



# The Regional Municipality of Durham

## COUNCIL INFORMATION PACKAGE

### May 14, 2021

#### Information Reports

- 2021-INFO-52** Commissioner of Corporate Services – re: Geospatial Maturity Index 2020 – Durham Region ranked 18th Overall in North America
- 2021-INFO-53** Commissioner of Finance – re: Indexing of Regional Development Charges
- 2021-INFO-54** Commissioner of Finance – re: Economic Update – Pandemic Impacts on Economic Growth and Employment
- 2021-INFO-55** Chief Administrative Officer – re: Durham Region Strategic Plan 2020-2024 Goals and Priorities – Year One Progress Update

#### Early Release Reports

- 2021-P-\*\*** Commissioner of Planning and Economic Development – re: Carruthers Creek Watershed Plan Update

Early release reports will be considered at the June 1, 2021 Planning and Economic Development Committee meeting.

#### Staff Correspondence

1. **Memorandum from David Perkins, Planner** – re: New Application for a Regional Official Plan Amendment – OPA 2021-004
2. **Memorandum from Dr. R. Kyle, Commissioner and Medical Officer of Health** – re: Health Information Update – May 9, 2021
3. **Correspondence from Elaine Baxter-Trahair, Chief Administrative Officer** – re: Letter to Canadian Nuclear Safety Commission regarding a request to make a written intervention and an oral submission during the hearing at the virtual Public Hearing being held on June 9 and 10, 2021

### **Durham Municipalities Correspondence**

1. **City of Oshawa** – re: Resolution passed at their Council meeting held on April 26, 2021, Ministry of Municipal Affairs and Housing Consultation on Growing the Size of the Greenbelt

### **Other Municipalities Correspondence/Resolutions**

1. **Town of East Gwillimbury** – re: submissions of the Town of East Gwillimbury to Health Canada - Consultation on Guidance on Personal Production of Cannabis for Medical Purposes
2. **Municipality of Leamington** – re: Resolution passed at their Council meeting held on April 27, 2021, regarding Advocacy for Reform, Municipal Freedom of Information and Protection of Privacy Act (MFIPPA)
3. **Municipality of Grey Highlands** – re: Resolution passed at their Council meeting held on May 5, 2021, endorsing the 988-crisis line initiative, A National 3-Digit Suicide and Crisis Prevention Hotline
4. **Town of Aurora** – re: Resolution passed at their Council meeting held on April 27, 2021, in support of the Town of Caledon's initiative regarding the 988-crisis line, A National 3-Digit Suicide and Crisis Prevention Hotline
5. **City of Barrie** – re: Resolution passed at their Council meeting held on April 26, 2021, endorsing the 988-crisis line initiative, A National 3-Digit Suicide and Crisis Prevention Hotline
6. **Municipality of Chatham-Kent** – re: Resolution passed at their Council meeting held on March 1, 2021, regarding Time for Change, Municipal Freedom of Information and Protection of Privacy Act

### **Miscellaneous Correspondence**

1. **Ontario Business Improvement Area Association (OBIAA)** – re: Digital Main Street April Report
2. **Durham Regional Police Services Board** – Public Agenda – [Tuesday, May 18, 2021](#)

### **Advisory / Other Committee Minutes**

1. 9-1-1 Management Board minutes – **April 27, 2021**

Members of Council – Please advise the Regional Clerk at [clerks@durham.ca](mailto:clerks@durham.ca), if you wish to pull an item from this CIP and include on the next regular agenda of the appropriate Standing Committee. Items will be added to the agenda if the Regional Clerk is advised by Wednesday noon the week prior to the meeting, otherwise the item will be included on the agenda for the next regularly scheduled meeting of the applicable Committee.

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If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2126



# The Regional Municipality of Durham Information Report

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From: Commissioner of Corporate Services  
Report: #2021-INFO-52  
Date: May 14, 2021

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**Subject:**

Geospatial Maturity Index 2020 – Durham Region ranked 18th Overall in North America

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**Recommendation:**

Receive for information

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**Report:**

**1. Purpose**

- 1.1 Corporate Services – Information Technology participates in an annual Geospatial Maturity Index (GMI) survey, hosted by Public Sector Digest (PSD), to ensure we are expanding, growing, and enhancing the service delivery of our Geographic Information System (GIS) program at Durham Region.
- 1.2 This report outlines the results for Durham Region, following the 2020 GMI survey.

## **2. Background**

### **Geospatial Maturity Index (GMI)**

- 2.1 The 2020 GMI marks the third year that PSD Citywide published its benchmarking study for geographic information system (GIS) programs. The GMI survey is a tool for public sector organizations to measure the maturity of their GIS programs and serves as a resource to guide participants in advancing their programs.
- 2.2 On April 22, 2021 the top 25 most mature public sector GIS programs in North America for 2020 were announced. A total of 90 government organizations completed the 2020 GMI survey spanning nine Canadian provinces, one Canadian territory, and seven US states.
- 2.3 Durham Region has participated in the GMI survey each year it was available (2018, 2019, 2020).
- 2.4 For 2020 Durham Region rose two spots in the GMI results from 20th in the 2019 survey, to earn 18th overall in North America. The scoring breakdown was as follows:
  - a. Overall Score 82.54% (average was 61.22%)
  - b. Readiness Score 83.08% (average was 64.99%)
  - c. Implementation Score 84.29% (average was 63.57%)
  - d. Impact Score 79.63% (average was 53.64%)
- 2.5 The overall points percentage for Durham Region has increased from 76.7% in 2019, to 82.5% in 2020.

### **Geographic Information System (GIS) Program at Durham Region**

- 2.6 Durham Region has run a successful GIS Program for 20 years, growing from desktop applications to full enterprise GIS solutions that present geographic data to our staff and the public in easily consumed web and mobile platforms.
- 2.7 Continued investment in improving technical infrastructure, including the latest effort to virtualize GIS applications, have contributed to the success in Durham's GMI rating. With Durham's position at the Regional level, there is a great responsibility to collaborate with all local municipalities, conservation authorities, utilities and other agencies. The ongoing efforts to work with these organizations contribute to the GMI, with Durham providing added value for our partners.

### **3. Relationship to Strategic Plan**

3.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

- a. Goal 5: Service Delivery. Objective: To provide exceptional value to Durham taxpayers through responsive, effective and fiscally sustainable service delivery.
  - 5.1 Optimize resources and partnerships to deliver exceptional quality services and value.

### **4. Conclusion**

4.1 That Regional Council receive this report for information.

### **5. Attachments**

Attachment #1: PSD Citywide Press Release: Top 25 Public Sector GIS Programs Announced, dated April 22, 2021

Attachment #2: Geospatial Maturity Index 2020 Award Winner Certificate for Durham Region, dated April 22, 2021

Respectfully submitted,

Original signed by

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Don Beaton, BCom, M.P.A.  
Commissioner of Corporate Services

## Top 25 Public Sector GIS Programs Announced

**London, ON, April 22nd, 2021** — Today, PSD announces the Top 25 most mature public sector GIS programs in North America. A total of 90 government organizations completed the 2020 Geospatial Maturity Index (GMI) survey spanning nine Canadian provinces, one Canadian territory, and seven US states.

The City of Calgary, AB again earns the first place ranking for the third year in a row. The City of Irvine, CA is welcomed as the first US participant in the top 3, taking the second place spot. In third, the District of North Vancouver takes back the rank after placing 6th in the 2019 survey.

Western Canada dominated the GMI ranking this year, with 10 of the 25 top GIS programs located in BC, Alberta, and Manitoba. The United States also increased its representation, doubling the number of governments in the Top 25 from three in 2019 to six in 2020.

In the 2020 GMI, questions were asked in three competency categories: Readiness, Implementation, and Impact. From the data gathered through the 88-question survey, participants showcased the innovative ways they use GIS to better serve the public and improve internal processes—including the use of GIS in public health during the COVID-19 pandemic. This tool provides a way for governments to measure the maturity and performance of their GIS programs while providing insight on how they can improve.

“During the course of this pandemic, we’ve seen GIS practitioners apply their expertise to develop dashboards and maps to display essential COVID-19 info. This year, we continue to recognize the excellence of organizations like the City of Calgary and the City of Irvine through the GMI, but also celebrate GIS programs around the world helping to bring some clarity to the complexity of a global pandemic. Congrats to all of our 2020 participants.” - Tyler Sutton, General Manager of Research, PSD

PSD congratulates all participants of this year’s Geospatial Maturity Index on taking the steps to improve and innovate their GIS programs and look forward to new and returning participants in the 2021 GMI survey to be announced later this year.

[Learn more and view the full report here.](#)

Rank	Score	Organization	State/Prov	Org size
1	96.30%	City of Calgary	AB	1001+
2	93.12%	City of Irvine	CA	1001+
3	92.59%	District of North Vancouver	BC	501-1000
4	92.06%	City of Burnaby	BC	1001+
5	91.01%	King County GIS Center	WA	1001+
6	89.95%	Strathcona County	AB	1001+
7	89.42%	District of Kitimat	BC	201-500
7	89.42%	City of Leduc	AB	501-1000
9	88.89%	City of Winnipeg	MB	1001+
10	85.71%	City of Mississauga	ON	1001+

10	85.71%	County of Newell	AB	51-200
12	84.66%	City of Edmonton	AB	1001+
12	84.66%	Halifax Regional Municipality	NS	1001+
12	84.66%	Ville de Montréal	QC	1001+
15	83.60%	City of Grande Prairie	AB	501-1000
15	83.60%	City of Longview	TX	501-1000
17	83.07%	Grey County	ON	1-50
18	82.54%	Durham Region	ON	1001+
19	82.01%	City of Round Rock	TX	1001+
20	80.95%	Municipality of Chester	NS	51-200
21	80.42%	Miami-Dade County	FL	501-1000
22	78.31%	Toronto Police Service	ON	1001+
22	78.31%	City of Seattle	WA	1001+
24	77.78%	City of Waterloo	ON	501-1000
25	76.19%	Region of Peel	ON	1001+

**For more information or to set up an interview, send an email to:**

Tyler Sutton  
 General Manager of Research  
 tsutton@psdrccs.com



**About the GMI:**

The 2020 Geospatial Maturity Index (GMI) marks the third year that PSD published its benchmarking study for GIS programs. The GMI survey is a tool for public sector organizations to measure the maturity of their GIS (geographic information system) programs and serves as a resource to guide participants in advancing their programs.

**About PSD:**

PSD Citywide empowers governments of all sizes with infrastructure asset management, budgeting, and GIS solutions. Our web-based software has been implemented by more than 500 municipalities across Canada to modernize asset management, maintenance management, permitting, budgeting, and GIS. PSD created the GMI to assist with GIS program development, capacity building, and innovation in public sector organizations.

# GEOSPATIAL MATURITY INDEX AWARD WINNER

# 2020

This Document Acknowledges that:

# Durham Region

HAS RANKED  
**18<sup>th</sup>**

*Matthew Dawe*

MATT DAWE, VICE PRESIDENT

APRIL 22<sup>ND</sup>, 2021

DATE

PRESENTED BY:

PSD | CITYWIDE

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2304



# The Regional Municipality of Durham Information Report

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From: Commissioner of Finance  
Report: #2021-INFO-53  
Date: May 14, 2021

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**Subject:**

Indexing of Regional Development Charges

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**Recommendation:**

Receive for information

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**Report:**

**1. Purpose**

1.1 The purpose of this report is to advise the Finance and Administration Committee and Council of the annual indexing of Regional Development Charges (DC).

**2. Background**

2.1 The Regional DC By-laws (#28-2018, #38-2019 and #81-2017) contain a provision that the prevailing Regional DCs be adjusted annually, without amendment to those by-laws, as of the 1st day of July in accordance with the Statistics Canada Quarterly, Construction Price Statistics, catalogue number 62-007, for the most recently available annual period ending March 31.

2.2 Regional By-law #86-2001 (GO Transit DC By-law) as amended has a similar provision to the by-laws above, however the annual adjustment is limited to a maximum of 3 per cent, as per section 18 of the by-law.

2.3 The annual indexing on July 1, 2021 will be applied to the following DC by-laws:

- a. Regional Residential and Non-residential DC By-law #28-2018 (water, sewer, roads and other services);
- b. Regional Transit DC By-law #81-2017;
- c. GO Transit DC By-law #86-2001; and
- d. Seaton Water Supply and Sanitary Sewerage Area Specific DC By-law #38-2019.

- 2.4 Annual indexing for the known inflationary price increases related to capital projects ensures that the Region continues to recover growth related costs through its development charges at prevailing cost levels required to fund capital investments in water, sewer, roads and other services.

### **3. Previous Reports and Decisions**

- 3.1 The following reports approved the DC By-laws that require the indexing of DCs:
- a. Report #2017-COW-262;
  - b. Report #2018-COW-108; and
  - c. Report #2019-F-23.

### **4. July 1, 2021 Indexing of Regional Development Charges**

- 4.1 Indexing of charges within the applicable by-laws is required on July 1, 2021 in accordance with the most recently available 12 month period ending March 31, of the Statistics Canada Non-residential Building Construction Price Index for the Toronto Census Metropolitan Area (CMA).
- 4.2 The Statistics Canada Non-residential Building Construction Price Index Toronto series for the period of March 31, 2020 to March 31, 2021, as released on May 6, 2021 indicates an inflationary increase of 3.1 per cent.

### **5. Implications of 2021 Indexing on DC Rates**

#### **Region-wide Residential Development Charges**

- 5.1 Attachment #1 provides the current residential DCs, as of July 1, 2020, as well as the residential DCs resulting from the 3.1 per cent indexing, which will take effect July 1, 2021.
- 5.2 The Region is in the process of amending its DC By-laws to reflect changes in the Development Charges Act, 1997 (DCA) and to include the cost of a new long-term care home. The proposed amendments will increase the residential DCs (i.e. there is no impact on the non-residential DCs). The public meetings regarding the amending by-laws will be held on May 26, 2021 and Council will make a decision on the amending DC by-laws on June 23, 2021.
- 5.3 Attachment #2 provides the proposed residential DC rates reflecting the proposed amendments to the Regional DC By-laws to be considered at the June Regional Council meeting and the amended rates with the 3.1 per cent indexing.

#### **Region-wide Non-residential Development Charges**

- 5.4 The following increase in the Region-wide Non-residential DCs will result from the 3.1 per cent indexing (as shown in Attachment #3):

- a. The Regional Commercial DC rate as of July 1, 2020 is \$19.99 per square foot and will increase to \$20.61 per square foot for July 1, 2021;
- b. The Regional Industrial DC rate as of July 1, 2020 is \$10.78 per square foot and will increase to \$11.11 per square foot for July 1, 2021; and
- c. The Regional Institutional DC rate as of July 1, 2021 is \$10.41 per square foot and will increase to \$10.73 per square foot for July 1, 2021.

### **Seaton Area Specific Development Charges**

- 5.5 Attachments #4 and #5 provide the current Seaton Water Supply and Sanitary Sewerage Residential and Non-residential Area Specific Development Charges and the new rates reflecting the 3.1 per cent indexing.
- 5.6 The Seaton Front Ending Agreement also requires an early payment of the Attributions Development Charge to ensure the Region recovers its capital costs by the end of Phase 1 development of Seaton. These rates are also indexed annually on July 1. With the 3.1 per cent indexing, the early payment amounts increase as follows:
  - a. From \$2.49 per square foot to \$2.57 per square foot for Non-institutional development;
  - b. From \$0.54 per square foot to \$0.56 per square foot for Institutional development; and
  - c. From \$186,290 per net hectare to \$192,065 per net hectare for development on the employment lands.

## **6. Relationship to Strategic Plan**

- 6.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:
  - a. Enhanced funding for paramedic services, long-term care services and affordable housing, supporting Goal 4 (Social Investment).

## **7. Conclusion**

- 7.1 The Region's DCs are being indexed, in accordance with the Regional DC By-laws, to reflect the increase in construction costs to provide municipal services involved such as water, sewer and roads.

## **8. Attachments**

- Attachment #1: Residential Development Charges – Existing Rates as of July 1, 2020 and Impact of July 1, 2021 Indexing
- Attachment #2: Residential Development Charges (Including Impact of Proposed Amendments to the DC By-laws and July 1, 2021 Indexing)

- Attachment #3: Non-residential Development Charges – Effective July 1, 2020 and July 1, 2021
- Attachment #4: Seaton Residential Water and Sewer Area Specific Development Charges - Effective July 1, 2020 and July 1, 2021
- Attachment #5: Seaton Non-residential Water and Sewer Area Specific Development Charges - Effective July 1, 2020 and July 1, 2021

Respectfully submitted,

Original Signed By

N. Taylor, BBA, CPA, CA  
Commissioner of Finance

## REGION OF DURHAM

<b>RESIDENTIAL DEVELOPMENT CHARGES</b>				
<b>effective July 1, 2020</b>				
<b>PER DWELLING UNIT</b>				
SERVICE CATEGORY	Single / Semi Detached \$	Medium Density Multiples \$	Two Bedroom Apartment and Larger \$	One Bedroom Apartment and Smaller \$
Regional Roads	10,013	8,045	5,816	3,791
GO Transit	767	679	482	286
Regional Transit	1,237	995	719	466
Regional Police Services	774	623	451	293
Long Term Care	21	16	12	7
Paramedic Services	184	148	107	69
Health and Social Services	133	107	78	50
Housing Services	419	336	244	159
Development Related Studies	21	16	12	7
Water Supply	10,197	8,194	5,924	3,860
Sanitary Sewerage	9,927	7,976	5,767	3,759
<b>Total (All Services)</b>	<b>\$ 33,693</b>	<b>\$ 27,135</b>	<b>\$ 19,612</b>	<b>\$ 12,747</b>

<b>RESIDENTIAL DEVELOPMENT CHARGES</b>				
<b>effective July 1, 2021 <sup>(1)</sup></b>				
<b>PER DWELLING UNIT</b>				
SERVICE CATEGORY	Single / Semi Detached \$	Medium Density Multiples \$	Two Bedroom Apartment and Larger \$	One Bedroom Apartment and Smaller \$
Regional Roads	10,323	8,294	5,996	3,909
GO Transit <sup>(2)</sup>	790	699	496	295
Regional Transit	1,275	1,026	741	480
Regional Police Services	798	642	465	302
Long Term Care	22	16	12	7
Paramedic Services	190	153	110	71
Health and Social Services	137	110	80	52
Housing Services	432	346	252	164
Development Related Studies	22	16	12	7
Water Supply	10,513	8,448	6,108	3,980
Sanitary Sewerage	10,235	8,223	5,946	3,876
<b>Total (All Services)</b>	<b>\$ 34,737</b>	<b>\$ 27,973</b>	<b>\$ 20,218</b>	<b>\$ 13,143</b>
<b>Dollar Increase</b>	<b>\$ 1,044</b>	<b>\$ 838</b>	<b>\$ 606</b>	<b>\$ 396</b>

Notes

1. With 3.1 per cent indexing.

2. GO Transit Indexing capped at 3.0 per cent.

## REGION OF DURHAM

<b>RESIDENTIAL DEVELOPMENT CHARGES</b>				
<b>July 1, 2020 Rates Reflecting the Proposed DC By-law Amendments</b>				
<b>PER DWELLING UNIT</b>				
SERVICE CATEGORY	Single / Semi Detached \$	Medium Density Multiples \$	Two Bedroom Apartment and Larger \$	One Bedroom Apartment and Smaller \$
Regional Roads	10,021	8,052	5,821	3,794
GO Transit	767	679	482	286
Regional Transit	1,237	995	719	466
Regional Police Services	774	623	451	293
Long Term Care	258	208	149	97
Paramedic Services	204	163	118	77
Health and Social Services	133	107	78	50
Housing Services	465	375	271	176
Development Related Studies	-	-	-	-
Water Supply	10,206	8,200	5,929	3,863
Sanitary Sewerage	9,933	7,981	5,771	3,761
<b>Total (All Services)</b>	<b>\$ 33,998</b>	<b>\$ 27,383</b>	<b>\$ 19,789</b>	<b>\$ 12,863</b>

<b>RESIDENTIAL DEVELOPMENT CHARGES</b>				
<b>Effective July 1, 2021 With the Proposed DC By-law Amendments <sup>(1)</sup></b>				
<b>PER DWELLING UNIT</b>				
SERVICE CATEGORY	Single / Semi Detached \$	Medium Density Multiples \$	Two Bedroom Apartment and Larger \$	One Bedroom Apartment and Smaller \$
Regional Roads	10,332	8,302	6,001	3,912
GO Transit <sup>(2)</sup>	790	699	496	295
Regional Transit	1,275	1,026	741	480
Regional Police Services	798	642	465	302
Long Term Care	266	214	154	100
Paramedic Services	210	168	122	79
Health and Social Services	137	110	80	52
Housing Services	479	387	279	181
Development Related Studies	-	-	-	-
Water Supply	10,522	8,454	6,113	3,983
Sanitary Sewerage	10,241	8,228	5,950	3,878
<b>Total (All Services)</b>	<b>\$ 35,050</b>	<b>\$ 28,230</b>	<b>\$ 20,401</b>	<b>\$ 13,262</b>
<b>Dollar Increase</b>	<b>\$ 1,052</b>	<b>\$ 847</b>	<b>\$ 612</b>	<b>\$ 399</b>

Notes

1. With 3.1 per cent indexing.

2. GO Transit Indexing capped at 3.0 per cent.

## REGION OF DURHAM

<b>COMMERCIAL DEVELOPMENT CHARGES</b>		
<b>Per Square Foot of Gross Floor Area</b>		
SERVICE CATEGORY	Effective July 1, 2020	Effective July 1, 2021 <sup>(1)</sup>
	\$	\$
Regional Roads	9.24	9.52
Water Supply	3.79	3.91
Sanitary Sewerage	6.37	6.57
Regional Transit	0.59	0.61
Total (All Services)	<u>\$ 19.99</u>	<u>\$ 20.61</u>

<b>INDUSTRIAL DEVELOPMENT CHARGES</b>		
<b>Per Square Foot of Gross Floor Area</b>		
SERVICE CATEGORY	Effective July 1, 2020	Effective July 1, 2021 <sup>(1)</sup>
	\$	\$
Regional Roads	3.51	3.62
Water Supply	3.03	3.12
Sanitary Sewerage	3.65	3.76
Regional Transit	0.59	0.61
Total (All Services)	<u>\$ 10.78</u>	<u>\$ 11.11</u>

<b>INSTITUTIONAL DEVELOPMENT CHARGES</b>		
<b>Per Square Foot of Gross Floor Area</b>		
SERVICE CATEGORY	Effective July 1, 2020	Effective July 1, 2021 <sup>(1)</sup>
	\$	\$
Regional Roads	7.77	8.01
Water Supply	0.92	0.95
Sanitary Sewerage	1.13	1.16
Regional Transit	0.59	0.61
Total (All Services)	<u>\$ 10.41</u>	<u>\$ 10.73</u>

**Notes:**

1. With 3.1 per cent indexing

## REGION OF DURHAM

<b>SEATON RESIDENTIAL AREA SPECIFIC DEVELOPMENT CHARGES</b>			
<b>Effective July 1, 2020</b>			
<b>Service Category</b>	<b>Single / Semi Detached \$</b>	<b>Medium Density Multiples \$</b>	<b>Apartments \$</b>
<b>Sanitary Sewerage</b>			
Seaton Landowners Constructed DCs	5,274	4,166	2,426
Regional Seaton-Specific DCs	1,917	1,515	882
Regional Attributions DCs	2,831	2,237	1,303
<b>Subtotal - Sanitary Sewerage</b>	<b>10,022</b>	<b>7,918</b>	<b>4,611</b>
<b>Water Supply</b>			
Seaton Landowners Constructed DCs	2,523	1,993	1,161
Regional Seaton-Specific DCs	5,919	4,676	2,723
Regional Attributions DCs	4,182	3,303	1,923
<b>Subtotal - Water Supply</b>	<b>12,624</b>	<b>9,972</b>	<b>5,807</b>
<b>Total Development Charges</b>	<b>\$ 22,646</b>	<b>\$ 17,890</b>	<b>\$ 10,418</b>

<b>SEATON RESIDENTIAL AREA SPECIFIC DEVELOPMENT CHARGES</b>			
<b>Effective July 1, 2021 with 3.1% Indexing</b>			
<b>Service Category</b>	<b>Single / Semi Detached \$</b>	<b>Medium Density Multiples \$</b>	<b>Apartments \$</b>
<b>Sanitary Sewerage</b>			
Seaton Landowners Constructed DCs	5,437	4,295	2,501
Regional Seaton-Specific DCs	1,976	1,562	909
Regional Attributions DCs	2,919	2,306	1,343
<b>Subtotal - Sanitary Sewerage</b>	<b>10,332</b>	<b>8,163</b>	<b>4,753</b>
<b>Water Supply</b>			
Seaton Landowners Constructed DCs	2,601	2,055	1,197
Regional Seaton-Specific DCs	6,102	4,821	2,807
Regional Attributions DCs	4,312	3,405	1,983
<b>Subtotal - Water Supply</b>	<b>13,015</b>	<b>10,281</b>	<b>5,987</b>
<b>Total Development Charges</b>	<b>\$ 23,347</b>	<b>\$ 18,444</b>	<b>\$ 10,740</b>

ATTACHMENT #5

REGION OF DURHAM

SEATON NON-RESIDENTIAL AREA SPECIFIC DEVELOPMENT CHARGES

Institutional Development Charges \$ Per Square Foot of Gross Floor Area		
Service Category	Effective July 1, 2020 \$	Effective July 1, 2021 <sup>(1)</sup> \$
<b>Sanitary Sewerage</b>		
Seaton Landowners Constructed DCs	0.53	0.54
Regional Seaton-Specific DCs	0.20	0.21
Regional Attributions DCs	0.65	0.67
<b>Subtotal - Sanitary Sewerage</b>	<b>1.38</b>	<b>1.42</b>
<b>Water Supply</b>		
Seaton Landowners Constructed DCs	0.09	0.09
Regional Seaton-Specific DCs	0.21	0.22
Regional Attributions DCs	0.45	0.46
<b>Subtotal - Water Supply</b>	<b>0.75</b>	<b>0.77</b>
<b>Total Development Charges</b>	<b>\$ 2.13</b>	<b>\$ 2.19</b>

Non-Institutional Development Charges \$ Per Square Foot of Gross Floor Area		
Service Category	Effective July 1, 2020 \$	Effective July 1, 2021 <sup>(1)</sup> \$
<b>Sanitary Sewerage</b>		
Seaton Landowners Constructed DCs	1.53	1.57
Regional Seaton-Specific DCs	0.57	0.59
Regional Attributions DCs	1.89	1.95
<b>Subtotal - Sanitary Sewerage</b>	<b>3.99</b>	<b>4.11</b>
<b>Water Supply</b>		
Seaton Landowners Constructed DCs	0.26	0.27
Regional Seaton-Specific DCs	0.58	0.60
Regional Attributions DCs	1.30	1.34
<b>Subtotal - Water Supply</b>	<b>2.14</b>	<b>2.21</b>
<b>Total Development Charges</b>	<b>\$ 6.13</b>	<b>\$ 6.32</b>

Prestige Employment Land Area Development Charges \$ Per Net Hectare		
Service Category	Effective July 1, 2020 \$	Effective July 1, 2021 <sup>(1)</sup> \$
<b>Sanitary Sewerage</b>		
Seaton Landowners Constructed DCs	74,479	76,788
Regional Seaton-Specific DCs	27,257	28,102
Regional Attributions DCs	90,342	93,143
<b>Subtotal - Sanitary Sewerage</b>	<b>192,078</b>	<b>198,033</b>
<b>Water Supply</b>		
Seaton Landowners Constructed DCs	12,465	12,851
Regional Seaton-Specific DCs	28,271	29,147
Regional Attributions DCs	62,315	64,247
<b>Subtotal - Water Supply</b>	<b>103,051</b>	<b>106,245</b>
<b>Total Development Charges</b>	<b>\$ 295,129</b>	<b>\$ 304,278</b>

**Note:**

(1) With 3.1% indexing



# The Regional Municipality of Durham Information Report

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From: Commissioner of Finance  
Report: #2021-INFO-54  
Date: May 14, 2021

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**Subject:**

Economic Update – Pandemic Impacts on Economic Growth and Employment

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**Recommendation:**

Receive for information.

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**Report:**

**1. Purpose**

1.1 The Regional Finance Department monitors economic conditions on an ongoing basis and prepares periodic summary reports to Regional Council. The purpose of this report is to inform Regional Council of changes to economic output and employment resulting from the pandemic. The report also examines the impacts of the pandemic on business participation in the local economy through Statistics Canada estimates of business openings and closings.

**2. Previous Reports and Decisions**

2.1 This report provides both an update and supplement to the information contained in the following reports:

- **Report #2021-INFO-14** – Economic Update - Pandemic Impact on the Local Housing Market, Labour Market and Household Incomes.
- **Report #2020-INFO-112** - Economic Update – October and November 2020

**3. Canadian Economy**

3.1 Despite a record 11.4 per cent contraction in the second quarter of 2020, the Canadian economy rebounded strongly in the second half of the year. Third quarter Gross Domestic Product (GDP) estimates for 2020 brought an end to the technical recession (two successive quarters of GDP contraction) by advancing 8.9 per cent over the second quarter. Although estimates of fourth quarter GDP

suggested another 2.3 per cent rise, the impacts of the pandemic over the first half of the year led to a 5.4 per cent overall GDP contraction for 2020.

- 3.2 Nearly all the major components of GDP experienced a decline in 2020. Household consumption expenditures, which account for over half of the total value of Canadian GDP, declined 6.1 per cent in 2020, including a 10.3 per cent decline in household expenditures on services. Durable goods expenditures fell 3.7 per cent while non-durable goods spending increased 3.1 per cent. This suggests that Canadians opted to defer spending on large scale items in favour of smaller scale purchases.
- 3.3 Businesses also reduced capital spending in 2020 as overall business investment fell 5.3 per cent. Business investment in non-residential structures and machinery and equipment fell 11.2 and 16.4 per cent respectively, while investment in residential structures increased 3.1 per cent. Business investment in inventories fell substantially in 2020, declining over 184 per cent compared to 2019.
- 3.4 The Canadian labour market saw similar declines in 2020 as employment in December remained 3.3 per cent below January levels. The unemployment rate started 2020 at 5.6 per cent and ended the year at 8.8 per cent, after peaking at a pandemic high of 13.7 per cent in May. The labour market was showing signs of recovery in early 2021, with the unemployment rate falling to 7.5 per cent in March and employment rising to within 1.5 per cent of pre-pandemic February levels. However, renewed pandemic restrictions led Canadian employment to decline by over 207,000 in April 2021, while the unemployment rate increased to 8.1 per cent.
- 3.5 The overall economy was also showing improvement in the early part of 2021. Monthly GDP estimates by industry rose 0.7 per cent in January and 0.4 per cent in February, marking the tenth consecutive increase in monthly GDP. The Statistics Canada preliminary estimate for March suggests a further 0.9 per cent increase, resulting in an estimated 1.6 per cent increase in GDP over the first quarter of 2021. Official estimates for both the first quarter of 2021 and the month of March are expected to be released in early June.

#### **4. Ontario Economy**

- 4.1 The Province of Ontario also saw economic output decline significantly in 2020. Recent Statistics Canada data on annual GDP by industry for the provinces and territories suggests the Ontario economy contracted by 5.0 per cent in 2020. Although this represents the largest economic decline since records began in 1981, the provinces of Saskatchewan (-5.2 per cent), Quebec (-5.3 per cent), Newfoundland and Labrador (-5.3 per cent), and Alberta (-8.2 per cent) all experienced deeper declines than Ontario.
- 4.2 The largest declines in output occurred in the industry's most sensitive to social restrictions. The arts, culture and recreation industry saw the steepest contraction in Ontario, with economic output declining 46.1 per cent in 2020. The industries of

accommodation and food services and transportation and warehousing also saw significant contractions, with output falling 35.8 and 23.7 per cent respectively.

- 4.3 Although most industries in Ontario experienced an economic decline in 2020, there were a select few that experienced economic growth. The Ontario agriculture industry saw the highest growth rate, with output rising 10.8 per cent in 2020. The other industries that experienced economic growth were finance and insurance (5.0 per cent), real estate and rental and leasing (1.6 per cent), and construction (0.3 per cent).
- 4.4 The declines in the labour market were very similar to the declines in output as overall employment in Ontario also fell 5.0 per cent in 2020. The largest employment decline was in the accommodation and food service industry (-25.6 per cent), followed by transportation and warehousing (-10.4 per cent). The finance, insurance, real estate, and rental and leasing industry was one of the only segments to see a rise in employment, with employment increasing 3.3 per cent in 2020.
- 4.5 Although overall employment declined in 2020, the provincial labour market has recovered substantially from the onset of the pandemic. During the first wave (February to May 2020), employment declined 15.1 per cent and the unemployment rate hit a record 13.5 per cent. However, from May to December 2020, employment increased nearly 14.0 per cent, leaving employment in December 2020 down only 3.4 per cent from February 2020.
- 4.6 Despite a renewed provincial lockdown to start 2021, employment fell by only 0.7 per cent between December 2020 and February 2021. This suggests that the labour market may now be more resilient to pandemic related economic restrictions and that consumers adjusted further towards the online retail economy. However, after gaining over 182,000 jobs in March, another provincial lockdown in April led to an employment decline of nearly 153,000. This suggests that the third lockdown may be more consequential, but the full extent will not be known for a couple months.

## **5. Local Labour Force**

- 5.1 The local labour market, as measured by Statistics Canada data for the Oshawa Census Metropolitan Area (CMA), has also shown considerable improvement since the onset of the pandemic. In June 2020, the three-month moving average level of employment in the Oshawa CMA had fallen 11.8 per cent below the pre-pandemic levels of February. Between June 2020 and March 2021, employment had risen 9.0 per cent, with almost 97 per cent of employment losses regained.
- 5.2 Despite the employment rebound from the peak of the first wave, the continued presence of the pandemic is impeding the labour markets ability to achieve a full recovery. The third wave of the pandemic led to another drop in employment from March to April 2021, leaving employment in April 2021 down 4.4 per cent compared to February 2020.

5.3 Although the three-month moving average level of unemployment has also improved, it continues to remain above pre-pandemic levels. In April 2021, the three-month moving average number of unemployed persons in the Oshawa CMA was approximately 16,900, compared with 15,700 in February 2020. The unemployment rate in April 2021 was 7.7 per cent, which is down significantly from the 12.7 per cent in July 2020 but remains higher than the 6.9 per cent rate from February 2020.

5.4 While current data suggests labour market improvement since the peak of the first pandemic wave, the data does not yet factor in the full impacts of the state of emergency, that was declared in the Province of Ontario on April 7, nor pent up demand that may result subsequently in late 2021 as vaccination rates increase throughout the population. The full impacts of the associated restrictions and subsequent consumer behaviour will be monitored and reported as information becomes available.

## **6. Local Labour Force – Employment by Industry**

6.1 Although the overall local labour market has improved considerably from the peak of the first pandemic wave, the impacts have been felt differently across the various employment industries. The local labour force (as measured by the Oshawa CMA) has also been impacted differently than the broader provincial labour force as the concentration of employment in each industry differs across jurisdictions and their predominant employment sectors.

6.2 Comparing employment concentrations from the start of the pandemic to the present helps identify how industry employment gains and losses compare at the local and provincial level. Location quotients (LQ's) are a measure of employment concentration derived by dividing the percentage of employment in a particular industry at the local level by the percentage of employment in the same industry at the provincial level.

6.3 Table 1 compares LQ's for the months of February 2020 (pre-pandemic) and April 2021, using three-month moving average employment figures from the Statistics Canada Labour Force Survey, April 2021. The table also provides each industry's percentage of total employment, in the Oshawa CMA, as well as the percentage change in LQ and overall employment by industry. In terms of LQ, values greater than "1" indicate that the Oshawa CMA has a higher percentage of employment in the corresponding industry than does the Province of Ontario (or the local labour market has a higher "concentration" of employment). Values lower than "1" indicate the opposite.

**Table 1: Oshawa CMA Location Quotient and Percentage of Employment**

	Feb-20		Apr-21		Feb 20 - Apr 21	
	LQ	% Empl	LQ	% Empl	% Chg LQ	% Chg Empl
Goods-producing sector	1.05	20.5%	0.98	19.6%	-6.6%	-6.8%
Services-producing sector	0.99	79.5%	1.00	80.4%	1.7%	-1.6%
Finance, insurance, real estate	0.78	6.3%	1.15	10.1%	48.3%	56.1%
Transportation and warehousing	0.83	4.4%	1.08	5.5%	29.2%	19.4%
Construction	1.21	8.7%	1.48	10.5%	22.7%	17.6%
Accommodation and food services	1.04	6.2%	1.14	5.0%	9.2%	-21.5%
Health care and social assistance	0.98	12.1%	1.07	13.5%	8.8%	7.9%
Wholesale and retail trade	1.10	16.3%	1.17	16.8%	5.8%	0.9%
Educational services	1.01	7.8%	1.04	8.2%	2.9%	1.8%
Utilities	3.52	2.6%	3.55	2.5%	0.6%	-5.6%
Business, building, other services	1.08	4.5%	1.04	3.9%	-3.4%	-16.0%
Public administration	0.91	4.7%	0.82	4.5%	-9.6%	-7.1%
Professional, scientific, technical services	0.81	7.4%	0.70	6.9%	-13.7%	-9.1%
Manufacturing	0.81	8.2%	0.57	6.1%	-30.0%	-26.9%
Information, culture and recreation	1.46	5.6%	0.91	3.6%	-37.6%	-37.6%
Other services (except public admin)	1.03	4.2%	0.64	2.6%	-37.9%	-40.9%

- 6.4 The top three industries in Table 1 have all seen large increases in LQ since the start of the pandemic, meaning their share of overall employment is growing much faster at the Oshawa CMA level than at the provincial level. The large increase in LQ stems from the fact that these industries have seen much larger employment gains locally than they have provincially.
- 6.5 The finance and insurance industry in the Oshawa CMA experienced a 56.0 per cent gain in employment from February 2020 to April 2021, compared to a 4.5 per cent gain at the provincial level. The transportation and warehousing industry and the construction industry have seen local employment gains of 19.4 and 17.6 per cent respectively, while the Province of Ontario has seen a corresponding decrease in employment of 8.3 and 4.8 per cent in these same industries.
- 6.6 Despite a 21.5 per cent decline in employment from February 2020 to April 2021, the accommodation and food services industry has seen a rise in employment concentration in the Oshawa CMA compared to the provincial level. The increase stems from the fact that job losses have been greater at the provincial level than the local level, with provincial employment declining nearly 30 per cent in this industry.
- 6.7 The bottom three industries in Table 1 have all seen significant decreases in LQ since the start of the pandemic, suggesting their share of employment is falling faster in the Oshawa CMA than the provincial level.

6.8 In the Oshawa CMA, manufacturing employment declined 26.9 per cent between February 2020 and April 2021, compared to a 3.7 per cent increase in employment at the provincial level. The information and culture industry experienced a local employment decline of 37.6 per cent compared to a 0.8 per cent decline at the provincial level. Other services saw a 40.9 per cent decline in employment in the Oshawa CMA, compared to a 5.6 per cent decline provincially.

## 7. Local Business Openings and Closings

7.1 In addition to employment, the participation of businesses in the local economy are important drivers of economic activity. According to estimates produced by Statistics Canada for December 2020, the pandemic led to a slight drop in the number of active businesses, defined as businesses reporting having one or more employees in a given month, within the Oshawa CMA. In December 2020, the number of active businesses in the Oshawa CMA was 3.2 per cent lower than January 2020. Despite the overall drop, business participation improved significantly after the initial onset of the pandemic.

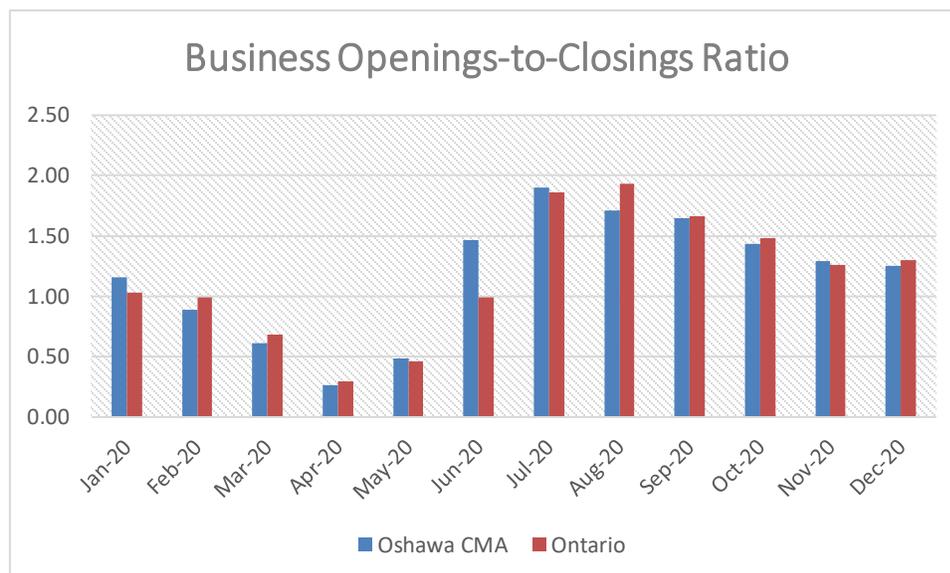
7.2 In May 2020, the number of active businesses fell to its lowest point during the first wave of the pandemic, when the number of active businesses fell approximately 12 per cent below January and February levels. After May, business participation rose steadily as the number of active businesses increased 9.5 per cent between May and December 2020. Table 2 shows the number of active businesses in the Oshawa CMA, per month, throughout 2020. The table also shows the monthly number of business openings and closings.

7.3 Statistics Canada defines business openings as businesses that transition from having no employees in the previous month to having at least one employee in the current month. Business openings include both business reopenings (opening businesses that were also active in a previous month) and new entrants (opening businesses that were not active in a previous month). Business closings are defined as businesses that transition from having at least one employee in the previous month to having no employees in the current month and include both temporary and permanent closures.

**Table 2: Number of Active Business in the Oshawa CMA, 2020**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Active	6,247	6,304	6,110	5,735	5,521	5,693	5,838	5,905	5,981	6,019	6,032	6,048
Openings	334	266	228	245	307	522	507	396	375	352	316	304
Closings	289	300	373	920	628	357	267	231	228	245	244	243

7.4 The monthly ratio of business openings-to-closings is presented in Chart 1 as a method for analyzing business participation in the Oshawa CMA for 2020. The ratio is derived by dividing the number of business openings by the number of business closings in a particular month. The ratio identifies how many business openings are occurring for each business closing on a monthly basis. Figures for the Province of Ontario are also presented for comparison.

