was focused on flood remediation solutions for the Pickering Beach Neighbourhood. As part of the Municipal Class EA, a number of corresponding reports and plans were prepared including, a Hydrology Model Update and Report, a peer review of the TRCA's Floodplain Mapping, a Floodline Mapping Report for the Carruthers Creek, a Flood Emergency Preparedness Plan, and a Preliminary Design Report.

The Town completed the Carruthers Creek Flood Management and Analysis EA in 2012. The EA identified the need for the Town and the TRCA to proactively manage the Carruthers Creek floodplain to avoid detrimental downstream impacts on particular properties and infrastructure susceptible to flooding under Regional Storm (Hurricane Hazel) conditions. The study examined a number of potential and alternative solutions, including a "do nothing" approach; retrofit of existing stormwater facilities; improving headwater conditions; upgrading the Shoal Point Road bridge; channel improvements, lowering and dredging; construction of a new conveyance channel; or construction of a flood control landform (berm). Based on an evaluation of the social considerations, effectiveness, and economic feasibility, a preferred solution of a combination of the flood control landform and floodplain lowering alternatives was developed. This solution would effectively contain the spill and remove lots from the floodplain.

In 2012, Cole Engineering also prepared an Impact Report on behalf of the Town to evaluate the effect of urbanizing the Carruthers Creek headwaters, as previously proposed in Regional Official Plan Amendment 128 (ROPA 128). The Impact Report identified that there would be an increase in downstream flooding in Pickering Beach, and that the landform (which was the preferred solution identified in the EA) would be overtopped. As a result, properties in the Pickering Beach Neighbourhood that would have been removed from the floodplain with the construction of the landform would be back in the floodplain.

Carruthers Creek Watershed Plan Update

In April 2015, the Region of Durham Council authorized staff to engage the TRCA to update the Carruthers Creek Watershed Plan, and a portion of the East Duffins Creek. This is an update to the 2003 Watershed Plan. In June 2015, the TRCA received Board approval to proceed. The update is to be completed over a 4 year period. Phase 1 is completed and was comprised of research, monitoring and field work necessary to characterize the watershed's flora, fauna, hydrogeology and headwater drainage features. Phase 2 which is currently underway consists of hydrologic modelling, stormwater assessment, scenario modelling, watershed plan development and stakeholder engagement.



Figure 2:
Pickering Beach Neighbourhood
“Spillway” Policy Area

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In October 2017, the Region reported that the TRCA had completed Phase 1 of the watershed plan update, including completion and peer review of the technical reports. The purpose of the Phase 1 technical reports were to characterize and assess the current state of the watershed. The following is a list of the technical reports released during Phase 1:

- Aquatic Crossing and Barrier Assessment Report
- Aquatic Habitat and Community Characterization Report
- Fluvial Geomorphic Assessment Report
- Headwater Drainage Feature Characterization Report
- Hydrogeology of the Carruthers Creek Watershed Report
- Surface Water Quality Characterization Report
- Terrestrial Biological Inventory Assessment Report

Following the completion of Phase 1, the TRCA began Phase 2 which includes technical work to model, assess and evaluate how the Carruthers Creek Watershed responds to different land use scenarios that range from current land uses, to increased natural cover and urbanization of the headwaters. The TRCA has also undertaken consultation with the community and stakeholders during Phase 2 to aid in the development of the final plan.

3.0 Discussion

Carruthers Creek Watershed Plan Status and Phase 2 Workplan Update

The TRCA provided an update on the status of the Carruthers Creek Watershed Plan Update, as well as an amended work plan to the Region on April 1, 2019.

The update identified that TRCA's engineers are working with Town of Ajax and City of Pickering staff to determine the next steps in the hydrological modelling, including validation and calibration using available data throughout the watershed. This work is ongoing and is critical to the completion of the draft watershed plan. Following completion of the Phase 2 technical reports, the reports will be reviewed by a third party peer review consultant on behalf of the TRCA.

Watershed management recommendations are being drafted concurrently with the Phase 2 technical reports, and the results of the hydrological model will be integrated into the draft watershed plan. It is anticipated that the draft management recommendations will be finalized by September 2019.

