



## Carruthers Creek Watershed Plan Update to OPG Pickering Nuclear Generating Station Community Advisory Council

19 June 2018



*Member of Conservation Ontario*



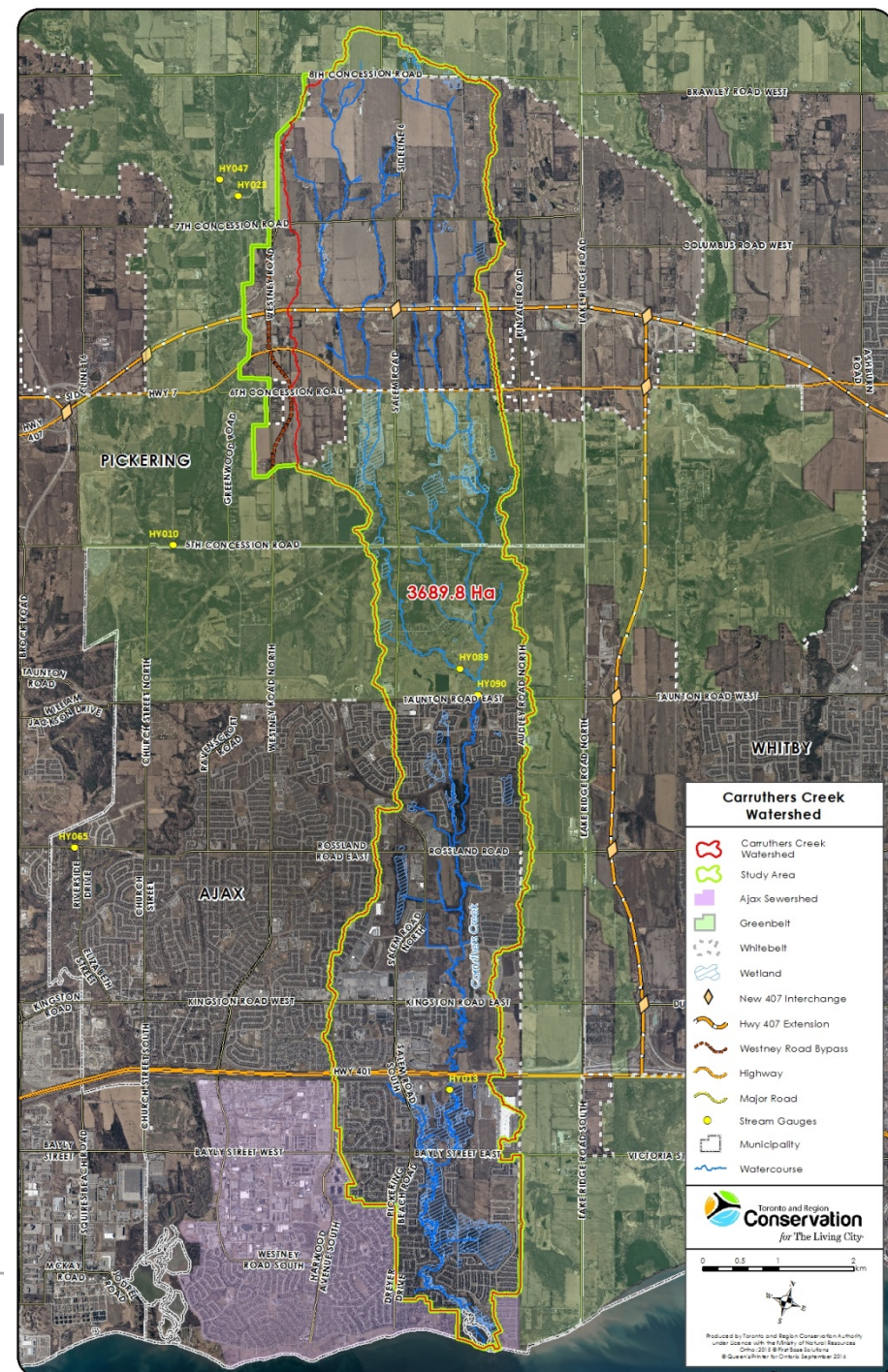
# Context

## Policy + Planning History

- Study area: small watershed, headwaters not on ORM, entire watershed
- Upcoming Durham Municipal Comprehensive Review– Watershed Plan role
- Greenbelt expansion interests
- TRCA Next Generation of Watershed Plans
- Provincial Watershed Planning Guidance