**Chart 1: Monthly Ratio of Business Opening to Closings, 2020**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oshawa CMA	1.16	0.89	0.61	0.27	0.49	1.46	1.90	1.71	1.64	1.44	1.30	1.25
Ontario	1.03	0.99	0.68	0.30	0.46	0.99	1.86	1.93	1.67	1.48	1.26	1.30

- 7.5 In January 2020, the business openings-to-closings ratio was 1.16, suggesting that 1.16 businesses opened for every one business that closed. The ratio fell below one in February, before plunging in March, April, and May. In April, during the height of the first wave of the pandemic, the ratio fell to 0.27, suggesting there were nearly four business closings for every one business opening.
- 7.6 Business openings began to rebound in June as the first wave of the pandemic began to stabilize. The ratio hit its peak in July, when the Oshawa CMA experienced nearly two business openings for every one business closing. The recovery in business openings-to-closings continued through the rest of the year as every month from June to December saw significantly more openings than closings.
- 7.7 Although the data suggest that business participation in the local economy had steadily improved since the start of the pandemic, the data only captures the impacts and recovery of the first wave. Further lockdowns and economic restrictions have been instituted in 2021 and those impacts have not been quantified, nor has any subsequent recovery. The data also does not provide information on sales activity or business revenue; both of which have been impacted during the pandemic.

## 8. Relationship to Strategic Plan

- 8.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

a. Economic Prosperity

**9. Conclusions**

9.1 The pandemic has led to significant declines in both economic output and employment. Despite these declines, the economy is showing signs of improvement from the initial onset of the pandemic. The economic impacts have been different for each industry, with industries relying on social interactions remaining the furthest from a full economic recovery.

9.2 The Regional Finance Department will continue to monitor economic conditions and provide timely updates as required.

Respectfully submitted,

Original Signed by

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Nancy Taylor, BBA, CPA, CA  
Commissioner of Finance and Treasurer

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2009



# The Regional Municipality of Durham Report

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From: Chief Administrative Officer  
Report: #2021-INFO-55  
Date: April 29, 2021

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**Subject:**

Durham Region Strategic Plan 2020-2024 Goals and Priorities – Year One Progress Update

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**Recommendation:**

Receive for information

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**Report:**

**1. Purpose**

1.1 This report provides information on the progress made in 2020 towards achieving the Regional Strategic Plan goals. It highlights successes and challenges, lessons learned, future considerations, and the incorporation of the Regional Recovery Framework and Action Plan.

**2. Background**

2.1 The Strategic Plan is a foundational document that provides the vision for the Region's desired future state. The long-term perspective of the plan, coupled with the organizational focus on continuous improvement and learning, will support the organization to be adaptive and responsive to changing contexts while still working towards achieving strategic goals. At the Special Meeting of Regional Council on March 1, 2019 Council gave direction to develop a new strategic plan and to form a Strategic Plan Task Force to guide the process.

2.2 The Strategic Plan was developed by staff from the Office of the Regional Chair and CAO, with input and endorsement from members of the Strategic Plan Task Force. A consultant was engaged to facilitate the Special Meetings of Council and the Department Head strategic planning session.

- 2.3 Extensive community engagement events and sessions were undertaken with a wide range of stakeholders including local organizations, the public, and Regional staff.
- 2.4 The 2020-2024 Strategic Plan includes five goals and 23 priorities.

### **3. Previous Reports and Decisions**

- 3.1 Regional Council adopted the Durham Region Strategic Plan 2020-2024 in March of 2020 (see Report [#2020-COW-4](#)).
- 3.2 Following the adoption of the plan, under direction of the CAO, staff were directed to:
- a. Develop and deliver a plan to include action items and implementation strategies
  - b. Identify related key performance indicators
- 3.3 The COVID-19 pandemic caused an unprecedented change to how we live and work. On March 24, 2020, the Region of Durham declared a state of emergency.
- 3.4 Staff developed a Regional Recovery Framework and Action Plan with 50 action items that align with Council's priorities outlined in the Strategic Plan 2020-2024, recognizing that issues related to the pandemic are expected to continue well into 2021 and beyond. The recovery efforts outlined in [#2020-COW-22](#) focused on actions that could be implemented in 2020.
- 3.5 The Region's provision of essential services to the community has not changed through the pandemic. What has shifted over the past year has been how programs and services are delivered to meet the changing needs and expectations. As outlined in [#2020-COW-35](#), Regional staff and our partners continue to make progress on each of the action items, while focused on responding to immediate community needs.

### **4. Strategic Plan Implementation**

- 4.1 Staff across all departments were engaged in a process to:
- a. Identify action items that will support the achievement of the approved goals and priorities
  - b. Develop business and implementation plans including the identified action items in alignment with the strategic plan goals and priorities
  - c. Identify a preliminary list of relevant measures to monitor progress on the priorities, actions and expected outcomes
  - d. Ensure that all actions and outcomes were associated with the Council-approved goals and priorities.

4.2 The components of the strategic plan are formatted as:

- 1 Goals
  - 1.1 Priorities
    - 1.1.1 Actions
      - 1.1.1.1 Outcomes/Measures

## 5. Performance

5.1 Performance measurement, evaluation and reporting are integral to enabling the organization to deliver effective and innovative service excellence. Reliable and accurate metrics can be used to inform strategic business decisions, supporting the agility of our operations to adapt to meet our strategic goals.

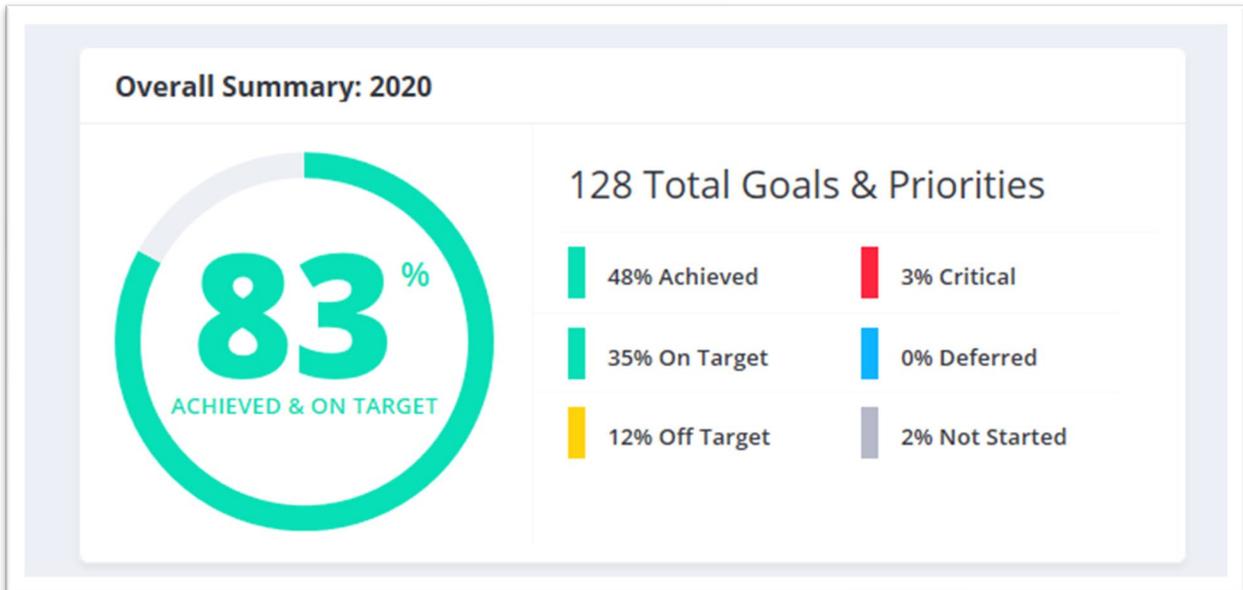
5.2 Regional staff have deep expertise in data analysis and program reporting. In 2020, 131 individual actions were tracked, with the progress of items is classified in one of 6 categories:

- a. Achieved – target fully met or exceeded
- b. On Target – 80-99% of the target achieved
- c. Off Target – 50-79% of the target achieved
- d. Critical – 0-49% of the target achieved
- e. Deferred
- f. Not Started

5.3 The Region uses a mix of quantitative data, project progression statistics, and stories from staff and community members – complete data packages – for performance evaluation.

## 6. 2020 Q4 Strategic Plan Progress

6.1 Despite the significant impact of the COVID-19 pandemic, staff achieved success towards strategic goals. At the end of Q4 2020, 83% of actions and outcomes for the reporting period were Achieved or On Target.

**Figure 1: 2020 Overall Progress**

6.2 Examples of items that were Off Target or Not Started due to the pandemic are:

- a. 1,033 workshop participants served, target of 1,200
- b. 0.7% reduction in kg of paper used to produce annual water bills and meter reading cards, target of 1%
- c. Data products and educational materials to educate the public on issues related to poverty, not started

6.3 These classifications are quick indicators of whether actions are trending in the right direction, or whether staff need to investigate and re-evaluate efforts. A status of Critical or Off Target is an indicator that investigation and learning may be required to change course. In this way, performance improvement is truly continuous.

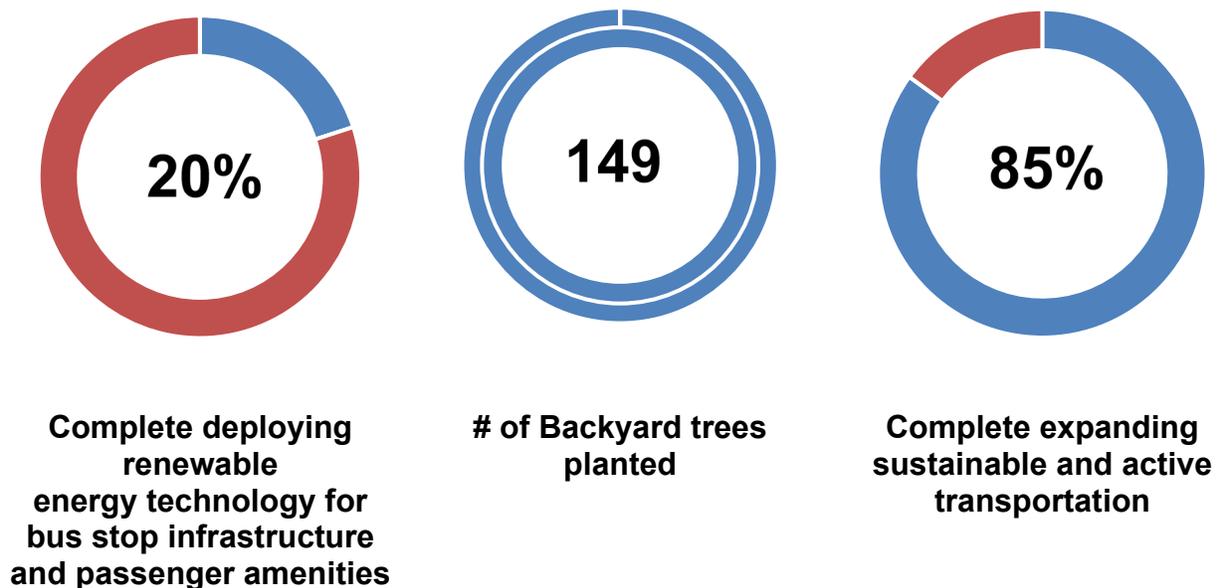
6.4 Below are selected highlights from 2020 reporting highlighted in a storytelling format that demonstrates impact. Appendix 1 includes the full text of each story, focusing on key achievements and connections.

## 7. Goal 1: Environmental Sustainability

**Creating Shared Value Through Climate Action:** “Climate change does not have to be a competing priority and can potentially be a co-benefit with much of what we are already planning to do. Under the leadership of the CAO’s office, we are taking a strong, strategic approach – we are incorporating the climate change framework into the business planning and budget process, we will soon be implementing the Residential Retrofit Program, advancing our low carbon fleet strategy, and we have been successful in securing funding to install electric vehicle chargers. There has been a tremendous amount of progress in the last year.”

– Vidal Guerreiro, Senior Economic Analyst, Business Planning and Budgets

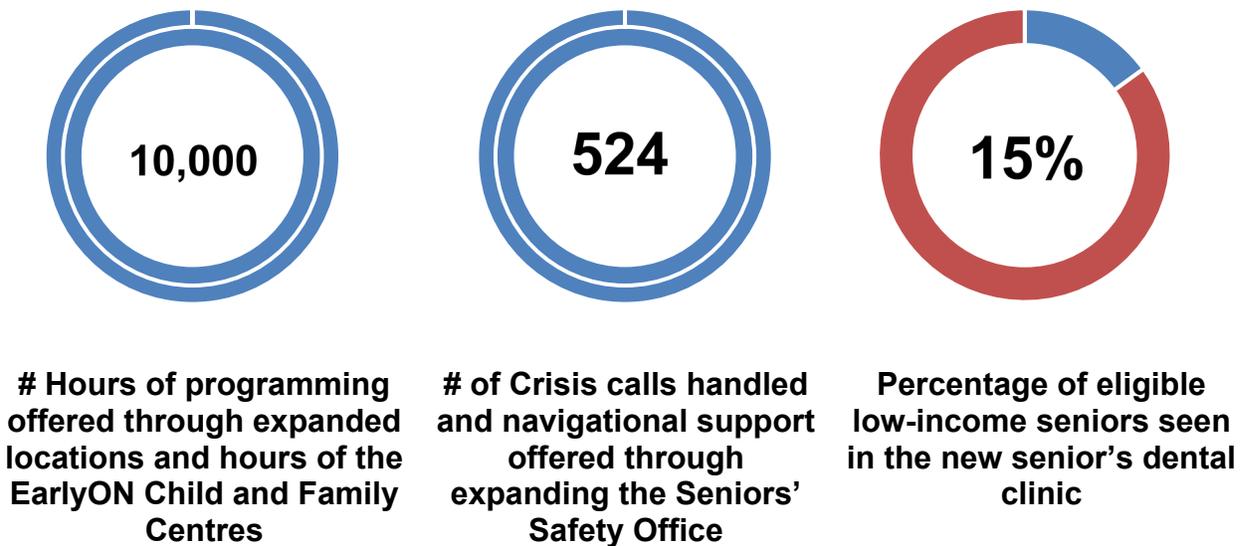
**Figure 2: Environmental Sustainability Measurement Highlights**



## 8. Goal 2: Community Vitality

**Eliminating the Childcare Fee Subsidy Waitlist:** “The application process was completely reimagined and redeveloped. Families who are eligible for childcare fee subsidy who apply online today can access the program immediately. We see big impacts on families that make less than \$40,000 – it allows you to get a better job, to finish school, to have stable employment. It provides better financial security and life stabilization. This project is so important because it has true implications for the community.”

– Taryn Eickmeier, Program Manager Policy and Strategic Initiatives, Children’s Services Division

**Figure 3: Community Vitality Measurement Highlights**

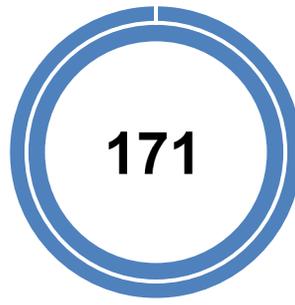
## 9. Goal 3: Economic Prosperity

**Fast and Reliable Broadband for All:** “We know the reality is that everything is done online - school, work communication, entertainment, accessing services. We also know that many of our residents have internet access that is slow, unreliable, expensive, and does not serve their needs. Our vision is to build a 700km fibre optic backbone throughout the Region. It will be the highway that brings digital traffic into the local communities. We’re working hard on some incredible projects and programs to ensure everyone is on a level playing field. The Region is in a unique position to help everyone access fast, reliable, and affordable internet.”

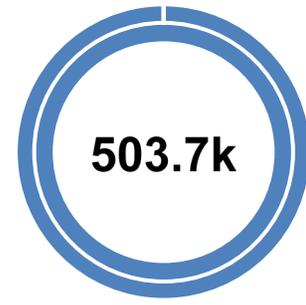
– Riaz Razvi, Broadband Specialist, Economic Development

**Figure 4: Economic Prosperity Measurement Highlights**

**Obtained Council approval and proceeded with the planning, permitting, design, and construction of high-priority sewer and water servicing projects for Employment-designated lands.**



**# of Kilometres upgraded to “full load” on the Region’s Strategic Goods Movement Network**



**# of impressions on digital channels promoting current and new post-secondary programming to upskill and retrain workforce**

## 10. Goal 4: Social Investment

**A Transformation to End Homelessness:** “We can’t just manage the symptoms of homelessness. We are committed to ending homelessness. Our Homelessness Support System has made a commitment to remain fully housing-focused, even during the pandemic. There's been such impactful work happening through our community partners to help people end their homelessness. More than 100 people have been housed through our By-Name List already and we are averaging more than 10 move-ins every month. Our goal and our commitment is to constantly work towards ending homelessness.”

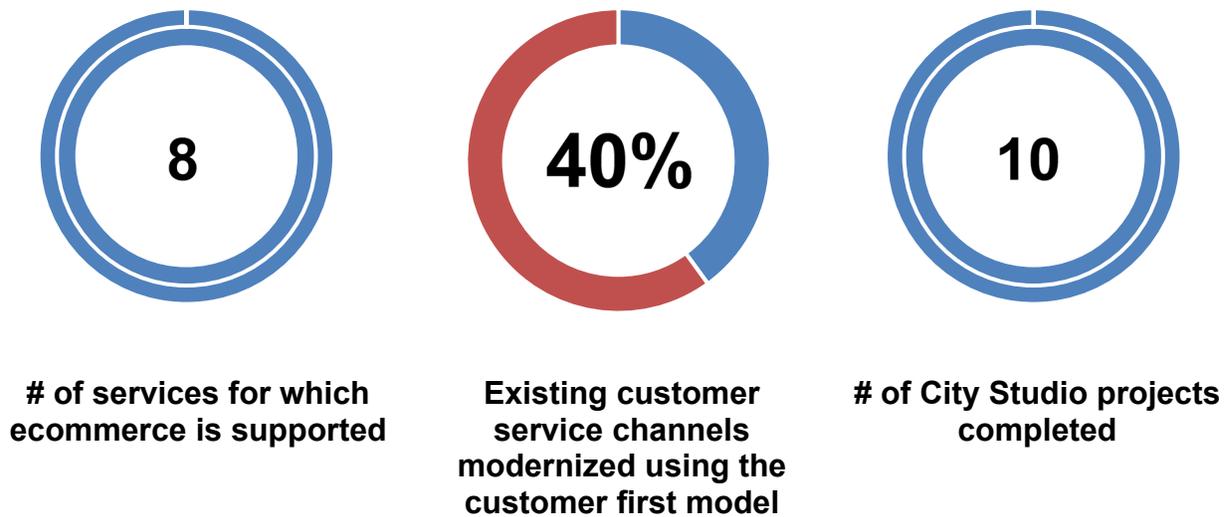
– Erin Valant, Program Manager Affordable Housing & Homelessness Initiatives

**Figure 5: Social Investment Measurement Highlights**

## 11. Goal 5: Service Excellence

**Transitioning to Electronic Services:** “In 2020 we transitioned over 30 paper forms to electronic forms. It seems so straightforward, but it’s a big change that’s saving time and stress for the customer. Our target at the end of our myDurham contact centre project is 70% first contact resolution. This means that when you use any of our channels, on the phone, with a virtual agent, or in person, however you contact us, on 70% of occasions we want to resolve your inquiry completely. Whether you want an answer at midnight or when you are commuting to work, on your phone, through Siri or Alexa, you should be able to have that same level of service.”

- Gemma Sim, Program Manager, myDurham

**Figure 6: Service Excellence Measurement Highlights**

## 12. Recovery Plan

- 12.1 The Strategic Plan is a foundational document that provides the vision for the Region's desired future state. The long-term perspective of the plan, coupled with the organizational focus on continuous improvement and learning, will support the organization to be adaptive and responsive to changing contexts while still working towards achieving strategic goals.
- 12.2 The COVID-19 pandemic brought unprecedented challenges to our community. In June 2020, Regional Council endorsed the Regional Recovery Framework and Action Plan.
- 12.3 With the lives and safety of our community members as the primary concern, the Regional Recovery Plan is a critical guide on our way to build back better.
- 12.4 Projects included in the Recovery Plan were filtered through recovery criteria drawn from post-disaster recovery literature, Ontario's Framework for Reopening our Province, and a jurisdictional scan of federal and provincial priorities that address: job creation, community health and safety, restoration/remodeling of services, supports to business, supports to vulnerable residents, sustainability, co-benefits, etc.

- 12.5 A final list of 50 action items was created, categorized under 4 pillars:
- a. Social
  - b. Economic
  - c. Built
  - d. Municipal
- 12.6 The Regional Recovery Task Force provides strategic direction to the Recovery Framework and Action Plan. The Task Force is composed of representatives from key stakeholder groups including Regional senior leadership, healthcare, emergency services, community agencies and the business community.
- 12.7 The creation of a community-focused Task Force was central to the effective implementation of the Plan. Cross-sector partnerships have demonstrated that it is possible to implement actions to support the community rapidly whereas it might have taken months in the past. The Durham Region Funders Table and Durham Economic Task Force are just two examples of collaborations that have strengthened our community response to the pandemic. Through these partnerships and many others, significant collaborative efforts have been made to ensure the safety of the community, and to respond and adapt to changing needs.
- 12.8 Together, the Strategic Plan and Recovery Plan gave direction for long-term strategic action, immediate response, and new recovery projects that will contribute to community stabilization and future prosperity.

### **13. Progress Toward Recovery**

- 13.1 Recovery performance is based on completing the actions identified. Since the establishment of the Plan, working groups met monthly to coordinate and support implementation of the recovery items.
- 13.2 The Regional Recovery Task Force provides ongoing guidance and input to the recovery framework.
- 13.3 Appendix 2 includes stories to highlight some of the work done in 2020 under the Regional Recovery and Action Plan. Previews of each story are listed below.

### **14. Social Pillar**

**Bringing Community Funders Together:** “As the largest, non-government funder of the human care service sector in Durham, it has been an important step for us to work more closely with other funders in the Region to ensure that together we can assist where it is needed most in a coordinated and immediate fashion. Thanks to the Region of Durham and especially Audrey for bringing us together.”

- Cindy Murray, Executive Director, United Way Durham

## 15. Economic Pillar

**Creating Vibrant and Sustainable Downtowns of Durham:** “Thriving downtowns are liveable complete communities with professional businesses, office towers, retail, restaurants, and coffee shops. Much like an actual downtown, the website is a living, breathing organism. I’m really proud of this project and the contribution it’s making to the Region’s recovery efforts. It will continue to be important for years to come as our tourism and small business sector recovers, and as we see intensification of our downtowns. Durham Region has an exciting creative side to explore and nurture, and it can be found in our 14 downtowns. During COVID, the best way to begin that exploration is at the [DowntownsOfDurham.ca](http://DowntownsOfDurham.ca).”

- Jacquie Severs, Manager Marketing and Cluster Development

## 16. Built Pillar

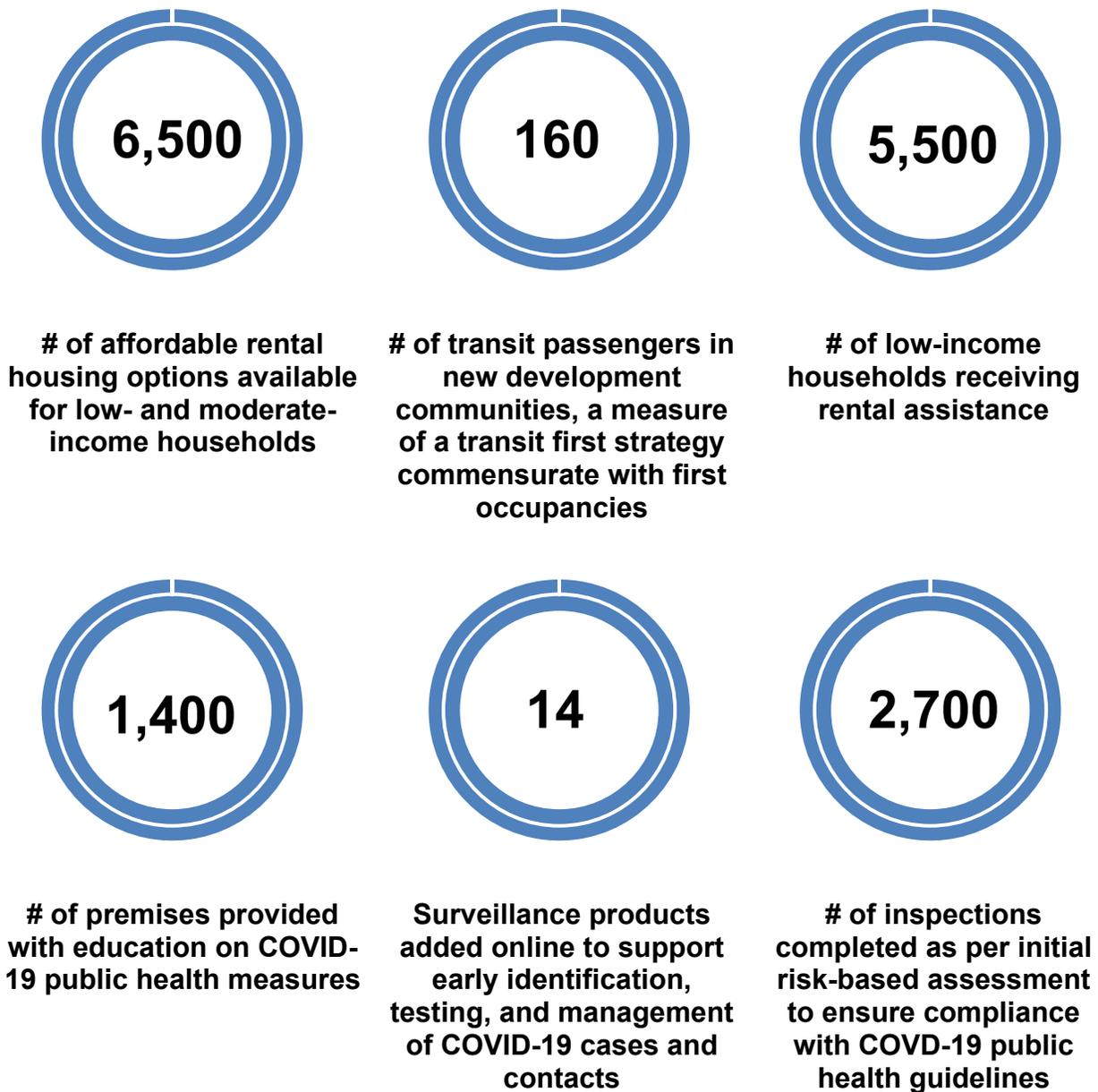
**Higher Quality Transit Service for All Residents of Durham:** “Now, with scheduled routes and the On Demand service, we are one of only two jurisdictions in Ontario that has busses available every 30 minutes 7 days a week. We are ensuring transit is there so that we can support economic recovery and help people get to essential services. Our main success is that everyone has access to transit, whenever they want. We took this challenge on and turned it into an opportunity to unveil a better network overall.”

- Michael Binetti, Supervisor Service Design, Durham Region Transit

## 17. Municipal Pillar

**Pandemic Pushes Fast Forward Button:** “Within two weeks 1,200 staff were working from home and by July 2020, more than 1,850 laptops and 520 desktops had been encrypted to enable secure remote access. IT asset management procedures were implemented to track the equipment deployed. Between March and June, the IT service delivery staff responded to 1,000 more requests than the same period in 2019. 450 of them occurred in the last two weeks of March. In just 7 months of 2020 Teams calls increased by almost 14,000%. Our amazing staff simply jumped into this new boat and started rowing. It was not always perfect, but despite stormy seas, we kept Regional services afloat and moving forward, meeting community needs.”

- Don Beaton, Commissioner of Corporate Services

**Figure 7: Recovery Measurement Highlights**

## 18. Conclusions and Next Steps

- 18.1 The Strategic Plan is intended to be a living guide. Continuous monitoring and reporting will be used to inform decision making and allow for agility in service delivery to meet strategic goals and priorities.

- 18.2 Regional staff will continue to support meaningful performance evaluation and reporting and building capacity in robust data management and analytics.
- 18.3 Outcome measures and key performance indicators will continue to be refined to focus on tracking and predicting progress and uncovering the actions that lead to the most meaningful impacts. Data visualization for operational, tactical, and strategic dashboards continue to be developed, contributing to achieving these goals.
- 18.4 CAO's Office staff are developing a scorecard that will be used to measure, manage, and report performance towards achieving our strategic goals. This scorecard will focus on our commitment to social, economic, and environmental prosperity.
- 18.5 Achievements on the Regional Strategic Plan and Regional Recovery Framework have demonstrated the unity and strength of our community. Significant efforts have been made to ensure the safety of the community, and to respond and adapt to changing needs through the development of strong, collaborative partnerships.
- 18.6 When the pandemic is over, the community will still need time to recover from the impacts of COVID-19. We will seek the support and guidance of our Regional Recovery Task Force for two next steps:
- a. To understand community recovery, we will need a comprehensive understanding of community-based services, structures and networks, and capacities and strengths following the pandemic. Similar to the measures the Region will collect about our own services and performance, we need to consider what data should be collected to measure recovery of the community. We will work with the Task Force to define recovery, identify, and track key indicators and report on outcomes.
  - b. In addition to data and metrics, research has demonstrated that community storytelling is a powerful tool to support recovery. We will seek the support of the Regional Recovery Task Force to collect and share stories from the community.
- 18.7 Many of the stories in Appendix 1 and 2 of this report share a common theme – staff who are committed to improving outcomes for our community saw a problem and acted. Innovative solutions were implemented quickly and effectively and translated into better services and better conditions. We will continue to share these stories to demonstrate the possibilities for progress

## **19. Relationship to the Strategic Plan**

- 19.1 This is the first annual report on the progress of the 2020-2024 Region of Durham Strategic Plan.

**20. Attachments**

Appendix 1 – Stories on Strategic Plan Successes – Year One

Appendix 2 – Stories on Regional Recovery – Year One

Prepared by: Michelle Garraway, Manager, Corporate Initiatives – Strategy and Performance, at 905-668-7711, extension 2731

Approved by: Sandra Austin, Director Strategic Initiatives, at 905-668-7711, extension 2449.

Respectfully submitted,

**Original signed by**

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Elaine C. Baxter-Trahair  
Chief Administrative Officer

## Appendix 1 – Stories on Strategic Plan Successes

### Creating Shared Value Through Climate Action

**“Climate change does not have to be a competing priority and can potentially be a co-benefit with much of what we are already planning to do.”**

Climate change and sustainability are not new priorities of Council. It was 2009 when Council directed the integration of corporate climate initiatives into the Region’s existing Business Planning, Asset Management and Risk Management programs, processes and reporting requirements. We have a lot of climate considerations embedded within the organization, but I think what’s happened over the last year is that we have been given even more support, more clarity and determination than ever, to achieve some specific goals and targets.

Under the leadership of the CAO’s office, we now have a Climate Action Plan that provides further guidance to achieve our goals. A Climate Emergency has been declared by Regional Council. We are taking a strong, strategic approach – we are incorporating the climate change framework into the business planning and budget process, we will soon be implementing the Residential Retrofit Program, advancing our low carbon fleet strategy, we have been successful in securing funding to install electric vehicle chargers. There has been a tremendous amount of progress in the last year despite the pandemic it is been extremely collaborative with staff across all levels providing their feedback and working in unison.

Any change takes a mindset shift. In some cases, this is delving into new areas of how we deliver our services. Climate change does not have to be a competing priority and can potentially be a co-benefit with much of what we are already planning to do. Asset replacement, energy efficiency, state of good repair, standards of how we design, build, and operate our infrastructure, it can be part of the business as usual.

We are excited to see new innovations and technologies coming forward. You often hear about other municipalities and organizations to how they deliver services – for example using electrification or renewable natural gas to power buses, using biogas from anaerobic digestion to supply their facilities – there are opportunities the Region is already moving on and others the Region may be ready and well positioned to take advantage of in the future.

- Vidal Guerreiro, Senior Economic Analyst, Business Planning and Budgets

## A Transformation to End Homelessness

**“We can’t just manage the symptoms of homelessness. We are committed to ending homelessness.”**

In July 2020 we launched our By-Name List and Coordinated Access System. It has completely changed the way we provide services. It has changed the way we think about clients, share information, and allocate resources. Most importantly, it has changed the experience of people in our community needing these services, by not only helping them find appropriate housing but also helping them maintain their housing.

Prior to implementing our By-Name List and Coordinated Access System, program spots and housing placements were provided by each service provider based on their own waitlist. This segmented approach did not efficiently provide housing opportunities to those most in need and required a great deal of work on the part of the client to navigate the system.

The By-Name List flipped that around. The Homelessness Support System is now able to take on the work of navigating services for people and targeting limited resources in a much more equitable way. We now have one central list of everyone experiencing homelessness who has come in contact with a support or service. We know their name, we know the supports they are connected with, and we know their story. So now, we're better able to match the appropriate person to the housing opportunity and help them sustain that housing.

Our Homelessness Support System has made a commitment to remain fully housing-focused, even during the pandemic. There's been such impactful work happening through our community partners to help people end their homelessness. More than 100 people have been housed through our By-Name List already and we are averaging more than 10 move-ins every month. Our goal and our commitment is to constantly work towards ending homelessness.

This has truly been a community collaboration. There are more partners involved than we can name here – the three hubs, the housing-focused shelter programs, the street outreach teams, all the housing programs using our By-Name List. Having everyone involved and connected creates transparency in our system for our clients, many of whom have lost trust. It also gives our community a certain level of accountability because now we have the data every month, we know that if we see that the numbers are increasing, we need to do something about it. We are truly committed to ending homelessness, and we are on our way to doing that.

– Erin Valant, Program Manager Affordable Housing & Homelessness Initiatives

## Fast and Reliable Broadband for All

**“We’re working hard on some incredible projects and programs to ensure everyone is on a level playing field. The Region is in a unique position to help everyone access fast, reliable, and affordable internet.”**

The Broadband Strategy was approved by Council in 2019. In 2020 we made a significant leap in going from a supporting role to really being the drivers in getting the network built and ensuring our residents have what they need. Our vision is to build a 700km fibre optic backbone throughout the Region. It will be the highway that brings digital traffic into the local communities.

We know the reality is that everything is done online - school, work communication, entertainment, accessing services. We also know that many of our residents have internet access that is slow, unreliable, expensive, and does not serve their needs.

In 2020 we did extensive outreach to make sure we really understood the needs of our residents. We launched our Broadband survey in January and ran it for 8 months. We got over 2,600 responses. Throughout the process we were intentional about making sure we heard from our underserved rural residents and took out targeted ads to ensure they knew about the opportunity to give input.

We also learned through research that many of our rural communities are not connected to a high-speed fibre optic backbone and that is why the service in these communities is slow and unreliable. There is a healthy mix of small internet service providers that are doing great work in Durham’s rural communities, but it could be very expensive for them to bring these high-speed connections into the community. Our plan is to build our fibre optic backbone along regional roads to bring the digital infrastructure into these communities and connect them to the information super highway. Service providers could then tap into this backbone and build out local connections inside the communities.

This work is so important. We have residents and communities that can’t access internet in the same manner as residents that are a few kilometres away. It is such a disparity in access to services, access to education. There is a real, serious, digital divide here in Durham. We’re uniquely positioned to help ensure that everyone has fast, reliable, and affordable access.

The support from Council, our CAO, and our Broadband Steering Committee has really propelled us to move full steam ahead. Historically, there has not been a lot of money flowing into our communities for broadband, partly because of the misconception that all areas of Durham are already well served. We saw opportunities to act in 2020 in applying for some big funding programs from the Provincial and Federal governments. It’s a huge win that we can be the lead on these grant applications. In planning our network, we don’t pick one community over another or go to the most profitable areas. We know that the communities that get left behind by the private sector aren’t left with many options. When it comes to developing the network, we have the benefit of being able to value things like

social benefit, health, wellbeing, and economic prosperity – not just the financial return - we are doing it for the wider public good. We're building one technology for everyone that will serve everyone the same way. By taking into consideration the connectivity needs of the Region and our public sector partners we really want to drive up the utility of this network and make it self-sustaining.

We are committed to this work and are continuing with our advocacy efforts. We are also investigating a new Municipal Services Corporation to manage the buildout and operations of this network – the study phase was endorsed by Council in January. We're going to build a robust, future proof network, so that you don't have to worry about turning off your Teams video to save bandwidth while your kids are uploading their school assignment. Everyone in the house should be able to be online, doing what they need to do, simultaneously.

– Riaz Razvi, Broadband Specialist, Economic Development

### **Eliminating the Childcare Fee Subsidy Waitlist**

**“The application process was completely reimagined and redeveloped. Families who are eligible for childcare fee subsidy who apply online today can access the program immediately.”**

By listening to the community, we knew that the wait list for childcare fee subsidy was too long, and that people need assistance immediately when they reach out and are ready. It was not uncommon for people to apply to the waitlist as soon as they found out they were pregnant because the waitlist felt impossible. We also knew that sometimes families who had access to fee subsidy in other Regions would move to Durham to improve their housing or employment options, but then could no longer access fee subsidy in our Region. Due to taking on childcare expenses, their household finances got worse.

Our data showed that when we were able to offer families fee subsidy many were not ready for care, no longer needed care or had moved out of the Region. We asked ourselves, what can we do to better serve the families in Durham, especially those that are in the most vulnerable sectors or income brackets?

During budget consultations, we heard about the bottleneck regarding the number of families served and the way we were using the waitlist, so we targeted the fee subsidy application process for improvement. We had lots of questions. How could we truly know when people needed care? How much it would cost to offer care to people on the waitlist? Carrie Butler, Manager of Fee Subsidy, led the project and worked with our Risk Management, Legal, and IT teams to see what was possible. Carrie also ensured Durham's Online Application was updated in our Ontario Child Care Management System by working with the software vendor.

The application process was completely reimagined and redeveloped. Previously, when someone applied, they were automatically added to the list. Since it was such a long

waiting period, only basic information was collected, meaning the families would not know if they were eligible for fee subsidy until they were “released” from the list. Now, the application process assesses eligibility right away, so people know what to expect. A list is maintained based on the date that the families indicate care is required, not the date that the family is added to the list.

We predicted that this was going to allow us to better understand demand and to offer families services when they needed the service, instead of spending time and resources managing a long waitlist. The new application process shifted the way we serve people, so we communicated clearly with families on the waitlist about the changes and the purpose of the changes. We considered potential risks and privacy concerns. The project was a big undertaking for our team, in addition to everything else we were doing during the pandemic. Every single caseworker was involved – they all worked to assess eligibility and prioritize clients based on when care was needed, essentially, removing the waitlist on top of maintaining service to their current clients.

Now, there is no more waitlist for childcare fee subsidy. If you want childcare fee subsidy in Durham starting tomorrow and are eligible for it, you will have access to it. If you are returning to school or work at a future date, you can apply now, but your information will be maintained so we are able to reach out at the appropriate time and predict future demand. Durham may have waitlists in the future based on available funding and resources, but now, we will be able to clearly describe the resources needed.

We’re collecting stories directly from clients about how the subsidy has impacted their lives. They talk about the stress of waiting and not knowing if they are eligible for subsidy. Clients tell us receiving subsidy is life changing.

We see big impacts on families that make less than \$40,000 – it allows you to get a better job, to finish school, to have stable employment. It provides better financial security and life stabilization. This project is so important because it has true implications for the community.

– Taryn Eickmeier, Program Manager Policy and Strategic Initiatives, Children’s Services Division

## Transitioning to Electronic Services

**“It seems so straightforward, but it’s a big change that’s saving time and stress for the customer”**

The Public Facing Services Modernization study looked at the service we deliver and opportunities to enhance those services based on customer need. We found that there were more than Regional 40 forms that weren’t available electronically. This means they were either paper or they were a PDF and the customer usually had to print it off, bring into HQ or had to download it and save it themselves then email it back, which was an unnecessarily complex process.

In 2020 we transitioned over 30 paper forms to electronic forms. That means that the customer can type the information in online, hit save, and their information is presented to the Department in the way that the Department needs that information. This is such a huge change. It seems so straightforward, but it’s such a change because first, it’s saving time with us, it’s eliminating paper, but more importantly, it’s saving time and stress for that customer.

Another simple but impactful change was the online purchase of garbage tags. Before COVID-19 you had to go to your local rec centre or library, or municipal office and buy your garbage tags physically. As a response to COVID-19, the need for garbage tags was removed. Once they were reinstated, there was a lack of desire to use handheld cash and the facilities to purchase the tags were closed. We quickly transitioned to online payments. So now it’s a first for the Region that the customer can pay online for the tags, and then they are mailed to that person’s house. Again, a huge time savings for that person. It’s also safe and removes that unnecessary interaction with other people during the pandemic. We weren’t sure at first if people would buy their tags online, but we’ve seen a great uptake.

These projects set the pathway for the future. They expanded and tested our skill set. We got to explore new technology and make changes that benefit residents. And it has been a driver in evolving our internal culture to design for the customer perspective. They have also enhanced the relationship between the Region and the local municipalities and moving forward it will be easier for customers to navigate our services. Our target at the end of our myDurham contact centre project is 70% first contact resolution. This means that when you use any of our channels, on the phone, with a virtual agent, or in person, however you contact us, on 70% of occasions we want to resolve your inquiry completely. Whether you want an answer at midnight or when you are commuting to work, on your phone, through Siri or Alexa, you should be able to have that same level of service.

- Gemma Sim, Program Manager, myDurham

## Appendix 2 - Recovery Stories

### Bringing Community Funders Together

**“We needed a strategic approach, based on real-time data, to funding community agencies in Durham.”**

In 2020, the Durham Region COVID-19 Funders Table allocated \$5.6 million to over 200 different not-for-profit and charitable organizations responding to local needs due to COVID. Funders made those allocations based on available local data, with an eye to serving all populations and geographies while trying to avoid duplication.

While that might sound like an obvious approach, it was in fact the first time Durham Funders have formally worked together. When the federal government announced its

\$350 million Emergency Community Support Fund in April 2020, I convened the Durham Region Funders Table, marking the first step toward a collaborative approach to funding in Durham Region. We needed a strategic approach, based on real-time data, to funding community agencies in Durham.

Leadership at the Region of Durham had signaled it was ready for a new approach to community and as such, I reached out to the Executive Directors of the United Way Durham, Durham Community Foundation and our local municipal partners and had long overdue conversations about the role the Region could play in developing a coordinated approach to funding. Together, we established the Durham Region Funders Table – a community of practice that aims to work collaboratively to meet community needs, coordinating funding for the charitable and not-for-profit sectors informed by local data. It means we better understand which organizations that support seniors, youth, BIPOC and LGBTQ2+ communities, those that provide food, housing or mental health supports located in the north, south, east, and west are being supported.

“As a leading community funder that supports locally driven solutions to help our communities flourish, we want the funds available to reach as many people as possible. Equally important, the sector not only ensures a strong and resilient Region but also serves as a local employer for our residents.” Vivian Curl, Executive Director, Durham Community Foundation

By sharing data, stories, questions, and information, we’ve built trust and we’re seeing the positive impacts. Good ideas that come out of one organization are now being shared with the entire network and we are promoting partnerships across the sector.

Together, we are developing a plan to raise an understanding that the not-for-profit and charitable sectors:

- Represent 8.1% of GDP and are major contributors to a vibrant community.
- Are critical contributors to keeping people safe from COVID and subsequently diverted from acute care.

- Are primary supporters of communities rich with sport, arts, and culture.