A copy of the updated Carruthers Creek Watershed Plan Workplan (April 2019) has been included in Attachment 1. In addition to the technical work currently underway, the next steps include evaluation of management actions, drafting management recommendations, and finalizing the watershed plan. Consultation with the Town, City of Pickering, Region of Durham and the public will take place during various stages of the development of the management actions and the draft plan. It is anticipated that a final watershed plan will be delivered to the Region by the end of 2019.

Communication and Consultation Summary

The first stage of consultation in Phase 2 was to promote awareness and interest in the watershed planning process and to obtain feedback on the 2003 Vision Statement. The

Carruthers Creek Watershed Plan Communications and Consultation Summary Phase 2, Stage 1 (“Consultation Summary”) has been provided in Attachment 2.

The Consultation Summary provides a brief overview of some of the feedback received on updating the 2003 Vision Statement, including but not limited to: incorporating adaptation and resiliency to climate change, focusing on biodiversity and improving ecological health, adding emphasis on restoring and retrofitting existing urban areas, highlighting continued research and science, and encouraging stewardship. Stakeholder comments and suggestions were incorporated into a draft Vision Statement:

“Carruthers Creek watershed is a healthy and resilient natural system that is managed through partnerships to balance resource protection with human activity. Sound science and best management practices will protect and restore ecosystem functions, protect watershed residents from natural hazards like flooding, and maintain our natural heritage and water resources for the present and future generations.”

The second stage of consultation will focus on the watershed management actions and the draft Watershed Plan.

4.0 Financial Implications:

There are no financial implications associated with the endorsement of the recommendations contained within this Report.

5.0 Conclusion:

The Carruthers Creek Watershed Plan is proceeding and is scheduled to be completed by the end of 2019. Work on the hydrological model is ongoing and is critical to the completion of the watershed plan. The Town continues to work with the TRCA, City of Pickering, and the Region towards finalizing the modelling work and watershed plan.

ATTACHMENT 1: Carruthers Creek Watershed Plan Phase 2 – Updated April 2019

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

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Submitted by:

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1 April 2019

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RE: Carruthers Creek Watershed Plan Phase 2 Update

Dear Mr. Anderson:

I am pleased to submit this letter which provides an overview of various aspects of the Phase 2 study approach and progress report. TRCA's overall four-year workplan for the Carruthers Creek Watershed Plan (CCWP) process was outlined in our submission approved by the Region of Durham in April 2015. The characterization of current watershed conditions (Phase 1) was completed in Fall 2017. The steps to be completed as part of Phase 2 of the CCWP were described in our letter, and associated attachments, dated March 27, 2018.

1a.) Status of Phase 2 Technical Studies

The purpose of the Phase 2 technical work is to model, assess and evaluate how the Carruthers Creek watershed responds to scenarios of land use changes. The *Carruthers Creek Watershed Plan Phase 2 - Updated April 2019* (Attachment 1) is an amended version of the workplan submitted as part of Report #2018-INFO-54 from the April 13, 2018 Planning and Economic Development Committee Meeting that provides a status update on all workplan items.

The hydrological modelling being undertaken in Phase 2 plays a vital role in the update to the CCWP. TRCA engineers are working collaboratively with Town of Ajax and City of Pickering engineering staff to determine the next steps in model validation and calibration using available data throughout the watershed. A collaborative approach will ensure that this critical component of the CCWP is completed to a standard accepted by all parties involved. A detailed update on the hydrological modelling process and progress will be provided to you in the coming weeks.

1b.) Next Steps in Phase 2 Technical Studies

External peer review will be undertaken for all technical analysis reports. This will ensure that analysis was rigorous and completed to the highest technical standard. Management recommendations will be drafted concurrently as Phase 2 technical studies are finalized and a draft *Table of Contents* for the CCWP will be developed and shared with Region of Durham before finalizing. Final integration of all Phase 2 technical work will culminate in the draft CCWP in Q4 2019.

2a.) Communications and Consultation Summary Report (Phase 2, Stage 1)

The *Communications and Consultation Summary Report (Phase 2, Stage 1)* (Attachment 2) is a detailed report of all communications and consultation activities undertaken by TRCA for Phase 2, Stage 1 of the CCWP. It also describes what was heard throughout the process of consultation and how public input is reflected in the new CCWP Vision Statement.