## Geography

- Ajax downstream flooding concerns
- Western Lake Ontario and land-to-lake water connections (tributary loads)





Wet Year: 2015

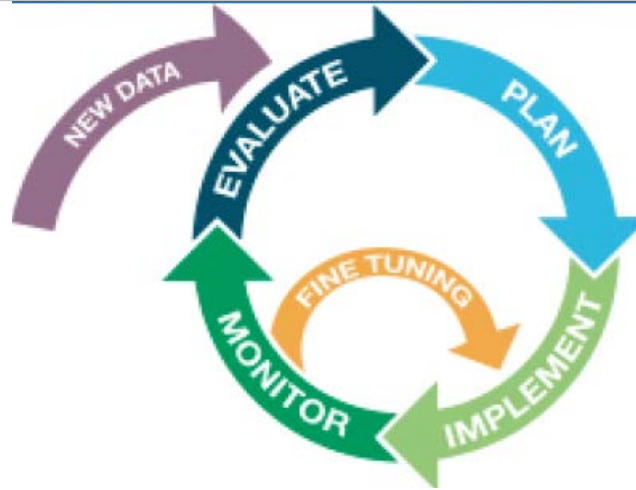


Dry Year: 2016





# Path to Carruthers Creek Watershed Plan



2003:  
Watershed Plan  
for Duffins Creek  
and Carruthers  
Creek

2014:  
Initial work plan  
scoping with  
Durham staff

July 2015:  
Durham  
contracts TRCA  
to complete  
CCWP  
(100% Durham  
funded)

2015-2016:  
Field work to  
characterise  
watershed :  
aquatic, terrestrial,  
geomorphic,  
hydrogeology,  
surface water  
quality, HDF

2017:  
Technical  
reports peer  
reviewed,  
finalised,  
received by  
Durham;  
Phase 1  
completed

**Phase 2:  
2018-2019**

Final  
Watershed  
Plan



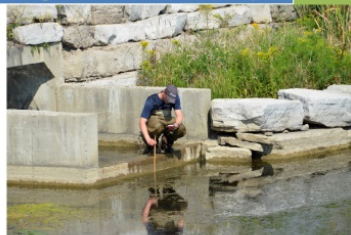
# Phase 1 Peer Reviewed Technical Reports

## Carruthers Creek Watershed Plan: Aquatic Habitat and Community Characterization



Prepared for:  
Region of Durham  
7/28/2017

## Carruthers Creek Watershed Plan: Aquatic Crossing and Barrier Assessment Report



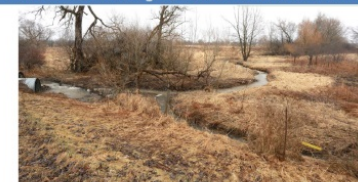
Prepared for:  
Region of Durham  
6/21/2017

## Carruthers Creek Watershed Plan: Surface Water Quality Characterization



Prepared for: Region of Durham  
6/27/2017

## Carruthers Creek Watershed Plan: Headwater Drainage Features Characterization



Prepared for:  
Region of Durham  
8/1/2017

## Carruthers Creek Watershed Plan: Hydrogeology



Prepared by:  
Dr. Richard Gerber and  
Mike Doughty,  
Oak Ridges Moraine  
Groundwater Program for  
Toronto and Region  
Conservation Authority  
and the Region of Durham  
Final revision: 25 July 2017



## Carruthers Creek Watershed Plan Terrestrial Biological Inventory and Assessment

June 2017

Prepared for: Region of Durham



## Carruthers Creek Watershed Plan: Fluvial Geomorphology Assessment of Regional Watershed Monitoring Program Data 2003-2016