While COVID brought us together, the business case for collaboration and our shared enthusiasm for the future will keep us together. “As the largest, non-government funder of the human care service sector in Durham, it has been an important step for us to work more closely with other funders in the Region to ensure that together we can assist where it is needed most in a coordinated and immediate fashion. Thanks to the Region of Durham and especially Audrey for bringing us together.” Cindy Murray, Executive Director, United Way Durham

As we move toward recovery, we will focus on building capacity across the sector. This isn't just a feel-good exercise – a strong, coordinated not-for-profit sector is where a healthy, vibrant community starts. Together, we want to change the conversation in Durham about the not-for-profit and charitable sectors, and we want to ensure they continue to thrive so they can support our residents, especially during these challenging times and beyond. - Audrey Andrews, Manager Strategic Partnerships, Social Services

### **Creating Vibrant and Sustainable Downtowns of Durham**

**“Much like an actual downtown, the website is a living, breathing organism.”**

At a Durham Economic Task Force meeting in the early days of COVID, we heard from Durham's BIAs that downtown businesses were facing a unique set of challenges. Thriving downtowns are livable, complete communities with professional businesses, office towers, retail, restaurants, and coffee shops. They rely on both the weekday traffic of workers and the weekend tourists. If people weren't going downtown due to COVID restrictions, how could businesses continue to create the atmosphere that drives their business?

Through conversations with the BIAs, we came up with the idea that we needed a central place for downtown business information – a shared site that would work to collaboratively promote our 14 downtowns. The group felt that we would strengthen our region by working together, and we all wanted to find new ways to support business recovery.

We thought about the “support local” movement, and the type of person who is supporting the locally-owned restaurant in downtown Bowmanville, and knew that they likely would also be willing to drive 20 minutes to buy from a retail store in downtown Port Perry.

Our data about website traffic shows we were right. Since we launched [DowntownsofDurham.ca](http://DowntownsofDurham.ca) in June 2020 we have had nearly 60,000 visits to the site.

From a regional perspective, I think this project adds value to the great work the BIAs and our local Economic Development partners are already doing to support downtown

businesses. The Downtowns of Durham website has really been a collaborative effort. And the businesses appreciate it. [insert quote from local business]

Much like an actual downtown, the website is a living, breathing organism. It's developing into a local-for-local movement with the addition of local stories about favourite businesses to visit. New blog posts are really driving traffic to the site.

We collaborate with the BIAs to maintain business listings. Now, with almost 900 active businesses on the site, maintaining the accuracy of information is a focus. We want the listings to be kept up to date which means we are constantly investing in the content and are always looking for ways to improve the technology. Especially since the project is growing.

Downtowns are employment centres – there is a high density of small businesses that support local employment – they're really valuable economically. But if you think about downtowns as a resident, they're often not a place you visit every day, but they are a big part of what makes a community livable. Events and tourism alone can't fully support downtowns. We need people working and living downtown to keep them vibrant and sustainable. That's why we are expanding the Downtowns of Durham project to include spaces so that we can use the site to attract office and professional businesses into our downtown areas as well.

I'm really proud of this project and the contribution it's making to Region's recovery efforts. It will continue to be important for years to come as our tourism and small business sector recovers, and as we see intensification of our downtowns. Durham Region has an exciting creative side to explore and nurture, and it can be found in our 14 downtowns. During COVID, the best way to begin that exploration is at the [DowntownsOfDurham.ca](http://DowntownsOfDurham.ca).

- Jacquie Severs, Manager Marketing and Cluster Development

### Higher quality transit service for all residents of Durham

**“Now, with scheduled routes and the On Demand service, we are one of only two jurisdictions in Ontario that has busses available every 30 minutes 7 days a week. We took this challenge on and turned it into an opportunity to unveil a better network overall.”**

On Demand service had been running in the rural North for a few years and we planned to do On Demand trials in two urban areas in 2020. When COVID-19 hit, transit ridership plummeted, and service was reduced. We had to adapt and respond, so DRT decided to expand the On Demand service across the Region. The coverage areas, booking software, everything got fast tracked. We worked internally with Legal, Communications, and divisions across the Transit Department. Externally, we partnered with Transit App, a Montreal based company, who offered a free app that can interface with our existing On Demand software. In just 4 months we went from offering On Demand service in the rural North to having On Demand available everywhere in Durham Region.

Now, with scheduled routes and the On Demand service, we are one of only two jurisdictions in Ontario that has busses available every 30 minutes 7 days a week. We can offer a higher caliber service where demand doesn't support all-day service. If you have a shift job, you now have access all the time.

There aren't many transit systems like this. We are leaders in this approach, and we're still learning. For example, we heard from some customers that not having the same predictable schedule can be difficult. We started working with the Ontario Shores Centre for Mental Health Sciences to develop a travel training meeting for their staff and clients, and now we're working on enhancing that and applying it in other settings like seniors residences, and equipping them with tablets to use for booking. We hope to do in-person training eventually.

We're tracking ridership growth, wait times and other outcomes to measure our success. We monitor wait times weekly and adjust and improve based on what we learn. We are ensuring transit is there so that we can support economic recovery and help people get to essential services. Our main success is that everyone has access to transit, whenever they want.

- Michael Binetti, Supervisor Service Design, Durham Region Transit

## Pandemic Pushes Fast Forward Button

**“Within two weeks 1,200 staff were working from home... In just 7 months of 2020 Teams calls increased by almost 14,000%. Our amazing staff simply jumped into this new boat and started rowing. It was not always perfect, but despite stormy seas, we kept Regional services afloat and moving forward, meeting community needs.”**

Going into 2020, blissfully unaware of what the future held, the Region had a well-developed three-year plan to modernize corporate information technology (IT) platforms to better support collaboration and connectivity. The plan included a phased approach to rolling out programs like Office 365, Microsoft Teams, SharePoint, and Exchange to Regional staff. With budget approved, work was in motion. Then, on March 17, 2020, a provincial emergency was declared, and everything changed. All Region staff who could work from home would be asked to do so. This presented a huge IT challenge.

Before the emergency, many Regional staff occasionally worked from home, perhaps a few days per month. Now, essentially over a single weekend, CS-IT staff had to prepare the Region's IT platform to support almost 2,000 staff to work remotely, full-time, providing secure access to all the files and programs they used in the office. Staff had to set up a usable home workspace and figure out the details of connecting remotely. New programs and capabilities were pushed out quickly, ensuring that all staff on the front lines and at home could access the software needed to support service delivery.

Within two weeks 1,200 staff were working from home, and by July 2020, more than 1,850 laptops and 520 desktops had been encrypted to enable secure remote access. IT asset management procedures were implemented to track the equipment deployed. Between March and June, the IT service delivery staff responded to 1,000 more requests than the same period in 2019. 450 of them occurred in the last two weeks of March. Remarkably, IT service delivery calls returned to normal levels within about two weeks.

The 2020 results compared to 2019 usage were astounding. Use of the virtual private network (VPN) and virtual desktop infrastructure (VDI) increased 900%, providing staff with access to Outlook and Teams. The volume of email sent increased by 175% and use of SharePoint rose by over 400%.

Most impressive was the adoption of Teams as the way for staff to meet and communicate. In just 7 months of 2020, the volume of meetings on Teams reached over 27,000 compared to just 312 in all of 2019. Teams calls increased by almost 14,000%. In a “normal” work environment, this speed of uptake is almost unimaginable. But under difficult circumstances, our amazing staff simply jumped into this new boat and started rowing. It was not always perfect (“unmute, unmute”), but despite stormy seas, we kept Regional services afloat and moving forward, meeting community needs.

Additional IT tools were rapidly deployed during these early weeks of the pandemic enabled critical communications between departments and with the public such as:

- The public health dashboard updated daily with the latest statistics and expanded regularly with new features and resources;
- The Durham economic development websites with resources to support businesses;
- The situation report for the COVID-19 working group; and
- COVID screening tool for staff.

It's a testament to the resourcefulness and dedication of our IT staff, and the leadership of Kalyan Chakravarthy, CIO, that this unforeseen acceleration of the digital work environment was accomplished in such short order. The pandemic pushed the fast forward button, creating an urgent need and incentive to change quickly. And they did! The work of the Regional team was recognized by the Canadian Data Centre awards honouring leadership, celebrating excellence with an award in the category of COVID-19 Crisis Response.

Despite this massive disruption, Corporate Services – Information Technology Division continued to deliver other technology initiatives and systems upgrades, like the myDurham311 project, as planned for 2020 – fortunately at a less frantic pace! The lessons we learned in the spring of 2020 about what is possible will not be forgotten as we build resilient IT systems for the future.

- Don Beaton, Commissioner of Corporate Services

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2564



**EARLY RELEASE OF REPORT**

**The Regional Municipality of Durham  
Report**

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To: Planning and Economic Development Committee  
From: Commissioner of Planning and Economic Development  
Report: #2021-P-\*\*  
Date: June 1, 2021

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**Subject:**

Carruthers Creek Watershed Plan Update, File D07-17-01

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**Recommendation:**

That the Planning and Economic Development Committee recommends to Regional Council:

- A) That the Carruthers Creek Watershed Plan contained in Attachment #2 be endorsed.
  - B) That a copy of this report be forwarded to the City of Pickering, the Town of Ajax, the Ministry of Municipal Affairs and Housing, and the Toronto and Region Conservation Authority for further distribution to the Carruthers Creek Watershed Plan Update interested parties list.
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**Report:**

**1. Purpose**

- 1.1 The purpose of this report is to present the Carruthers Creek Watershed Plan Update and to seek Council's endorsement of the plan.

**2. Background**

- 2.1 A watershed refers to an area that is drained by a river and its tributaries. Watershed planning is required by Provincial Plans, including the Oak Ridges Moraine Conservation Plan, the Greenbelt Plan, and the Growth Plan, to identify

and protect natural resources and areas, to protect the quantity and quality of water resources, and to help inform future land use planning and infrastructure decisions. The Regional Official Plan (ROP) also recognizes the preparation and implementation of Watershed Plans as an effective planning tool in the protection of natural heritage and water resources.

- 2.2 Watershed planning has traditionally been undertaken by conservation authorities. In southern Ontario, particularly in the Greater Golden Horseshoe area, conservation authorities have extensive experience and expertise in watershed management and watershed planning.
- 2.3 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 watersheds. It also provides an opportunity for the assessment of cumulative, cross-jurisdictional and cross-watershed impacts.
- 2.4 Watershed plans are not land use plans, nor would Council's position on a watershed plan constitute a land use planning decision. However, as required by Provincial Plans, the data, scientific analysis, modelling, scenario evaluation, and management recommendations generated through a watershed planning process are used by municipalities to help inform future land use planning and infrastructure decisions.
- 2.5 The Carruthers Creek watershed is located within the City of Pickering and the Town of Ajax, and is on the eastern edge of the Toronto and Region Conservation Authority's (TRCA) jurisdiction. The watershed is relatively small, at approximately 3,840 hectares in size, ranging from 2 to 3 kilometres in width, and has a total length of 18 kilometres. The headwaters of the Carruthers Creek form to the south of the Oak Ridges Moraine, in the City of Pickering, and the creek enters Lake Ontario at Carruthers Marsh in the Town of Ajax. A location sketch is provided in Attachment #1.
- 2.6 The watershed is mainly rural north of Highway 7 and is mainly urbanized south of Taunton Road. Between Highway 7 and Taunton Road, lands are characterized by a mix of rural, estate residential, recreational and related uses, and are in the Protected Countryside designation of the provincial Greenbelt Plan. There are approximately 41,000 residents within the boundaries of the watershed.
- 2.7 Policy 7.3.11 p) of the ROP applies to lands outside of the Greenbelt in northeast Pickering, within the headwaters of Carruthers Creek Watershed and includes a

small portion of the East Duffins Watershed. The policy states: “*where a comprehensive review of this Plan includes consideration of lands for Urban Area expansion within the City of Pickering east of the Pickering Airport lands, outside of the Greenbelt, the following additional matters will be assessed and evaluated at that time: ... (ii) the preparation and completion of a watershed plan update for the East Duffins and Carruthers Creek watersheds.*”

- 2.8 In accordance with this policy, the completion of this watershed plan will allow for the future consideration of potential development in northeast Pickering. It does not constitute a decision on whether the lands should be developed, since that is a matter that will be addressed through the Region’s Municipal Comprehensive Review process.
- 2.9 The Carruthers Creek Watershed Plan Update was designed to meet or exceed all Provincial requirements, while satisfying Policy 7.3.11 p) of the ROP.
- 2.10 A small portion of the East Duffins Watershed Plan was included as part of the study area, given that only a small portion of that watershed is outside of the Greenbelt Plan and that substantial modelling had already been undertaken in the consideration of the development in Seaton. Insights gained through the Carruthers Creek Watershed Plan Update could then be applied to the adjacent East Duffins watershed area.
- 2.11 The Carruthers Creek Watershed Plan Update took place over two phases. The Region contracted with TRCA, in a consulting capacity, to lead the technical work and coordinate the public consultation.
- 2.12 Phase 1 was initiated in June of 2015 and culminated in seven peer reviewed technical reports that characterized the watershed’s existing conditions. Phase 2 was initiated in December of 2017 and included public consultation, further technical reports, watershed scenario analyses, and management recommendations. A draft Watershed Plan, prepared in collaboration with Town of Ajax and City of Pickering staff, was released for public review and comment on March 13, 2020.
- 2.13 As a result of the COVID-19 global pandemic, in-person public consultations scheduled for April 30, 2020 were postponed. At its meeting of December 16, 2020, Regional Council authorized staff to re-initiate the public consultation process. In early 2021, public engagement resumed through the use of online platforms.

The final date for agencies and members of the public to provide comments on the draft Carruthers Creek Watershed Plan Update was March 19, 2021.

### **3. Previous Reports and Decisions**

3.1 Several Commissioner's Reports have been prepared advising of project status updates and at the completion of key project milestones:

- On February 26, 2021 Commissioner's Report [#2021-INFO-22](#) provided an update on the virtual Public Open House meetings held on February 1 and February 4, 2021.
- On December 1, 2020 Commissioner's Report [#2020-P-28](#) recommended that staff be authorized to resume public consultation and schedule two virtual Public Open Houses to advance the completion of the Carruthers Creek Watershed Plan Update.
- On April 3, 2020 Commissioner's Report [#2020-INFO-28](#) advised that the scheduled Public Open House to present the draft Carruthers Creek Watershed Plan to members of the public was being postponed as a result of the COVID-19 pandemic.
- On March 13, 2020 Commissioner's Report [#2020-INFO-18](#) advised of the release of the draft Carruthers Creek Watershed Plan Update for public review and comment.
- On December 6, 2019 Commissioners Report [#2019-INFO-91](#) advised of activities undertaken during the second year of Phase 2 of the Carruthers Creek Watershed Plan update, including results from stakeholder consultation and Public Open Houses on the draft Management Recommendations.
- On May 7, 2019 Commissioner's Report [#2019-P-25](#) advised of activities undertaken during the first year of Phase 2 of the Carruthers Creek Watershed Plan Update.

- On July 22, 2018 Commissioner's Report [#2018-INFO-102](#) provided Council with addition details including key milestones and anticipated meetings and presentation dates as part of the Phase 2 Communications and Consultation Strategy.
- On April 13, 2018 Commissioner's Report [#2018-INFO-54](#) provided an overview of the Work Plan and Communications and Consultation Strategy to be implemented as part of the Phase 2 of the Carruthers Creek Watershed Plan Update.
- On October 4, 2017 Commissioner's Report [#2017-COW-218](#) advised of the completion of Phase 1 of the Carruthers Creek Watershed Plan Update, including seven peer-reviewed Technical Reports that characterize the watershed's existing conditions.
- On November 2, 2016 Commissioner's Report #2016-COW-61 recommended that the Toronto and Region Conservation Authority proceed to complete the Carruthers Creek Watershed Plan Update subject to a number of specific conditions related to reporting process and a formalized peer review approach.
- On July 29, 2016 Commissioner's Report #2016-INFO-4 provided an update on activities undertaken during the first year of the Carruthers Creek Watershed Plan Update.
- On March 10, 2015 Commissioner's Report #2015-P-16 recommended that staff be authorized to engage the Toronto and Region Conservation Authority to update the Carruthers Creek Watershed Plan.

#### **4. Watershed Plan Overview**

- 4.1 The final Watershed Plan (Attachment #2) is an innovative, well organized, and easy to read document that establishes the current watershed conditions and outlines a framework for improving, enhancing and restoring watershed health. Supported by extensive technical analysis and evaluation and peer reviewed by third party experts , the Watershed Plan applies the latest in conservation planning and science to support a comprehensive management framework. The overall approach and collaborative process used to develop the Carruthers Creek Watershed Plan Update constitutes an industry best practice and will be used as

a model by TRCA to update Watershed Plans throughout its jurisdiction.

- 4.2 The Watershed Plan opens with a compelling vision statement that *“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.”*
- 4.3 The overall organization of the Watershed Plan consists of nine sections. A brief summary is provided below:
- a. **Introduction and Background:** provides an overview of the rationale and policy basis for watershed planning, the local context and considerations, and key partners and stakeholders.
  - b. **Water Resources and Natural Heritage Systems:** describes the key components of the Water Resource System and Natural Heritage System, and how each system was mapped.
  - c. **Existing Watershed Conditions:** describes the current watershed conditions based on technical evaluations undertaken in Phase 1 of the study. Four key issue areas, being the Water Resource System, the Natural Heritage System, Water Quality and Natural Hazards (including flooding) are described and rated against benchmark indicators.
  - d. **Future Watershed Conditions:** describes the three future scenarios that were modelled to predict the response of the watershed to future land use change, the results of the modelling analyses, and the implications of these scenarios.
  - e. **Management Framework:** outlines what needs to be done to protect, enhance and restore the watershed’s health. The management framework includes 35 recommendations divided into three goal areas of: Land Use, Water Resource System, and Natural Heritage System. A separate subsection (5.4) details the management recommendations that would apply, should a future Settlement Area Boundary Expansion be allowed within Northeast Pickering.
  - f. **Monitoring and Evaluation:** details the indicators, frequency, and methods in which monitoring should occur. The performance of the Watershed Plan implementation will need to be evaluated on an ongoing basis.

- g. **Maps, Glossary, and References:** These three sections contain supporting resources in the form of maps, a glossary of terms, and references.

## 5. A Consultative and Focused Approach

5.1 Since project initiation, the Carruthers Creek Watershed Plan Update has been a highly consultative and collaborative process that exceeds legislative requirements and incorporates a variety of best practices. Below is a summary of consultation activities that took place over the course of the project:

- a. Dedicated Project Website: **Over 2,400 visits**
- b. Project information postcards: **Over 2,000 distributed**
- c. Online survey: **Over 70 participants**
- d. Project specific email: **Continuously maintained and monitored since October 2017.**
- e. Popup displays at public events: **7 events**
- f. Stakeholder Workshops (environmental non-government organizations, golf courses, etc.): **Hosted 3 workshops**
- g. Update Presentations to Municipal Committees of Council: **Durham 2, Ajax 3, Pickering 2, TRCA Board of Directors 4**
- h. Public Information Centres: **4 (in person on October 8, 2019 and October 10, 2019; virtual on February 1, 2021 and February 4, 2021)**
- i. TRCA, Ajax, Pickering and TRCA staff-to-staff meetings: **8**
- j. Presentations to advisory committees (Durham Agricultural Advisory Committee, Durham Environmental Advisory Committee, Ajax Environmental Advisory Committee, etc.): **6**
- k. Commissioner's Reports providing project updates to Durham Planning and Economic Development Committee / Committee of the Whole and Council with circulation to Ajax and Pickering: **12**
- l. Submissions and comments received on the draft Carruthers Creek Watershed Plan Update in 2020/2021: **27**

5.2 In addition to the above, over the course of the spring and summer of 2020, the Region received 182 similar emails, each containing identical language, indicating that development should not be permitted in the headwaters. These submissions were also forwarded to TRCA for consideration, and a standardized response clarifying the role of watershed planning within Ontario's land use planning system. All individuals that made a submission were also invited to subscribe as an

interested party, so that they could be notified of future project updates and consultation opportunities.

- 5.3 The opportunity to review and comment on the draft Carruthers Creek Watershed Plan Update remained open for over a year, since its initial release on March 13, 2020 until March 19, 2021. During this time, a total of 27 submissions were received with specific comments of the draft Watershed Plan. Both the City of Pickering and Town of Ajax prepared comments on the draft Carruthers Creek Watershed Plan Update which were reported through, and considered by, their respective Committees and Councils. In their staff report, City of Pickering staff congratulated the TRCA on the preparation of the Watershed Plan and the overall quality of the document, and stated that staff generally agree with the majority of the Management Recommendations. The Town of Ajax staff report acknowledged efforts to address their staff comments and thanked TRCA for their efforts to engage the Town in the preparation of the Watershed Plan.
- 5.4 In their more detailed comments, the City of Pickering staff report identified areas for clarification and sought additional language to confirm that there is flexibility in how the identified enhanced Natural Heritage System will be implemented. In the Town of Ajax staff report, concerns were reiterated about the potential for downstream flooding as a result of development in the headwaters, funding sources for any required flood mitigation, the sequencing and timing of further studies and evaluations, and consistency in approach for the protection of the Natural Heritage System. Further meetings and consultation with staff from Ajax and Pickering took place in early 2021 to address these comments.
- 5.5 Generally speaking, the comments received by stakeholders on the draft Carruthers Creek Watershed Plan Update have been diverse. Stakeholders representing development interests in northeast Pickering have sought additional flexibility in the policy language, while the majority of other comments have sought the explicit prohibition of development in northeast Pickering. Other themes in the comments were:
  - a. concerns about potential development in the headwaters.
  - b. questions/concerns about the use and scope of scenario modelling.
  - c. appropriate treatment and protection of the Natural Heritage System.
  - d. concerns and appropriate solutions to existing and future flooding issues.
  - e. support for the Watershed Plan in general.

5.6 All comments have been reviewed and considered by TRCA staff and also shared/reviewed with staff from the Region, the City of Pickering, and the Town of Ajax. Where appropriate, the Watershed Plan was updated in response to comments. A summary of each comment and a description of how TRCA staff have responded can be found in Attachment #3.

## **6. Commentary**

### **Scenario Modelling**

6.1 A key element of the Watershed Plan is scenario modelling. Scenario modelling is a tool that is used to evaluate how a watershed would react under different future land use conditions. It is not meant to analyze the full spectrum of potential future land uses that may occur throughout the watershed, nor is it intended to represent any particular development or special interest that may exist. Rather, it is a tool that is meant to provide an understanding of a broad range of potential impacts.

6.2 The scenarios do not implicitly “build in” specific mitigation measures (e.g. specific stormwater management approaches) that may be proposed by any particular land use interest. Rather, mitigation approaches have been included for each land use scenario as part of the management recommendations to protect, enhance and restore the watershed’s health.

6.3 Three scenarios were modelled as part of the Carruthers Creek Watershed Plan Update:

- Scenario 1 assumed the “build out” of the watershed as permitted by current Official Plans to the year 2031.
- Scenario 2 assumed the same “build out” as Scenario 1, but with an enhanced Natural Heritage System throughout the watershed.
- Scenario 3 assumed urbanization of northeast Pickering with the same enhanced Natural Heritage System as shown in Scenario 2.

6.4 Through consultation, a number of comments were received regarding the three scenarios. Some comments noted preferences on which scenario should be implemented. Other comments asked that more scenarios be evaluated. As noted above, scenario modelling was undertaken to inform watershed management recommendations, and the evaluation of a myriad of alternative land uses or arrangements would not affect the management recommendations.

## **Addressing the Potential for Settlement Area Boundary Expansion**

- 6.5 As of part of “Envision Durham”, the Region’s Municipal Comprehensive Review (MCR) of the ROP, the detailed Land Needs Assessment (LNA) work is underway to comprehensively assess the Region’s urban structure, its intensification potential, designated greenfield areas, and future urban land needs to accommodate the Province’s population and employment forecasts under the Growth Plan. Upon the completion of the LNA, a determination will be made as to whether additional urban land will be required through Settlement Area Boundary Expansion to accommodate forecasted growth. If additional urban land is required, then candidate areas (i.e. areas outside of existing urban areas that are also outside of the Greenbelt Plan area) would be evaluated.
- 6.6 The lands within northeast Pickering including the headwaters of the Carruthers Creek are located outside of the Greenbelt Plan area and are a candidate area for potential Settlement Area Boundary Expansion. Staff will report to Planning and Economic Development Committee on the results of the LNA when the analysis is complete. Should the LNA determine that additional urban land is required to accommodate the province’s population and employment forecasts, and should Council decide that it is appropriate to allow development within this area, then that decision would be provided as part of the Region’s position on the new Regional Official Plan. The Minister of Municipal Affairs would then render a decision. If development is permitted, detailed mitigation strategies, community design elements and/or other features to address potential watershed impacts would be developed during the detailed planning stages (e.g. secondary plan, subdivision), but only after the scope of any potential land use change has been determined.

## **Existing and Future Flooding Issues**

- 6.7 As previously noted, the Watershed Plan Update has modelled implications associated with potential urban development within northeast Pickering. Throughout the update process, concerns related to existing downstream flooding issues and the potential risk of increased downstream flooding from urban development in the headwaters have been expressed by members of the public and other stakeholders.
- 6.8 Scenario modelling confirmed that urbanization in northeast Pickering, without additional mitigation or flood controls, will increase peak flows in the lower reaches of the watershed. The predicted increased rate of peak flows is based on broad assumptions about future urban land use and would be subject to

change/refinement if a more detailed land use plan and the extent of urban development was determined in the future.

- 6.9 For example, TRCA staff have advised that downstream flood impacts could be managed through the use of regional flood controls<sup>1</sup>. Specific mitigation measures, designs and other solutions, would be detailed through subsequent planning studies and Environmental Assessment processes.

### **Natural Heritage System**

- 6.10 Natural Heritage Systems are defined in provincial policy as being made up of natural features and areas, and the linkages intended to provide connectivity between such features and areas, and support natural processes which are necessary to maintain biological and geological diversity. The system can include:

- various key natural heritage features (significant woodlands, significant valleylands, significant wildlife habitat, wetlands, etc.),
- key hydrologic features (permanent streams, intermittent streams, lakes, etc.),
- federal and provincial parks and conservation reserves,
- other natural heritage features and areas,
- lands that have been restored or have the potential to be restored to a natural state,
- associated areas that support hydrologic functions, and
- working landscapes that enable ecological functions to continue.

- 6.11 Traditionally, land use planning exercises would seek to protect environmental features, and a vegetation protection zone (buffer) through a feature-based study. However, in order to achieve the minimum amount of natural cover necessary to maintain long-term ecosystem resilience and sustainability, an “enhanced” or “targeted” Natural Heritage System was identified, to include both existing natural heritage features and proposed enhancement areas, based on overall natural cover thresholds for the watershed, informed by TRCA and federal guidance<sup>2</sup>.

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1 Regional flood controls refer to stormwater management infrastructure that is designed to manage regional storm events (i.e. storms of Hurricane Hazel magnitude). TRCA’s acceptance of Regional Control as a solution would require provincial approval, updated hydrology modelling, the establishment of regional control feature designs and standards, and support from the host municipality.

2 TRCA *Terrestrial Natural Heritage System Strategy* (2007) and Environment and Climate Change Canada’s *How Much Habitat is Enough?* (2031, Third Edition).

- 6.12 This approach is consistent with watershed plans undertaken elsewhere in Durham Region including updates to the Lynde Creek, Oshawa Creek, Black/Harmony/Farewell Creek and Bowmanville/Soper Creek Watershed Plans in 2020 by the Central Lake Ontario Conservation Authority. The targeted Natural Heritage System in CLOCA's updated Watershed Plans were created using similar modelling techniques/methodologies as the approach undertaken for the Carruthers Creek Watershed Plan, and similarly represent the long-term natural coverage area required to achieve minimum ecosystem resilience.
- 6.13 A number of comments were received indicating agreement and support for the implementation of the enhanced Natural Heritage System identified in the Carruthers Creek Watershed Plan Update. However, a number of detailed submissions were also received outlining concerns with how the enhanced Natural Heritage System has been identified and treated in the management recommendations. Comments were also received asking how the Region will implement the enhanced Natural Heritage System through the MCR and as part of any future ROP.
- 6.14 Regional Planning staff are considering how to appropriately implement Natural Heritage Systems, including the recognition of enhanced/targeted components through the MCR process. The exact boundaries of the Natural Heritage System could be refined or adjusted through Regional and Area Municipal Official Plans, provided that a supporting study/analysis demonstrates how the same overall ecological benefit would be maintained or improved.
- 6.15 A management recommendation that supports this general approach has been included in the final Watershed Plan to provide flexibility in how the Region and the Area Municipalities should implement the enhanced Natural Heritage System through their respective land use planning instruments.

## **7. Relationship to Strategic Plan**

- 7.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:
- a. Goal 1: Environment and Sustainability – The completion of the Carruthers Creek Watershed Plan Update will contribute to the protection, preservation and restoration of the natural environment, including greenspaces, waterways, parks, trails and farmlands (1.3).

- b. Goal 1: Environment and Sustainability – The completion of the Carruthers Creek Watershed Plan Update will contribute to demonstrating leadership in sustainability and addressing climate change (1.4).

## **8. Conclusion and Next Steps**

- 8.1 The Carruthers Creek Watershed Plan Update, prepared by TRCA in collaboration with Town of Ajax and City of Pickering staff, is now complete. The findings and management recommendations provide a strong basis for protection and enhancement of the watershed. The management recommendations are intended to be used to inform future land use planning processes, including the Region's MCR as well as studies and planning processes administered by the affected local municipalities. It is therefore recommended that Regional Council endorse the Carruthers Creek Watershed Plan Update, 2021.
- 8.2 Upon Regional Council's endorsement of the Carruthers Creek Watershed Plan Update, the Plan will proceed to the TRCA Board of Directors for consideration. Following the TRCA Board of Directors consideration, the Plan will be considered final, and available for use by the Region, the Area Municipalities, and any other interested parties.

## **9. Attachments**

- Attachment #1: Location Map: Carruthers Creek Watershed Area
- Attachment #2: Final Carruthers Creek Watershed Plan Update, April 2021
- Attachment #3: Summary and TRCA staff response to comments received on the draft Carruthers Creek Watershed Plan

Respectfully submitted,

Original signed by

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Brian Bridgeman, MCIP, RPP  
Commissioner of Planning and  
Economic Development

Recommended for Presentation to Committee

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Elaine C. Baxter-Trahair  
Chief Administrative Officer

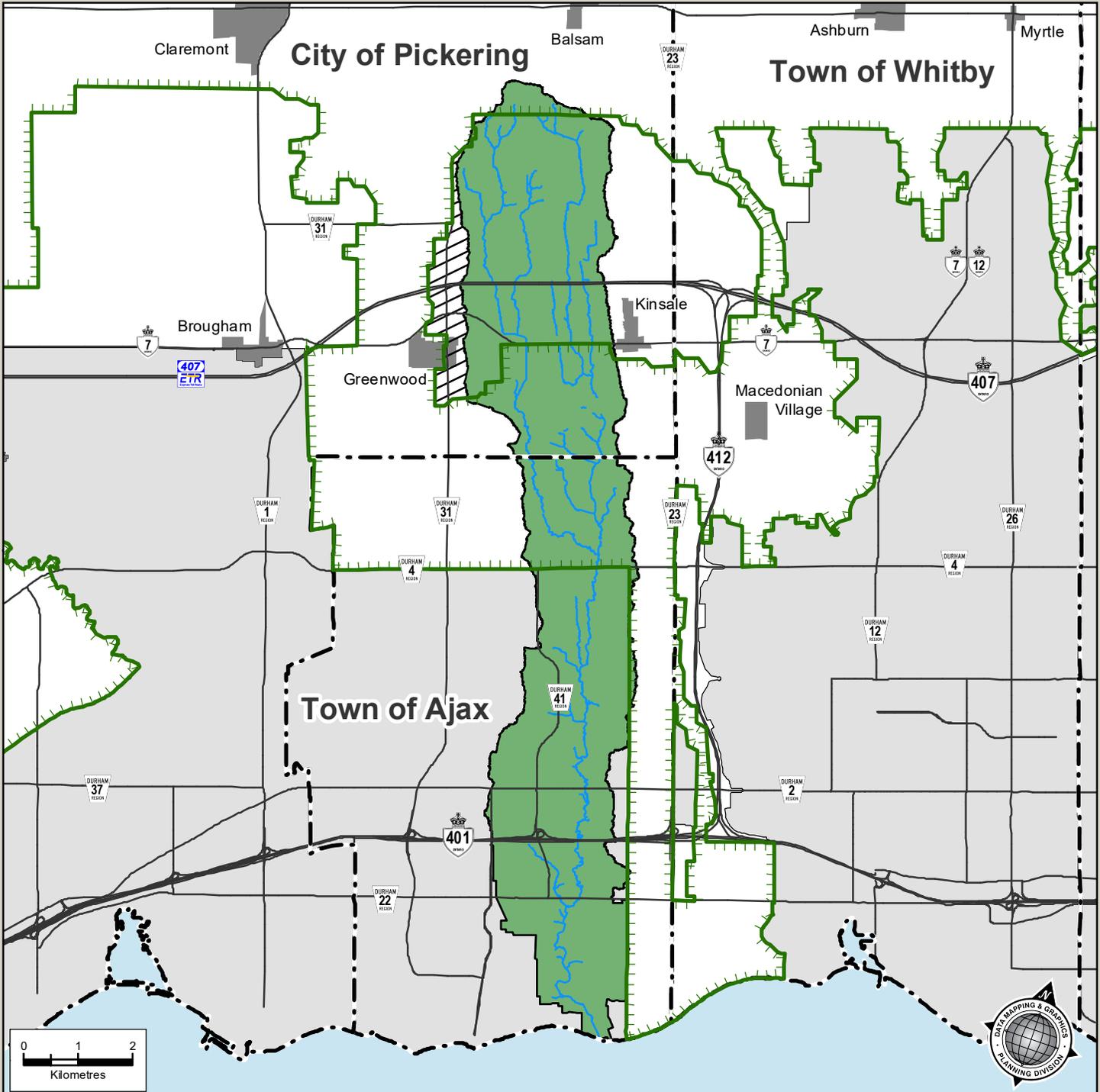
**Municipal Context**



**Attachment #1  
Carruthers Creek Watershed  
Commissioner's Report: 2021-P-\*\*  
Municipality: City of Pickering/Town of Ajax**

**Legend**

- Greenbelt Boundary
- Major Road
- Watercourse
- Carruthers Creek Watershed Boundary
- Portion of East Duffins included in Study Area
- Hamlet
- Municipal Boundary
- Urban Area
- Waterbody



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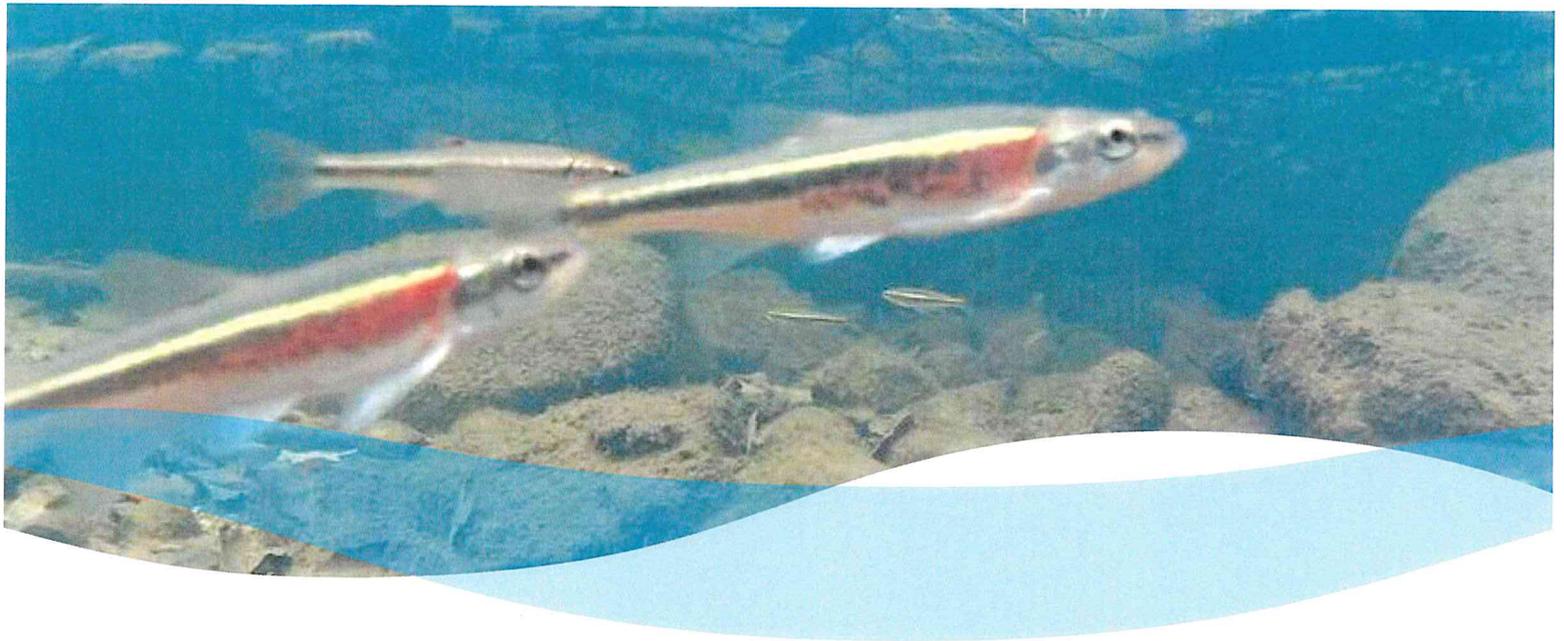
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The Region of Durham does not make any representations concerning the accuracy, likely results, or reliability of the use of the materials.  
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# Carruthers Creek WATERSHED PLAN

2021 - 2031

Developed in collaboration with  
the Town of Ajax and City of Pickering





## Executive Summary

A watershed is an area that is drained by a river and its tributaries. Healthy watersheds provide numerous ecosystem services: from sustaining drinking water, supporting biodiversity, reducing flood and erosion hazards, protecting the quality and quantity of water, and replenishing aquifers. Due to the importance of healthy watersheds, they merit collaborative efforts to ensure their long-term sustainability.

The purpose of a watershed plan is to understand the current conditions of the watershed, and identify measures to protect, enhance, and restore the health of the watershed. Watershed planning integrates natural systems into land use and infrastructure decision-making by identifying natural features to protect and by recommending how to mitigate impacts from land use and infrastructure development on natural systems. Ontario's provincial planning framework recognizes that watershed planning is important to informing land use and infrastructure planning decisions.

The development of this watershed plan has been a collaborative effort between the Toronto and Region Conservation Authority (TRCA), the Region of Durham, the Town of Ajax, and the City of Pickering. Additional stakeholders and members of the public have been involved throughout the watershed planning process.

Carruthers Creek is a small watershed that crosses rural and urban lands, including portions of the provincial Greenbelt, before entering Lake Ontario. Urbanization and the impacts of climate change will continue to stress the health and resiliency of the watershed. Watershed planning is a means to identify opportunities to mitigate and adapt to potential changes in watershed health arising from land use and infrastructure development patterns.

## The development of the Carruthers Creek Watershed Plan was a multi-year process that consisted of:

- 1 Watershed characterization, which involves the identification of current conditions in the watershed.

### The key issues with Carruthers Creek were identified to be:

- The aquatic ecosystem is sensitive and near the level of land use development it can sustain long-term (without additional and improved mitigation).
- There is not enough natural cover, or good quality habitat, needed to maintain ecosystem resilience (i.e. capacity to respond to change) due to changing land use patterns and climate change.
- Water quality is impaired (i.e. degraded), requiring improvements to stormwater management.
- The flow of water through the watershed is out of balance from natural conditions resulting in flooding and erosion issues.

- 2 Understanding future conditions through the analysis of potential land use scenarios. Three potential future scenarios were compared to 2015 land use conditions as part of the Carruthers Creek watershed planning process.

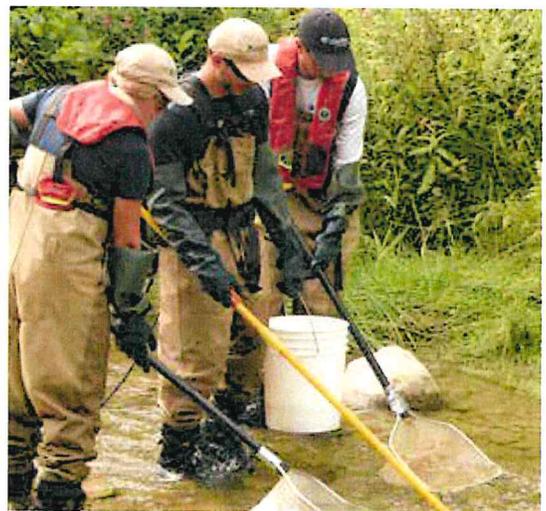
- **Scenario 1 (+OP)** – assumes all lands south of the Greenbelt are developed as planned in approved Official Plans up to the year 2031.
- **Scenario 2 (+NHS)** – assumes the same development as scenario 1 but includes the proposed enhanced Natural Heritage System (includes natural features and areas, such as forests, meadows, wetlands, and potential natural cover enhancement areas).
- **Scenario 3 (+Potential Urban)** – assumes post-2031 development in the headwaters of Carruthers Creek outside the proposed enhanced Natural Heritage System.

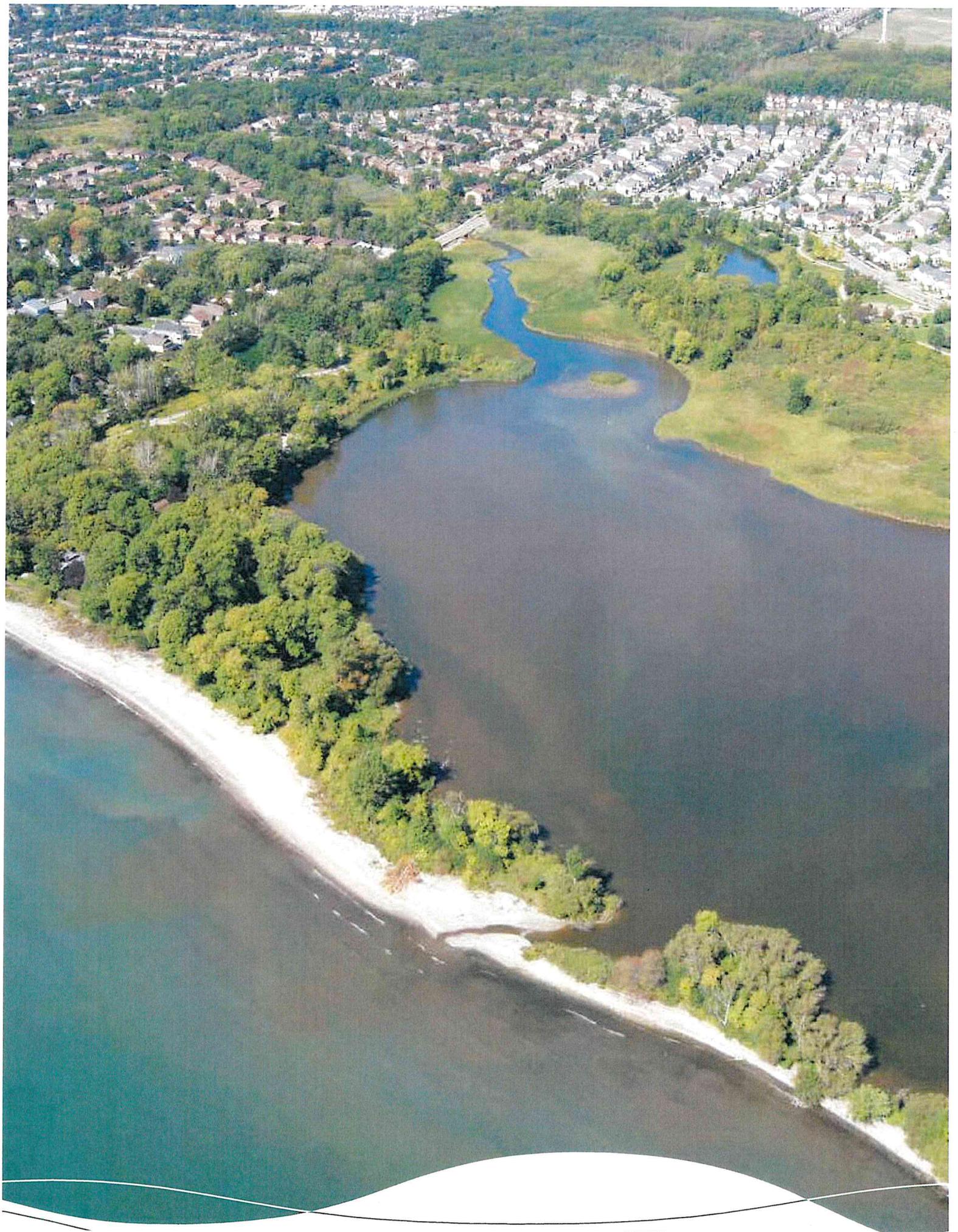
These three potential future scenarios help determine how the watershed would react to these potential land use changes, which can help inform future land use and infrastructure planning decisions. In other words, would these potential changes have a positive, neutral, or negative effect on the health of the Carruthers Creek watershed? Scenario analysis does not result in decisions about the type and configuration of land uses. Instead, scenario analysis helps to inform decisions through the municipal planning process (e.g. Official Plans, secondary plans).