2b.) Updated Vision Statement

Generally, the feedback received on the 2003 Carruthers Creek Watershed Vision was positive and noted that it remains relevant. Suggestions for improving the Vision Statement include:

- Incorporate resiliency, sustainability, and climate change adaptation
- Highlight the importance of research and sound science
- Focus on health benefits of nature
- Encourage all stakeholders to participate in protecting the watershed
- Keep it direct and to the point

Stakeholders' comments and suggestions were incorporated to create an updated Vision Statement for the CCWP:

Carruthers Creek watershed is a healthy and resilient natural system that is managed through partnerships to balance resource protection with human activity. Sound science and best management practices will protect and restore ecosystem functions, protect watershed residents from natural hazards like flooding, and maintain our natural heritage and water resources for present and future generations.

2c.) Next Steps in Communications and Consultation

As part of the planned next steps for the CCWP, consultation and communication will continue as approved in the *CCWP Communications and Consultation Strategy* and discussed in our previous letter dated May 31, 2018. The next milestones of public and stakeholder consultation are as follows:

i.) Draft Management Recommendations (Phase 2, Stage 2)

TIMING

January to June 2019

PURPOSE

Gather feedback from partners, stakeholders, and the general public on the draft Management Recommendations. The result will be the final Management Recommendations.

COUNCIL PRESENTATIONS

Town of Ajax Council: May/June 2019

City of Pickering Executive Committee/Council: May/June 2019

Region of Durham Council: June 2019

ii.) Draft Watershed Plan (Phase 2, Stage 3)

TIMING

July to September 2019

PURPOSE

Gather feedback from partners, stakeholders, and the general public on the draft Watershed Plan. The result will be the final Watershed Plan to be submitted to Regional Council.

COUNCIL PRESENTATIONS

Town of Ajax Council: October 2019

City of Pickering Executive Committee/Council: October 2019

Region of Durham Council: November 2019

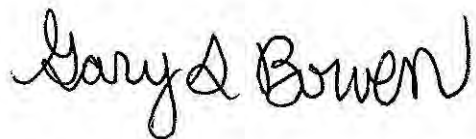
Exact dates for presentations to Councils and the TRCA Board of Directors will be confirmed as technical work progresses. TRCA staff will continue our current practice of providing correspondence to municipal staff in order to share information and seek input and comments as components of the project are advanced. Starting in March 2019, TRCA and the Region of Durham initiated monthly meetings with local municipal partners which will continue until the completion of the CCWP. TRCA will continue to consult the general public and other stakeholders through the methods identified in the *CCWP Communications and Consultation Strategy* which may include traditional Public Open Houses at key milestones of Phase 2.

Since the project began, TRCA and Region of Durham have developed an excellent working relationship and we look forward to your continued collaboration as we complete the Carruthers Creek Watershed Plan.

In summary, the CCWP is proceeding well and along the timelines identified in our previous progress letters. Visit <https://yoursay.ca/carruthers-creek> to learn more and to download project documents and reports.

Please do not hesitate to contact me if I may be of further assistance or you have questions.

Sincerely,

A handwritten signature in black ink that reads "Gary S. Bowen". The signature is written in a cursive, flowing style.

Gary S. Bowen
Watershed Specialist

Attachment 1: Carruthers Creek Watershed Plan Phase 2 - Updated April 2019
Attachment 2: Communications and Consultation Summary Report (Phase 2, Stage 1)

Carruthers Creek Watershed Plan Phase 2 – Updated April 2019

STEP 1: Establish Goals and Objectives for the Watershed

TIMING

January to June 2018

PURPOSE

Review the fundamental building blocks provided in the 2003 Watershed Plan and supporting documents in the context of advancements in scientific approaches and language since the last Watershed Plan was completed. The goals and objectives will be revisited throughout the plan development process to ensure implementation of the new management actions can meet these goals.