Prepared by:  
Matrix Solutions Inc. for  
Toronto and Region  
Conservation Authority  
and the Region of Durham  
Final revision: 10 July 2017



# Carruthers Creek Watershed Plan: Phase 2

## 2018

### Q1

- Land Use Scenarios
- Watershed Health Ratings + Targets
- Next Generation Watershed Planning, new Provincial Watershed Planning Guidance
- 2003 Goals, Objectives, Management Recommendations, the building blocks of the Watershed Plan
- Aquatic and terrestrial habitat suitability
- Consultation on Vision, Management Philosophy: Launch project website; Stakeholder meeting - golf courses

### Q2

- Process and methodology for peer review
- Green Infrastructure
- Ecological Goods and Services Valuation study
- Urban Forestry analysis
- Consultation on Vision, Management Philosophy: presentations to stakeholders and committees



# Carruthers Creek Watershed Plan: Phase 2

## 2018

### Q3

- Peer review of scenario modelling, and of other technical work as final products are ready

- Storm Water Management retrofit analysis

- Formulate candidate Management Actions

- Complete consultation on Vision, Management Philosophy; Public events/pop-ups

### Q4

**Milestone 1:  
Complete scenario evaluation**

- Hydrology model results

- 2003 Watershed Health Ratings

- Peer review of modelling

- Key findings integration planning



# Carruthers Creek Watershed Plan: Phase 2

## 2019

### Q1

#### **Milestone 2: Complete peer review of 2018 work**

- Finalise Targets; begin development of Management Recommendations, Management Actions, Goals, Objectives
- Review draft Management Recommendations with Ajax and Pickering staff

### Q2

#### **Milestone 3: Develop Management Recommendations, Implementation Schedule**

- Check draft Plan against Next Generation of Watershed Plans and Provincial Watershed Planning Guidance document
- Consultation on Management Recommendations: Present to committees; stakeholder meetings; Public events; Potential Public Information Centre





# Carruthers Creek Watershed Plan: Phase 2

## 2019

### Q3

#### **Milestone 4: Complete peer review of 2019 work**

- Writing, design and layout of final Watershed Plan document

- Consultation on Watershed Plan: Committees; stakeholder meetings; Potential Public Information Centre; Respond to public and stakeholder input on the Watershed Plan