- 3 The development of a management framework to provide recommendations on how to protect, enhance, and restore the watershed. The management framework consists of goals, objectives, indicators, and management recommendations. This management framework is designed to address existing issues in the watershed and mitigate impacts from potential future land uses, while recommending appropriate actions to protect, enhance, and restore the watershed. Decisions on the configuration of future growth and land use throughout the watershed are the purview of the applicable municipality (e.g. Region of Durham for decisions such as settlement area boundary expansions and local municipalities for site-specific decisions). The management framework is focused on:

  - Achieving more sustainable land use and infrastructure development patterns through the use of low impact development and green infrastructure policies, improved stormwater management, managing the risks of flooding and erosion, and implementing agricultural best management practices.
  - Protecting, enhancing, and restoring the Water Resource System and improving aquatic habitat connectivity.
  - Protecting, enhancing, and restoring the Natural Heritage System and increasing urban forest cover.
- 4 A monitoring and evaluation program to track implementation progress and ensure mechanisms are in place to adjust approaches as needed. The indicators identified as part of the management framework will help determine if actions taken in the watershed are having the desired benefit. Adaptive management will be used to adjust the management framework as needed.

Through the implementation of the Carruthers Creek Watershed Plan, TRCA and its municipal partners can improve the health of the watershed and ensure integrated long-term planning for land use and infrastructure decision-making. Protecting, enhancing, and restoring the natural systems within the watershed; accompanied by sustainable land use and infrastructure planning of redevelopments and future growth is essential for a healthy Carruthers Creek watershed.





## WHAT IS A WATERSHED?

An area that is drained by a river and its tributaries. Wherever you are right now, you are in a watershed.

## WATERSHEDS DELIVER IMPORTANT BENEFITS

**Human** – provide safe drinking water and food, and help to reduce flooding and erosion.

**Economic** – produce energy, and supply water for agriculture, industry and homes.

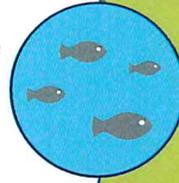
**Environment** – promote a healthy water cycle, and provide vital habitat for wildlife and plants.

## What is the Natural Heritage System?

Consists of natural features and areas, including wetlands, forests, meadows and valleylands, that are needed to maintain biodiversity and healthy ecosystems.

## What is the Water Resource System?

Consists of groundwater and surface water features and areas, including streams, lakes, groundwater recharge areas and springs, needed to sustain healthy aquatic and terrestrial ecosystems, and human water supply.



## What causes flooding?

Rivers naturally flood with heavy rain or snowmelt, but flooding can become a problem when buildings and other structures are placed in flood plains. Climate change and urbanization can make flooding worse.

## How can salt impact a watershed?

Chlorides can contaminate drinking water and negatively affect the health of aquatic species.



## What is stormwater?

Rain and melting snow rushes off roofs, sidewalks and parking lots into pipes and pours into streams and lakes. Without proper stormwater control and treatment, flooding and erosion can increase, waterways can become polluted and local ecosystems can be damaged.

## Benefits of

All trees in a watershed help filter pollutants from stormwater, save energy, and well-being.

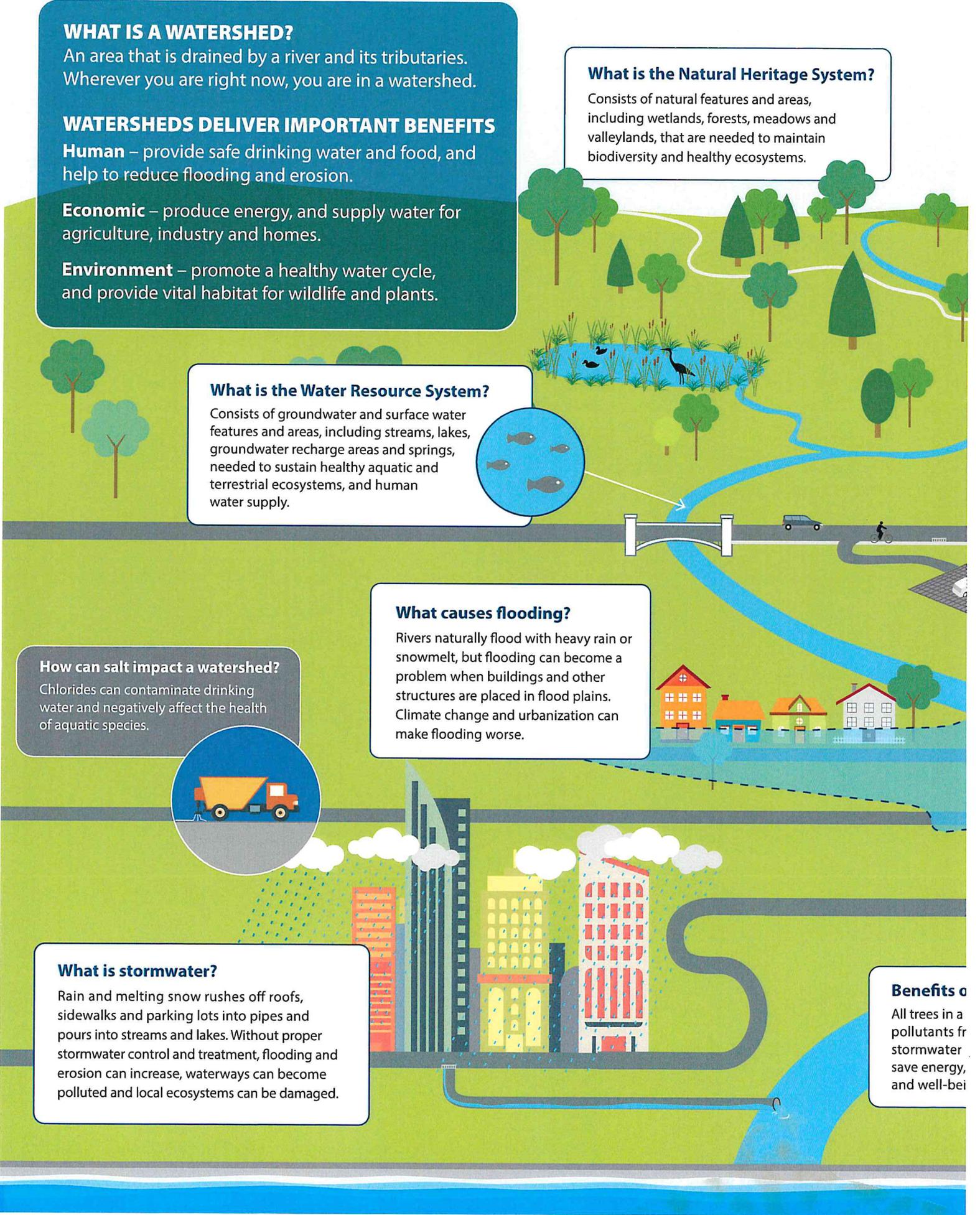


FIGURE 1:

Understanding a Watershed

### How can agriculture impact a watershed?

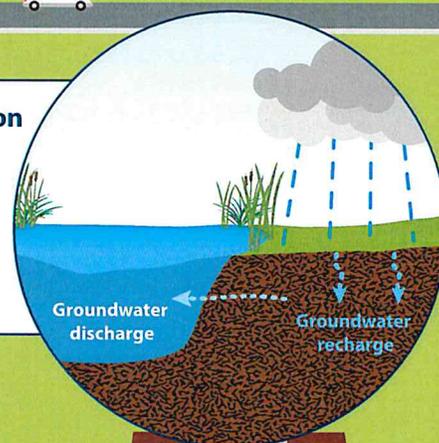
Agricultural areas provide valuable greenspace and reduce stormwater, since precipitation can penetrate the soil. On the other hand, agricultural fields can release harmful contaminants into waterways as excess nutrients (e.g. phosphorous) and pesticides. Soil erosion from fields can increase the amount of sediment in waterways negatively affecting aquatic ecosystems.

### How can urbanization impact a watershed?

Since impervious surfaces (roads, buildings, parking lots) prevent water from penetrating into soil, stormwater runoff can carry contaminants into waterways and increase the likelihood of flooding. Infrastructure and land use development can degrade habitat, reducing the quality and quantity of natural systems and their connectivity.

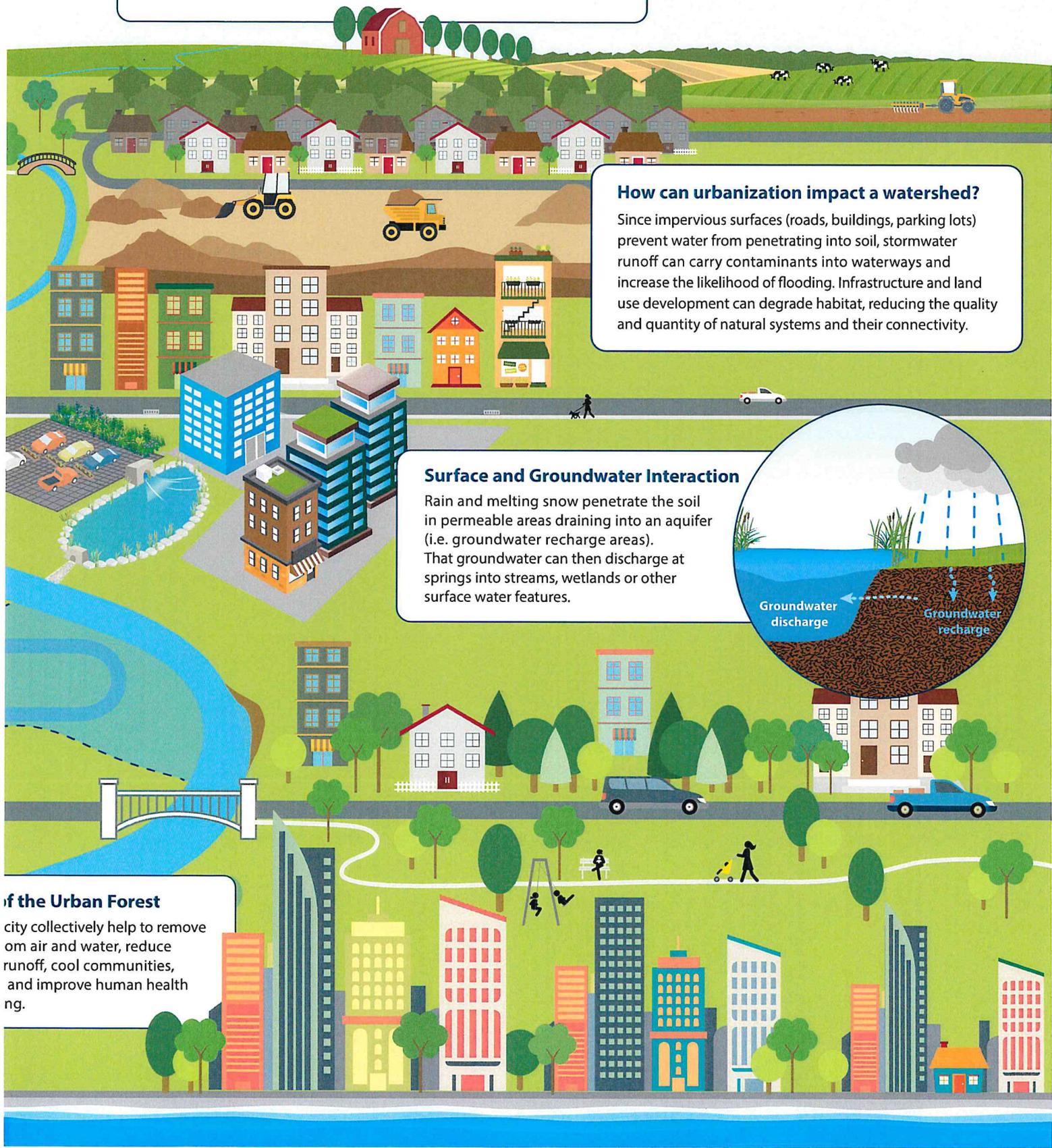
### Surface and Groundwater Interaction

Rain and melting snow penetrate the soil in permeable areas draining into an aquifer (i.e. groundwater recharge areas). That groundwater can then discharge at springs into streams, wetlands or other surface water features.



### Benefits of the Urban Forest

Urban forests can help cities collectively help to remove carbon from air and water, reduce stormwater runoff, cool communities, and improve human health and quality of life.



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## ACRONYMS

<b>ANSI</b>	Areas of Natural and Scientific Interest
<b>CCME</b>	Canadian Council of Ministers of the Environment
<b>CTC</b>	Credit Valley, Toronto and Region and Central Lake Ontario
<b>DFO</b>	Department of Fisheries and Oceans
<b>ESGRAs</b>	Ecologically Significant Groundwater Recharge Areas
<b>FBI</b>	Family Biotic Index
<b>FVC</b>	Flood Vulnerable Cluster
<b>GIS</b>	Geographic Information System
<b>Growth Plan</b>	Growth Plan for the Greater Golden Horseshoe, 2019
<b>GTA</b>	Greater Toronto Area
<b>IBI</b>	Index of Biotic Integrity
<b>IRP</b>	Integrated Restoration Prioritization
<b>LAM</b>	Landscape Analysis Model
<b>MECP</b>	Ministry of the Environment, Conservation and Parks
<b>MNRF</b>	Ministry of Natural Resources and Forestry
<b>NHS</b>	Natural Heritage System
<b>PPS</b>	Provincial Policy Statement
<b>PWQO</b>	Provincial Water Quality Objectives
<b>ROP</b>	Regional Official Plan
<b>TRCA</b>	Toronto and Region Conservation Authority
<b>TSS</b>	Total Suspended Solids
<b>WRS</b>	Water Resource System

## Indigenous Land Acknowledgement

As we strive to develop a comprehensive watershed plan for the Carruthers Creek watershed, Toronto and Region Conservation Authority (TRCA) acknowledges that this watershed planning was undertaken within the traditional territory and treaty lands of the Anishinaabeg of the Williams Treaty First Nations, and the traditional territory of the Huron-Wendat Nation. As stewards of land and water resources within the Greater Toronto Area (GTA), TRCA appreciates and recognizes the history and diversity of the land, as well as our shared values and interests and is respectful of working in this territory.

**FIGURE 2:**  
**Carruthers Creek Watershed**



**Carruthers Creek  
Watershed Plan:  
2015 Land Use  
Conditions**

Date: September 2019  
Created by: TRCA Information Services/Information Technologies  
Disclaimer:  
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GIS Department. (416) 661-6600.



- Municipal Boundary
- ~ Watercourse
- Land Use**
- Natural
- Rural
- Urban
- ⊕ Flood Vulnerable Cluster
- Greenbelt Boundary
- ⊕ Carruthers Creek Watershed Boundary
- ⊕ Carruthers Creek Watershed Plan Study Area



# 1. Introduction and Background

Carruthers Creek is a small, yet important watershed that crosses rural and urban areas before entering Lake Ontario. This watershed plan represents a collaborative effort to determine the current state of the watershed, assess potential future land use scenarios, and determine an appropriate management framework to ensure the long-term sustainability and resiliency of the watershed.

See [Figure 2](#) for a map of the Carruthers Creek watershed and its land use conditions as of 2015. This watershed plan has a ten-year time frame. However, regular monitoring and evaluation, including adaptive management, will ensure that the watershed plan is updated, or refined, as needed on an ongoing basis.

## **Vision for the Carruthers Creek watershed:**

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.

## 1.1 RATIONALE AND POLICY BASIS

Watershed planning is important because it helps to understand the current conditions of the watershed (i.e. watershed characterization), and identify measures to protect, enhance, and restore the health of a watershed. Watershed plans provide a comprehensive understanding of the ecological forms and functions of the various features and areas that comprise the water resource and natural heritage systems. Additionally, watershed planning helps to inform how land use and infrastructure planning influence and affect the natural ecology of the watershed.

This subsection will explain the provincial policy basis for watershed planning and the roles of municipalities and TRCA in implementing that policy framework.

### Provincial Watershed Planning Policy Basis

Ontario's planning policy framework recognizes the importance of watershed planning to inform land use and infrastructure decision-making. The key policy driver for watershed planning is applicable provincial policy direction in the Provincial Policy Statement, 2020 (PPS) and provincial plans such as the Growth Plan for the Greater Golden Horseshoe, 2020 (Growth Plan) and the Greenbelt Plan, 2017 (Greenbelt Plan)<sup>1</sup>.

PPS policies encourage a coordinated approach to planning that recognizes the watershed as the ecologically meaningful scale for integrated and long-term planning. The PPS also directs the protection, improvement or restoration of the quality and quantity of water by minimizing potential negative impacts. Growth Plan and Greenbelt Plan policies require watershed planning to be undertaken to support the protection, enhancement or restoration of the quality and quantity of water within a watershed<sup>2</sup>.

Furthermore, watershed planning is to be used to identify the Water Resource System (WRS), inform decisions on allocation of growth and planning for water, wastewater, and stormwater infrastructure<sup>3</sup>.

Provincial policies also recognize the importance of protecting, enhancing, and restoring the Natural Heritage System (NHS) to maintain long-term ecological and hydrologic functions of the features and areas<sup>4</sup>, and demonstrating that there will be no negative impacts from development and site alteration. The integrated nature and importance of the natural heritage and water resource systems is discussed in greater detail in [Section 2](#).

<sup>1</sup>There are other geographically specific provincial plans that do not apply to the Carruthers Creek watershed (e.g. Lake Simcoe Protection Plan, Oak Ridges Moraine Conservation Plan and Niagara Escarpment Plan).

<sup>2</sup>Growth Plan policy 4.2.1.1 and Greenbelt Plan policy 3.2.3.2.

<sup>3</sup>Growth Plan policy 4.2.1.3 and Greenbelt Plan policies 3.2.3.3 and 3.2.3.4.

<sup>4</sup>Natural Heritage System policies for the Growth Plan are 4.2.2 and the Greenbelt Plan are 3.2.2.

Municipalities are required to conform to the PPS and applicable provincial plans through the municipal planning process and when updating their Official Plans. This Carruthers Creek Watershed Plan identifies management recommendations necessary to demonstrate conformity with provincial policies related to watershed planning. By implementing the recommendations included in this watershed plan, municipalities will be able to demonstrate how the features and areas that comprise the natural heritage and water resource systems, as well as water quality and quantity, will be protected, enhanced, and restored.

Ontario's *Clean Water Act, 2006* is designed to protect existing and future sources of drinking water. Under the *Clean Water Act, 2006*, source protection plans were developed by source protection committees representing municipal, Indigenous, public, and business interests. The Credit Valley – Toronto and Region – Central Lake Ontario (CTC) Source Protection Plan applies in the Carruthers Creek watershed. The CTC Source Protection Plan is a strategy and suite of policies developed by residents, businesses, and the municipalities, which outlines how water quality and quantity for municipal drinking water systems, not including private well owners, will be protected. The CTC Source Protection Plan includes its own set of policies and compliance mechanisms, in accordance with the *Clean Water Act, 2006*, that are not repeated in this watershed plan. The management recommendations identified in this watershed plan complement the requirements of the applicable source protection plan by including the need to protect water resources, which will support safe drinking water regardless of source (i.e. municipal and private systems).

## Reducing Natural Cover Losses in the Carruthers Creek Watershed

There have been losses and impacts to natural cover in the watershed, including parts of the Greenbelt. These changes have continued since the enactment of the *Greenbelt Act, 2005*.

### POLICY FRAMEWORK

As discussed in this section, the Greenbelt Plan is one part of Ontario's land use planning framework. One vital policy tool for maintaining natural cover in both the Growth Plan and the Greenbelt Plan is the NHS policies. Once a NHS is designated in a municipal Official Plan, any development or site alteration must meet certain policy requirements in the applicable provincial plan.

Observed land use changes within the Carruthers Creek portion of the Greenbelt include fill sites, road widenings, land clearing on existing lots, farming and non-farm business operations, and vehicle and other storage.

### MOVING FORWARD

This watershed plan identifies recommendations to strengthen municipal policies to protect the NHS, in accordance with provincial policy, and identifies opportunities for restoration programs.

If community members are concerned about any development, large scale tree cutting or fill activities, please contact your local municipality, Region of Durham, or conservation authority for assistance.

Ontario's provincial planning policies recognize the importance of the Great Lakes<sup>5</sup>. Carruthers Creek flows into Lake Ontario. The series of Great Lakes agreements, legislation and policies set binational, national, and provincial commitments to protect and restore the Great Lakes. This watershed plan is intended to improve the conditions within the Carruthers Creek watershed, thereby reducing negative impacts to Lake Ontario from this single watershed.

## **Role of Municipalities**

Within the Greater Golden Horseshoe, most municipalities in Ontario are organized into two-tier systems. Upper-tier municipalities, such as the Region of Durham, are comprised of several lower-tier municipalities. The role of regional government is to address issues and concerns that apply to broader geographic areas, crossing the borders of lower-tier municipalities.

For land use planning, regional government's primary planning tool is a Regional Official Plan (ROP). The ROP implements the requirements of any relevant provincial legislation, provincial plans, and the PPS. Area municipalities develop their own, more detailed Official Plans (and may include more detailed secondary plans, Part II Plans, or tertiary plans as the case may be), as well as implementing zoning by-laws. While the ROP is required to implement provincial policy, area municipal planning tools are required to conform with both regional and provincial policy.

Municipalities are granted decision-making powers through the *Municipal Act* and *Planning Act*. Watershed planning helps municipalities to make informed decisions on where and how to grow, while identifying opportunities to improve natural watershed conditions (e.g. restoration opportunities).

## **Role of TRCA**

Conservation authorities were established and granted responsibilities under the *Conservation Authorities Act*. Conservation authorities play an important role in land use planning and environmental protection processes in partnership with municipalities, but are not the decision-makers in land use and infrastructure planning. Conservation authorities deliver programs and services related to natural hazard protection and management (i.e. flooding), conservation and management of conservation authority lands, drinking water source protection (as prescribed under the *Clean Water Act, 2006*), and conserving natural resources. Through its watershed expertise, TRCA, in partnership with the Region of Durham, Town of Ajax, and City of Pickering, has developed this watershed plan to help inform land use and infrastructure planning decisions.

<sup>5</sup>The PPS identifies the importance of considering the priorities identified in various agreements related to the protection or restoration of the Great Lakes – St. Lawrence River Basin. The Growth Plan and Greenbelt Plan require the consideration of the Great Lakes Strategy and the Great Lakes Protection Act, 2015, and any applicable Great Lakes agreements as part of watershed planning.

## 1.2 LOCAL CONTEXT AND CONSIDERATIONS

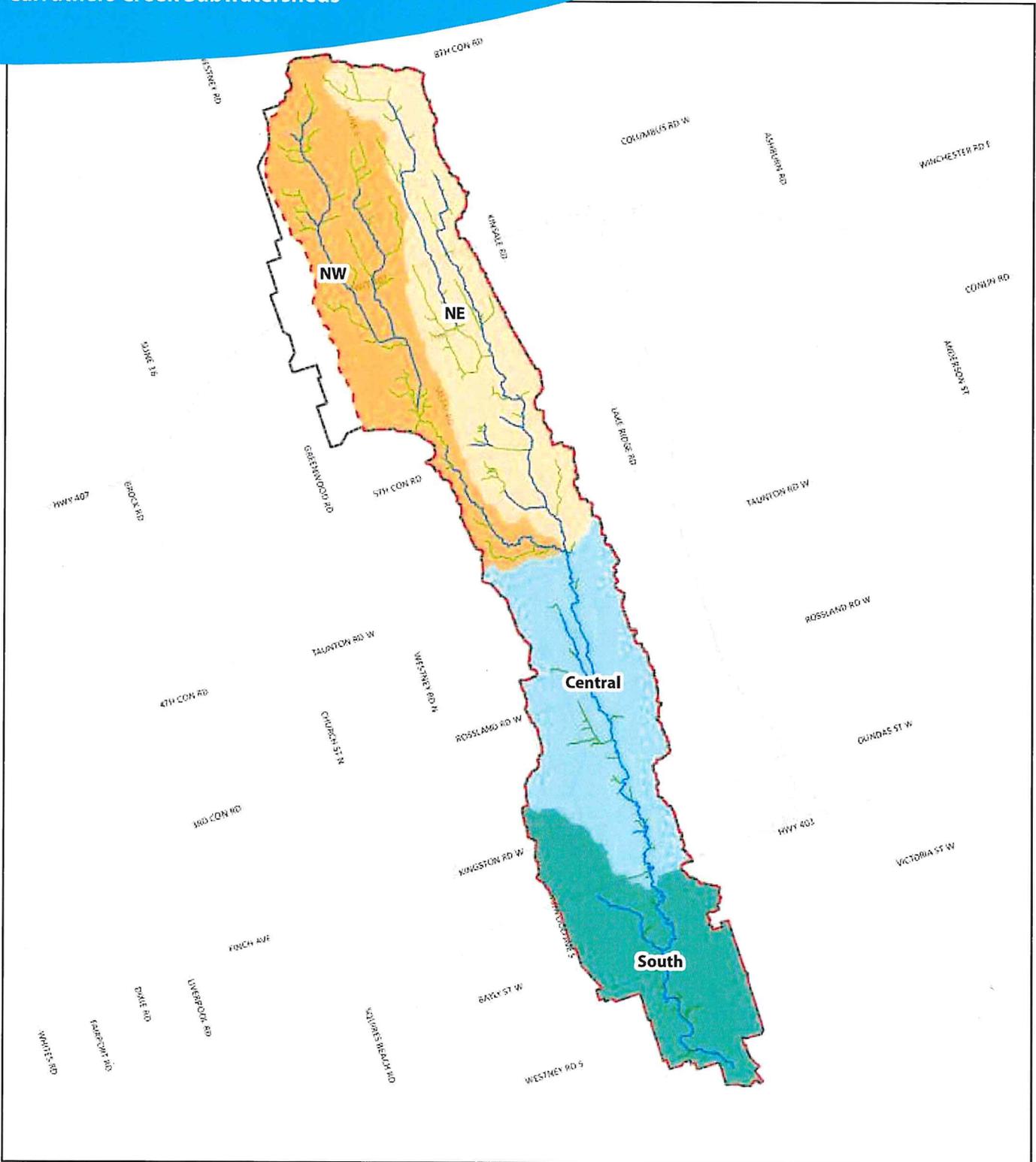
Carruthers Creek is a relatively small watershed with a drainage area of approximately 38 km<sup>2</sup>, ranging from 2-3 km in width and 18 km in length, and occurs within the South Slope and glacial Lake Iroquois physiographic regions. It is the easternmost watershed in TRCA's jurisdiction and is bordered by the Duffins Creek watershed to the west and the Lynde Creek watershed to the east. The watershed has approximately 41,000 residents and is located entirely within the Region of Durham. 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, most lands are in the protected countryside designation of the provincial Greenbelt Plan.

Carruthers Creek watershed consists of four subwatersheds, for the purposes of this watershed plan. Subwatersheds are defined as areas drained by a tributary, or portion of the stream, and are a more geographically specific scale than watersheds. Some of the technical analyses conducted as part of this watershed planning process used the four subwatersheds identified in [Figure 3](#) to evaluate the conditions of the watershed from a more refined geographic location.

The previous 2003 Duffins and Carruthers Creek Watershed Plan evaluated existing watershed conditions and identified recommendations to protect, restore, and enhance the natural systems and water quality of Carruthers Creek. The issues identified in the 2003 plan are still prevalent in the Carruthers Creek watershed, such as the need to protect and restore natural areas, improve stormwater management, and address water quality concerns. Since 2003, the Carruthers Creek watershed has undergone significant changes associated with urbanization and the impacts of climate change (See [section 3](#) for more information). Since many of the issues identified in the previous watershed plan are still occurring, an updated watershed plan using the latest advancements in watershed science, monitoring programs, and computer modelling was necessary.

Periodic reviews of watershed plans are an integral component of the watershed planning process and allow for adaptive management to incorporate new scientific approaches and to address emerging initiatives. This watershed plan update is also more reflective of current provincial policies around watershed planning, which have evolved since the 2003 plan. At the request of the Region of Durham, a small section of lands in the East Duffins Creek subwatershed, which are immediately adjacent to Carruthers Creek watershed and outside of the provincial Greenbelt, were included in the study area to provide a more complete analysis of lands in the area. However, only watershed planning processes that occur at the regional, rather than the watershed scale, were assessed (i.e. NHS planning and groundwater modelling), as these processes extend beyond the watershed boundary.

**FIGURE 3:**  
**Carruthers Creek Subwatersheds**



 <p><b>Toronto and Region Conservation Authority</b></p>	<p style="text-align: center;">N</p>	<p><b>Subwatershed Boundary</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Central</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFD700; border: 1px solid black; margin-right: 5px;"></span> NE</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FF8C00; border: 1px solid black; margin-right: 5px;"></span> NW</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #008080; border: 1px solid black; margin-right: 5px;"></span> South</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid green; margin-right: 5px;"></span> Intermittent Streams</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid blue; margin-right: 5px;"></span> Permanent Streams</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px dashed red; margin-right: 5px;"></span> Carruthers Watershed Boundary</li> <li><span style="display: inline-block; width: 15px; border: 1px solid black; margin-right: 5px;"></span> Carruthers Watershed Plan Study Area</li> </ul>	
<p>Date: January 2019          Created by: TRCA Information Services/Information Technologies          Disclaimer:          The Data used to create this map was compiled from a variety sources and dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes and corrections at any time without notice. For further information about the data on this map, please contact the TRCA GIS Department, (416) 661-6600.</p>		<p style="text-align: center;"><b>Carruthers Creek Watershed Plan: Subwatersheds</b></p> <p style="text-align: center;">0 0.5 1 2 3 KM</p>	

The development of this Carruthers Creek Watershed Plan was a multi-year process completed in the following sequence:

- Field work on existing watershed conditions (2015-2016)
- Watershed characterization technical reports completed (2017) – See [Section 3](#) for the results of watershed characterization
- Potential future scenarios modelling and analysis undertaken (2018)
- Scenario analysis technical reports completed (2019) – See [Section 4](#) for information on the potential future scenarios and results
- Water Resource and Natural Heritage Systems identified (2019) – See [Section 2](#) for more information on these systems
- Management framework for Carruthers Creek developed (2019) – See [Section 5](#) for the Carruthers Creek management framework
- Draft Carruthers Creek Watershed Plan released for public review (2020)

### 1.3 PARTNERS AND STAKEHOLDERS

In 2015, the Region of Durham engaged TRCA to develop a watershed plan for Carruthers Creek. The key partners involved in the process to develop this watershed plan are TRCA, the Region of Durham, the Town of Ajax, and the City of Pickering.

Throughout the multi-year process discussed in [Subsection 1.2](#), TRCA engaged the Mississaugas of Scugog Island, stakeholders, and the public to raise awareness of the watershed, planning process and solicit feedback on components of this watershed plan. Stakeholders engaged include watershed residents, landowners, farmers, developers, golf course operators, and environmental non-governmental organizations.

Stakeholders were engaged at various points during this watershed planning process, as follows:

#### LATE 2015 – LATE 2017

Promoted and raised awareness of the watershed planning process for Carruthers Creek through reports and presentations to Councils and Committees of the Region of Durham, Town of Ajax, and City of Pickering.

#### LATE 2017 – EARLY 2019

Continued to raise awareness of the watershed planning process for Carruthers Creek and gathered feedback from the public on a vision for the watershed plan. This was completed by launching an interactive website and hosting information booths at various events across the watershed.

#### MID 2019 – LATE 2019

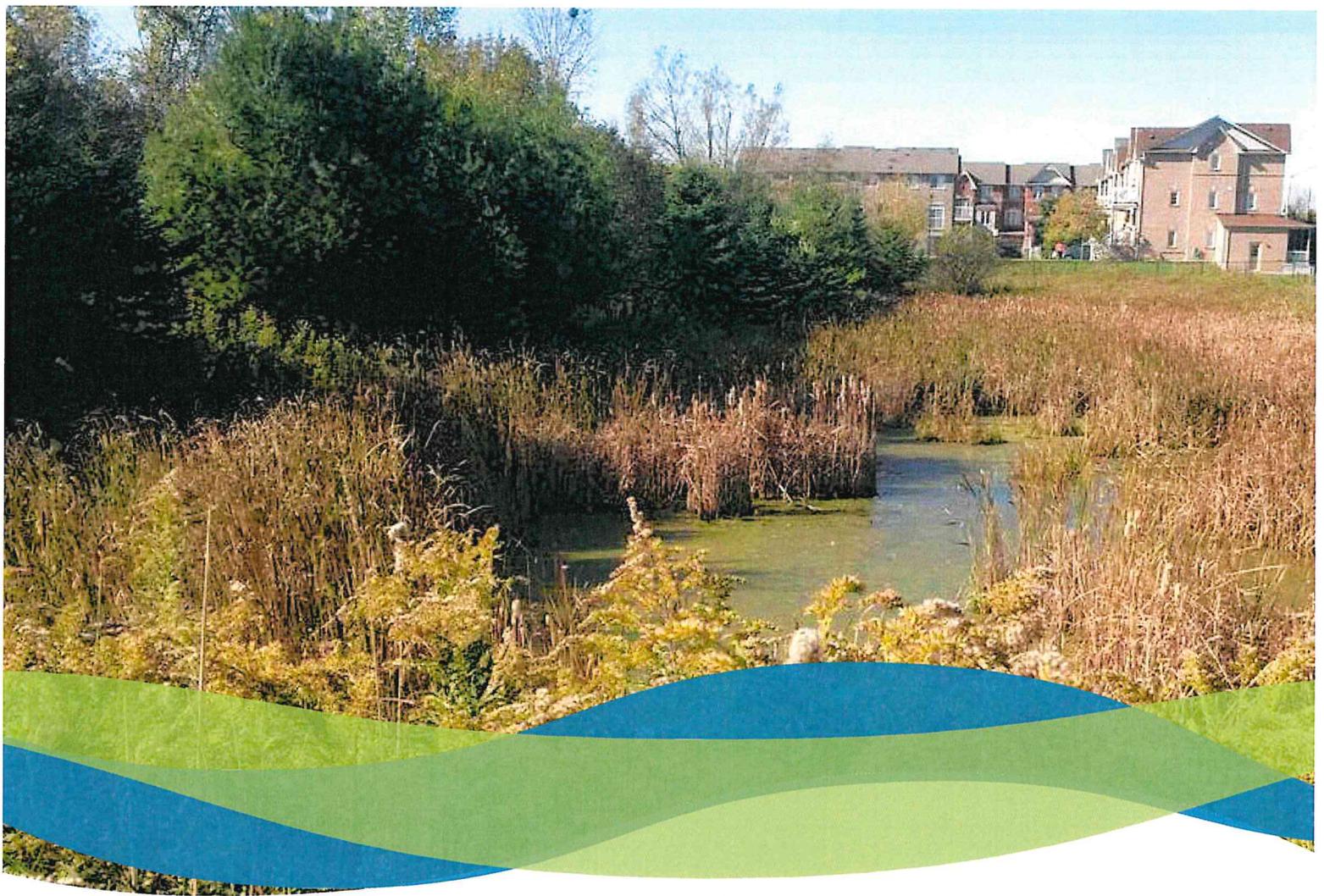
Gathered feedback on the draft management framework for the Carruthers Creek Watershed Plan from partners and stakeholders. Two public open houses were held in October 2019.

#### EARLY 2020 - MID 2021

The draft Carruthers Creek Watershed Plan was released for public review in March 2020. Two virtual open houses were held in February 2021. The public review comment period closed March 19, 2021.

Feedback received from partners and stakeholders was invaluable in the development of this watershed plan. The Carruthers Creek Watershed Plan reflects the diversity of issues and concerns raised throughout the planning process and represents a realistic and manageable plan to improve the overall health of the Carruthers Creek watershed.

All the partners and stakeholders engaged as part of this process play a key role in the effective implementation of the management recommendations identified in [Section 5](#).



## 2. Water Resource and Natural Heritage Systems

The aquatic and terrestrial features and areas that maintain the ecological integrity of a watershed consist of two integrated systems, the WRS and NHS. Together, these two systems provide essential ecosystem services, including water storage and filtration, cleaner air, support to biodiversity and habitats, carbon storage, as well as resiliency to climate change. Maintaining extensive, connected and high-quality ecological and hydrological features and areas of both systems is essential for the long-term health and sustainability of Carruthers Creek, as shown in [Figure 1](#).

As mentioned in [Subsection 1.1](#), identifying and protecting both systems is a key policy requirement in the Growth Plan and Greenbelt Plan.

The features and areas that comprise both systems are explained in [Table 1](#) below.

**TABLE 1:**  
Description of the Water Resource System and Natural Heritage System

<b>Water Resource System</b>	<b>Natural Heritage System</b>
<p>A system consisting of groundwater features and areas and surface water features (including shoreline areas), and hydrologic functions, which provide the water resources necessary to sustain healthy aquatic and terrestrial ecosystems and human water consumption.</p>	<p>A system made up of natural heritage features and areas, and linkages identified to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems.</p>
<p>The WRS consists of:</p> <p><b>Key Hydrologic Areas</b></p> <ul style="list-style-type: none"> <li>• Significant Groundwater Recharge Areas (including Ecologically Significant Groundwater Recharge Areas)</li> <li>• Highly Vulnerable Aquifers</li> <li>• Significant Surface Water Contribution Areas</li> </ul> <p><b>Key Hydrologic Features</b></p> <ul style="list-style-type: none"> <li>• Permanent Streams</li> <li>• Intermittent Streams</li> <li>• Inland Lakes and their Littoral Zones</li> <li>• Seepage Areas and Springs</li> <li>• Wetlands*</li> </ul>	<p>The NHS consists of:</p> <ul style="list-style-type: none"> <li>• Significant Wetlands*</li> <li>• Significant Coastal Wetlands</li> <li>• Other Coastal Wetlands in Ecoregions 5E, 6E and 7E</li> <li>• Fish habitat*</li> <li>• Significant Woodlands</li> <li>• Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)</li> <li>• Habitat of Endangered Species and Threatened Species</li> <li>• Significant Wildlife Habitat</li> <li>• Significant Areas of Natural and Scientific Interest (ANSIs)</li> <li>• Sand barrens, savannahs, tallgrass prairies and alvars</li> <li>• Federal or provincial parks, and conservation reserves</li> </ul>

**\*Notes:**

Wetlands are important features in both systems. For the purposes of mapping in [Section 7](#), wetlands are shown separately in [Map 1A](#) for the WRS and included as natural cover in [Map 2](#) for the NHS. Fish habitat in the NHS overlaps with features and areas in the WRS.

The majority of these terms are defined in the Growth Plan, 2020. Some, but not all definitions, have been included in the Glossary ([Section 8](#)) of this watershed plan.

Not all of the NHS features or areas identified in this table are part of the proposed enhanced NHS for Carruthers Creek, since some of these features do not exist in this watershed (e.g. sand barrens, savannahs, etc.), or are not distinguished specifically from natural cover areas (e.g. significant woodlands and significant wildlife habitat).

Due to the importance of both systems, the protection, enhancement, and restoration of the WRS and NHS are goals of this watershed plan ([Section 5](#)).

See [Section 7](#) for maps of the WRS and the recommended NHS.

## How the WRS was delineated?

The key hydrologic areas and key hydrologic features that comprise the WRS were delineated using various techniques and methodologies.

Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas were determined through Technical Rules established under the *Clean Water Act, 2006* for the purposes of regional source water protection planning. Ecologically Significant Groundwater Recharge Areas (ESGRAs) were determined using a model developed by the Oak Ridges Moraine Groundwater Program to optimize the protection of groundwater dependent ecosystems. The model results for ESGRAs were assessed to minimize the land area covered by these key hydrologic areas while maintaining a high degree of hydrological function protection for these ecosystems. Significant Surface Water Contribution Areas include many of the intermittent streams in the headwaters (northern portion) of Carruthers Creek.

Each of the five key hydrologic features were delineated using a combination of satellite imagery, ArchHydro GIS, and field site verification.

The WRS provides habitat for aquatic life (e.g. fish). The conditions of aquatic habitat in Carruthers Creek were assessed as part of this watershed planning process.

## How the NHS was delineated?

The components of the NHS were delineated using a robust methodology that incorporated ecological models (e.g. Landscape Analysis Model), information from satellite imagery, monitoring data, field site verification, and expert based knowledge.

The components of the NHS were identified for their ecological value as existing and potential natural cover (i.e. areas targeted for restoration and enhancement), to:

- Increase natural cover (e.g. forests, wetlands, meadows, etc.) quantity and quality by improving habitat size, shape, and connectivity in and around existing natural areas, as well as in areas for potential restoration
- Protect and restore species and vegetation communities by incorporating diverse habitat types, mitigating the impacts of urban development, and improving the ecological connectivity across the watershed
- Incorporate natural system vulnerabilities to climate change in planning processes to build a more resilient NHS

## Protecting the WRS and NHS

As mentioned in [Subsection 1.2](#), provincial policies recognize the importance of protecting the WRS and NHS. Municipalities are required to demonstrate how these systems will be protected. Through its technical and scientific expertise, TRCA delineated both systems as part of this watershed planning process.

For the recommended NHS, the areas identified as potential natural cover (enhancement areas) should be restored to maintain the long-term resiliency and sustainability of terrestrial ecosystems, in addition to protecting the existing natural cover. TRCA's *Terrestrial Natural Heritage System Strategy* has a minimum target of 30% natural cover across the entire jurisdiction, while recognizing there will be variability among TRCA's nine watersheds due to existing land uses. The Carruthers Creek watershed is currently below that target (see [Subsection 3.3](#) for more information).