WORK TO BE DONE

TECHNICAL

- Review Goals, Objectives, Management Actions from 2003 Watershed Plan, 2004 Fisheries Management Plan, other supporting documents: assess gaps, add new information, update/remove elements which are no longer relevant; **Status: Complete**

CONSULTATION

- Consult public and stakeholders on vision and management philosophy from 2003 Watershed Plan which will form the principles of the new plan; **Status: Complete**

STEP 2: Current Watershed Conditions

TIMING

January to June 2018

PURPOSE

Protocols for watershed health assessment follow a similar process to that of the 2003 Watershed Plan, with appropriate scientific and engineering knowledge of the evolving state of best practice. Based on the biophysical conditions observed from 2015 and 2016 field studies and previous watershed health assessment ratings and targets, develop current targets for the watershed which will identify the actions required to achieve the goals and objectives. Begin integration of the seven Phase 1 technical reports to derive a holistic view of the watershed based on the separate studies.

WORK TO BE DONE

TECHNICAL

- The various subject matter experts (SMEs) on the staff technical team will assess the targets from 2003 Watershed Health Ratings Report for relevance, updating, gaps, and set new targets; **Status: Complete**
- Begin the integration exercise based on the Phase 1 technical reports and management recommendations, a comprehensive exercise which requires a multi-disciplinary approach; **Status: Complete**

STEP 3: Watershed Response “Tool Box”

TIMING

January to December 2018

PURPOSE

The “tool box” is a collection of models and evaluation methodologies which assess various criteria from the land use scenarios. The modelling results and findings from the terrestrial and aquatic response methodologies illustrate how the watershed can reasonably be expected to respond to land use changes, and other factors such as climate change, based on the best available science. TRCA scientists and planners will interpret the outcomes in order to develop recommended management actions which protect, restore, and enhance Carruthers Creek watershed.

WORK TO BE DONE

TECHNICAL

- SWAT (Soil and Water Assessment Tool) model which assesses surface water quality set up and calibrated (initial data from Phase 1); **Status: Complete, report currently being drafted**
- Groundwater model set up and calibrated; **Status: Complete, report completed and peer reviewed**
- Hydrology model set up and calibrated (initial data from Phase 1); **Status: Model complete, validation of model underway with review from TRCA, City of Pickering, and Town of Ajax engineers**
- Assess options/tools to evaluate watershed’s terrestrial response; **Status: Complete, report drafted and under internal review**
- Assess options/tools to evaluate watershed’s aquatic response; **Status: Underway**
- Surface water quantity report based on stream flow gauges completed and peer reviewed; **Status: Complete, report completed and under peer review**

CONSULTATION

- Review Hydrology model results with Ajax and Pickering staff; **Status: Not started, will follow model validation**

STEP 4: Watershed Scenario Evaluation

TIMING

January to September 2018

PURPOSE

Develop five scenarios for the watershed, evaluating past, current, future, and potential future watershed conditions to be analysed using state-of-the-art modelling and watershed response tools. Knowledge garnered will be shared amongst the technical experts, allowing for integration of outputs and best outcomes for the overall health of the watershed.

WORK TO BE DONE

TECHNICAL

Finalize mapping for each of the five scenarios, each subsequent scenario builds on the previous, ranging from historic conditions (1999) to development as per current approved Official Plans to 2031 and an enhanced Natural Heritage System, plus prospective development post-2031.

- Using various inputs such as Official Plans, existing natural cover, older TRCA Terrestrial Natural Heritage System plans, etc., delineate an enhanced Natural Heritage System for use in the future scenarios; **Status: Complete**
- Evaluate opportunities for urban forestry enhancement; **Status: Complete, report drafted and under internal review**
- Complete Ecosystem Services Valuation study and identify Green Infrastructure features/ practices which could be incorporated into existing urban areas and in new urban development; **Status: Complete**
- Complete a storm water management retrofit study; **Status: Complete, report currently being drafted**

CONSULTATION

- Review scenario criteria/conditions with Ajax and Pickering staff; **Status: Complete**

STEP 5: Evaluate Management Actions

TIMING

July 2018 to June 2019

PURPOSE

Formulate candidate management actions which will be evaluated when recommendations are developed, to ensure that the overall conditions in the watershed will sustain the desired state of health once the plan is adopted and implemented.