### Q4

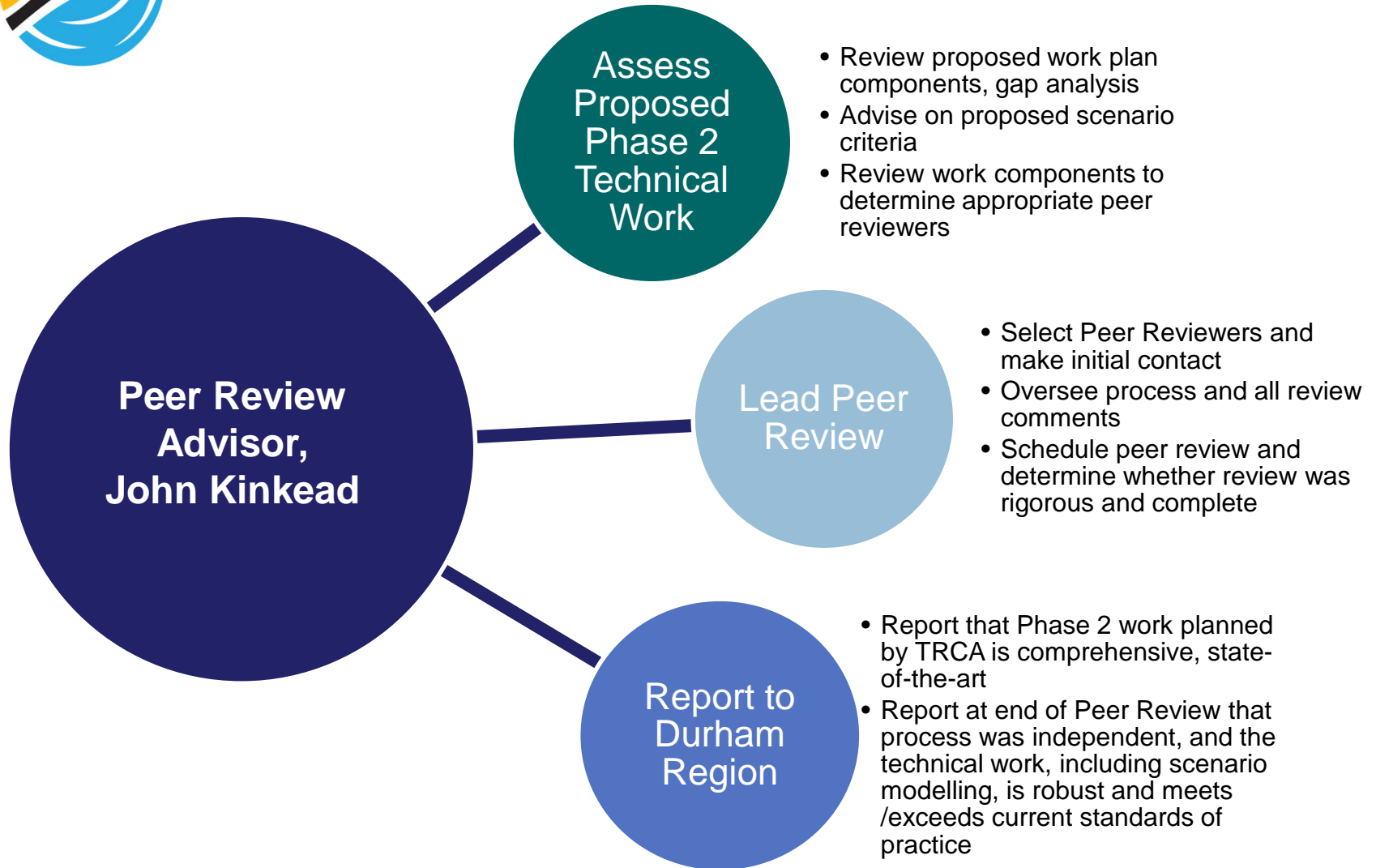
#### **Milestone 5: FINAL WATERSHED PLAN**