The management framework ([Section 5](#)) of this watershed plan, recognizes that land use and/or infrastructure decisions may impact, or occur, within the WRS or NHS, and establishes recommendations to avoid these features and areas, mitigate impacts, or when impacts are unavoidable, provide for ecosystem compensation. Municipalities are responsible for designating a NHS that is consistent with provincial policies and informed by the goals and objectives of this watershed plan.



### **3. Existing Watershed Conditions**

Watershed characterization is a vital part of watershed planning, which helps to determine the current conditions of the watershed. As part of this watershed plan, TRCA produced technical reports on different components of the watershed, which are summarized in this section.

## 3.1 CONTEXT AND BACKGROUND

Since the previous watershed plan is from 2003, the existing conditions of the watershed were evaluated using more recent data and science. TRCA produced eight peer-reviewed technical reports as part of watershed characterization. These technical reports helped determine the current state of the watershed, as discussed in [Subsection 3.3](#).

Watershed characterization includes the following topics (see full technical reports listed in [Section 9](#)):

### **Aquatic Crossing and Barrier Assessment**

Involved the assessment of existing structures in Carruthers Creek that represent barriers to fish passage, such as perched culverts and online ponds.

---

### **Aquatic Habitat and Community Characterization**

Involved the assessment of aquatic habitat conditions, stream temperature, fish community richness and composition, and benthic invertebrate richness and composition.

---

### **Fluvial Geomorphology**

Involved the assessment of the creek's flow and sediment movement processes, drainage patterns, and potential erosion risks.

---

### **Headwater Drainage Features**

Involved the assessment of small streams in the upper portions of the watershed that may not flow year-round (i.e. intermittent and ephemeral). These features provide hydrologic and ecological functions to maintain downstream watershed conditions.

### **Hydrogeology**

Involved the assessment of groundwater conditions within the watershed, such as groundwater recharge and discharge, and groundwater flow and quality.

---

### **Surface Water Quality Characterization**

Involved the assessment of current and past water quality conditions to determine trends and factors influencing water quality.

---

### **Terrestrial Natural Heritage**

Involved the assessment of natural cover, terrestrial habitat, and species across the watershed.

---

### **Water Quantity Characterization**

Involved the assessment of the volume, velocity, spatial distribution, and timing of water moving through the stream network (i.e. streamflow).

## 3.2 HISTORICAL AND CURRENT LAND USES

Ongoing urbanization in the GTA continues to convert natural and agricultural lands to other uses. This is true in the Carruthers Creek watershed as well. In 1999, the watershed consisted of 28% natural cover, 53% agricultural lands, and 12% urban area<sup>6</sup>. As of 2015, natural cover had dropped to 25% and agricultural lands to 34%. Urban land use increased to approximately 37% during that time period. See [Figure 2](#) for a map of 2015 land use conditions. This historical context is important for characterizing the current conditions of the watershed as it helps to understand the rate of change within the watershed and provides a useful benchmark for comparison.

## 3.3 CURRENT STATE OF THE WATERSHED

Based on the technical assessments conducted as part of watershed characterization (discussed in [Subsection 3.1](#)), there are four key issues in Carruthers Creek:

**1 WATER RESOURCE SYSTEM:** the aquatic ecosystem is sensitive and near the level of land use development it can sustain long-term (without additional and improved mitigation).

The current state of the WRS includes assessments of headwater drainage features, fish communities, in-stream barriers to fish movement and groundwater recharge areas, which support discharge to aquatic habitats.

The analysis of the small stream features north of Highway 7 (i.e. headwater drainage features), showed that 67% of the features have been altered (i.e. reducing hydrologic connectivity and increasing surface runoff) in some way by human activities, primarily through tile drainage.

### Tile Drainage

Tile drainage is a common and important land management practice in many agricultural parts of Ontario. Tile drains are corrugated plastic tubing, clay or concrete drains installed beneath the surface of fields to drain excess water from the crop root zone.

Working with the agricultural community is important to identify opportunities to mitigate the potential impacts of tile drainage.

Consult the Ontario Ministry of Agriculture, Food and Rural Affairs, or the Ontario Soil and Crop Improvement Association for more information.

<sup>6</sup>Additional land use categories such as water, recreational, golf courses, cemeteries, and hydro corridors make up the remaining percentages not included in the categories of natural, agricultural, and urban land uses.

Currently, the fish communities within the watershed are dominated by cool-water native species. Redside Dace, an endangered species, is currently found within the watershed.

Urbanization results in impervious land cover (i.e. pavement, or areas where water cannot penetrate the ground). Imperviousness can increase the severity and duration of peak flows during storm events, cause erosion and sedimentation, and increase stream temperatures, which impacts aquatic habitat for all species. Some areas of the watershed are impacted by poor water quality, which negatively impacts the aquatic ecosystem (see key issue number three, water quality for more information).

Existing in-stream barriers to fish movement associated with development and infrastructure adversely impacts the aquatic system in Carruthers Creek by limiting access to feeding and spawning areas, increasing water temperature, and affecting sediment transport. In-stream structures that act as barriers to fish passage include dams, weirs, road and rail crossings, and some culverts.

From a groundwater perspective, there are three aquifer systems present in the watershed. These aquifer systems include the Oak Ridges Moraine / Mackinaw Interstadial, Thorncliffe, and Scarborough aquifer complexes. Long-term groundwater quality information for specific sites within the Carruthers Creek watershed are unavailable, but there have been a number of studies conducted in adjacent watersheds to provide an indication of background groundwater quality. The available information from Duffins Creek and Rouge River indicate elevated levels of nitrates and chlorides in groundwater attributed to road salts and fertilizer use. Healthy groundwater systems are essential for safe drinking water (e.g. particularly from rural private wells), commercial agricultural activities, and to support aquatic ecosystems.

**2 NATURAL HERITAGE SYSTEM:** there is not enough natural cover, or good quality habitat, needed to maintain ecosystem resilience (i.e. capacity to respond to change) due to changing land use patterns and climate change.

As of 2015, approximately 25% of the watershed consisted of natural cover. Approximately 9% of that natural cover is forest, 7% wetland, 4% successional (transitioning to forest), and 3% meadow<sup>7</sup>. Current habitat conditions are overall poor in terms of patch size, shape, and influences from surrounding land uses.

In addition to this assessment of natural cover within the watershed, TRCA also conducted terrestrial inventories of plants and animals. These inventories found 845 vascular plant species, of which only 57% are native species. These results indicate a significant presence of invasive species, such as dog-strangling vine, garlic mustard, and common buckthorn. The inventory also identified 153 flora species of regional conservation concern including four species that have not been found anywhere else in TRCA's jurisdiction. Inventories documented a total of 133 breeding vertebrate fauna species over the past decade comprised of 106 breeding birds, 18 mammals, and 9 herpetofauna (i.e. reptiles and amphibians).

The urban forest within the Carruthers Creek watershed contains 94 types of woody plant species, with over 270 varieties. Maples make up the most common type of tree within the watershed. In 2017, approximately 23% of the watershed consisted of tree and shrub canopy.

<sup>7</sup>The remaining natural cover percentages are around, or less than, one percent, consisting of water, hydro corridors, and beach/bluff.

**FIGURE 4:**  
**Comparing Urban Forest and Natural Cover**



### **Difference between urban forest and natural cover**

The term **urban forest** is used to describe the trees and woody shrubs located on all private and public property within a watershed, including urbanized spaces (e.g. along roads) and in forests. The percentage of urban forest within a watershed is determined by the area covered by the canopies of all trees and shrubs.

Natural cover, expressed in hectares, or as a percentage of the overall watershed area, is the area of the watershed covered by natural habitats including forests, meadows, and wetlands.

Natural cover includes habitats with varying degrees of trees and shrubs. Meadows for example are open habitats that do not contain trees. Although meadows, and other non-treed habitats, are natural cover, they are not part of the urban forest. Similarly, the urban forest includes trees located within built portions of the watershed, outside of natural habitats. For these reasons, the amount of natural cover and the amount of urban forest in a watershed will not be equal as is the case of the Carruthers Creek watershed.

See [Figure 4](#) for a visual representation of this explanation.

**3 WATER QUALITY:** is impaired within the watershed, requiring improvements to stormwater management.

The headwaters of Carruthers Creek contain elevated concentrations of total phosphorus, phosphate, total ammonia, *E. coli*, total suspended solids (TSS), turbidity, and some trace metals. These elevated concentrations in the headwaters were likely influenced by agricultural practices and the construction of Highway 407. Just upstream of urban development, concentrations were reduced for most parameters, except chloride. Chloride levels regularly exceeded the threshold for the protection of aquatic life in the reaches of Carruthers Creek with urban influences. Additionally, increased concentrations of total ammonia, nitrite, phosphate, turbidity, and trace metals are often observed downstream of the urban area. As expected, the concentrations of many water quality parameters were elevated during high flow conditions that occur during storm runoff and wet weather.

Prior to the 1980s, stormwater management focused solely on flood control (stormwater quantity). Modern stormwater management provides a higher level of protection for the environment, property, and residents by incorporating mitigation provisions for water quality, erosion, and water balance in addition to water quantity control. The Carruthers Creek watershed has various levels of stormwater control that are indicative of the age of development and the prevailing stormwater management practices at the time.

**4 NATURAL HAZARDS:** the flow of water through the watershed is out of balance and there are flooding and erosion issues.

Urbanization converts formerly pervious surfaces (e.g. forests, meadows, agricultural lands) to impervious surfaces (e.g. roads, parking lots, rooftops). From 1999 to present day, the increase in urban cover has greatly altered the natural water balance. In addition, existing agricultural lands located in the headwaters of the watershed are extensively tile drained. Several sites with erosion issues were identified as part of the fluvial geomorphic assessment.

During storm events, the increase in surface runoff associated with impervious surfaces can result in excessive riverine flooding and stream erosion. Currently, a Flood Vulnerable Cluster (FVC) exists in the lower part of the Carruthers Creek watershed in the Town of Ajax (see **Figure 2** or **5** for the location of this FVC). There have been both historical and recent flooding events in the Carruthers Creek watershed due to extreme precipitation events.

These four key issues provide the basis for the management framework of this watershed plan, discussed in **Section 5**.

**Table 2** summarizes benchmarks for the four key watershed issues previously discussed. The benchmarks are important reference points for understanding how watershed conditions can change over time to evaluate success of this watershed plan. **Table 2** also identifies guidelines (or rating scales) to show the ideal state of that particular watershed component. The guidelines (or rating scales) are informed by relevant TRCA strategies, provincial or federal guidance, and established conservation science. The scenario analysis, described in **Subsection 4.3**, summarizes how the watershed will respond to potential future scenarios in comparison to the benchmarks. **Section 6** uses indicators to evaluate the success of implementation through a watershed monitoring program. The indicators identified in **Section 6** will track watershed conditions relative to the benchmarks discussed in **Table 2**. Where a monitoring station is referenced in **Table 2**, see **Figure 7** for the location of that monitoring station within the watershed.

**TABLE 2:**  
Current Watershed Conditions Benchmarks

Key Watershed Issues	Sub-Issue	Benchmarks	Guideline or Rating Scale (if applicable)																										
<b>WATER RESOURCE SYSTEM</b>	Aquatic Health	<p>Family Biotic Index (FBI)<sup>8</sup> – rating of fairly poor and poor across Carruthers Creek:</p> <ul style="list-style-type: none"> <li>Poor = 6.59 (Average from 2013 – 2017 at monitoring station Aquatic 1)</li> <li>Fairly poor = 6.19 (Average from 2013 - 2017 at monitoring station Aquatic 2)</li> <li>Fairly poor = 6.07 (Average from 2013 - 2017 at monitoring station Aquatic 3)</li> </ul> <p>Index of Biotic Integrity (IBI)<sup>9</sup>:</p> <ul style="list-style-type: none"> <li>Rating of poor at three sites (2015)</li> <li>Rating of fair at two sites (2015)</li> <li>Rating of good at six sites (2015)</li> </ul>	<p>Rating scale for FBI:</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Rating</th> </tr> </thead> <tbody> <tr> <td>0 – 3.75</td> <td>Excellent</td> </tr> <tr> <td>3.76 – 4.25</td> <td>Very good</td> </tr> <tr> <td>4.26 – 5.00</td> <td>Good</td> </tr> <tr> <td>5.01 – 5.75</td> <td>Fair</td> </tr> <tr> <td>5.76 – 6.50</td> <td>Fairly poor</td> </tr> <tr> <td>6.51 – 7.25</td> <td>Poor</td> </tr> <tr> <td>7.26 – 10</td> <td>Very poor</td> </tr> </tbody> </table> <p>Rating scale for IBI:</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Rating</th> </tr> </thead> <tbody> <tr> <td>≥ 38</td> <td>Very good</td> </tr> <tr> <td>28 – 37.9</td> <td>Good</td> </tr> <tr> <td>20 – 27.9</td> <td>Fair</td> </tr> <tr> <td>≤20</td> <td>Poor</td> </tr> </tbody> </table>	Value	Rating	0 – 3.75	Excellent	3.76 – 4.25	Very good	4.26 – 5.00	Good	5.01 – 5.75	Fair	5.76 – 6.50	Fairly poor	6.51 – 7.25	Poor	7.26 – 10	Very poor	Value	Rating	≥ 38	Very good	28 – 37.9	Good	20 – 27.9	Fair	≤20	Poor
	Value	Rating																											
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≥ 38	Very good																												
28 – 37.9	Good																												
20 – 27.9	Fair																												
≤20	Poor																												
Riparian corridor (30 m buffer around streams)	Within the riparian corridor natural cover is 49%	75% of stream length is naturally vegetated																											
Streamflow (surface water)	Carruthers Creek at Achilles Road had an average total volume of $1.14 \times 10^7$ m <sup>3</sup> over the 2008 – 2016 period. This corresponds to a discharge rate of 0.360 m <sup>3</sup> /s when averaged on an annual basis	Not applicable (should not vary significantly from natural fluctuations year to year)																											
Groundwater Recharge	Average recharge rate is estimated at 118 mm/year	Not applicable (should not decrease significantly from natural rates)																											
Groundwater Discharge	Average discharge rate is estimated at 130 mm/year	Not applicable (should not decrease significantly from natural rates)																											

<sup>8</sup>The Family Biotic Index is often used to assess the quality of water in rivers and is a scale for showing the quality of an environment by indicating the types of organisms present in it.

<sup>9</sup>The Index of Biotic Integrity measures a chosen set of metrics (in this case number of fish species, presence of sensitive fish species, abundance and food chain classifications) to assign a rating of very good to poor.

Key Watershed Issues	Sub-Issue	Benchmarks	Guideline or Rating Scale (if applicable)												
<p><b>NATURAL HERITAGE SYSTEM</b></p>	Natural cover	Approximately 25% total natural cover, consisting of 9% forest, 7% wetland, 4% successional (transitioning to forest), and 3% meadow	Minimum 30% natural cover.  TRCA recommended NHS for Carruthers Creek: 36% natural cover; 16% forest, 7% wetland, 13% other (primarily successional forest and meadow)												
	Habitat quality	Evaluated using Landscape Analysis Model (LAM), which assigns a score based on total number of habitat patches, patch size, patch shape, and influences from surrounding land uses. Overall patch quality in the Carruthers Creek watershed was found to be 'poor'	Rating scale: <table border="1" data-bbox="1138 575 1458 842"> <thead> <tr> <th>Patch Score</th> <th>Quality Condition</th> </tr> </thead> <tbody> <tr> <td>13 – 15</td> <td>Excellent</td> </tr> <tr> <td>11 – 12</td> <td>Good</td> </tr> <tr> <td>9 – 10</td> <td>Fair</td> </tr> <tr> <td>6 – 8</td> <td>Poor</td> </tr> <tr> <td>0 – 5</td> <td>Very poor</td> </tr> </tbody> </table>	Patch Score	Quality Condition	13 – 15	Excellent	11 – 12	Good	9 – 10	Fair	6 – 8	Poor	0 – 5	Very poor
	Patch Score	Quality Condition													
	13 – 15	Excellent													
	11 – 12	Good													
	9 – 10	Fair													
6 – 8	Poor														
0 – 5	Very poor														
Animal (i.e. fauna) species of concern	North of Taunton Road = 39  South of Taunton Road = 56	Not applicable (ideally maintained or improved)													
Number and area of sensitive vegetation communities	Entire watershed number = 43  Area = approximately 54 hectares	Not applicable (ideally maintained or improved)													
Tree and Shrub Canopy (urban forest)	Approximately 23% tree and shrub canopy for the entire watershed (2017)	Not applicable (targets to be established through management recommendation 3.3.2)													
<p><b>WATER QUALITY (SURFACE)</b></p> <p>Water quality benchmarks are based on average concentration of 17 water quality samples collected monthly from June 2015 to May 2016.</p>	Chlorides	<ul style="list-style-type: none"> <li>• 183 mg/L at monitoring station Water Quality 1</li> <li>• 72 mg/L at monitoring station Water Quality 2</li> <li>• 35 mg/L at a no longer active monitoring station that was located west of Salem Road at Hwy 7</li> </ul>	The long-term water quality guideline for the protection of aquatic life (CCME) for chlorides is 120 mg/L												
	Total suspended solids	<ul style="list-style-type: none"> <li>• 20 mg/L at monitoring station Water Quality 1</li> <li>• 11 mg/L at monitoring station Water Quality 2</li> <li>• 59 mg/L at a no longer active monitoring station that was located west of Salem Road at Hwy 7</li> </ul>	CCME water quality guideline for TSS is based on increases over background levels. Monitoring results show large fluctuations in TSS in Carruthers Creek												

Key Watershed Issues	Sub-Issue	Benchmarks	Guideline or Rating Scale (if applicable)
<b>WATER QUALITY (SURFACE)</b>  cont'd	<i>E. coli</i>	<ul style="list-style-type: none"> <li>• 706 CFU/100 ml at monitoring station Water Quality 1</li> <li>• 517 CFU/100 ml at monitoring station Water Quality 2</li> <li>• 475 CFU/100 ml at a no longer active monitoring station that was located west of Salem Road at Hwy 7</li> </ul>	CFU – Colony Forming Units. Provincial Water Quality Objective (PWQO) for <i>E. coli</i> is 100 CFU/100 ml. Averages for Carruthers Creek exceed this guideline
	Total phosphorus	<ul style="list-style-type: none"> <li>• 0.044 mg/L at monitoring station Water Quality 1</li> <li>• 0.031 mg/L at monitoring station Water Quality 2</li> <li>• 0.091 mg/L at a no longer active monitoring station that was located west of Salem Road at Hwy 7</li> </ul>	PWQO to avoid excessive plant growth in river and stream concentrations below 0.03 mg/L. Averages for Carruthers Creek exceed this guideline
	Stormwater management <sup>10</sup>	As of 2003, approximately 64% of the developed portion of the watershed has stormwater controls that meet TRCA criteria. Of the remaining percentages, 29% have no stormwater controls and 7% have water quantity control only	Established by municipalities, in collaboration with TRCA, through stormwater master planning and secondary planning
<b>NATURAL HAZARDS</b>	Peak flows (flooding)	Regional Storm (i.e. Hurricane Hazel) <ul style="list-style-type: none"> <li>• 71.61 m<sup>3</sup>/s at Taunton Road</li> <li>• 140.52 m<sup>3</sup>/s at Shoal Point Road</li> </ul> 5-year Storm (i.e. 1 in 5 probability of flow being exceeded in any one year) <ul style="list-style-type: none"> <li>• 7.27 m<sup>3</sup>/s at Taunton Road</li> <li>• 11.00 m<sup>3</sup>/s at Shoal Point Road</li> </ul>	Not applicable (peak flows should not increase)
	Flood vulnerable roads and structures	Metres of impassable road length affected: <ul style="list-style-type: none"> <li>• Average annual = 91 m</li> <li>• Regulatory flood event = 2,532 m</li> </ul> Number of households affected: <ul style="list-style-type: none"> <li>• Average annual = 1</li> <li>• Regulatory flood event = 89</li> </ul>	Not applicable (ideally a reduction in vulnerable roads and structures)

**Notes:** See [Section 6](#) for map and description of monitoring station locations referenced in this table. Other surface water quality parameters were characterized as part of TRCA's technical analysis, but only parameters of concern are included in this table.

<sup>10</sup>For the purposes of determining the current state of the watershed, stormwater management has been grouped with water quality. However, inadequate stormwater management can also increase the frequency and duration of flooding (i.e. natural hazards) and impact aquatic habitat (i.e. WRS).



## 4. Future Watershed Conditions

An important part of watershed planning is assessing future conditions based on potential future land use scenarios. The results of watershed characterization discussed in [Section 3](#) were used to inform the potential future land use scenarios discussed in this section. TRCA produced peer-reviewed technical reports on different components of the watershed as part of scenario analysis, which are referenced in [Section 9](#).

### 4.1 FUTURE STRESSORS

To determine what land use scenarios to assess requires identifying potential future stressors on a watershed. For Carruthers Creek, urbanization continues to drive land use change, converting natural and agricultural areas to residential, commercial, and industrial lands. This urbanization impacts the health of a watershed largely through the loss of natural cover and increase in impermeable surfaces, which alter the hydrologic regime. Despite some positive watershed management efforts to date in Carruthers Creek, the watershed exhibits signs of stress due to the impacts of urbanization and climate change. By 2051, the population of the Region of Durham is expected to nearly double from 682,000 to 1.3 million. Some of that growth will certainly be in the Carruthers Creek watershed.

Climate change is expected to increase precipitation, annual average temperatures and the frequency of extreme weather events, which will impact watersheds within the Region of Durham. Some of the implications of a changing climate include localized flooding, violent storm damage, changes to ecosystem composition, and changes to agricultural conditions and production.

These stressors were evaluated as part of assessing future watershed conditions. The management framework in [Section 5](#) of this watershed plan recognizes these stressors by identifying recommendations to mitigate potential future watershed impacts.

## 4.2 FUTURE SCENARIOS

An effective way to assess how a watershed will respond to potential future change is to develop, analyze, and compare several alternate scenarios, each reflecting a different composition of possible land use conditions. In this way, land use scenario analysis is used as a tool to compare how possible future land uses might add to existing pressures on the natural system, and how these pressures might affect watershed health. Land use scenario analysis is a technical exercise that is typically undertaken when developing watershed plans to ensure management recommendations are based on the best available science. The results help guide the development of management recommendations and support municipalities in land use and infrastructure planning decision-making.

### Climate Change

Climate change was incorporated into the scenario analysis for various technical components of this watershed planning process, where possible. For example, the terrestrial impact assessment completed as part of the NHS planning specifically incorporated climate change vulnerabilities as one of its criteria for determining priority NHS sites. The impacts of future climate change were factored into potential stresses on the aquatic system as part of that technical assessment. Additionally, hydrologic modelling completed as part of this watershed planning process incorporates storm events considered to be more frequent under climate change scenarios.

The management framework recognizes the importance of climate change by prioritizing the protection of the WRS and NHS, which can, if properly protected and restored, improve climate adaptation and increase ecosystem resilience. The use of green infrastructure and low impact development combined with improvements to stormwater infrastructure are also important management recommendations to adapt to a changing climate.

TRCA, the Region of Durham, Town of Ajax, and City of Pickering all recognize the challenge of climate change and have various strategies and action plans to address this challenge, in addition to the recommendations identified in this watershed plan (e.g. *Durham Community Climate Adaptation Plan* and *Durham Community Climate Change Local Action Plan*).

#### Note:

Climate change projections to 2100 for TRCA's jurisdiction and the Region of Durham are available through their respective open data portals.

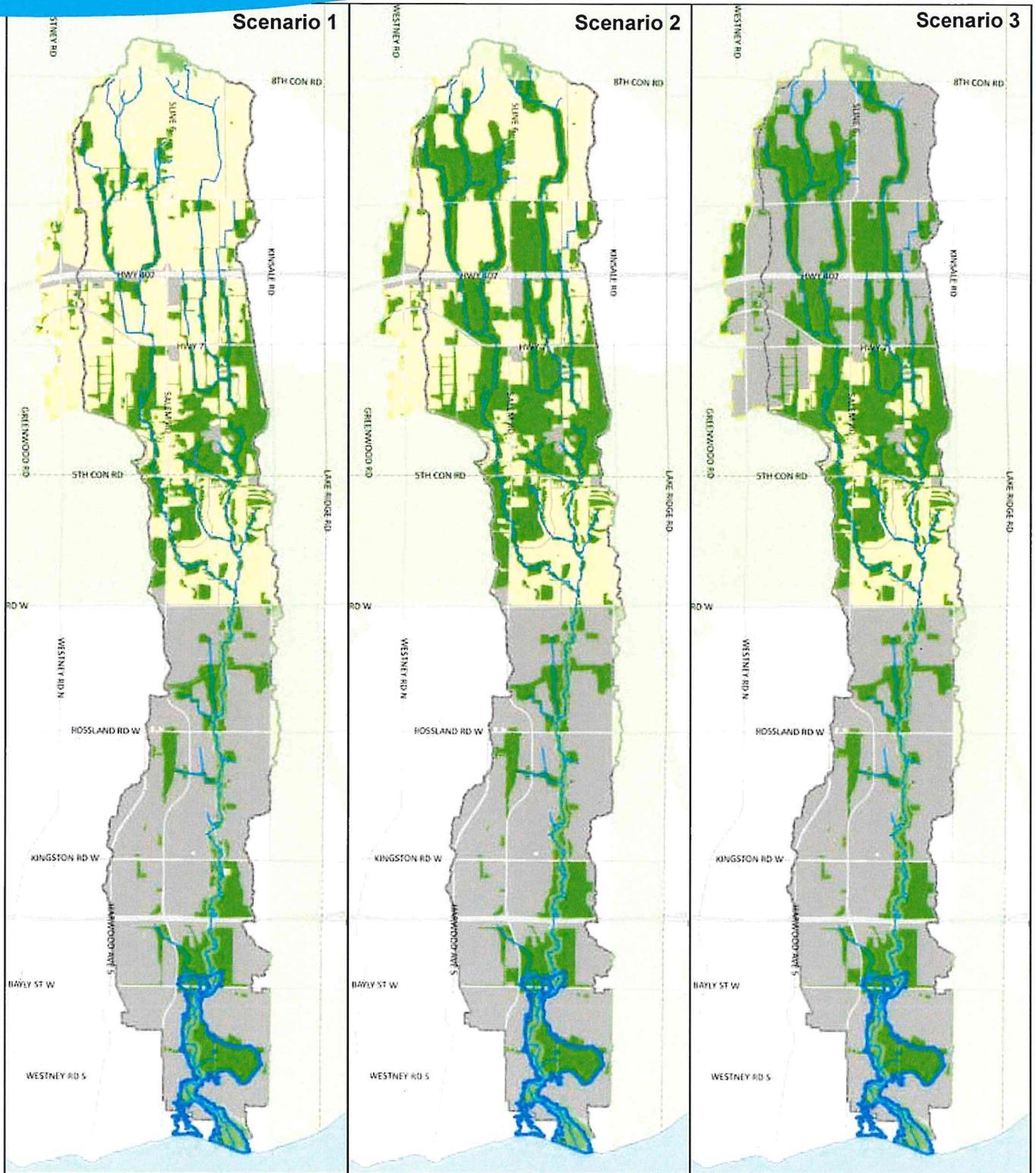
Three potential future land use scenarios were developed and analyzed as part of this watershed planning process to assess possible changes and impacts in both the built and natural environments. The year 2015 was used as the baseline for this watershed planning process due to the availability of data sets at the initiation of this project. It is worth noting that since 2015 was used as the baseline for scenario analysis, potential impacts from the extension of Highway 407 (completed in 2016) through the headwaters of Carruthers Creek can only be assumed. Ongoing monitoring of the Carruthers Creek watershed will help determine any potential changes to overall watershed health arising from the construction of this highway infrastructure.

**TABLE 3:**  
Potential Future Land Use Scenarios

<p><b>Scenario 1</b> <b>(+Official Plan)</b></p>	<p>This scenario assumes that all lands south of the Greenbelt are developed up to 2031 based on approved Official Plans. This scenario included municipally designated NHS's that were part of Official Plans.</p> <p>This scenario provides insight into how watershed conditions will likely change as approved Official Plans are implemented.</p>
<p><b>Scenario 2</b> <b>(+NHS)</b></p>	<p>This scenario assumes the same development as Scenario 1 but includes the enhanced NHS (i.e. potential natural cover).</p> <p>New and updated information from natural heritage science and practice was incorporated to identify potential areas for natural cover that would improve ecosystem functions and services in the future.</p> <p>This scenario provides insights into how watershed conditions will likely change with increased consideration of additional natural cover.</p>
<p><b>Scenario 3</b> <b>(+Potential Urban)</b></p>	<p>This scenario assumes post-2031 development in the headwaters of Carruthers Creek (north of the Greenbelt), outside the enhanced NHS.</p> <p>This scenario made general assumptions on the types of land uses associated with typical urbanization. It did not make assumptions on the levels of stormwater management controls or other mitigation measures (e.g. green infrastructure) that may accompany urban development. This level of analysis would be done during subsequent planning stages when detailed land use configurations are known.</p> <p>This scenario provides insights into how watershed conditions will likely change if potential full growth is approved in the watershed.</p>

See [Figure 5](#) for representative maps of each scenario.

**FIGURE 5:**  
**Future Scenarios Mapping**



<p>Toronto and Region  <b>Conservation</b>          Authority</p>		<p><b>Carruthers Creek          Watershed Plan:          Future Scenarios 1-3</b></p>	<table border="0"> <tr> <td>-----</td> <td>Municipal Boundary</td> <td></td> <td>Flood Vulnerable Cluster</td> </tr> <tr> <td></td> <td>Watercourse</td> <td></td> <td>Greenbelt Boundary</td> </tr> <tr> <td colspan="2"><b>Land Use</b></td> <td></td> <td>Carruthers Creek Watershed Boundary</td> </tr> <tr> <td></td> <td>Natural</td> <td></td> <td>Carruthers Creek Watershed Plan Study Area</td> </tr> <tr> <td></td> <td>Rural</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Urban</td> <td></td> <td></td> </tr> </table>	-----	Municipal Boundary		Flood Vulnerable Cluster		Watercourse		Greenbelt Boundary	<b>Land Use</b>			Carruthers Creek Watershed Boundary		Natural		Carruthers Creek Watershed Plan Study Area		Rural				Urban		
-----	Municipal Boundary		Flood Vulnerable Cluster																								
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<p>Date: September 2019          Created by: TRCA Information Services/Information Technologies          Disclaimer          The Data used to create this map was compiled from a variety sources and dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes and corrections at anytime without notice. For further information about the data on this map, please contact the TRCA GIS Department. (416) 661-6600.</p>																											

## 4.3 SCENARIO ANALYSIS

As part of this watershed planning process, key components of watershed health were assessed using the previously discussed three future scenarios.

The results of these scenario analyses were used to:

- 1 Understand the implications of each scenario on overall watershed health and integrity.
- 2 Develop the management framework for this Carruthers Creek Watershed Plan, which can be used to inform land use and infrastructure decisions.

It is important to note that scenario analysis does not result in decisions about the type and configuration of land uses. Instead, scenario analysis helps to inform decisions through the municipal planning process (e.g. Official Plans).

It is the responsibility of the applicable municipality to determine the ultimate land use configuration for any future changes within the watershed.

Appropriate mitigation strategies are developed during the detailed planning stages for new developments once the scope of any future land use change is known. These mitigation strategies include assessments of the appropriate levels of stormwater controls, the use of green infrastructure to maintain natural water balance as much as possible, and opportunities for ecological restoration.

**Table 4** explains the implications of the three potential future scenarios for each of the key watershed issues as identified in **Subsection 3.3**. Based on the technical assessments completed as part of this watershed planning process, **Table 4** identifies whether the watershed responds positively (conditions improve), neutrally (conditions remain the same), or negatively (conditions deteriorate) to the potential future scenario in comparison to the identified benchmark.

The colour coding in **Table 4** indicates the severity of how the watershed component reacts:

**GREEN UP ARROW: >+5% change**

 indicates watershed conditions improve from a hydrologic or ecological perspective

**EQUAL SIGN: 0 to +5% or 0 to -5% change**

 indicates a roughly equal comparison from a hydrologic or ecological perspective

**YELLOW DOWN ARROW: -6% to -10% change**

 indicates watershed conditions deteriorate from a hydrologic or ecological perspective

**PURPLE DOWN ARROW: >-10% change**

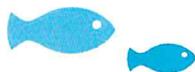
 indicates watershed conditions significantly deteriorate from a hydrologic or ecological perspective

The changes identified in **Table 4** are calculated by comparing scenario 1 to the current conditions, whereas scenarios 2 and 3 are compared to scenario 1. Since scenario 1 represents the currently approved Official Plan, it represents a future scenario that will occur, therefore it is more realistic to compare scenarios 2 and 3 to scenario 1. Some of the scenario analysis technical reports referenced in **Section 9** compare the three future scenarios to current conditions. The numbers identified in **Table 4** have been adapted accordingly to compare scenarios 2 and 3 to scenario 1.

**TABLE 4:**  
Scenario Analysis Implications



**WATER RESOURCE SYSTEM**



**Includes:** the features and areas of the WRS, including aquatic habitat, and their functions. Percent change is based on changes to impervious cover mentioned under aquatic health. Impervious cover is a critical measure of various factors<sup>11</sup> that impact aquatic health.

See **Figure 9** in **Section 7** for an illustration of subwatershed quality.

<b>CURRENT CONDITIONS</b> (From <a href="#">subsection 3.3<sup>12</sup></a> )	<b>SCENARIO 1 (+OP)</b> (Compared to Current Conditions)	<b>SCENARIO 2 (+NHS)</b> (Compared to Scenario 1)	<b>SCENARIO 3 (+POTENTIAL URBAN)</b> (Compared to Scenario 1)
% change →	↓ -6%	= +1%	↓ -12%
<b>Aquatic Health</b>			
<b>Subwatershed quality:</b> NW and NE good – fair; central and south fair – poor	<b>Subwatershed quality:</b> no change from current conditions	<b>Subwatershed quality:</b> NW shows improvement to good	<b>Subwatershed quality:</b> all four have fair – poor conditions
Impervious cover at 24% across the watershed	Impervious cover at 30% across the watershed	Impervious cover at 29% across the watershed	Impervious cover at 42% across the watershed
<b>Riparian corridor (30 m buffer along streams)</b>			
49% natural cover along the corridor	50% natural cover along the corridor	65% natural cover along the corridor	65% natural cover along the corridor
<b>Streamflow (average surface water discharge)</b>			
0.52 m <sup>3</sup> /s	0.53 m <sup>3</sup> /s	0.53 m <sup>3</sup> /s	0.56 m <sup>3</sup> /s
<b>Groundwater discharge (average rate)</b>			
201 mm/year	197 mm/year	201 mm/year	194 mm/year
<b>Groundwater recharge (average rate)</b>			
152 mm/year	147 mm/year	152 mm/year	141 mm/year

<sup>11</sup>These factors include channel stability, water quality, stream biodiversity, and natural flow. See the Aquatic Impact Assessment technical report for more information.

<sup>12</sup>The numbers for streamflow, groundwater discharge, and recharge are different in [Table 4](#) from [Table 2](#) due to models used for the scenario analysis.

## NATURAL HERITAGE SYSTEM

**Includes:** the the features and areas of the NHS, including terrestrial habitat and their functions. Percent change is based on an equally weighted average of the total natural cover and habitat quality values.

CURRENT CONDITIONS (From <a href="#">subsection 3.3</a> )	SCENARIO 1 (+OP) (Compared to Current Conditions)	SCENARIO 2 (+NHS) (Compared to Scenario 1)	SCENARIO 3 (+POTENTIAL URBAN) (Compared to Scenario 1)
% change →	= +0%	↑ +7%	<sup>13</sup> ↑ +6%
<b>Total natural cover</b>			
25% natural cover	25% natural cover	36% natural cover	36% natural cover
<b>Habitat quality (average LAM<sup>14</sup> score)</b>			
7.6	7.5	7.9	7.6
<b>Habitat connectivity (regional at watershed-scale)<sup>15</sup></b>			
28%	28%	45%	45%
<b>Climate vulnerabilities (average of five high vulnerabilities indicators)<sup>16</sup></b>			
51%	51%	55%	55%

<sup>13</sup>While habitat quantity (as represented by natural cover) increases under scenario 3 relative to scenario 1, the habitat quality results require a caveat. LAM scores are an equally rated average of patch size, shape, and matrix influence. Under scenario 2, the matrix influence score increases threefold from scenario 1, indicating improved habitat quality. Under scenario 3, the matrix influence score decreases, indicating decrease in habitat quality. So, while patch size and shape increase under scenarios 2 and 3, scenario 3 negatively affects the matrix influence of habitat quality.

<sup>14</sup>These LAM scores, known as Landscape Analysis Model, combines the metrics of patch size (larger patches support larger populations), patch shape (habitat fragmentation) and matrix influence (influence of surrounding land uses). A LAM score of 6 – 8 = poor. See the Terrestrial Impact Assessment technical report for more information.

<sup>15</sup>Habitat connectivity values represent the percentage of area for connectivity priorities that overlap with the proposed enhanced NHS. Improved connectivity has benefits for habitat quantity and quality. In other words, higher percentages indicate more habitat connectivity corridors.

<sup>16</sup>The average high vulnerability indicators are ground surface temperature, climate sensitive community, habitat patch quality, soil drainage, and wetlands. The climate vulnerabilities values represent the percentage of climate vulnerable features represented in the proposed enhanced NHS. A higher percentage indicates more habitat included in the system, and therefore, if protected, improved resiliency to climate change.





## WATER QUALITY<sup>17</sup>

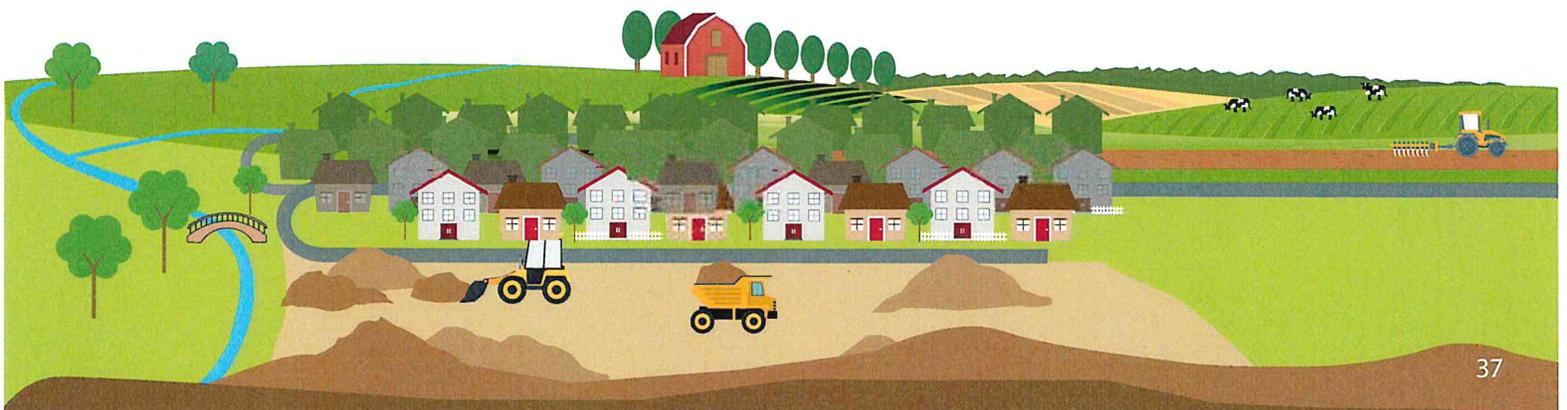
Focused on parameters of concern associated with urbanization and agricultural land uses. Amounts are based on a comparison of 2005 to 2015 average flow.

CURRENT CONDITIONS (From <a href="#">subsection 3.3</a> )	SCENARIO 1 (+OP) (Compared to Current Conditions)	SCENARIO 2 (+NHS) (Compared to Scenario 1)	SCENARIO 3 (+POTENTIAL URBAN) (Compared to Scenario 1)
% change →	It is difficult to draw a conclusion on the percent change for water quality solely. As mentioned in the WRS row of this table, water quality is one of the factors considered under the impacts of impervious cover. Of the parameters of concern identified in <a href="#">Table 2</a> , TSS and total phosphorus were assessed as part of scenario analysis.		
<b>Total Suspended Solids<sup>18</sup></b>			
4,602 tonnes	4,674 tonnes	4,641 tonnes	4,939 tonnes
<b>Total Phosphorus<sup>19</sup></b>			
9,843 tonnes	9,864 tonnes	9,295 tonnes	8,602 tonnes

<sup>17</sup>Stream water quality in urbanized watersheds is generally degraded by increased turbidity, nutrients, metals, *E. coli*, and other contaminants due to more impervious surfaces and increased runoff. See the Aquatic Impact Assessment technical report for more information.

<sup>18</sup>[Table 2](#) in [Subsection 3.3](#) identified TSS readings at three monitoring stations in mg/L. For the purposes of scenario analysis, TSS was measured in tonnes at the outlet of the watershed (i.e. where it drains into Lake Ontario).

<sup>19</sup>[Table 2](#) in [Subsection 3.3](#) identified total phosphorus readings at three monitoring stations in mg/L. For the purposes of scenario analysis, total phosphorus was measured in tonnes at the outlet of the watershed (i.e. where it drains into Lake Ontario).



## NATURAL HAZARDS

(Flooding and Erosion)

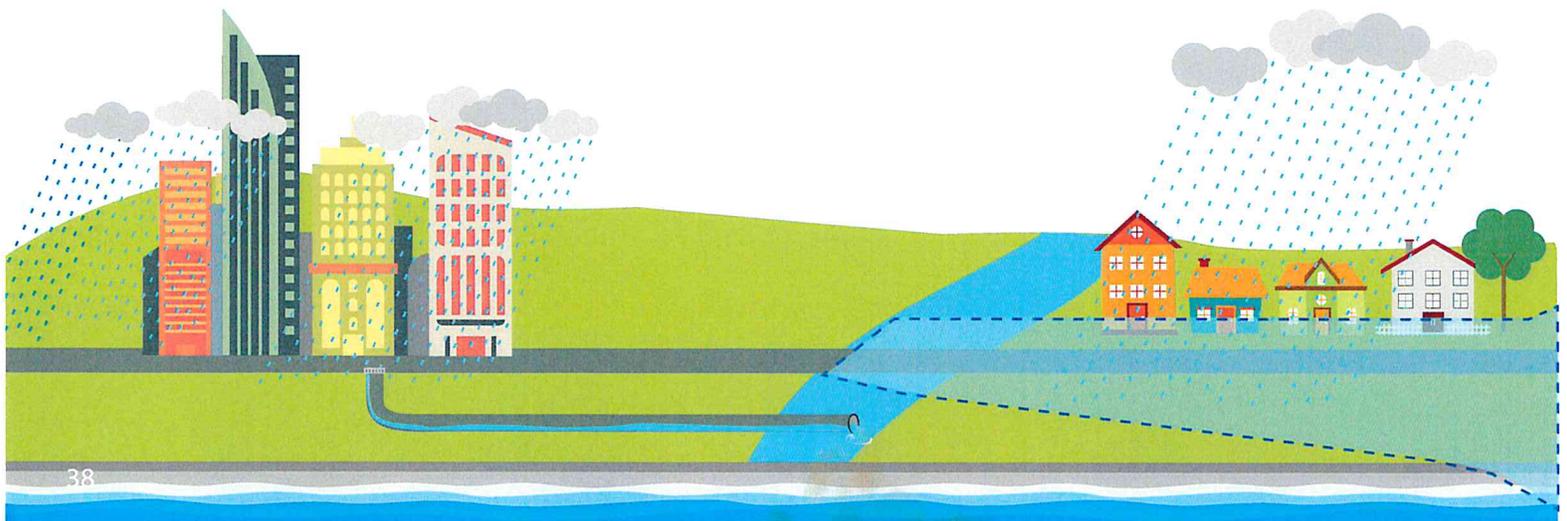
Focused on flood modelling as measured by peak flows<sup>20</sup>. Percent change is based on the Regional Storm (i.e. Hurricane Hazel) at two points in the watershed. The Regional Storm for TRCA's jurisdiction is based on a historical storm of record, Hurricane Hazel. Design storms are based on statistical analysis of rainfall over a period of record. Hurricane Hazel is a 12-hour event with 212 mm of rainfall, which assumes completely saturated soils.