WORK TO BE DONE

TECHNICAL

- Management actions will be derived as the modelling is carried out and the terrestrial and aquatic response tools are applied. Actions tend to be specific and are expected to arise through non-linear, multi-disciplinary analysis, as all SMEs integrate their findings. Actions will be evaluated against the plan's draft recommendations, goals, and objectives; **Status: Underway**

STEP 6: Draft Management Recommendations

TIMING

July 2018 to September 2019

PURPOSE

Develop draft recommendations for the optimal management of the watershed based on the most advanced scientific knowledge available. They will be practical and make the best use of partnerships and available resources, and anticipate the challenges ahead. The recommendations inform the management actions and guide the implementation of the Watershed Plan.

WORK TO BE DONE

TECHNICAL

- Management recommendations will be evaluated against meeting the vision, management philosophy, goals, and objectives established earlier in the process. This is a non-linear, multi-disciplinary exercise which involves all SMEs and is integrated with other steps throughout the process; **Status: Underway**

CONSULTATION

- Review draft management recommendations with Ajax and Pickering staff; **Status: Not started**
- Consult public and stakeholders about draft management recommendations; **Status: Not started**

STEP 7: Final Watershed Plan

TIMING

October to December 2019

PURPOSE

Complete the process to develop the Carruthers Creek Watershed Plan.

WORK TO BE DONE

TECHNICAL

- Finalise the Watershed Plan document; **Status: Not started**

CONSULTATION

- Once received by Durham Council, TRCA will post the final Watershed Plan for stakeholder and public comment, dates to be determined; **Status: Not started**

#	Key Tasks	Schedule
1	Complete scenario evaluation	2018 – Q4
2	Peer Review of 2018 technical work	2019 – Q1
3	Recommendations and implementation schedule	2019 – Q2
4	Peer Review of 2019 technical work	2019 – Q3
5	Study complete	2019 – Q4



**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 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: 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"> • 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. • Protecting the watershed is critical to prevent flooding. • 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.
<i>Incorporate sustainability, restoration, and adaptive</i>	<ul style="list-style-type: none"> • Integrate sustainability principles and incorporate newer concepts such as green infrastructure, restoration and adaptive management

General themes	Key messages
<i>management practices</i>	<p>practices.</p> <ul style="list-style-type: none"> • 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. • More consideration of building practices that do not harm wildlife or environment. • Highlight good practices being taken by landowners (e.g., golf courses) to inspire and encourage others. • Ensure use of buffers, best management practices and low impact development techniques for agriculture and urban development. • Explore ways to increase local food and food systems.
<i>Enhance the natural heritage system.</i>	<ul style="list-style-type: none"> • Improve the ecological health and integrity of the watershed. • Ensure that the headwaters are protected. • Increase biodiversity of species. • Protect and enhance habitat for wildlife. • Consider how a systems management approach focusing on environmental gain and ecological integrity could enhance the natural heritage system of Carruthers Creek watershed.
<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"> • 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. • 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. • 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. • 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.
<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"> • Agriculture is important for the Region and best management practices should be applied to reduce nutrient runoff from agricultural lands. • 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. • 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.

General themes	Key messages
	<ul style="list-style-type: none"> 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. Highlight good practices and pilot projects currently being undertaken by landowners in the watershed to inspire and encourage others.
<i>Strengthen controls and enforcement of activities that impact the health of the watershed.</i>	<ul style="list-style-type: none"> Address concerns raised by what is described as excessive fill placement in the headwaters. Increase enforcement of illegal dumping. Address concerns about road salt.
<i>Increase public education, awareness and stewardship.</i>	<ul style="list-style-type: none"> More focus is needed on stewardship, partnerships and collaboration, and responsibility for the watershed, along with accountability and transparent decision making. 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. All stakeholders should be encouraged to participate in the stewardship of the watershed. Everyone’s efforts are needed. 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. Increased knowledge is seen as important to increase compliance among all types of property owners to protect the watershed. Would like to see TRCA continue ongoing stewardship programs in conjunction with local government and the public. Opportunities could be pursued to engage with Indigenous groups for stewardship and environmental protection.
<i>Develop an effective implementation and compensation plan as a key part of the new Watershed Plan.</i>	<ul style="list-style-type: none"> 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. 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. 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. Enforcement needs to be included in the implementation plan to address ongoing concerns raised that by-laws are not being enforced