- Present final Watershed Plan to Durham Council

- Consultation: Posted for comment period

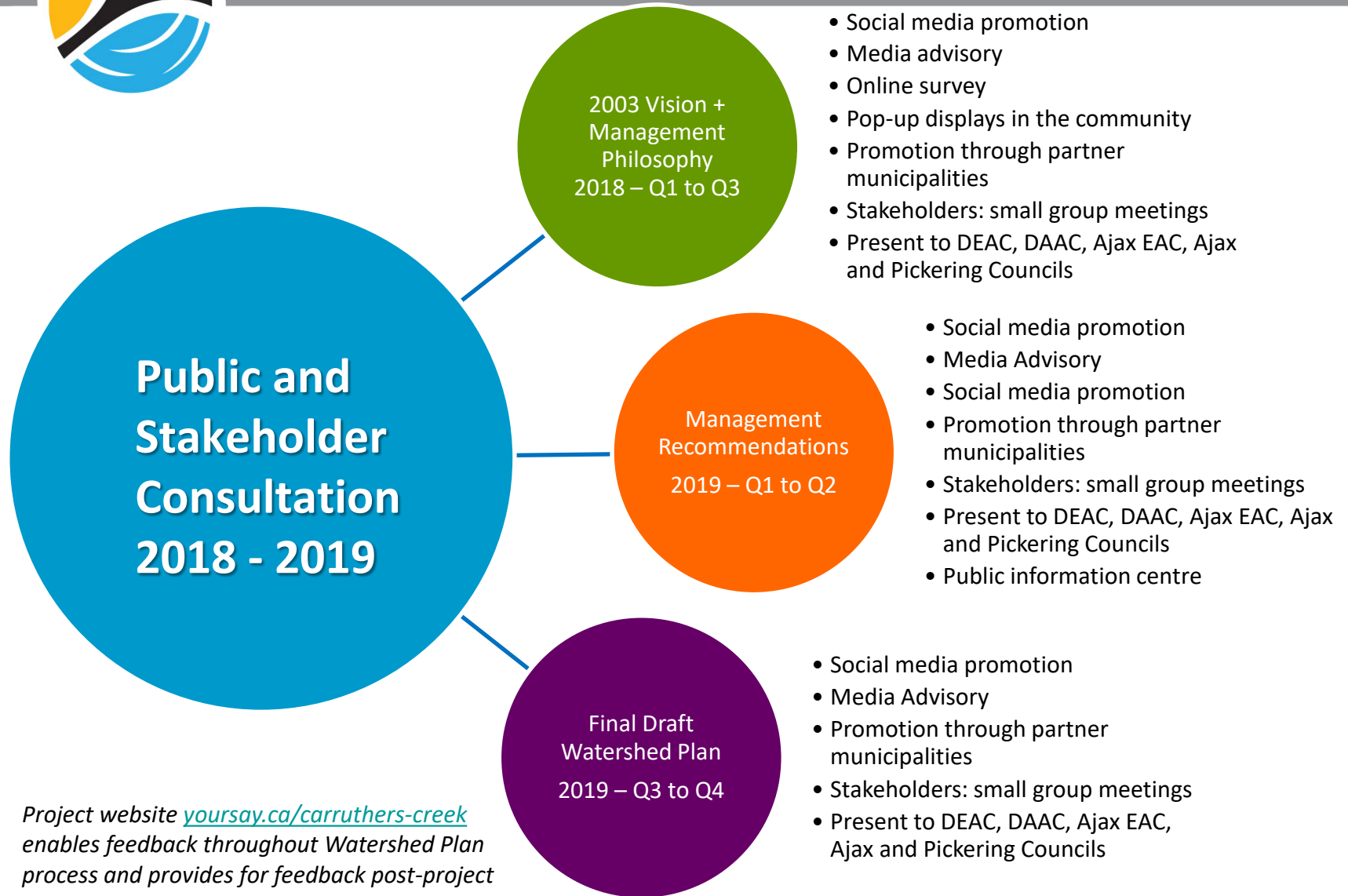


# Phase 2 Peer Review





# Carruthers Creek Watershed Plan



Project website [yoursay.ca/carruthers-creek](https://yoursay.ca/carruthers-creek) enables feedback throughout Watershed Plan process and provides for feedback post-project





# 2003 Carruthers Creek Vision

*Carruthers Creek will be a healthy, dynamic, and sustainable watershed that continues to have clean, safe water.*

*The watershed will have functioning wetlands and be diverse with self-sustaining communities of native plants, fish, and wildlife, where natural and human heritage features are protected and valued.*

*Residents will recognise the watershed as an essential community resource that enhances their quality of life.*

*All stakeholders will participate in the stewardship of the watershed and growth and development will reflect this vision and the importance of protecting and enhancing this priceless legacy.*



# 2003 Carruthers Creek Management Philosophy

## ***Net Gain***

- Improve upon existing features and functions throughout the watershed.

## ***Environment First***

- Manage the watershed as a "system," considering the environmental function first.
- Protect and enhance the natural features and functions as a first step in a hierarchy of other management approaches.
- Emphasise prevention over remediation, recognising that prevention is more cost efficient than remediation.