CURRENT CONDITIONS (From subsection 3.3)	SCENARIO 1 (+OP) (Compared to Current Conditions)	SCENARIO 2 (+NHS) (Compared to Scenario 1)	SCENARIO 3 (+POTENTIAL URBAN) <sup>21</sup> (Compared to Scenario 1)
% change at Taunton Road →	≡ +2.4%	≡ +1.9%	↓ -112.9%
% change at Shoal Point Road	↓ -6.4%	≡ +1.5%	↓ -40.9%
<b>Regional Storm (i.e. Hurricane Hazel)</b>			
71.61 m <sup>3</sup> /s at Taunton Road	69.90 m <sup>3</sup> /s at Taunton Road	68.59 m <sup>3</sup> /s at Taunton Road	148.84 m <sup>3</sup> /s at Taunton Road
140.52 m <sup>3</sup> /s at Shoal Point Road	149.50 m <sup>3</sup> /s at Shoal Point Road	147.19 m <sup>3</sup> /s at Shoal Point Road	210.63 m <sup>3</sup> /s at Shoal Point Road
<b>5-year Storm (i.e. 1 in 5 probability of flow being exceeded in any one year)<sup>22</sup></b>			
7.27 m <sup>3</sup> /s at Taunton Road	7.18 m <sup>3</sup> /s at Taunton Road	6.58 m <sup>3</sup> /s at Taunton Road	6.80 m <sup>3</sup> /s at Taunton Road
11.00 m <sup>3</sup> /s at Shoal Point Road	11.71 m <sup>3</sup> /s at Shoal Point Road	11.11 m <sup>3</sup> /s at Shoal Point Road	11.83 m <sup>3</sup> /s at Shoal Point Road

<sup>20</sup>Peak flows are the maximum rate of discharge during the period of runoff caused by a storm. Potential erosion issues were not assessed. However, erosion is likely to be worse with increased peak flows.

<sup>21</sup>All existing stormwater management facilities were removed from the model to account for the system failing or being at capacity during a Regional Storm event.

<sup>22</sup>The 5-year event uses a 60.07 mm rainfall event over a 24-hour period, which assumes an average (normal) soil condition.





**Table 4** illustrates expected changes to watershed conditions based on available information and assessments conducted as part of this watershed planning process. The management framework in **Section 5** identifies what is necessary to protect, enhance, and restore watershed conditions. It also identifies management recommendations to encourage more sustainable land uses.

### Summary of implications:

	Scenario 1	Scenario 2	Scenario 3
<b>WATER RESOURCE SYSTEM</b>	Aquatic conditions remain relatively poor, similar to existing conditions, and there is an increase in impervious cover across the watershed.	One of the four subwatersheds shows improved aquatic conditions.	All four subwatershed have fair-poor aquatic conditions, likely resulting in the loss of Redside Dace, a listed endangered species.
<b>NATURAL HERITAGE SYSTEM</b>	Natural cover and habitat quality remain similar to current conditions.	Natural cover increases and habitat quality improves.	Natural cover increases, but habitat quality does not improve by as much as scenario 2.
<b>WATER QUALITY</b>	Slight increases in both total suspended solids and total phosphorus.	Total phosphorus and total suspended solids decrease.	Total suspended solids increase, total phosphorus decreases.
<b>NATURAL HAZARDS</b>	Peak flows do not significantly change from current conditions (i.e. increases and decreases at Taunton and Shoal Point Roads under the Regional and 5-year storm events).	Peak flows decrease slightly at Taunton and Shoal Point Roads under the Regional and 5-year storm events.	Peak flows significantly increase at Taunton and Shoal Point Roads under the Regional and 5-year storms; more so for the former.

## What does this mean?

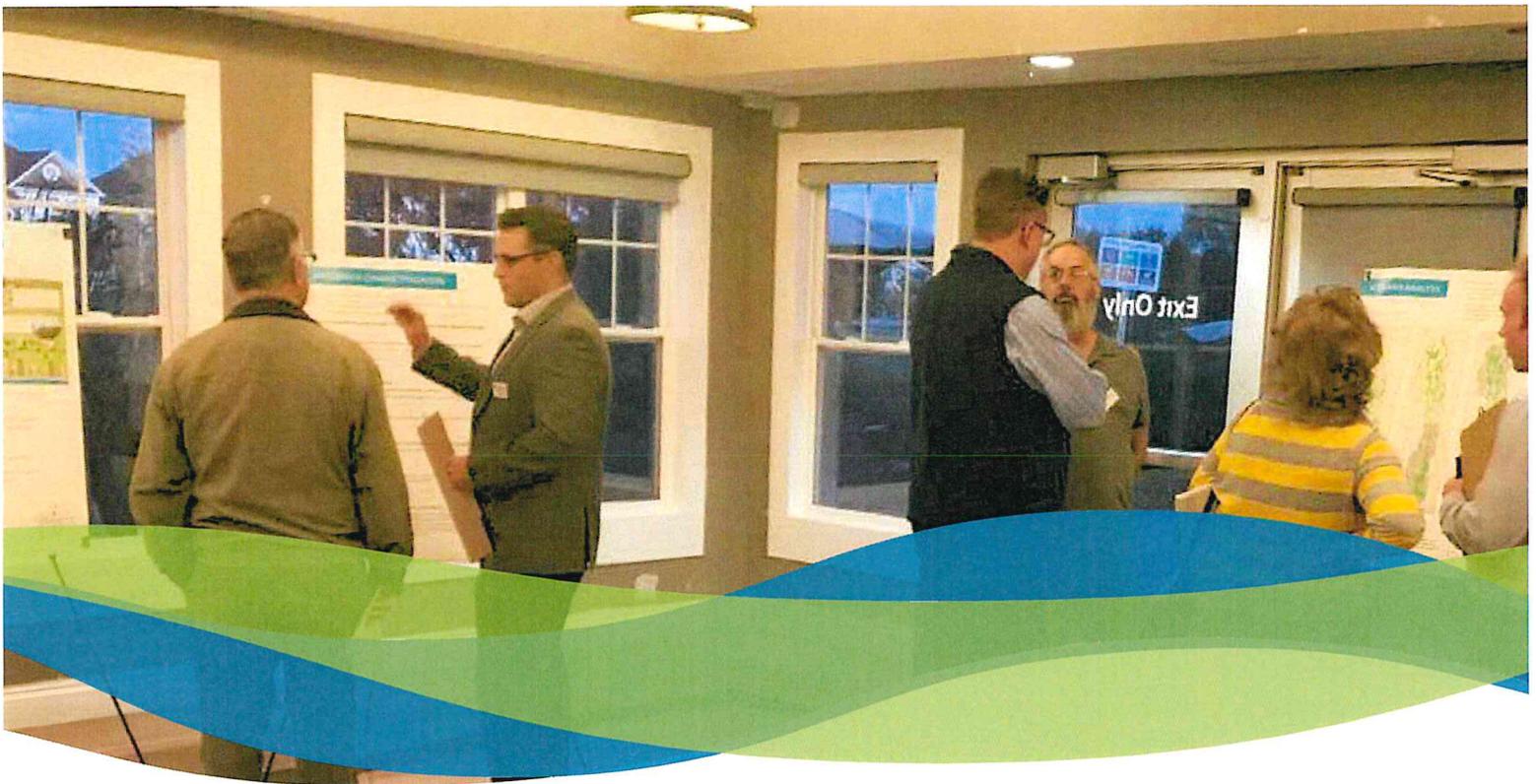
These results demonstrate the importance of ensuring that land use and infrastructure planning decisions are made to minimize and mitigate impacts to the watershed regardless of potential future land use configurations. The management framework in Section 5 outlines the goals, objectives, indicators, and management recommendations necessary to ensure the long-term health and sustainability of the watershed.

The results of this scenario analysis emphasize the importance of protecting, enhancing, and restoring the WRS ([Subsection 5.2](#)) and NHS ([Subsection 5.3](#)).

In addition to the summary of implications, it is important to recognize the following:

- Limiting impervious cover in any potential future growth areas, or through redevelopments, provides significant benefits to aquatic biodiversity. Federal guidance recommends urbanizing watersheds maintain less than 10% impervious land cover, while already degraded urban systems should not exceed a second threshold of 25% to 30%. Scenario 1 shows impervious cover reaching this 30% threshold with only a marginal improvement to 29% under Scenario 2. See [Figure 9](#) in [Section 7](#) for more information.
- Increasing natural cover and improving habitat quality has noticeable benefits for the watershed (e.g. improvements to aquatic conditions and slight reductions of peak flows).
- Ecological restoration and improvements to land use practices (e.g. increased use of green infrastructure and improved stormwater management) could address existing water quality issues.
- The existing flooding and erosions issues can be mitigated through improved land uses (e.g. green infrastructure) and infrastructure (e.g. stormwater management) as outlined in the management recommendations of [Subsection 5.1](#). In the event of future development in the headwaters of Carruthers Creek, it will be vital to develop mitigation strategies to limit the impacts of further urbanization by implementing the management recommendations outlined in [Subsection 5.4](#).

The management framework is designed to address existing issues and the implications of these scenarios by accounting for new developments, redevelopments, and prioritizing the importance of protecting, enhancing, and restoring both the WRS and NHS.



## 5. Management Framework

The management framework for the Carruthers Creek Watershed Plan represents what needs to be done to protect, enhance, and restore watershed health<sup>23</sup>. The management framework consists of goals, objectives, indicators, and management recommendations.

TRCA developed this management framework in collaboration with its municipal partners and refined it based on feedback from stakeholders and the public.

The goals, objectives, and management recommendations were developed to address the issues identified through watershed characterization and account for potential different future land use scenarios. Many of the management recommendations are expected to mitigate many of the potential impacts associated with potential land use changes, as identified through the scenario analysis.

Each of the goals are complementary, with no one goal being more important than another. To fully realize the vision for Carruthers Creek will require the implementation of each goal area. Management recommendations were grouped under the most appropriate objective and are also listed in no particular order.

Any recommendations contained in the scenario analysis technical reports are consolidated in this management framework. Refer to the technical reports for detailed methodologies and findings beyond what was summarized in [Sections 3](#) and [4](#). This watershed plan is the final source for goals, objectives, indicators, and management recommendations related to Carruthers Creek. Readers are encouraged to refer to the technical reports for more detailed implementation suggestions.

<sup>23</sup>As mentioned in [Subsection 1.1](#), the CTC Source Protection Plan also applies in the Carruthers Creek watershed and includes policies to protect drinking water. Implementation of this Source Protection Plan is required under the *Clean Water Act, 2006*. Consideration of Great Lakes agreements and legislation is also important for effective watershed management. These requirements are in addition to, and complementary of, the management framework identified in this watershed plan.

**TABLE 5:**  
Management Framework Explanation

<b>Management Framework Components</b>	<b>Description</b>
<b>GOALS</b>	Represent the outcomes to achieve.
<b>OBJECTIVES</b>	Are the specific statements about desired results, or steps to be undertaken, to achieve the goal.
<b>INDICATORS</b>	Explain how progress on implementing the objective is going to be tracked or measured. Some indicators are compared to the benchmarks identified in <b>Table 2</b> . Other indicators are about reporting on implementation progress as it relates to policies, best practices, or infrastructure improvements and do not have an associated benchmark in <b>Table 2</b> . Where applicable, the guidelines identified in <b>Table 2</b> can be used as a measure to achieve.
<b>MANAGEMENT RECOMMENDATIONS</b>	Specifically explain what should be done to accomplish the relevant objective.

The management framework consists of three goals, nine objectives, and 11 indicators (see **Figure 6**). The management recommendations for each goal area are described in **Subsections 5.1 – 5.3**.

The management recommendations apply to the entire watershed, identifying opportunities to improve conditions in the developed portion of the watershed and the types of studies and best practices that should be utilized for any potential future development, or redevelopment. **Subsection 5.4** summarizes recommendations that would specifically apply to any potential Settlement Area Boundary Expansion in the headwaters of Carruthers Creek.



**FIGURE 6:**  
Overview of Management Framework

**GOAL 1**

**Land Use**

Achieve sustainable land use and infrastructure development patterns to protect, enhance, and restore water quality and maintain stable water balance.

**OBJECTIVE 1**

Minimize the impacts of land uses through sustainability policies and the use of low impact development and green infrastructure.

**Indicators:**

Report on implementation of sustainable development policies/standards.

**OBJECTIVE 2**

Install and upgrade stormwater infrastructure using best available technologies to reduce runoff; resulting in improved water balance and water quality.

**Indicators:**

Report on the status of stormwater management.

**OBJECTIVE 3**

Manage the risks of natural hazards through appropriate mitigation measures and restoration.

**Indicators:**

Reduce number of flood vulnerable structures and roads.

**OBJECTIVE 4**

Encourage the use of agricultural best management practices to minimize agricultural runoff and improve rural land stewardship.

**Indicators:**

Work with the agricultural community to track implementation of best management practices.



**GOAL 2**

**Water Resource System**

Protect, enhance, and restore the areas and features that make up the Water Resource System (including aquatic habitat) for ecosystem resilience and sustainability.

**OBJECTIVE 1**

Implement appropriate policies and programs that protect, enhance, and restore the areas and features that comprise the Water Resource System.

**Indicator:**

Appropriate policy designations are in place for the Water Resource System.

**OBJECTIVE 2**

Promote aquatic habitat connectivity to facilitate native fish movement throughout the watershed.

**Indicator:**

Maintain, or improve, aquatic health rankings.



**GOAL 3**

**Natural Heritage System**

Protect, enhance, and restore the Natural Heritage System and urban forest within the watershed to improve ecosystem resilience and sustainability.

**OBJECTIVE 1**

Improve the quality and quantity of the Natural Heritage System across the watershed through ecosystem protection, enhancement, and restoration, and implementation of relevant policies.

**Indicators:**

Increase total natural cover in the watershed.

Appropriate policy designations are in place for the Natural Heritage System.

**OBJECTIVE 2**

Ensure habitat exists for native terrestrial species to thrive throughout the watershed.

**Indicators:**

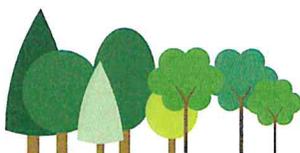
Maintain, or increase, the number and area of species and vegetation communities of concern.

**OBJECTIVE 3**

Increase the urban forest cover within the developed portion of the watershed to improve social and environmental well-being.

**Indicator:**

Increase total tree canopy in the watershed.





## 5.1 LAND USE / INFRASTRUCTURE GOAL

### GOAL 1

**Achieve sustainable land use and infrastructure development patterns to protect, enhance, and restore water quality and maintain stable water balance.**

This goal area focuses on the policy, land use, and infrastructure planning processes that influence the health of the watershed. The management recommendations are numbered to correspond with their applicable goal and objective.



**TABLE 6:**  
Land Use Management Recommendations

Land Use Objective	Management Recommendations
<p><b>LAND USE OBJECTIVE 1</b></p> <p>Minimize the impacts of land uses through sustainability policies and the use of low impact development and green infrastructure.</p>	<p><b>1.1.1</b></p> <p>Lower-tier municipalities, in collaboration with the Region of Durham and TRCA, to adopt green development policies, or standards, and require new developments, and redevelopments, to utilize low impact development and green infrastructure techniques to limit the impacts of increased impervious cover. The following shall apply to any municipal policies, or standards, in particular within ESGRAs, as identified on <b>Map 1B</b>:</p> <ul style="list-style-type: none"> <li>a. new developments shall minimize impervious cover and strive to achieve 90<sup>th</sup> percentile volume control of annual rainfall</li> <li>b. redevelopments shall minimize impervious cover and strive to achieve 75<sup>th</sup> percentile volume control of annual rainfall</li> </ul>
	<p><b>1.1.2</b></p> <p>The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to develop mechanisms to track and report on implementation of sustainable development practices to assess the effectiveness of policies and standards.</p>
	<p><b>1.1.3</b></p> <p>If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, the Region of Durham, in collaboration with the lower-tier municipalities and TRCA, will identify, based on consensus between the identified parties, the subsequent planning processes and further studies and assessments, that would be required to implement any such expansion. These requirements should be reflected as policies within the Regional Official Plan and include the requirement for the preparation of a secondary plan and a subwatershed plan (or equivalent), which would be supported by, at a minimum, the following studies, assessments, and further considerations:</p> <ul style="list-style-type: none"> <li>a. a hydraulic assessment</li> <li>b. how natural hazards will be assessed and mitigated (i.e. the risk of flooding and erosion will not increase)</li> <li>c. how the Natural Heritage System and Water Resource System will be protected, enhanced, and restored</li> <li>d. how water quality and quantity will be protected</li> <li>e. how flood mitigation solutions will be funded, including identification of the responsible parties for providing the funding. This includes the cost of any necessary studies, engineering design, and actual construction/maintenance of flood mitigation works</li> </ul>

Land Use Objective	Management Recommendations
<p><b>LAND USE OBJECTIVE 1</b></p> <p>cont'd</p>	<p><b>1.1.4</b></p> <p>During planning for transportation infrastructure improvement projects, or new projects, the Region of Durham and lower-tier municipalities to implement best management practices for design, expansions and widenings in accordance with TRCA's <i>Crossing Guideline for Valley and Stream Corridors</i>, and ensure consistent policies and standards are in place to facilitate hydraulic function (e.g. prevent flooding) and ecological connectivity (e.g. wildlife passage). See <a href="#">Map 3</a> for priority crossings.</p>
	<p><b>1.1.5</b></p> <p>Lower-tier municipalities to improve the management of excess soils and prevent fill deposition that is incompatible with the soils and hydrology of the area by:</p> <ul style="list-style-type: none"> <li>a. ensuring adequate policies and bylaws are in place to manage excess soil</li> <li>b. improving compliance and enforcement of policies through collaboration between TRCA and municipalities</li> <li>c. conducting education and outreach on: <ul style="list-style-type: none"> <li>i. the importance of proper soil management</li> <li>ii. existing regulatory requirements</li> <li>iii. regulatory responsibilities of various agencies, including who to contact with concerns</li> </ul> </li> <li>d. collaborating with agencies and other levels of government, including the Region of Durham, to ensure infrastructure projects that generate, or receive excess soil follow best management practices</li> </ul>
	<p><b>1.1.6</b></p> <p>The Region of Durham and lower-tier municipalities, in collaboration with other levels of government and TRCA, to work to reduce the amount of chlorides entering the watershed by:</p> <ul style="list-style-type: none"> <li>a. continuing to implement best management practices for winter de-icing procedures on public property</li> <li>b. continuing education and outreach on salt management for private property</li> </ul>
	<p><b>1.1.7</b></p> <p>TRCA, in collaboration with the Town of Ajax, to identify and promote opportunities for sustainable community retrofits in priority planting neighbourhoods (See <a href="#">Map 8</a>).</p>

Land Use Objective	Management Recommendations
<p><b>LAND USE OBJECTIVE 2</b></p> <p>Install and upgrade stormwater infrastructure using best available technologies to reduce runoff; resulting in improved water balance and water quality.</p>	<p><b>1.2.1</b></p> <p>Lower-tier municipalities, in collaboration with the Region of Durham and TRCA, through stormwater master planning continue to:</p> <ul style="list-style-type: none"> <li>a. employ best management practices for stormwater management and consistent design criteria to manage runoff quantity and quality</li> <li>b. consider stormwater funding options for cost recovery and to reduce impervious surfaces in the watershed</li> <li>c. examine opportunities to retrofit outdated stormwater infrastructure and install stormwater controls in areas without controls through long-term planning and investment strategies</li> <li>d. refine existing policies to ensure modern stormwater controls are required</li> <li>e. adaptively manage stormwater infrastructure through operation maintenance schedules and procedures</li> </ul>
	<p><b>1.2.2</b></p> <p>Lower-tier municipalities, in collaboration with the Region of Durham and TRCA, to develop mechanisms to track the status and effectiveness of stormwater management infrastructure.</p>
	<p><b>1.2.3</b></p> <p>Lower-tier municipalities to explore opportunities to enhance stormwater management in neighbourhoods with outdated or no stormwater facilities by retrofitting infrastructure to meet modern stormwater design criteria, as much as possible, given site characteristics.</p>
	<p><b>1.2.4</b></p> <p>For new developments, lower-tier municipalities to require hydrologic analysis and erosion threshold assessments downstream of potential stormwater management facilities that need to demonstrate no negative, or adverse, downstream impacts, prior to municipal approvals.</p>
<p><b>LAND USE OBJECTIVE 3</b></p> <p>Manage the risks of natural hazards through appropriate mitigation measures and restoration.</p>	<p><b>1.3.1</b></p> <p>TRCA, in collaboration with lower-tier municipalities, to prioritize the restoration of the erosion hazard sites identified on <b>Map 4</b>. Additional channel restoration, or increased stream bank protection may be required as preventative measures in areas downstream of new developments.</p>
	<p><b>1.3.2</b></p> <p>The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to identify potential hazard risks to sewer and existing road infrastructure associated with in-stream creek erosion and implement strategies to eliminate identified risks.</p>

Land Use Objective	Management Recommendations
<p><b>LAND USE OBJECTIVE 3</b></p> <p>cont'd</p>	<p><b>1.3.3</b> Implement appropriate flood mitigation measures for the Flood Vulnerable Cluster in the Town of Ajax, which could involve:</p> <ul style="list-style-type: none"> <li>a. reopening, or initiating, a new environmental assessment to provide a more comprehensive list of alternatives to offset impacts associated with potential development in the headwaters</li> <li>b. the application of regional control in the headwaters of Carruthers Creek, if developed, and required by the updated flood modelling (see management recommendation 1.3.5)</li> </ul> <p><b>1.3.4</b> TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to educate property owners in high flood risk areas about proper lot level practices (e.g. removing hydraulic impairments).</p> <p><b>1.3.5</b> TRCA will continue to complete comprehensive flood plain mapping based on routinely updated hydraulic models and updated land use information to inform municipal planning decisions. Regulatory flood plain mapping is updated based on approved land uses.</p>
<p><b>LAND USE OBJECTIVE 4</b></p> <p>Encourage the use of agricultural best management practices to minimize agricultural runoff and improve rural land stewardship.</p>	<p><b>1.4.1</b> In collaboration with the agricultural community and provincial ministries, TRCA, the Region of Durham and lower-tier municipalities to identify opportunities to expand best management practices that reduce agricultural runoff and improve water management, such as:</p> <ul style="list-style-type: none"> <li>a. use cover crops and / or leave crop residue</li> <li>b. adopt no till farm practices during non-growing season</li> <li>c. conduct soil testing for nutrients and adjust fertilizer application rates, if required</li> </ul> <p><b>1.4.2</b> In collaboration with the agricultural community, rural land owners, and provincial ministries, TRCA, the Region of Durham, and lower-tier municipalities to identify opportunities to improve rural land stewardship best management practices through:</p> <ul style="list-style-type: none"> <li>a. natural buffers between agricultural lands and natural and / or water resource features and areas</li> <li>b. implementation of Environmental Farm Plans and other rural land stewardship programs (e.g. TRCA's Rural Clean Water Programs)</li> <li>c. education / outreach about the benefits of utilizing best management practices to improve habitat (e.g. meadows for sensitive bird species)</li> </ul>

## 5.2 WATER RESOURCE SYSTEM GOAL

### GOAL 2

**Protect, enhance, and restore the areas and features that make up the Water Resource System (including aquatic habitat) for ecosystem resilience and sustainability.**

This goal area focuses on ensuring policies are in place for the long-term protection of the WRS and undertaking priority restoration initiatives to benefit the long-term resiliency of the WRS. The WRS is presented in **Map 1A** and **Map 1B**. The areas and features that comprise the WRS are to be protected in accordance with the recommendations laid out in this subsection.

**TABLE 7:**  
WRS Management Recommendations

WRS Objective	Management Recommendations
<p><b>WRS OBJECTIVE 1</b></p> <p>Implement appropriate policies and programs that protect, enhance, and restore the areas and features that comprise the Water Resource System.</p>	<p><b>2.1.1</b></p> <p>The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to ensure the protection of the Water Resource System (<b>Map 1A</b> and <b>Map 1B</b>) and its functions, by:</p> <ul style="list-style-type: none"> <li>a. updating Official Plans and zoning bylaws to protect the Water Resource System</li> <li>b. assessing existing standards and guidelines for land use and infrastructure development to ensure they reflect current provincial policy direction to protect, enhance, and restore the quality and quantity of water</li> <li>c. avoiding development near key hydrologic features through the establishment of appropriate buffers</li> <li>d. requiring the implementation of appropriate mitigation measures where avoidance of key hydrologic areas is not possible, in order to maintain hydrologic functions</li> </ul>
	<p><b>2.1.2</b></p> <p>TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to routinely update mapping data layers for all components of the Water Resource System as new information becomes available.</p>

WRS Objective	Management Recommendations
<p><b>WRS OBJECTIVE 1</b></p> <p>cont'd</p>	<p><b>2.1.3</b> TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to prioritize the restoration of the aquatic sites identified on <b>Map 4</b>, which have been selected for contributing to the following:</p> <ul style="list-style-type: none"> <li>a. enhancing habitat quality and watershed connectivity</li> <li>b. ensuring biodiversity persists</li> <li>c. improving watershed resiliency to climate change</li> </ul> <hr/> <p><b>2.1.4</b> If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, the City of Pickering, in collaboration with the Region of Durham, Town of Ajax, and TRCA, prior to approvals of a secondary plan, to demonstrate through a subwatershed plan (or equivalent) that:</p> <ul style="list-style-type: none"> <li>a. key hydrologic features will be protected and hydrologic functions maintained</li> <li>b. where avoidance of key hydrologic areas is not possible, appropriate mitigation measures are to be implemented to maintain downstream hydrologic functions</li> <li>c. there will be no negative or adverse downstream effects, such as increased flooding, erosion, or deteriorated water quality through a hydraulic analysis (to quantify and map depth and extent of impacts) and other relevant modelling</li> </ul>
<p><b>WRS OBJECTIVE 2</b></p> <p>Promote aquatic habitat connectivity to facilitate native fish movement throughout the watershed.</p>	<p><b>2.2.1</b> TRCA, in collaboration with the Region of Durham and lower-tier municipalities and landowners, to remove the six priority barriers to fish movement identified in <b>Map 5</b>.</p> <hr/> <p><b>2.2.2</b> TRCA, through its application review function, to identify and implement avoidance, conservation, design, and mitigation measures for the protection and / or recovery of native aquatic species, including Redside Dace and its habitat. For activities that affect Redside Dace habitat, consult the <i>Guidance for Development Activities in Redside Dace Protected Habitat</i> (MNR 2016), MECP and DFO to determine requirements under species at risk legislation.</p>

## 5.3 NATURAL HERITAGE SYSTEM GOAL

### GOAL 3

**Protect, enhance, and restore the Natural Heritage System and urban forest within the watershed to improve ecosystem resilience and sustainability.**

This goal area focuses on improving the quality and quantity of natural systems throughout the watershed. The proposed enhanced NHS identified on [Map 2](#) is recommended by TRCA to achieve this goal. It will be up to municipalities to adopt a NHS that is consistent with provincial policy and informed by the goals and objectives of the CCWP. The proposed enhanced NHS includes areas with existing natural cover and areas that are targeted to be potential natural cover through restoration. Refinements to the recommended NHS may be considered assuming the scientific analysis is consistent with the goals and objectives of the CCWP. The recommended NHS is designed to move towards the minimum target for natural cover in an urban and urbanizing watershed as established in TRCA's *Terrestrial Natural Heritage System Strategy* (2007) and *How Much Habitat is Enough?* (Environment and Climate Change Canada, 2013). Assuming that the identified potential natural cover areas are restored, the recommended NHS achieves approximately 36% natural cover across the watershed, including approximately 25% forests and successional forests and 7% wetlands, consistent with the minimum targets. A large amount of the land recommended for potential natural cover occurs in the headwaters of Carruthers Creek. If development proceeds in this area, it will be essential to restore and protect (i.e. through securement) an amount of land consistent with the recommended NHS.

To appropriately implement a NHS will require updates to municipal Official Plans, which can then guide future land use decisions to avoid development in the municipally adopted NHS, mitigate any impacts or, where impacts are unavoidable, provide ecosystem compensation. The management recommendations related to the NHS in this subsection are consistent with TRCA's protection hierarchy of avoid, minimize, mitigate, and as a last resort compensate.

Urban forests provide valuable terrestrial habitat, help manage stormwater, provide clean air, and other socio-economic benefits (e.g. regulates local temperatures, improves personal well-being). Including urban forestry under this NHS goal recognizes the integrated nature of natural areas (i.e. NHS) and the ecological value of additional natural cover in parks, on streets, or private property (i.e. urban forests).

**TABLE 8:**  
NHS Management Recommendations

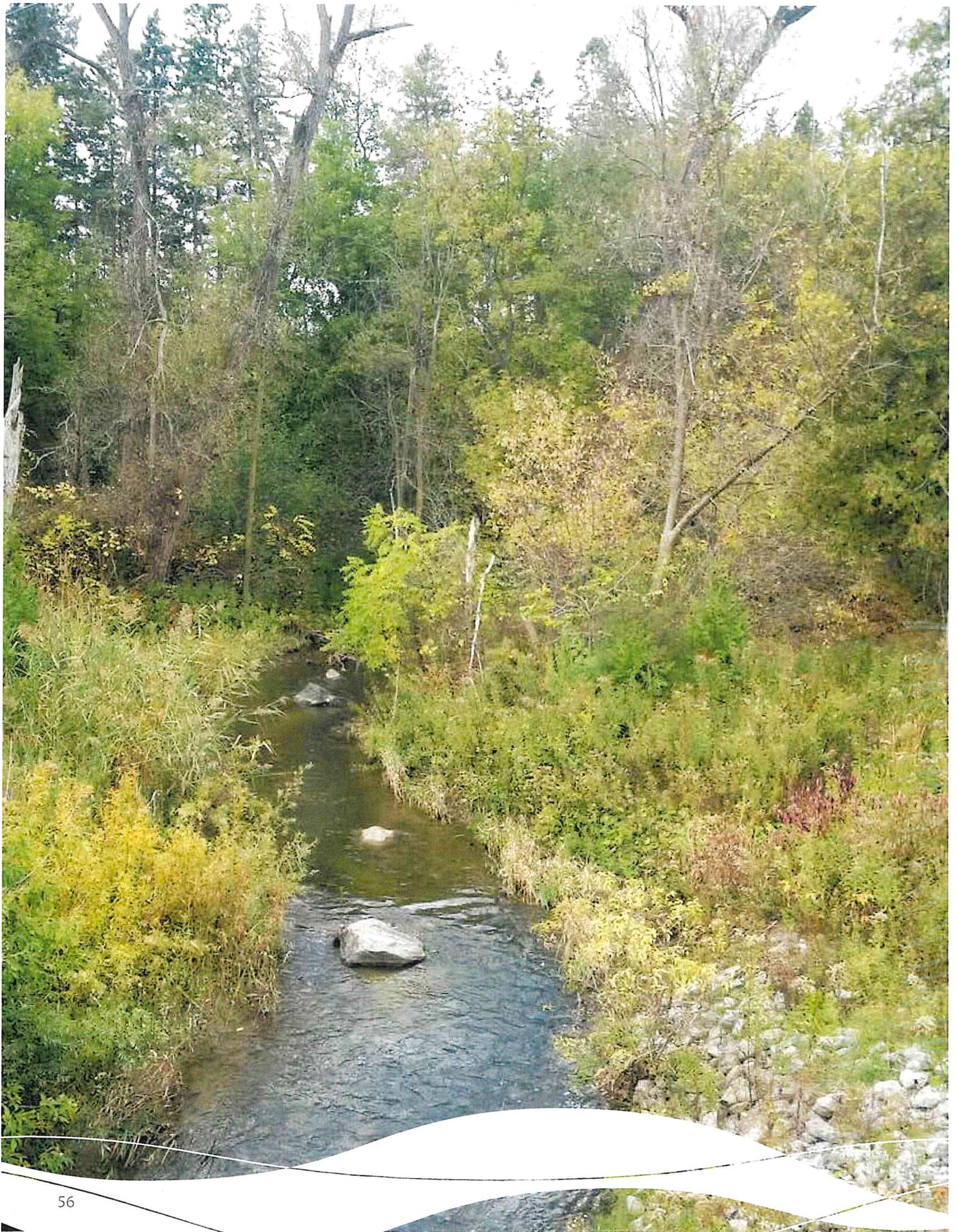
NHS Objective	Management Recommendations
<p><b>NHS OBJECTIVE 1</b></p> <p>Improve the quality and quantity of the Natural Heritage System across the watershed through ecosystem protection, enhancement, and restoration, and implementation of relevant policies.</p>	<p><b>3.1.1</b></p> <p>The Region of Durham, as part of its Municipal Comprehensive Review, to ensure the protection, enhancement, and restoration of a Natural Heritage System consistent with the goals and objectives of this watershed plan (<b>Map 2</b> for recommended NHS) by:</p> <ul style="list-style-type: none"> <li>a. including existing natural cover areas identified in <b>Map 2</b> in the Regional Official Plan</li> <li>b. providing direction to lower-tier municipalities to include policies in their Official Plans to protect, enhance and restore existing natural cover areas as identified in <b>Map 2</b></li> <li>c. recognizing the potential natural cover areas identified in <b>Map 2</b> in the Regional Official Plan and providing direction to lower-tier municipalities to include any relevant policies in their Official Plans to enhance and restore potential natural cover areas</li> <li>d. avoiding infrastructure development (i.e. buildings and structures) and minimizing infrastructure linear feature crossings, in a municipally designated enhanced Natural Heritage System</li> <li>e. providing direction to lower-tier municipalities on the establishment of minimum vegetation protection zones along natural heritage features, with the ability of the minimum vegetation protection zone to be confirmed through an appropriate environmental study</li> </ul>
	<p><b>3.1.2</b></p> <p>Lower-tier municipalities, in collaboration with TRCA, to ensure the protection, enhancement, and restoration of a Natural Heritage System consistent with the goals and objectives of this watershed plan (<b>Map 2</b>), including the target of achieving 36% natural cover across the watershed, by:</p> <ul style="list-style-type: none"> <li>a. designating in their Official Plans, at a minimum, existing natural cover as identified in <b>Map 2</b></li> <li>b. including policies in their Official Plans to identify enhancement and restoration opportunities for potential natural cover areas as identified in <b>Map 2</b></li> <li>c. assessing existing standards and guidelines for land use and infrastructure development to ensure they reflect current provincial policy direction to maintain, restore, or enhance the municipally designated Natural Heritage System</li> </ul>



NHS Objective	Management Recommendations
<p><b>NHS OBJECTIVE 1</b></p> <p>cont'd</p>	<p><b>3.1.2 (cont'd)</b></p> <ul style="list-style-type: none"> <li>d. avoiding infrastructure development (i.e. buildings and structures) and minimizing infrastructure linear feature crossings, in a municipally designated enhanced Natural Heritage System</li> <li>e. adopting municipal policies for ecosystem compensation that meet or exceed TRCA's <i>Guideline for Determining Ecosystem Compensation</i>, where development in a municipally designated enhanced Natural Heritage System is unavoidable</li> <li>f. applying a minimum vegetation protection zone along natural heritage features at the boundary of a municipally designated enhanced Natural Heritage System. A minimum 30 metre vegetation protection zone is recommended, unless otherwise determined through an appropriate environmental study</li> <li>g. requiring development and site alterations be designed and approved to prevent encroachment into a municipally designated enhanced Natural Heritage System</li> </ul>
	<p><b>3.1.3</b></p> <p>TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to prioritize the restoration of the terrestrial sites identified on <b>Map 4</b>, which have been selected for contributing to the following:</p> <ul style="list-style-type: none"> <li>a. increasing habitat quantity</li> <li>b. enhancing habitat quality and connectivity</li> <li>c. ensuring biodiversity persists</li> <li>d. adapting for climate vulnerabilities</li> </ul>
	<p><b>3.1.4</b></p> <p>TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to explore opportunities to secure the sites identified on <b>Map 6</b> for ecological protection and to increase public land ownership and connectivity along the main channel of Carruthers Creek south of Taunton Road.</p>

NHS Objective	Management Recommendations
<p><b>NHS OBJECTIVE 1</b></p> <p>cont'd</p>	<p><b>3.1.5</b> TRCA, the Region of Durham and lower-tier municipalities to regularly update their trail guidelines and standards for consistency, and to ensure that any new, or modifications to existing trails, use best practices, such as prioritizing the use of boardwalks in sensitive areas (e.g. wetlands), and implementing methods to ensure trail users stay on marked trails (e.g. signage, barriers to humans and dogs, but not other species, and limited access during breeding season).</p> <p><b>3.1.6</b> TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to minimize impacts to the municipally designated Natural Heritage System from any active recreation and human activity by:</p> <ul style="list-style-type: none"> <li>a. ensuring proper trail management and signage</li> <li>b. providing education and outreach on the importance of the municipally designated Natural Heritage System</li> <li>c. promoting community stewardship to maintain and monitor the municipally designated Natural Heritage System for improper trail usage (e.g. off-trail compaction and erosion), illegal dumping and invasive species, while encouraging community restoration programs (e.g. tree plantings)</li> </ul> <p><b>3.1.7</b> Wetland water balance studies that demonstrate how the hydrological function of the wetland is to be protected will be undertaken by the landowner for any potential future growth in the areas identified on <a href="#">Map 7</a>, or other areas identified during subwatershed planning, prior to applicable planning approvals.</p>
<p><b>NHS OBJECTIVE 2</b></p> <p>Promote terrestrial habitat connectivity to ensure native species thrive throughout the watershed.</p>	<p><b>3.2.1</b> The Region of Durham, lower-tier municipalities, TRCA, landowners, and other agencies will collaborate to manage problematic invasive species.</p> <p><b>3.2.2</b> TRCA will continue to work with landowners to restore meadow habitat areas in support of open country bird species at risk, in accordance with the terrestrial restoration priorities identified on <a href="#">Map 4</a>.</p>

NHS Objective	Management Recommendations
<p><b>NHS OBJECTIVE 3</b></p> <p>Increase the urban forest cover within the developed portion of the watershed to improve social and environmental well-being.</p>	<p><b>3.3.1</b></p> <p>Lower-tier municipalities, in collaboration with the Region of Durham and TRCA, to update existing urban forest studies and consolidate them into a comprehensive study that:</p> <ul style="list-style-type: none"> <li>a. accounts for all public and private lands</li> <li>b. develops targets for public and private lands for inclusion in an urban forest strategy</li> <li>c. develops indicators for the quality and quantity of the urban forest for inclusion in an urban forest strategy</li> </ul>
	<p><b>3.3.2</b></p> <p>The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to develop a comprehensive urban forest strategy that:</p> <ul style="list-style-type: none"> <li>a. enhances tree and soil conservation in accordance with <i>Preserving and Restoring Healthy Soil: Best Practices for Urban Construction</i> at any new development, or redevelopment, (e.g. Carruthers Creek Business Area), and on regional property (e.g. along Taunton Road) as depicted on <b>Map 8</b></li> <li>b. focuses urban forest tree planting programs in the Town of Ajax as depicted on <b>Map 8</b></li> <li>c. encourages an urban forest with diverse and native (or non-invasive) tree species and class sizes</li> <li>d. ensures consistent policies and bylaws for tree conservation on public and private lands</li> <li>e. explores opportunities to increase the capacity of the Region of Durham to implement an Urban Forest Strategy consistent with this management recommendation</li> <li>f. encourages participation in knowledge-sharing and collaboration through the Regional Public Works Commissioners of Ontario’s Urban Forestry Sub-working Group and Ontario’s Municipal Arborist and Urban Foresters Association</li> <li>g. includes urban forest targets for existing developed areas and any future development as part of the strategy</li> </ul>



## 5.4 CARRUTHERS CREEK HEADWATERS MANAGEMENT

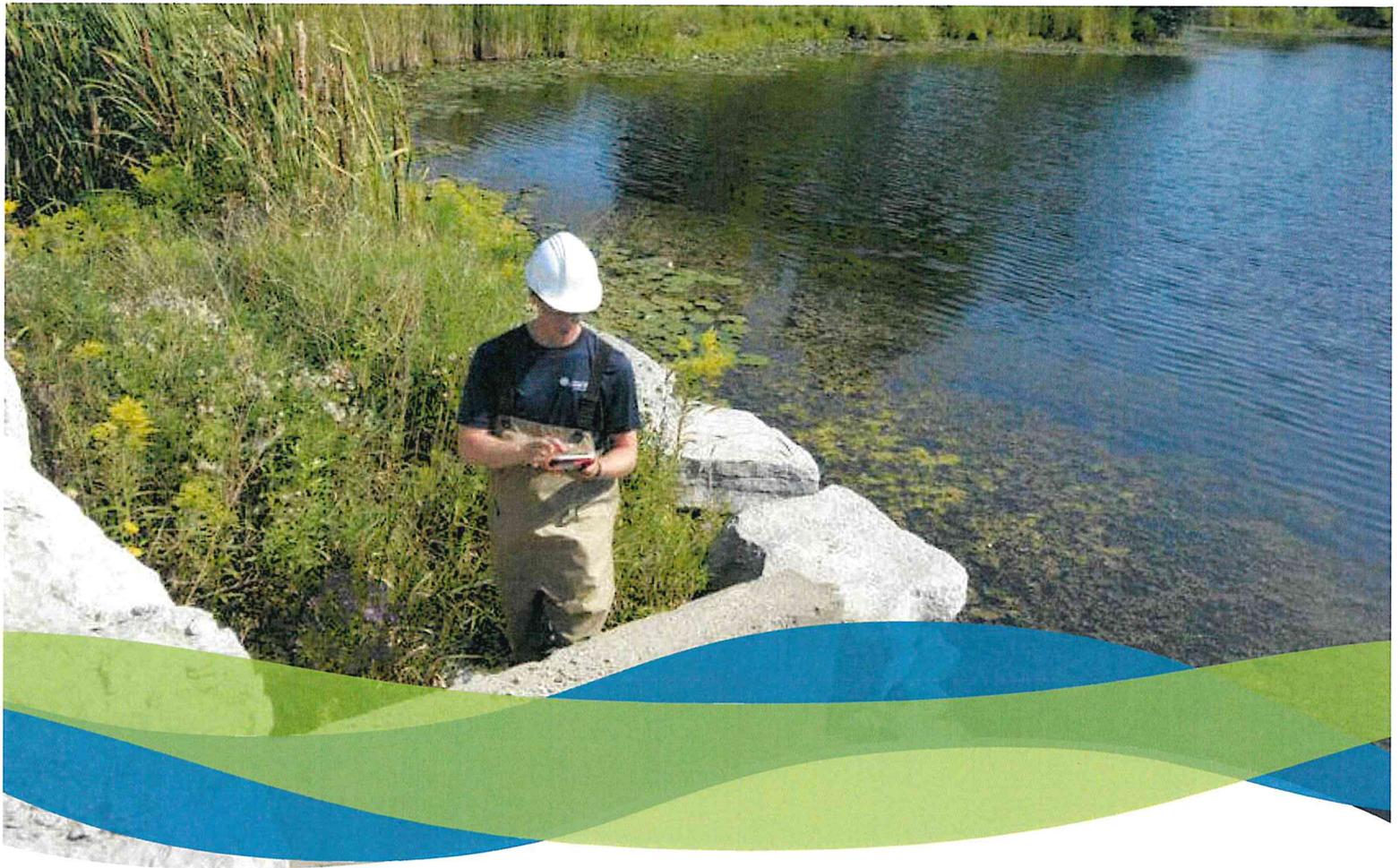
There are several management recommendations that refer to potential future studies, subwatershed planning, or potential development in the headwaters of Carruthers Creek. The headwaters that could potentially have development in the future are the lands outside of the Greenbelt north of Highway 7. At the moment, these lands are not designated as part of the settlement area of the City of Pickering in their Official Plan, or the Region of Durham’s urban area boundary. For any future development to occur, a Settlement Area Boundary Expansion, in compliance with the Growth Plan, would need to occur. The following management recommendations speak to what would be required based on provincial policy and the recommendations in this watershed plan. These management recommendations were already discussed under their relevant goal, but are repeated here as they are specific to the headwaters of Carruthers Creek. Should a decision be made to proceed with a Settlement Area Boundary Expansion, the full suite of management recommendations in **Subsections 5.1 – 5.3** would apply to that area.