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

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

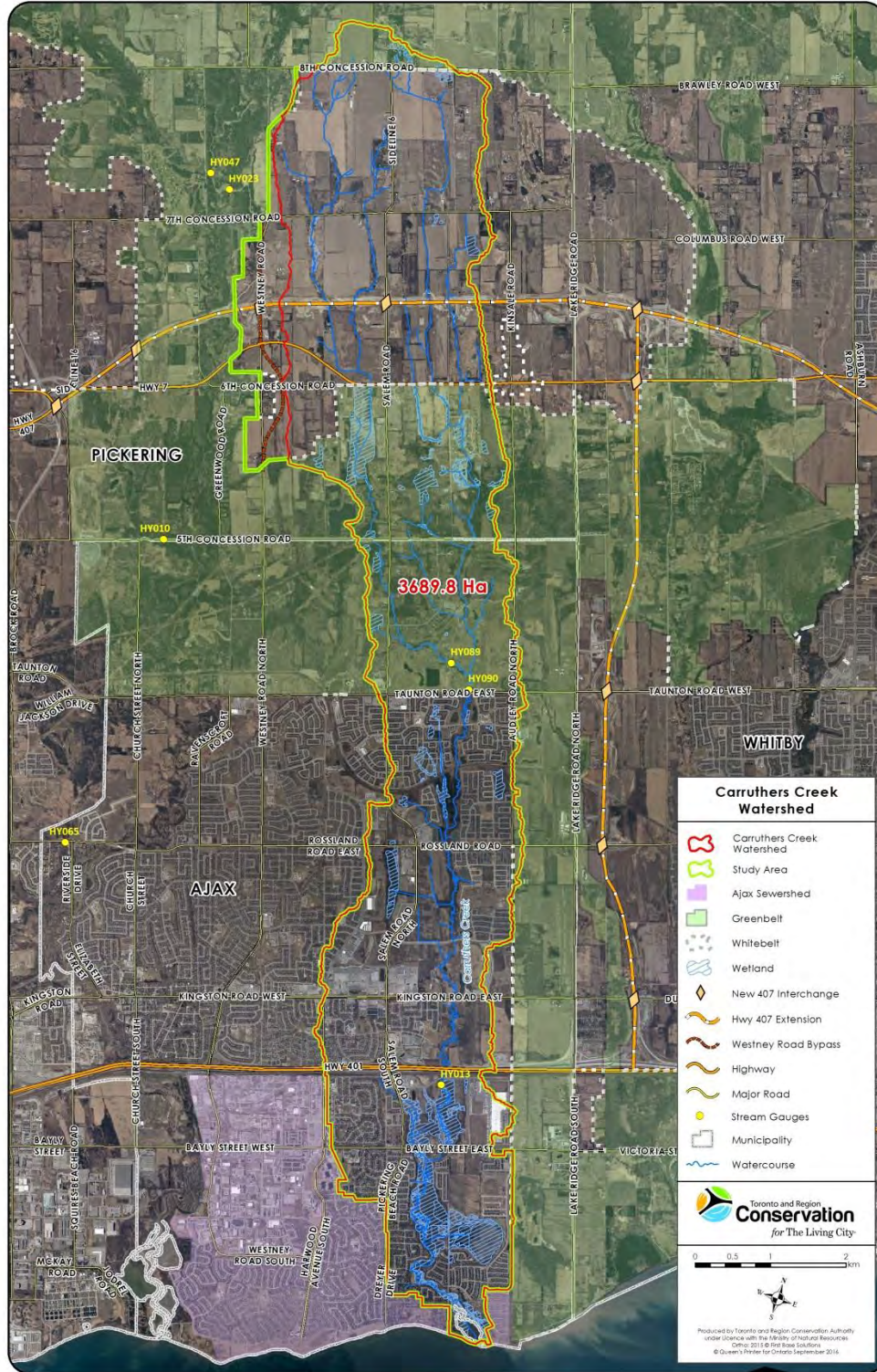


Figure 1: A map of the Carruthers Creek watershed and study area for the updated Carruthers Creek Watershed Plan.

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