## ***Human Health and Safety***

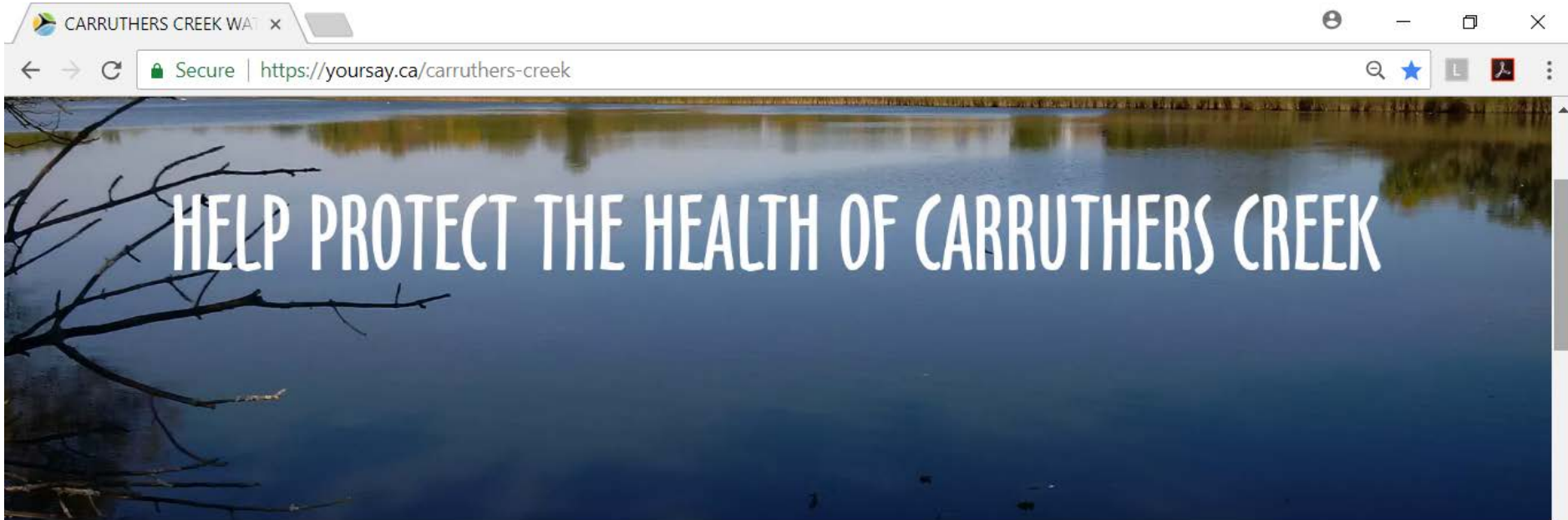
- Recognise linkages between human health and the health of the environment.
- Minimize risk to human health and safety.

## ***Balance Land Use***

- The watershed, located in one of the largest city regions in Canada, must support a combination of natural, urban, and agricultural land uses and systems.
- Apply the principles of Smart Growth and the Greenbelt.
- Recognise the concept of balance through land use actions, thus ensuring integrity of watershed functions.

## ***Everyone Counts – Ownership, Commitment and Follow Through***

- Demonstrate sustainable living and sustainable community design.
- Build on existing leadership, stewardship, and good decision making practices.
- Strengthen existing, and develop new, partnerships.
- Make the appropriate lifestyle choices, change behaviours, and encourage innovation in thoughts, words, and actions.



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## CARRUTHERS CREEK WATERSHED PLAN



### PREPARING FOR THE FUTURE

**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.



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## Carruthers Creek Watershed Plan



This survey asks for your input on the **Vision and Management Philosophy** which will help guide the development of the Watershed Plan and its implementation.

The survey should take 15 to 20 minutes to complete. A summary of feedback will be prepared and posted on this site. Individual responses will be kept anonymous.

Thank you for taking this survey!

[Take Survey](#)

### Late 2018 - Early 2019

Stakeholders and the general public are asked for feedback on the recommendations.

### Late 2019

Watershed Plan Completion: Recommendations are finalised based on feedback and the Watershed Plan is complete.

## Reports and Resources

[CCWP Aquatic Barriers 2017 \(7.53 MB\) \(pdf\)](#)

[CCWP Aquatic Ecology 2017 \(3.39 MB\) \(pdf\)](#)

[more..](#)

## Project Contact

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Toronto and Region Conservation Authority (TRCA)

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***Thank you!***



[yoursay.ca/carruthers-creek](https://yoursay.ca/carruthers-creek)