**TABLE 9:**  
Headwaters Specific Management Recommendations

	<b>Relevant Management Recommendations</b>	<b>Rationale and Provincial Policy Basis</b>
<b>1.1.3</b>	<p>If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, the Region of Durham, in collaboration with the lower-tier municipalities and TRCA, will identify, based on consensus between the identified parties, the subsequent planning processes and further studies and assessments, that would be required to implement any such expansion. These requirements should be reflected as policies within the Regional Official Plan and include the requirement for the preparation of a secondary plan and a subwatershed plan (or equivalent), which would be supported by, at a minimum, the following studies, assessments, and further considerations:</p> <ol style="list-style-type: none"> <li>a hydraulic assessment</li> <li>how natural hazards will be assessed and mitigated (i.e. the risk of flooding and erosion will not increase)</li> <li>how the Natural Heritage System and Water Resource System will be protected, enhanced, and restored</li> <li>how water quality and quantity will be protected</li> <li>how flood mitigation solutions will be funded, including identification of the responsible parties for providing the funding. This includes the cost of any necessary studies, engineering design, and actual construction/maintenance of flood mitigation works</li> </ol>	<p>Appropriate scoping of any subwatershed studies for potential future Settlement Area Boundary Expansions will allow those studies to build upon work completed through this watershed planning process in a collaborative fashion.</p> <p>Growth Plan policies 2.2.8.3 (d) / (e) and 4.2.1.3 (c).</p>

	Relevant Management Recommendations	Rationale and Provincial Policy Basis
1.1.4	<p>During planning for transportation infrastructure improvement projects, or new projects, the Region of Durham and lower-tier municipalities to implement best management practices for design, expansions and widenings in accordance with TRCA's <i>Crossing Guideline for Valley and Stream Corridors</i>, and ensure consistent policies and standards are in place to facilitate hydraulic function (e.g. prevent flooding) and ecological connectivity (e.g. wildlife passage). See <a href="#">Map 3</a> for priority crossings.</p>	<p>This management recommendation is intended to ensure hydrological and ecological connectivity by improving crossings when new transportation infrastructure is built, or existing infrastructure is upgraded.</p> <p>This recommendation will help protect the integrity of the WRS and NHS, consistent with Growth Plan policies 4.2.1 and 4.2.2.</p>
1.2.4	<p>For new developments, lower-tier municipalities to require hydrologic analysis and erosion threshold assessments downstream of potential stormwater management facilities that need to demonstrate no negative, or adverse, downstream impacts, prior to municipal approvals.</p>	<p>This management recommendation is intended to identify potential changes to the functions of the WRS arising from new development.</p> <p>It is consistent with Growth Plan policies related to stormwater management (3.2.7).</p>
1.3.3	<p>Implement appropriate flood mitigation measures for the Flood Vulnerable Cluster in the Town of Ajax, which could involve:</p> <ul style="list-style-type: none"> <li>a. reopening, or initiating, a new environmental assessment to provide a more comprehensive list of alternatives to offset impacts associated with potential development in the headwaters</li> <li>b. the application of regional control in the headwaters of Carruthers Creek, if developed and required by updated flood modelling</li> </ul>	<p>This management recommendation is in reference to existing flooding issues in the lower part of the Carruthers Creek watershed in the Town of Ajax. The exact nature of the flood mitigation measure will depend on whether development proceeds in the headwaters of Carruthers Creek.</p>

	Relevant Management Recommendations	Rationale and Provincial Policy Basis
2.1.4	<p>If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, the City of Pickering, in collaboration with the Region of Durham, Town of Ajax, and TRCA, prior to approvals of a secondary plan, to demonstrate through a subwatershed plan (or equivalent) that:</p> <ul style="list-style-type: none"> <li>a. key hydrologic features will be protected and hydrologic functions maintained</li> <li>b. where avoidance of key hydrologic areas is not possible, appropriate mitigation measures are to be implemented to maintain downstream hydrologic functions</li> <li>c. there will be no negative or adverse downstream effects, such as increased flooding, erosion, or deteriorated water quality through a hydraulic analysis (to quantify and map depth and extent of impacts) and other relevant modelling</li> </ul>	<p>Similarly, to management recommendation 1.1.3, this management recommendation identifies what is necessary to protect the integrity of the WRS and NHS.</p> <p>Growth Plan policies 2.2.8.3 (d) / (e), 4.2.1.3 (c), 4.2.2.3, and 4.2.2.6.</p>
3.1.7	<p>Wetland water balance studies that demonstrate how the hydrological function of the wetland is to be protected will be undertaken by the landowner for any potential future growth in the areas identified in <b>Map 7</b>, or other areas identified during subwatershed planning, prior to any planning approvals.</p>	<p>Wetlands are vital features to both the WRS and NHS. Any development in proximity to wetland features should demonstrate the protection of hydrologic functions.</p> <p>Growth Plan policies 4.2.1.2, 4.2.1.4, and 4.2.2.3.</p>



## 6. Monitoring and Evaluation

Monitoring is vital to the successful implementation of this watershed plan. Monitoring will help evaluate trends in watershed conditions and track the implementation of plan objectives. Monitoring will help determine what is working to maintain or improve conditions and what, if necessary, needs to change should conditions deteriorate.

The Carruthers Creek monitoring program is designed to evaluate both watershed health and indicators associated with objectives of this watershed plan. The monitoring stations map ([Figure 7](#)) identifies monitoring stations by category based on what they monitor. [Table 10](#) explains the Carruthers Creek monitoring program in detail. The stations identified in the monitoring stations map are cross referenced in the stations column in [Table 10](#) (e.g. the first station listed in the table is an aquatic station, which is the yellow number 1 on the map).

Additional monitoring stations are likely necessary to adequately track watershed health trends and the identified indicators over time. TRCA, in collaboration with its municipal partners, will identify opportunities to expand watershed monitoring with appropriate resourcing. It will be particularly important to ensure monitoring stations are collecting data in all parts of the watershed. Currently, monitoring stations are limited in the northern part of the watershed. If development occurs in the headwaters of Carruthers Creek, it may be necessary to add additional monitoring stations.

**FIGURE 7:  
Monitoring Stations Map**



 <p><b>Toronto and Region Conservation Authority</b></p>		<p><b>Carruthers Creek Watershed Plan: Monitoring Stations</b></p>	<ul style="list-style-type: none"> <li><span style="color: yellow;">●</span> Aquatic</li> <li><span style="color: purple;">●</span> Groundwater</li> <li><span style="color: orange;">●</span> Terrestrial</li> <li><span style="color: red;">●</span> Water Quality</li> <li><span style="color: blue;">●</span> Water Quantity</li> </ul>	<ul style="list-style-type: none"> <li> Municipal Boundary</li> <li> Watercourse</li> <li> Greenbelt Boundary</li> </ul>
<p>Date: September 2019 Created by: TRCA Information Services/Information Technologies Disclaimer: The Data used to create this map was compiled from a variety sources and dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes and corrections at anytime without notice. For further information about the data on this map, please contact the TRCA GIS Department. (416) 661-6600.</p>			<p><b>Land Use</b></p> <ul style="list-style-type: none"> <li> Natural</li> <li> Urban</li> <li> Carruthers Creek Watershed Boundary</li> <li> Carruthers Creek Watershed Plan Study</li> </ul>	

**TABLE 10:**  
Carruthers Creek Monitoring Program

Monitoring Category	Stations	Monitoring Frequency	What is monitored?	Why do we monitor it?
<p><b>WATER RESOURCE SYSTEM</b> (aquatic ecosystems)</p>	<p><b>ID#: CC001WM</b> (Yellow #1 on map)</p> <hr/> <p><b>ID#: CC002WM</b> (Yellow #2 on map)</p> <hr/> <p><b>ID#: CC003WM</b> (Yellow #3 on map)</p>	<p>Every three years</p>	<p>Fish community, aquatic habitat, and benthic invertebrate community</p>	<p><b>Indicator:</b> Maintain, or increase, aquatic health rankings.</p> <p>Applicable to WRS Objective 2.</p> <p>Monitoring these aquatic habitat characteristics allows for the assessments of the overall health of the aquatic ecosystem.</p>
<p><b>NATURAL HERITAGE SYSTEM</b> (terrestrial ecosystems)</p>	<p><b>ID#: FV-18 &amp; FV-18_1</b> (Orange #1 on map)</p>	<p>Annually</p>	<p>Vegetation and forest birds</p>	<p><b>Indicator:</b> Maintain, or increase, the number and area of species and vegetation communities of concern.</p> <p>Applicable to NHS Objective 2.</p> <p>Monitoring these terrestrial habitat characteristics helps to understand how the system is functioning and if there are changes to species composition over time.</p> <p><b>Note:</b> This indicator requires inventory data from across the watershed to be properly assessed. The identified monitoring stations only collect data at that particular location and therefore do not assess trends across the watershed. An inventory would need to be conducted within the next ten years to update information regarding current conditions.</p>

Monitoring Category	Stations	Monitoring Frequency	What is monitored?	Why do we monitor it?
SURFACE WATER QUALITY	<b>ID#: 107002</b> (Red #1 on map)	Monthly samples	Water chemistry (e.g. nutrients), metals, bacteria, and temperature	Applicable to overall watershed health and trends to know whether water quality conditions are improving or not.
	<b>ID#: CC005</b> (Red #2 on map)			Monitoring water quality helps to understand the impacts of land uses on local water quality that ultimately flows into Lake Ontario.
SURFACE WATER QUANTITY	<b>ID#: HY013</b> (Blue #1 on map)	Continuous water level data collected, reported in 15-minute intervals	Stream level, discharge, and temperature	Applicable to overall watershed health and trends to know whether hydrology conditions are improving or not.
	<b>ID#: HY090</b> (Blue #2 on map)			Monitoring stream level, discharge and temperature helps to understand the interconnections between groundwater and surface water. This information can be used to guide the management and protection of baseflow levels to protect aquatic life and ensure sustainable human use of surface water.
	<b>ID#: HY089</b> (Blue #3 on map)			
	<b>ID#: WQ002</b> (Blue #4 on map)	Continuous water level and certain water quality data collected, reported in 15-minute intervals  Monthly grab samples for full suite of water quality parameters  Also takes event-based (i.e. heavy rainfall) water quality samples	Stream level, discharge, and temperature  Note: also measures water quality as part of Lake Ontario tributary monitoring	Applicable to overall watershed health and trends to know whether hydrology and water quality conditions are improving or not.  The primary purpose of this station is to assess nutrient loadings to Lake Ontario.

<b>Monitoring Category</b>	<b>Stations</b>	<b>Monitoring Frequency</b>	<b>What is monitored?</b>	<b>Why do we monitor it?</b>
	<b>ID#: HY121</b> (Blue #5 on map)	Continuous real-time (reporting every 5 minutes)	Rainfall and snowfall amount and temperature	Applicable to overall watershed health and trends to know whether hydrology conditions are improving or not.
	<b>ID#: HY122</b> (Blue #6 on map)			Precipitation monitoring information assists with flood forecasting and warning, event-based sampling, and watershed planning.
<b>GROUNDWATER QUANTITY</b>	<b>ID#: HY121</b> (Purple #1 on map)	Hourly groundwater level and temperature, and monthly manual groundwater level measurements	Water level	Applicable to overall watershed health and trends to know whether hydrogeology conditions are improving or not.  Groundwater and surface water interactions are essential for a functioning WRS. Understanding groundwater conditions is vital to understanding the nature of these interactions.

**Note:**

The following indicators are not evaluated through a particular monitoring station in Carruthers Creek, but will be periodically assessed through GIS analyses:

- Reduce number of flood vulnerable structures and flood vulnerable roads (Land Use Objective 2)
- Increase total natural cover in the watershed (NHS Objective 1)
- Increase total tree canopy in the watershed (NHS Objective 3)

The remaining indicators are qualitative (e.g. ensuring policies are in place) and will be reported on by TRCA in collaboration with its municipal partners.

## Reporting

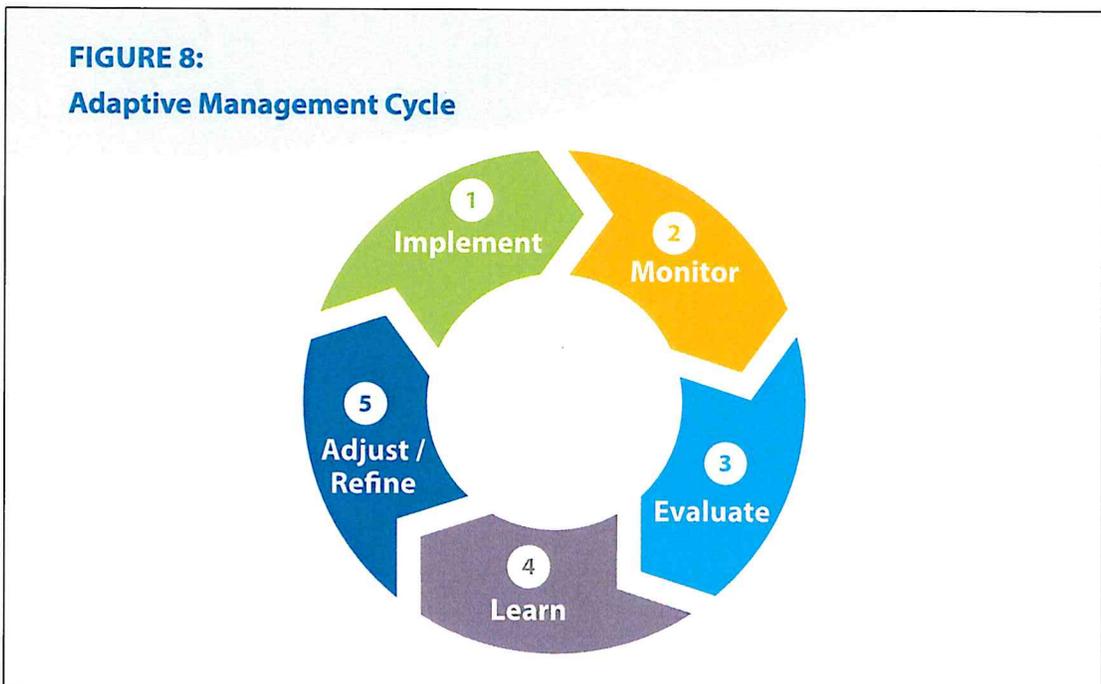
As part of the Carruthers Creek monitoring program, TRCA, in collaboration with its municipal partners, will conduct annual reporting to communicate on the health of the watershed and plan implementation progress.

Annual reporting will help to track watershed health trends and the indicators identified as part of this watershed plan.

Some components of this watershed plan may not be reported on annually (e.g. aquatic community and terrestrial species). This is due to different monitoring frequencies for certain components (e.g. aquatic species are surveyed every three years).

## Adaptive Management

Adaptive management is a systematic process (see **Figure 8**) for continually improving practices by learning and applying updated knowledge to improve project outcomes. In the context of this watershed plan, adaptive management, in combination with the monitoring program, will allow modifications and refinements to management recommendations, and/or the monitoring program throughout the life cycle of this watershed plan. For example, if water quality continues to deteriorate, certain land use management recommendations may not be resulting in the desired outcome, requiring adjustment.



# 7. Maps

## Map 1A

The Water Resource System is essential to maintaining the long-term ecosystem resilience and sustainability of the Carruthers Creek watershed.

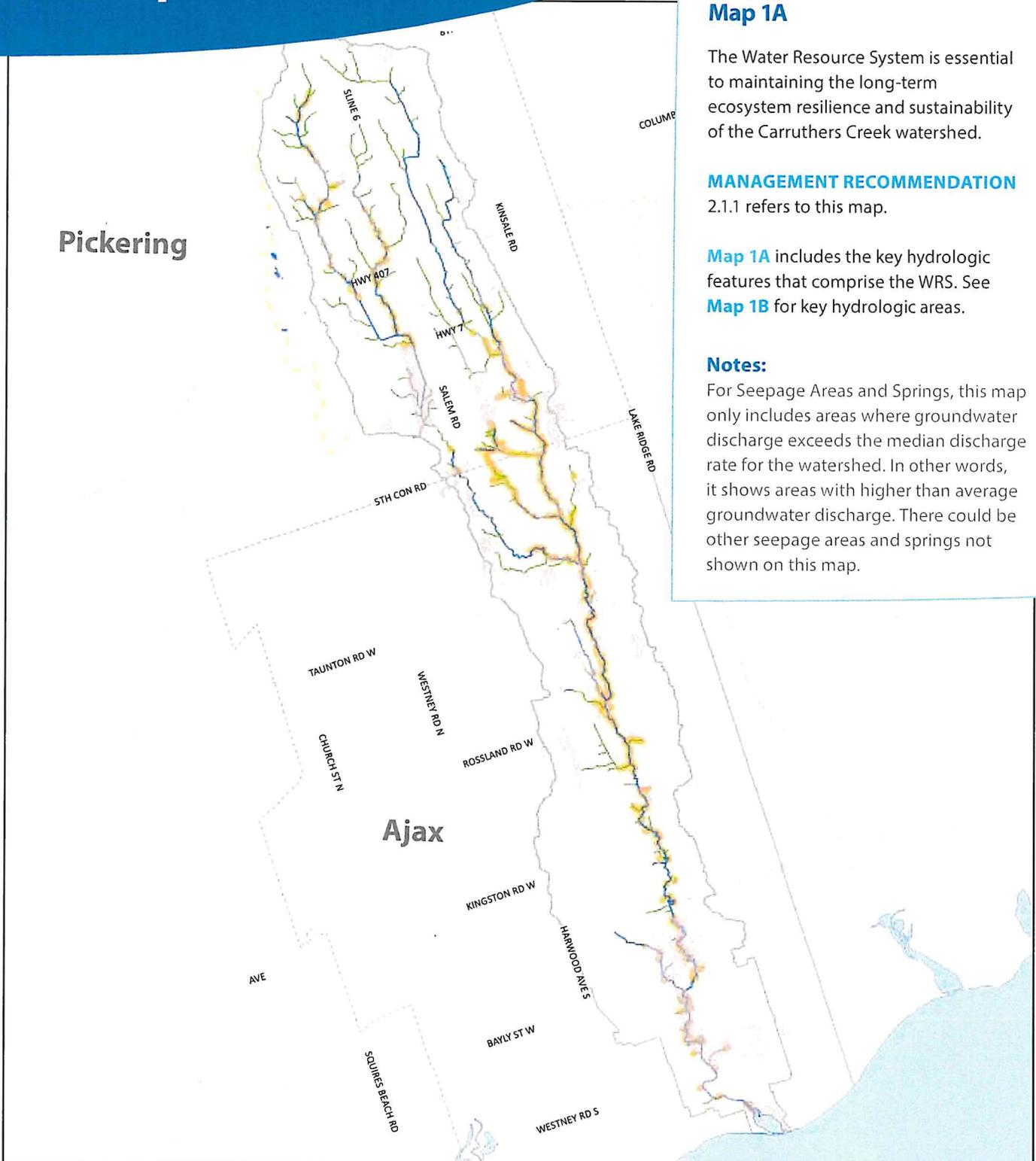
### MANAGEMENT RECOMMENDATION

2.1.1 refers to this map.

**Map 1A** includes the key hydrologic features that comprise the WRS. See **Map 1B** for key hydrologic areas.

### Notes:

For Seepage Areas and Springs, this map only includes areas where groundwater discharge exceeds the median discharge rate for the watershed. In other words, it shows areas with higher than average groundwater discharge. There could be other seepage areas and springs not shown on this map.



	<p style="text-align: center;"><b>Carruthers Creek Watershed Plan: Water Resource System - Map A</b></p>	<p><b>Key Hydrologic Features</b></p> <ul style="list-style-type: none"> <li> Inland Lakes</li> <li> Intermittent Streams</li> <li> Permanent Streams</li> <li> Seepage Areas and Springs</li> <li> Wetlands</li> </ul>
<p>Date: September 2019 Created by: TRCA Information Services/Information Technologies Disclaimer: The Data used to create this map was compiled from a variety of sources and dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes and corrections at any time without notice. For further information about the data on this map, please contact the TRCA GIS Department, (416) 661-6600.</p>	<p style="text-align: center;">0 0.5 1 2 3 KM</p>	<ul style="list-style-type: none"> <li> Municipal Boundary</li> <li> Carruthers Creek Watershed Boundary</li> <li> Carruthers Creek Watershed Plan Study</li> </ul>

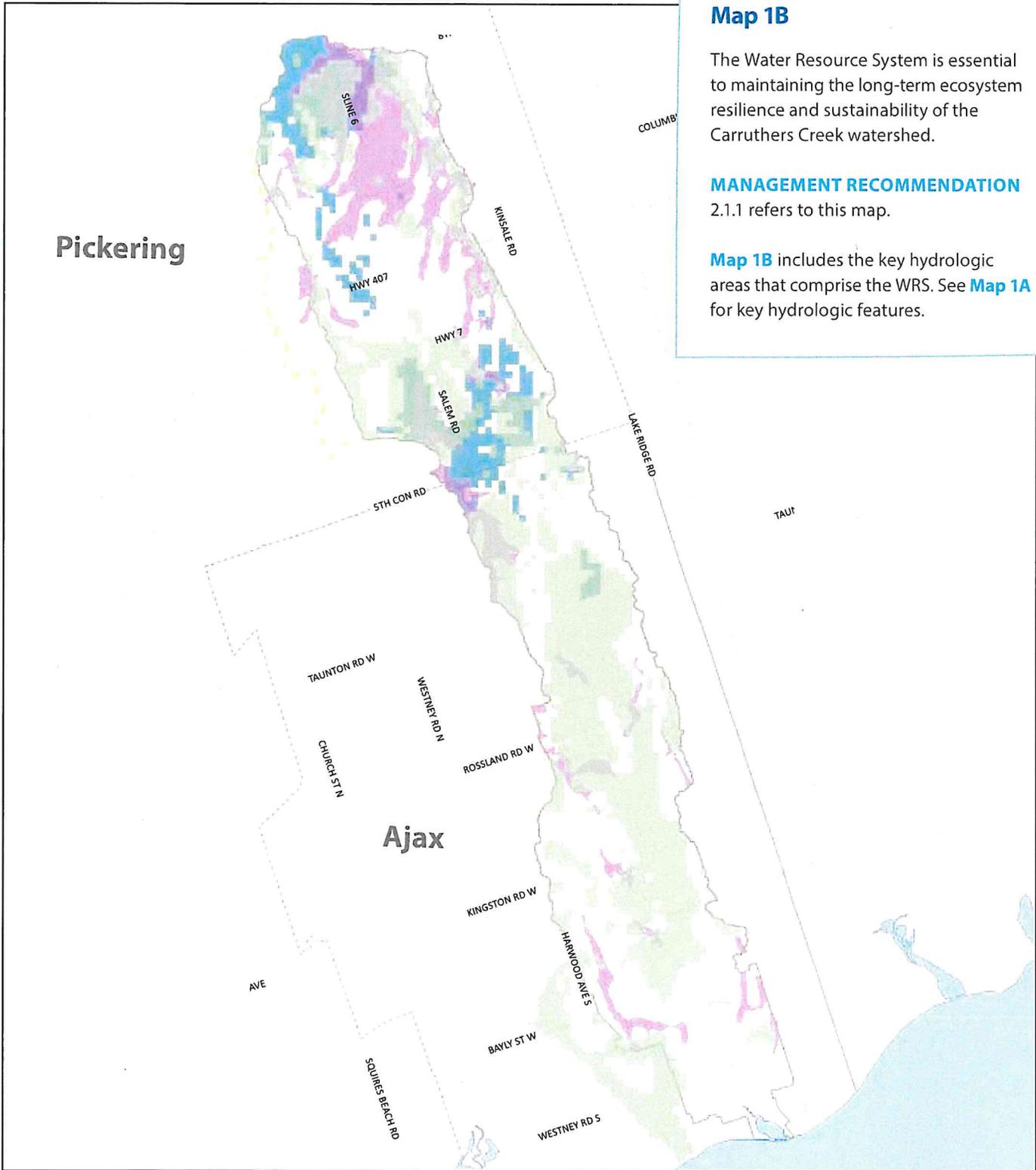
### Map 1B

The Water Resource System is essential to maintaining the long-term ecosystem resilience and sustainability of the Carruthers Creek watershed.

#### MANAGEMENT RECOMMENDATION

2.1.1 refers to this map.

**Map 1B** includes the key hydrologic areas that comprise the WRS. See **Map 1A** for key hydrologic features.



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**Carruthers Creek Watershed Plan:  
 Water Resource System -  
 Map B**

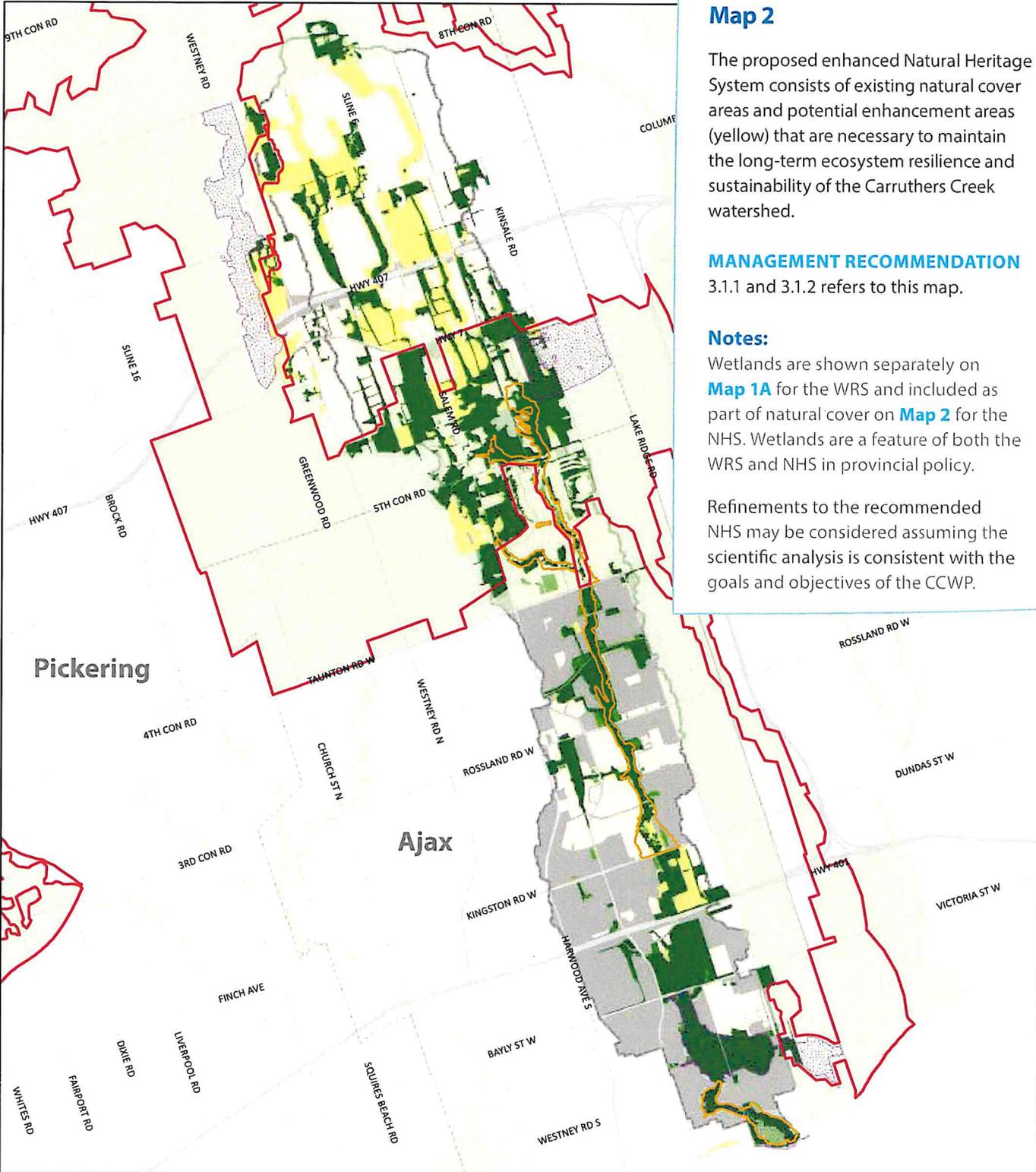
0 0.5 1 2 3 KM

**Key Hydrologic Areas**

- Highly Vulnerable Aquifers
- Significant Groundwater Recharge Areas
- Ecologically Significant Groundwater Recharge Areas

**Boundaries**

- Municipal Boundary
- Carruthers Creek Watershed Boundary
- Carruthers Creek Watershed Plan Study



**Map 2**

The proposed enhanced Natural Heritage System consists of existing natural cover areas and potential enhancement areas (yellow) that are necessary to maintain the long-term ecosystem resilience and sustainability of the Carruthers Creek watershed.

**MANAGEMENT RECOMMENDATION**

3.1.1 and 3.1.2 refers to this map.

**Notes:**

Wetlands are shown separately on **Map 1A** for the WRS and included as part of natural cover on **Map 2** for the NHS. Wetlands are a feature of both the WRS and NHS in provincial policy.

Refinements to the recommended NHS may be considered assuming the scientific analysis is consistent with the goals and objectives of the CCWP.

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**Carruthers Creek Watershed Plan: Enhanced Natural Heritage System**

Valleyland	Carruthers Creek Watershed Boundary
ANSI	Carruthers Creek Watershed Plan Study Area
Natural Cover (Existing)	<b>Land Use</b>
Natural Cover (Potential)	Natural
Provincial NHS	Rural
Municipal Boundary	Urban
Greenbelt Boundary	

### Map 3

This map represents both priority hydrological and ecological connectivity (i.e. habitat connectivity) improvements.

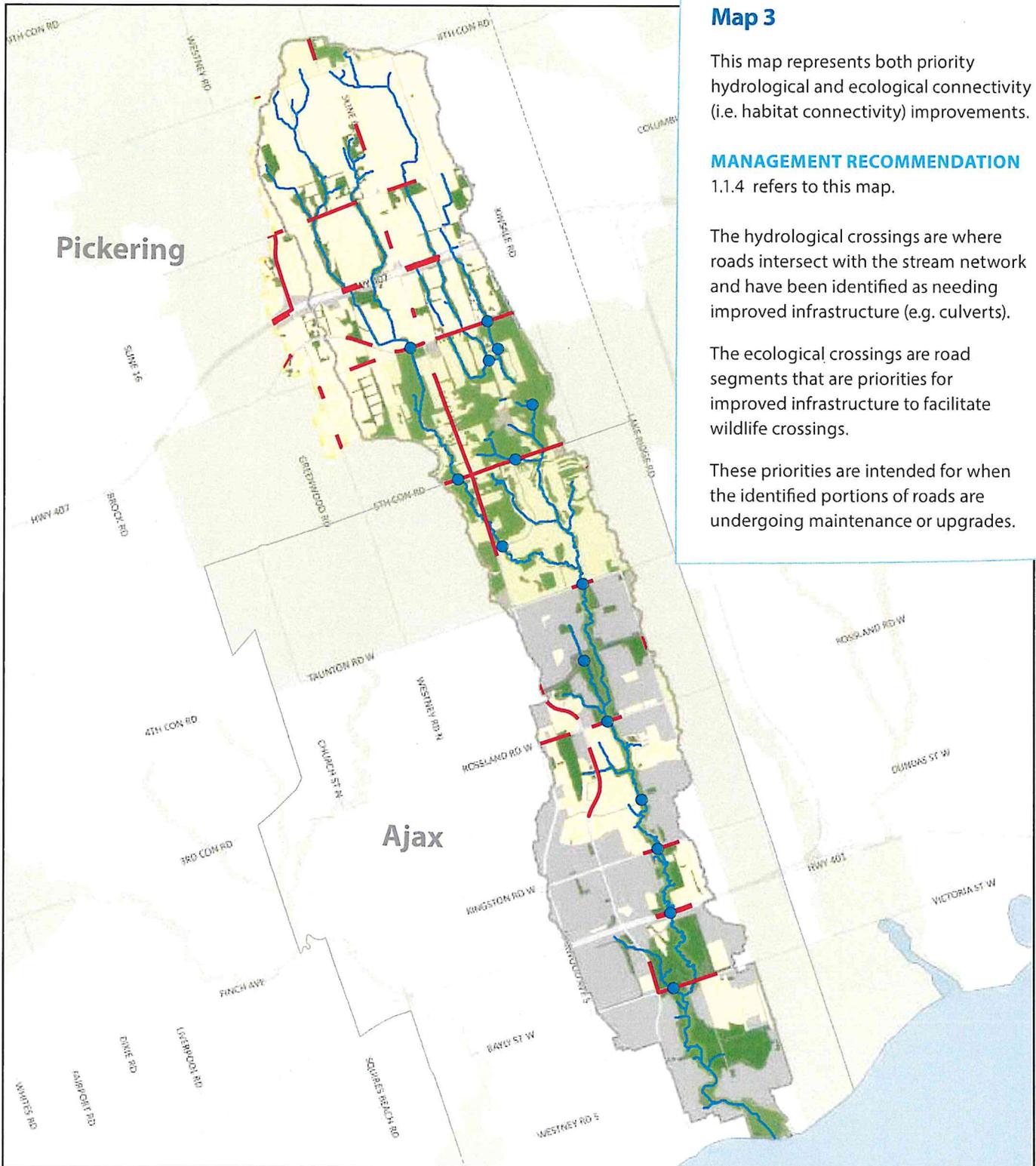
#### MANAGEMENT RECOMMENDATION

1.1.4 refers to this map.

The hydrological crossings are where roads intersect with the stream network and have been identified as needing improved infrastructure (e.g. culverts).

The ecological crossings are road segments that are priorities for improved infrastructure to facilitate wildlife crossings.

These priorities are intended for when the identified portions of roads are undergoing maintenance or upgrades.



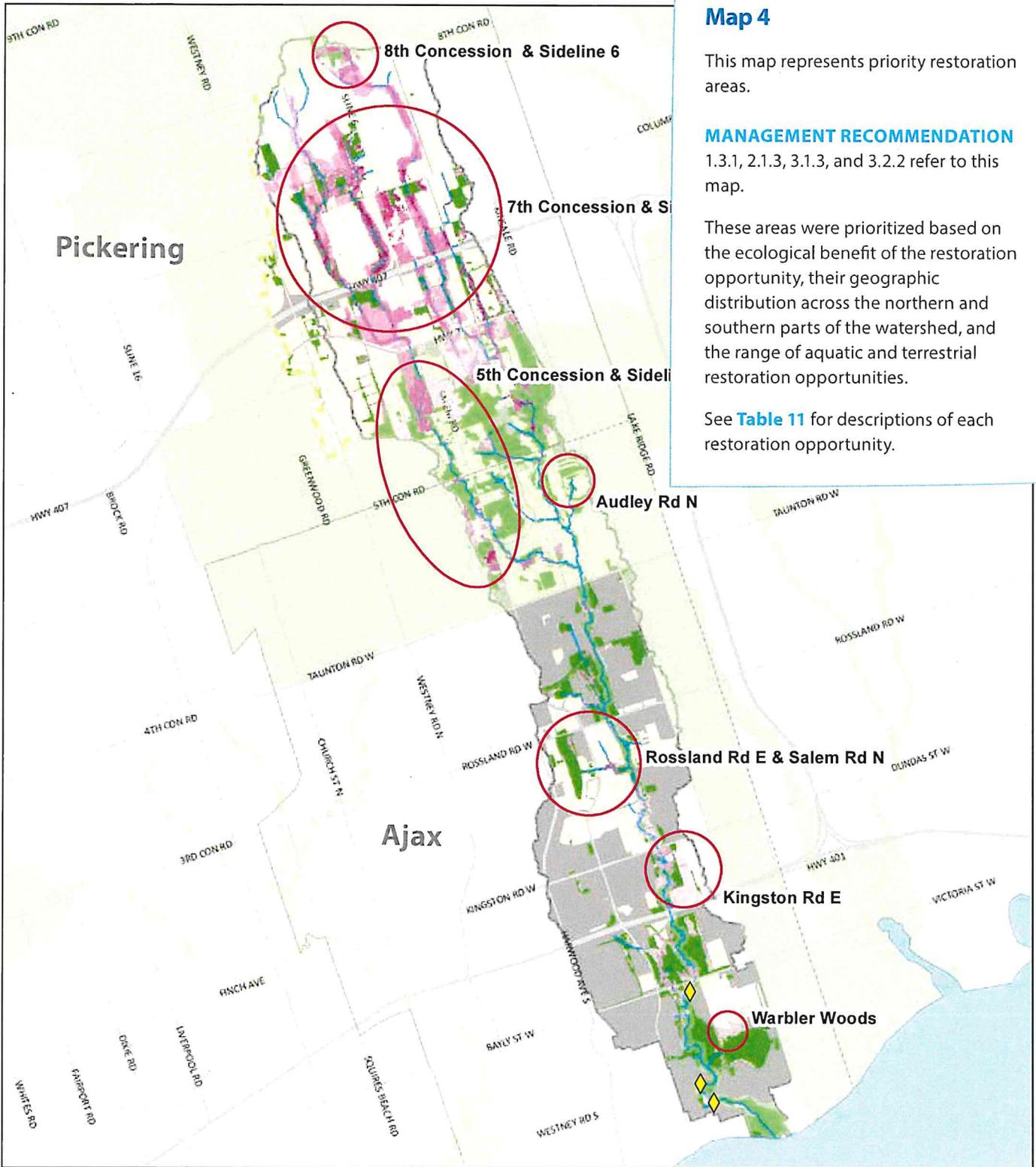
### Carruthers Creek Watershed Plan: Priority Crossing Improvements



- Priority Hydrologic Crossings Improvement Areas
- Priority Ecological Connectivity Areas
- ~ Watercourse
- Greenbelt Boundary
- Carruthers Creek Watershed Boundary
- Carruthers Creek Watershed Plan Study Area
- + Land Use
  - + Rural
  - + Urban
- Municipal Boundary

Note: Priorities shown in this map are for regional roads only

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### Map 4

This map represents priority restoration areas.

#### MANAGEMENT RECOMMENDATION

1.3.1, 2.1.3, 3.1.3, and 3.2.2 refer to this map.

These areas were prioritized based on the ecological benefit of the restoration opportunity, their geographic distribution across the northern and southern parts of the watershed, and the range of aquatic and terrestrial restoration opportunities.

See [Table 11](#) for descriptions of each restoration opportunity.

<p><b>Toronto and Region Conservation Authority</b></p>	<p><b>Carruthers Creek Watershed Plan: Restoration Priorities</b></p>	<ul style="list-style-type: none"> <li> Erosion Priority Restoration Sites</li> <li> Restoration Opportunity Priority Areas</li> <li> Municipal Boundary</li> <li> Watercourse</li> <li><b>Land Use</b></li> <li> Natural</li> <li> Rural</li> <li> Urban</li> <li> Greenbelt Boundary</li> <li> Carruthers Creek Watershed Boundary</li> <li> Carruthers Creek Watershed Plan Study Area</li> </ul>
<p>Date: September 2019          Created by: TRCA Information Services/Information Technologies          Disclaimer:          The Data used to create this map was compiled from a variety of sources and dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes and corrections at anytime without notice. For further information about the data on this map, please contact the TRCA GIS Department, (416) 661-6600.</p>		<p><b>Ecological Benefit of Restoration Opportunity</b></p> <ul style="list-style-type: none"> <li> Highest Benefit</li> </ul>

## Restoration Opportunity Planning for Carruthers Creek

Restoration opportunity planning is TRCA's current process for identifying and recording site-level information for terrestrial and aquatic restoration opportunities (e.g. wetland, riparian, forest, meadow, and stream restoration). TRCA's Integrated Restoration Prioritization (IRP) tool is used to help select priority restoration opportunities where ecological impairments exist and, if restored, could contribute most to the terrestrial natural heritage and water resource systems.

Restoration opportunities in the Carruthers Creek watershed were originally identified using desktop assessment techniques as per the restoration opportunity planning methodology. For the CCWP, a more detailed prioritization method using additional data identified the most important areas to consider for restoration. This involved combining the IRP scores with the criteria listed in management recommendations 2.1.3 for aquatic and 3.1.2 for terrestrial. TRCA then overlaid these scores with the restoration opportunity planning information to identify the highest scoring areas, which are circled in [Map 4](#) (Note: the Audley Road N opportunity was selected for meadow restoration potential in support of management recommendation 3.2.2).



**TABLE 11:**  
Restoration Opportunity Summaries

<b>Location</b>	<b>Restoration Opportunity</b>
<b>8<sup>th</sup> Concession and Sideline 6</b>	<ul style="list-style-type: none"> <li>• Forest, wetland, stream, and riparian restoration opportunities have been identified in areas of residential and agricultural land uses.</li> <li>• Forest restoration will help connect and expand existing forest to the north.</li> <li>• Large-scale wetland and riparian restoration would restore headwater drainage feature functions and benefit downstream habitat. Existing land use patterns have altered streams, wetlands, and riparian areas.</li> <li>• With agriculture as the predominant land-use, the focus of restoration should be to work with property owners to restore and maintain marginal lands that do not negatively impact agricultural use but promote best management practices and contribute to the potential enhanced natural heritage system.</li> </ul>
<b>7<sup>th</sup> Concession and Sideline 6</b>	<ul style="list-style-type: none"> <li>• Forest, wetland, stream, and riparian restoration opportunities were identified in this largely agricultural area.</li> <li>• Highest priority areas include riparian corridors and around existing forest patches.</li> <li>• Portions in the north-east and along hydro corridors of this area provide meadow restoration opportunities.</li> <li>• Areas of wetland restoration will increase habitat diversity, contribute to the reduction of run-off, and increase water infiltration and storage.</li> </ul>
<b>5<sup>th</sup> Concession and Sideline 6</b>	<ul style="list-style-type: none"> <li>• Forest, wetland, riparian, and meadow restoration opportunities were identified in this priority area.</li> <li>• Restore large area of wetland and riparian habitat in the northern portion of this area.</li> <li>• Meadow habitat can be created along the hydro corridor running east to west in this area.</li> <li>• Existing forests can be expanded along the proposed enhanced NHS.</li> </ul>
<b>Audley Road North</b>	<ul style="list-style-type: none"> <li>• Restore wetland and meadow habitat to the east of the stream, in collaboration with golf course.</li> <li>• Meadow restoration potential in the hydro corridor to the south of the area to support habitat for sensitive species.</li> </ul>
<b>Rosland Road East and Salem Road North</b>	<ul style="list-style-type: none"> <li>• Restore riparian buffer to the west of the main branch of the creek and create a forest buffer between future development and the NHS.</li> <li>• Work with developer to restore wetlands and riparian corridors and encourage the use of best management practices such as low impact development and buffers as part of any development.</li> </ul>
<b>Kingston Road East</b>	<ul style="list-style-type: none"> <li>• Restore riparian cover along the main channel of Carruthers Creek.</li> <li>• Restore large wetlands to the east of this area and plant riparian and forest habitat around the wetlands.</li> <li>• Restore ponds in flood plain north of Kingston Road East to enhance wetland habitat and connect corridor along the stream network.</li> </ul>
<b>Kingston Road East</b>	<ul style="list-style-type: none"> <li>• Restore wetland habitat north of existing wetland to provide a buffer between this area and potential development.</li> </ul>
<b>Warbler Woods</b>	<ul style="list-style-type: none"> <li>• Restore wetland habitat north of existing wetland to provide a buffer between this area and potential development.</li> </ul>

## Map 5

This map represents priority fish barriers for removal to restore in-stream aquatic habitat connectivity.

### MANAGEMENT RECOMMENDATION

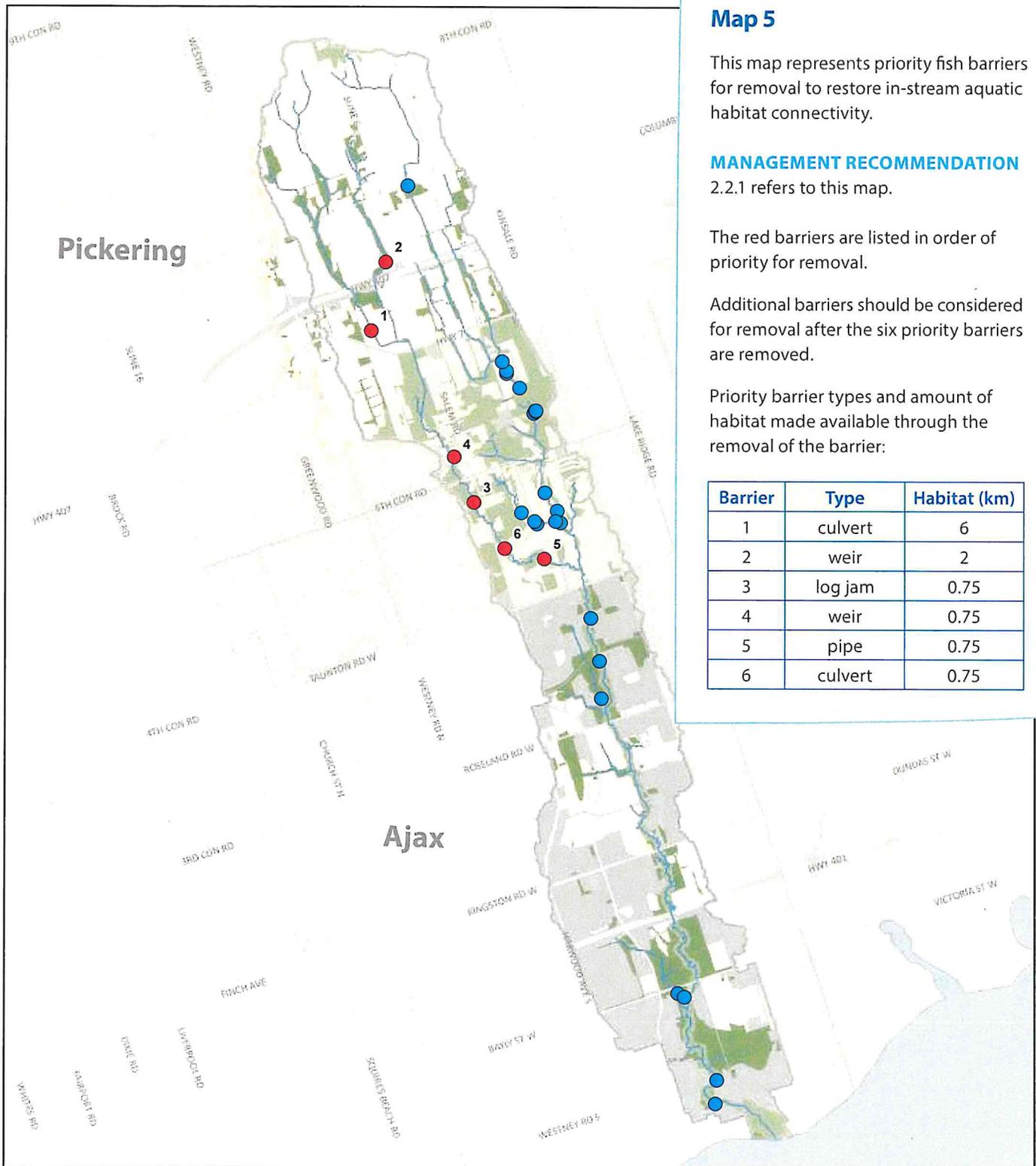
2.2.1 refers to this map.

The red barriers are listed in order of priority for removal.

Additional barriers should be considered for removal after the six priority barriers are removed.

Priority barrier types and amount of habitat made available through the removal of the barrier:

Barrier	Type	Habitat (km)
1	culvert	6
2	weir	2
3	log jam	0.75
4	weir	0.75
5	pipe	0.75
6	culvert	0.75



### Carruthers Creek Watershed Plan: Fish Barriers

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 Created by: TRCA Information Services/Information Technologies  
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- Priority Barriers
- Other Barriers
- Municipal Boundary
- Watercourse
- Greenbelt Boundary
- Carruthers Creek Watershed Boundary
- Carruthers Creek Watershed Plan Study Area
- Land Use**
- Natural
- Rural
- Urban



**Map 6**

This map represents priority areas for public land securement. It is focused south of Taunton Road due to the amount of existing development in that area.

**MANAGEMENT RECOMMENDATION**

3.1.4 refers to this map.

This map does not imply the entirety of the identified areas should become public ownership, but rather where to focus securement efforts when opportunities arise.

These areas are in close proximity to existing public land ownership and the main channel of Carruthers Creek.

**Notes:**

Should development proceed north of Taunton Rd., the priority securement areas would be the existing and potential natural cover areas identified as part of the recommended NHS on **Map 2**.

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**Carruthers Creek Watershed Plan: Priority Securement Areas**

Priority Securement Areas	Greenbelt Boundary	Land Use
Inland Lakes	Carruthers Creek Watershed Boundary	Natural
Watercourse	Carruthers Creek Watershed Plan Study Area	Rural
Municipal Boundary		Urban

## Map 7

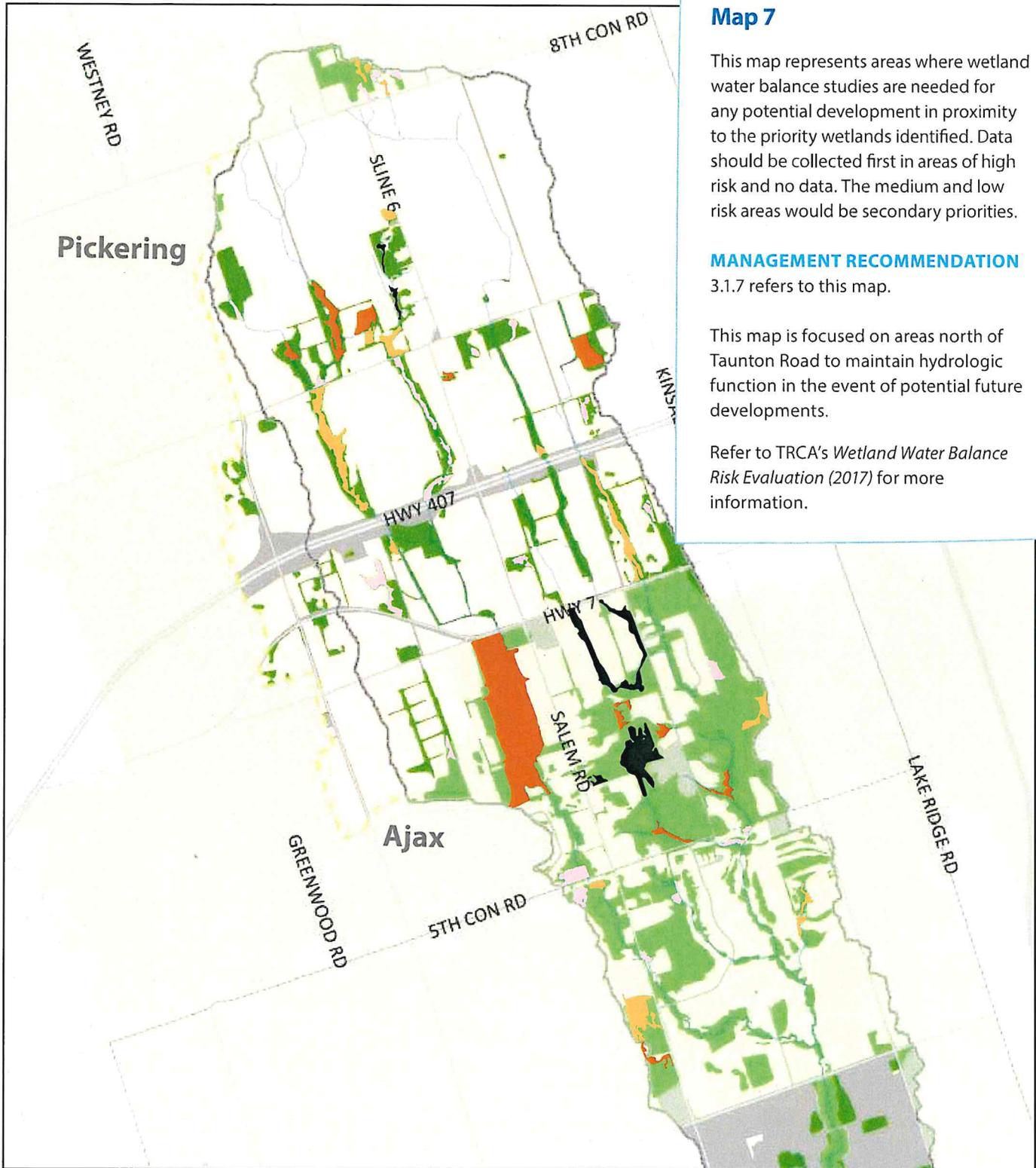
This map represents areas where wetland water balance studies are needed for any potential development in proximity to the priority wetlands identified. Data should be collected first in areas of high risk and no data. The medium and low risk areas would be secondary priorities.

### MANAGEMENT RECOMMENDATION

3.1.7 refers to this map.

This map is focused on areas north of Taunton Road to maintain hydrologic function in the event of potential future developments.

Refer to TRCA's *Wetland Water Balance Risk Evaluation (2017)* for more information.



### Carruthers Creek Watershed Plan: Wetland Water Balance Study Priorities

#### Wetland Priorities\*

- No Data
- High
- Medium
- Low
- Municipal Boundary
- Watercourse

#### Greenbelt Boundary

- Carruthers Creek Watershed Boundary
- Carruthers Creek Watershed Plan Study Area

#### Land Use

- Natural
- Urban

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0 0.5 1 KM

\*Classifications based on TRCA Wetland Water Balance Risk Evaluation framework

### Map 8

This map represents areas to prioritize tree conservation and tree planting within the developed portion of the watershed (i.e. urban forestry projects).

#### MANAGEMENT RECOMMENDATION

1.1.7 and 3.3.2 refers to this map.

This map is focused on areas south of Taunton Road due to the urbanized nature of that part of the watershed.



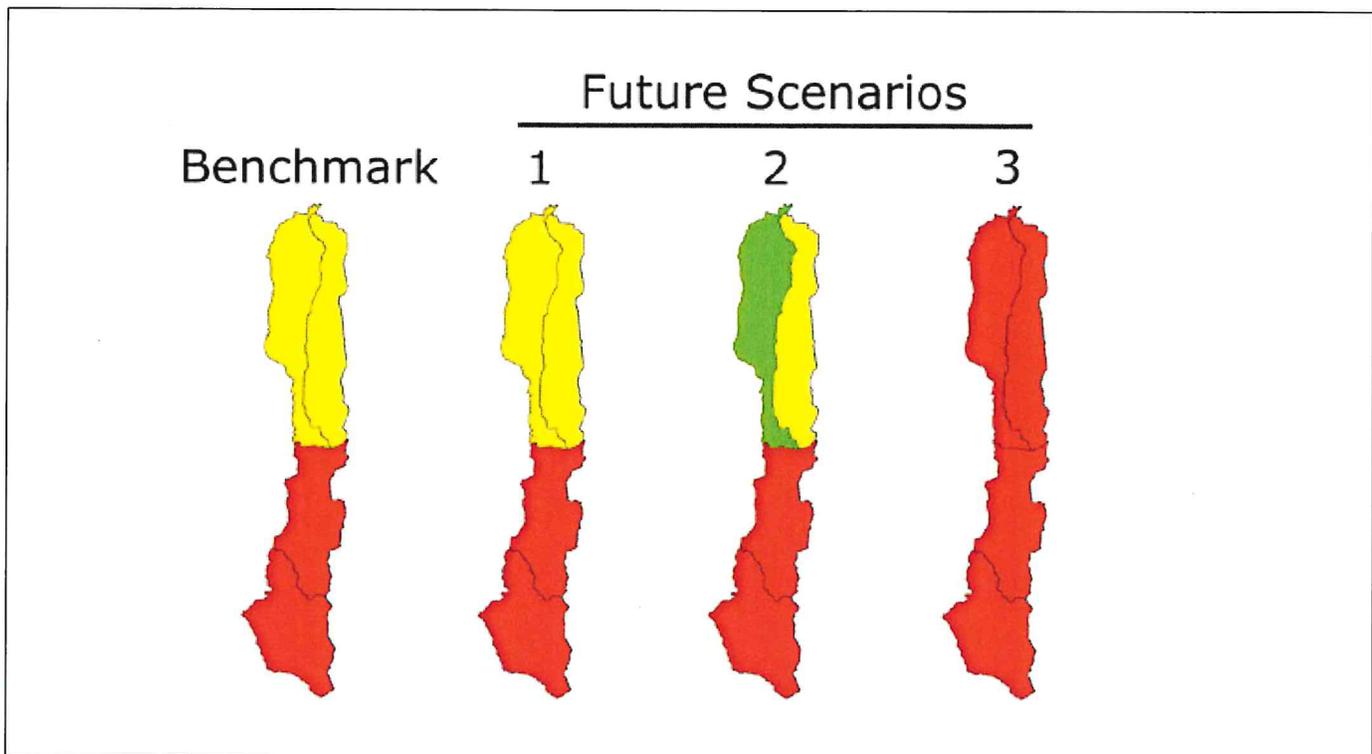
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**Carruthers Creek Watershed Plan:  
 Priority Urban Forestry Areas**

0 0.25 0.5 1 KM

 Road Priorities	 Parks in Priority Neighbourhoods	 Carruthers Creek Watershed Boundary
 Priority Conservation Neighbourhood	 Priority Planting Neighbourhoods	 Carruthers Creek Watershed Plan Study Area
 Municipal Boundary	 Watercourse	<b>Land Use</b>
 Greenbelt Boundary		 Natural
		 Rural
		 Urban



**Figure 9**

As discussed in [Table 4](#) for the aquatic health of the WRS, subwatershed quality was assessed based on impervious cover under the existing benchmark conditions and the three future scenarios. The proposed enhanced NHS benefits the aquatic ecosystem in scenario 2 where the north-west subwatershed improves from good – fair to good. The increase in impervious cover associated with scenario 3 results in all four subwatersheds degrading to fair – poor conditions, and will likely result in the loss of Redside Dace, a listed endangered species, within the Carruthers Creek watershed. Implementing the management recommendations identified in this watershed plan, especially limiting impervious cover and undertaking restoration activities will help Redside Dace habitat.

The rating scale for subwatershed quality is based on the amount of impervious cover, with:

- Good (green) = 0% to 10% imperviousness
- Good – fair (yellow) = 10% to 25% imperviousness
- Fair – poor (red) = greater than 25% imperviousness

**Notes:** the percent imperviousness identified in [Subsection 4.3](#) is for the entire watershed; while the subwatersheds may have different imperviousness values (e.g. Scenario 1 has 30% imperviousness across the entire watershed, whereas imperviousness by subwatershed is as follows: 10% north-west, 11% north-east, 53% central and 49% south).

See Aquatic Impact Assessment technical report for more information.

## 8. Glossary

### **Aquifer**

A saturated permeable geologic unit that can transmit significant quantities of groundwater under ordinary hydraulic gradients. They can be classified as confined or unconfined. In southern Ontario, aquifers are typically comprised of sand and/or gravel, or fractured limestone.

*Source: TRCA's Living City Policies, 2014*

### **Biodiversity**

The variability among organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species and ecosystems.

*Source: TRCA's Living City Policies, 2014*

### **Ecological Integrity**

Which includes hydrologic integrity, means the condition of ecosystems in which,

- a. the structure, composition and function of the ecosystems are unimpaired by stresses from human activity,
- b. natural ecological processes are intact and self-sustaining,
- c. the ecosystems evolve naturally.

*Source: Greenbelt Plan, 2017*

### **Ecosystem Services**

The benefits provided by ecosystems that are critical to the environment's life support systems and that contribute to human welfare both directly and indirectly and therefore represent social and economic value.

*Source: TRCA's Living City Policies, 2014*

### **Green Infrastructure**

Natural and human-made elements that provide ecological and hydrologic functions and processes. Green infrastructure can include components such as natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.

*Source: Growth Plan, 2020*

### **Headwater Drainage Features**

Ill-defined, non-permanently flowing drainage features that may not have defined beds and banks.

*Source: TRCA's Living City Policies, 2014*

### **Highly Vulnerable Aquifer**

Aquifers, including lands above the aquifers, on which external sources have or are likely to have a significant adverse effect.

*Source: Growth Plan, 2020*

### **Hydrologic Function**

The functions of the hydrologic cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

*Source: Growth Plan, 2020*

### **Hydrogeology**

A science that describes the movement of groundwater, and its interaction with water that moves on the ground surface in rivers, lakes, streams, and over land. Groundwater seeps into the ground to varying depths and collects in aquifers. Groundwater can remain stored underground for periods ranging from a few days to thousands of years.

*Source: TRCA's Living City Policies, 2014*

### **Hydrology**

The engineering science that analyzes the different components of the hydrologic cycle, and takes into account that the natural cycle can be altered by human and natural activities.

*Source: TRCA's Living City Policies, 2014*

### **Life Science Areas of Natural and Scientific Interest (ANSIs)**

An area that has been identified as having life science values related to protection, scientific study, or education; and further identified by the Ministry of Natural Resources and Forestry using evaluation procedures established by that Ministry, as amended from time to time.

*Source: Growth Plan, 2020*

## **Low Impact Development**

An approach to stormwater management that seeks to manage rain and other precipitation as close as possible to where it falls to mitigate the impacts of increased runoff and stormwater pollution. It typically includes a set of site design strategies and distributed, small-scale structural practices to mimic the natural hydrology to the greatest extent possible through infiltration, evapotranspiration, harvesting, filtration, and detention of stormwater. Low impact development can include, for example: bio-swales, vegetated areas at the edge of paved surfaces, permeable pavement, rain gardens, green roofs, and exfiltration systems. Low impact development often employs vegetation and soil in its design, however, that does not always have to be the case and the specific form may vary considering local conditions and community character.

*Source: Growth Plan, 2020*

## **Natural Hazards** *(Consisting of Erosion Hazard and Flooding Hazard)*

### **EROSION HAZARD**

Means the loss of land, due to human or natural processes, that poses a threat to life and property.

### **FLOODING HAZARD**

Means the inundation of areas adjacent to a shoreline or a river or stream system not ordinarily covered by water.

*Source: PPS, 2020*

## **Natural Heritage System**

A system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. The system can include key natural heritage features, key hydrologic features, federal and provincial parks and conservation reserves, other natural heritage features and areas, lands that have been restored or have the potential to be restored to a natural state, associated areas that support hydrologic functions, and working landscapes that enable ecological functions to continue.

*Source: Growth Plan, 2020*

## **Negative Impacts**

Means:

- a. in regard to policy 1.6.6.4 and 1.6.6.5 degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive development.

- b. in regard to policy 2.2, degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive development or site alteration activities;
- c. in regard to fish habitat, any permanent alteration to, or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act; and
- d. in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.

*Source: PPS, 2020*

### **Regional (flood) Control**

Stormwater management control of flood flows from the regional storm event (Hurricane Hazel) to mitigate increases in flood risk associated with development (urbanization).

*Source: TRCA's Living City Policies, 2014*

### **Riparian**

The areas adjacent to water bodies such as streams, wetlands and shorelines. Riparian areas form transitional zones between aquatic and terrestrial ecosystems.

*Source: TRCA's Living City Policies, 2014*

### **Seepage Areas and Springs**

Sites of emergence of groundwater where the water table is present at the ground surface.

*Source: Growth Plan, 2020*

### **Significant Groundwater Recharge Area**

An area that has been identified:

- a. as a significant groundwater recharge area by any public body for the purposes of implementing the PPS, 2014;
- b. as a significant groundwater recharge area in the assessment report required under the Clean Water Act, 2006; or
- c. as an ecologically significant groundwater recharge area delineated in a subwatershed plan or equivalent in accordance with provincial guidelines.

For the purposes of this definition, ecologically significant groundwater recharge areas are areas of land that are responsible for replenishing groundwater systems that directly support sensitive areas like cold water streams and wetlands.

*Source: Growth Plan, 2020*

### **Sustainable Community Retrofits**

Focus on actions in older, urban neighbourhoods by retrofitting buildings and infrastructure, regenerating habitats and urban ecology, and revitalizing a community's social fabric. TRCA's Sustainable Neighbourhood Action Program provides examples of sustainable community retrofits.

*Source: Sustainable Neighbourhood Action Program, TRCA, 2020*

### **Urban Forest**

All trees, shrubs and understorey plants, as well as the soils that sustain them, on public and private property within an urban setting.

*Source: TRCA's Living City Policies, 2014*

### **Vegetation Protection Zone**

A vegetated buffer area surrounding a key natural heritage feature or key hydrologic feature.

*Source: Growth Plan, 2020*

### **Water Balance**

The hydrologic cycle of precipitation, groundwater infiltration, evapotranspiration (into the atmosphere and by plant interception), and surface runoff.

*Source: TRCA's Living City Policies, 2014*

### **Water Resource System**

A system consisting of ground water features and areas and surface water features (including shoreline areas), and hydrologic functions, which provide the water resources necessary to sustain healthy aquatic and terrestrial ecosystems and human water consumption. The water resource system will comprise key hydrologic features and key hydrologic areas.

*Source: Growth Plan, 2020*

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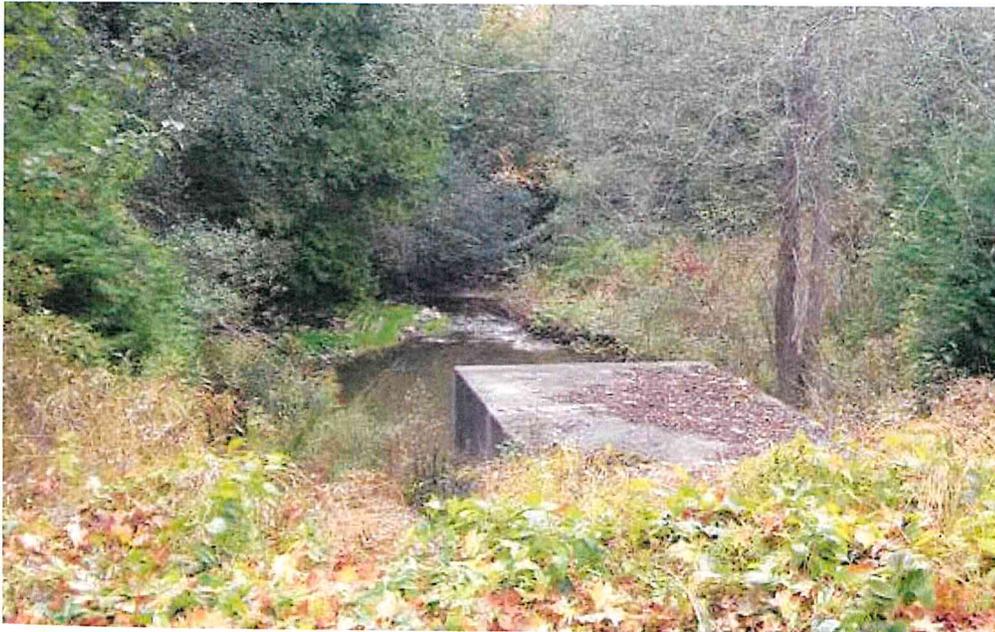
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Developed in collaboration with  
the Town of Ajax and City of Pickering





**Public Review of Draft  
Carruthers Creek Watershed Plan:  
Comment Submissions Summary**

April, 2021

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## 1. Introduction

This report provides a summary of all the submissions from the public review comment period on the draft Carruthers Creek Watershed Plan (CCWP).

The draft CCWP was released for public review on March 13, 2020 for an expected 90-day review period. On April 8, 2020, at a special meeting of the Regional Council of Durham, the public comment period was paused until the Covid-19 emergency state was lifted. On December 16, 2020, staff were authorized to resume public engagement on the draft CCWP with the public review period closing March 19, 2021. Two virtual open houses were held in February 2021 on the draft CCWP (see [Consultation Summary – February 2021](#)).

In addition to the questions asked and positions made by attendees at the two virtual open houses, a total of 27 public submissions were received on the draft CCWP. A further 182 email submissions were provided to the Region of Durham via an Environmental Defence email campaign (See [Appendix A](#) for the wording of the email submission and response provided by the Region of Durham).

TRCA regularly communicated project updates through the project subscribers list, social media, municipal channels, a newspaper ad, and direct mailouts, to raise awareness of the virtual open houses, and to advise the public of the opportunity to review and comment on the draft CCWP.

## 2. Public Review Submissions Summary

During the public review period of the draft CCWP, submissions were received using the online comment form (19), direct email/letter submission (6), and through municipal Council processes (2).

The online comment form allowed respondents to rate the draft CCWP based on three questions in addition to allowing specific comments on sections of the plan. See [Table 1](#) for the ratings received. Not all respondents who used the online comment form answered these questions.

**Table 1 - Rating Questions Summary**

	<b>How would you rate the draft plan structure, length, organization on a scale of 1 to 5, where 1 equals “poor” and 5 equals “excellent”?</b>	<b>Is the information presented clearly and concisely? Please provide a rating on a scale of 1 to 5, where 1 equals “not at all clear and concise” and 5 equals “very clear and concise”.</b>	<b>Do you support the goals, objectives, indicators and management recommendations in the draft plan? Please provide a rating on a scale of 1 to 5, where 1 equals “strongly opposed” and 5 equals “strongly supportive”.</b>
Average Rating	4	4	4
Note: 13 submissions answered each of these questions.			

## 2.1 Online Submissions

Submissions using the online comment form were also able to provide general or section-specific comments, which are presented in **Table 2**. The table provides details such as the name of the individual making the submission (if provided), a summary of the comments made, and any response/changes to the CCWP as a result of the comments. Comments are presented in no particular order. Note that not all comments are included as some were outside the scope of the watershed plan. These comments included specific questions about property issues that were directly responded to by TRCA.

**Table 2 - Feedback from Online Comment Forms**

Section	Comments	Changes to CCWP (if applicable) / Response to Comments
General Comments	<p><b>No Name Provided</b></p> <p>The plan is excellent to protect and monitor the health of the watershed. To have a healthy watershed, you must stop contaminants, before they need to be cleaned up!!</p> <p>Durham Region needs to have a better collection system, to prevent material (i.e. waste) from entering the watershed.</p>	Comments noted.
	<p><b>No Name Provided</b></p> <p>Protect the headwaters to build resiliency against climate change.</p>	Comments noted.
	<p><b>W. Parish</b></p> <p>Development of the Rouge headwaters in Richmond Hill has led to wide scale high water events that damage property and the aquatic ecosystem. Ajax will face the same issues if the headwaters are not protected and if flood control measures are not put in place. This will increase the costs to municipalities through flooding, erosion, and reduced water quality.</p>	<p>Comments noted.</p> <p>Subsection 5.4 of the CCWP identifies the studies that would be required in the event of a Settlement Area Boundary Expansion in the headwaters of Carruthers Creek.</p>
	<p><b>S. Roche</b></p> <p>The plan offers a compelling overview of the current situation and need for action to manage and maintain this watershed. The report is very well laid out. It offers a useful introduction to the many technical terms and methodological approaches used in such a comprehensive assessment and provides a thoughtful layout of the recommended actions and responses to the considerable growth and changes in Durham Region. Overall, a well written and carefully prepared report that gives</p>	Comments noted.

Section	Comments	Changes to CCWP (If applicable) / Response to Comments
	<p>me confidence that ecosystem health, riparian management, water quality and quantity, and regional conservation are important priorities for Durham Region.</p>	
	<p><b>A. Wilton</b>                      Although the watershed is small, there are a number of significant natural heritage features. This includes coastal wetlands. Increasing forest size is important for certain species. It is good to develop these plans to help determine priorities for conservation and restoration.</p>	<p>Comments noted.</p>
	<p><b>M. Pileggi</b>                      Great work. Very clear and concise. Watershed plan shows the importance of protecting the headwaters of Carruthers Creek.</p>	<p>Comments noted.</p>
	<p><b>G. Lenders</b>                      Excellent, very well-organized plan of action. The watershed plan exemplifies the utmost importance of protecting, enhancing and restoring the health of the headwaters of Carruthers Creek.</p>	<p>Comments noted.</p>
	<p><b>B. Murphy</b>                      Everything in our power should be done to protect natural features especially watersheds and biodiversity. Any scenario that reduces these should not be considered.</p>	<p>Comments noted.</p>
	<p><b>M. Oates</b>                      Please object to the Town of Pickering pushing through their plan to build on the Carruthers Creek watershed without adequate public info or meetings. Shame on Pickering!</p>	<p>Comments noted.</p>
	<p><b>No Name Provided</b>                      You have to stop allowing our ecosystems and greenspace to be ruined.</p>	<p>Comments noted.</p>
	<p><b>D. McLaughlin</b>                      The intentions of the CCWP seem to be good, but there are some deficiencies to be addressed. Climate change considerations appear to be factored in, but according to reports from a number of credible sources (numerous articles provided), climate models have gravely underestimated the pace of climate change. Consequently, the analyses and</p>	<p>The purpose of scenario modelling is to evaluate a range of potential future outcomes and measure the associated impacts on the watershed. This allows for the</p>

Section	Comments	Changes to CCWP (If applicable) / Response to Comments
	<p>recommendations of the CCWP are inadequate due to the conservative bias of the climate models.</p> <p>Concern that the good intentions of the watershed plans can be superseded by the decision-making powers of political entities involved in land use planning and development (e.g. little progress made from previous plan, continuing losses of natural cover).</p> <p>Another area of concern is chlorides, which will be exacerbated by any further urban expansion.</p> <p>Due to these concerns, here are some recommendations:</p> <ul style="list-style-type: none"> <li>• Highest priority should be given to protecting and expanding the natural heritage and water resources</li> <li>• The three scenarios detailed in the CCWP should be scrapped</li> <li>• A new, sole scenario should replace those scenarios and include the following objectives: <ul style="list-style-type: none"> <li>○ Prohibit any new urban or agricultural expansion north of Taunton Road,</li> <li>○ Pursue efforts to enhance and expand the Natural Heritage System (NHS) and Water Resource System (WRS) beyond that described in the CCWP. To that purpose, acquire all relevant properties as they become available, and</li> <li>○ Conservation authorities, not susceptible to pressure from politicians and the development industry should have the power to veto any plans or developments that adversely impact watersheds.</li> </ul> </li> </ul>	<p>development of appropriate management recommendations so that the health and integrity of the watershed can be maintained and improved under a range of future scenarios.</p> <p>The mandate of conservation authorities is governed by the <i>Conservation Authorities Act</i>.</p> <p>The CCWP places high priority on protecting the NHS and WRS (Goal 2 and 3). The CCWP places significant emphasis on protecting, enhancing, and restoring both the WRS and NHS by:</p> <ul style="list-style-type: none"> <li>• recommending policies,</li> <li>• identifying enhancement areas, and</li> <li>• identifying priority restoration and public land securement sites.</li> </ul> <p>The development of the CCWP has been a collaborative effort between TRCA, the Region of Durham, City of Pickering, and Town of Ajax.</p>

Section	Comments	Changes to CCWP (If applicable) / Response to Comments
	<p><b>J. Longo</b></p> <p>Greater value needs to be given to our natural areas. I appreciate the quality of work the conservation authorities engage in and would like to support them further. Let's see less minimum standards and more maximization of our natural areas. There needs to be a cost for the destruction poor planning creates that does not fall on taxpayers.</p> <p>In light of recent reporting on the limitations placed on the TRCA by the provincial government, I am concerned that municipalities might choose to limit the involvement of the TRCA. For instance, the Veraine development in the northern end of the watershed makes me worry that Pickering will try to do something like they are doing with the Duffins Creek watershed. I would also like to lend my support to TRCA and their function of managing flooding and preserving/enhancing the natural heritage, wildlife, and water quality of the watershed.</p>	<p>The CCWP encourages increases to natural areas through enhancements, restoration, and public land securement.</p> <p>There are management recommendations to improve development standards and encourage the use of green infrastructure under Goal 1.</p> <p>Subsection 5.4 of the CCWP identifies the studies that would be required in the event of a Settlement Area Boundary Expansion in the headwaters of Carruthers Creek.</p>
	<p><b>C. Pryce</b></p> <p>I just want to show my support to protect the watershed from development. Protecting wildlife biodiversity and preparing for the results of climate change is of the utmost importance to me.</p>	<p>Comments noted.</p>
Executive Summary	<p><b>S. Roche</b></p> <p>It might be useful to add a few more comments about the recommended actions for policymakers. This will ensure that those that do not read the full document still have a sense of the key actions.</p>	<p>The Executive Summary has been updated to highlight some key components of the management framework.</p>
Section 4: Future Watershed Conditions	<p><b>S. Roche</b></p> <p>I think this section is nicely laid out and presents a strong framework for decision-making regarding the strategies that make Scenarios 1 through 3 reality. One minor suggestion might be to categorize the Summary of Implications section by Scenario, providing a summary statement of how well each scenario performs, and then the specific comments pertaining</p>	<p>The summary of implications has been updated to provide a summary statement per scenario in relation to the key issues of: WRS, NHS,</p>

Section	Comments	Changes to CCWP (If applicable) / Response to Comments
	to each. As a reader not having reviewed this content before, I naturally wanted to see a breakdown of the overall effects by scenario, which followed the table format.	water quality, and natural hazards.

## 2.2 Letter Submissions

In addition to submissions using the online comment form, six letters were directly submitted to TRCA. **Table 3** provides the name of the individual or group that submitted the letter, a general summary of the comments received, and any response/changes to the CCWP as a result of the comments. Comments are presented in no particular order.

**Table 3 - Summary of Letter Submission Comments**

Comments	Changes to CCWP (If applicable) / Response to Comments
<b>S. Parish</b>	
<p><b>Engagement Process</b></p> <p>Concern that the online comment form is not designed to get meaningful input and that Covid-19 will prevent meaningful engagement.</p>	<p>The online comment form included rating questions and allowed for detailed comments for each section of the plan.</p> <p>The draft CCWP was publicly released on March 13, 2020. The originally planned April 30, 2020 open house was cancelled due to the Covid-19 pandemic. Two virtual open houses were held in February 2021, with comments due March 19, 2021. A <a href="#">Consultation Summary of the Public Review of Draft Carruthers Creek Watershed Plan</a> is available. A total of 134 individuals attended the virtual open houses held in February 2021, compared to approximately 50 individuals that intended the in-person open houses in Ajax and Pickering on the draft management framework in October 2019.</p>
<p><b>Implications of Headwater Development</b></p> <p>Concern regarding the implications of scenario 3 (headwater urbanization) to the Water Resource System and natural hazards (i.e. flooding). The plan talks about mitigation using green development policies and low impact development techniques but does not quantify the costs of any development to</p>	<p>As noted in the draft CCWP, scenario analysis does not result in decisions about the type and configuration of land uses.</p> <p>The Region of Durham is currently undertaking its Municipal Comprehensive Review, which will determine whether there is a need for any Settlement Area Boundary Expansions. In the event that a Settlement Area Boundary Expansion is</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>taxpayers of Ajax. Urges TRCA to recommend against scenario 3 clearly and unequivocally.</p>	<p>approved for the lands in northeast Pickering (i.e. Carruthers Creek headwaters), the management recommendations outlined in subsection 5.4 of the CCWP would apply. These recommendations outline the types of studies that would need to occur if development is approved. The issue of funding the appropriate flood mitigation has been added to the relevant management recommendation.</p>
<b>Ontario Headwaters Institute</b>	
<p><b>Comment Review Process</b></p> <p>Concern that public comments will not be transparently handled and addressed. Suggests that members of the public should be part of the review team.</p>	<p>TRCA has consistently posted consultation summaries on the project webpage at each stage of this watershed planning process.</p> <p>This document serves as the record of comments received during the public review of the draft CCWP and how the comments are being addressed. The Region of Durham is including this record as part of its report to Committee and Council.</p>
<b>Evans Planning on behalf of Pinebrowm Salem Lands Ltd.</b>	
<p><b>Scenario 3 Land Use Designation</b></p> <p>Concern that lands at the south-east corner of Salem Road and Seventh Concession are designated as a natural area under Scenario 3. Given that the subject lands were previously identified as a Regional Centre in the previous draft of the Region of Durham Official Plan, it is anticipated that these lands will be incorporated into the urban boundary through the Region’s current Municipal Comprehensive Review process. The subject lands do not contain any significant environmental features. The Natural Area land use designation should be removed.</p>	<p>The subject lands are identified as “potential” natural cover in the recommended NHS. These areas are recommended for restoration to build resilience into the NHS. The recommended NHS uses the latest data, science, and modelling approaches to:</p> <ul style="list-style-type: none"> <li>• increase natural cover to a sufficient quantity,</li> <li>• protect natural system quality,</li> <li>• protect biodiversity, and</li> <li>• manage climate vulnerabilities.</li> </ul> <p>The subject lands abut existing natural cover.</p> <p>An enhanced NHS has benefits for water quality, the aquatic system, and can reduce the amount of runoff through increased retention and infiltration.</p> <p>At this time, no decision has been made by the Region of Durham through the Municipal Comprehensive Review process for a Settlement Area Boundary Expansion in northeast Pickering.</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p><b>Scenario Analysis Implications – Water Resource System and Natural Hazards</b></p> <p>The usage of engineered porous surfaces (LIDs) and other engineered solutions to stormwater runoff are not considered. As a result, the estimated impacts for scenarios 2 and 3 appear to be inflated and do not reflect the reality of modern development. A conventional stormwater management pond can aid in achieving necessary flood control within future urban areas.</p>	<p>The following updates have been made to the CCWP:</p> <ul style="list-style-type: none"> <li>• Text has been added to Table 3 to explain the assumptions made in Scenario 3 and the appropriate stage of the planning process for detailed assessment of mitigation options.</li> <li>• Text has been added to Subsection 4.3 elaborating on potential mitigation strategies.</li> <li>• The percent change associated with each scenario for the natural hazards has been modified to show change at both Taunton and Shoal Point Roads for the Regional Storm rather than an average. Text has been added explaining what the Regional Storm and 5-years storm mean. Additionally, a footnote has been added to explain that the modelling for the Regional Storm assumes existing stormwater management facilities fail or at capacity. As a result, the numbers for peak flows would not change for the Regional Storm since a conventional stormwater management pond cannot accommodate this storm event.</li> <li>• The summary of implications at the end of Subsection 4.3 have been clarified, connecting them to the appropriate management recommendations (e.g. Subsection 5.4 for further studies in the event of headwater development). Subsection 5.4 of the CCWP identifies the studies that would be required in the event of a Settlement Area Boundary Expansion in the headwaters of Carruthers Creek. It is at those detailed planning stages where decisions on engineering solutions would be made.</li> </ul>
<p><b>Scenario Analysis Implications – Natural Heritage System</b></p> <p>The NHS scenario analysis did not take into consideration parkland dedication within potential development lands. Parkland size and shape can</p>	<p>Parkland is a different land use that is not consistent with the natural heritage features and areas that comprise the NHS. For example, parkland can refer to open fields, recreation spaces (e.g. tennis courts),</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>positively influence and contribute to the NHS providing for natural habitat connectivity, preservation of core features and provide buffers between land uses.</p>	<p>or community centres, which are not compatible with the NHS goal and objectives.</p> <p>Currently the subject lands are not within the urban boundary. Due to this, there were no specific parkland locations or sizes to model.</p> <p>Opportunities to protect, enhance, and restore natural heritage features and areas would be considered at the appropriate planning stage if this were to change, including parkland as a potential buffer between land uses.</p>
<p><b>Tile Drainage</b></p> <p>Conversion of agricultural lands, removal of tile drainage and replacement by modern stormwater infrastructure and green infrastructure would reduce the estimated risk of flooding and erosion.</p>	<p>Currently the subject lands are not within the urban boundary. Mitigation strategies supported by science would be identified at the appropriate planning stage if this changes.</p>
<p><b>Conclusion</b></p> <p>We found the Authority’s recommendations within the Draft Watershed Plan to be concerning, with lack of consideration for modern, green, and engineered infrastructure. As a result, estimated impacts appear to be inflated and do not reflect the reality of modern development.</p> <p>The subject lands are within the Region’s “whitebelt” lands and are poised for future urban development given their strategic location at the intersection of Salem Road and Seventh Concession Road. The lands do not contain any significant environmental features and the sterilization of these lands is not appropriate and unnecessary.</p>	<p>The draft CCWP and its recommendations were developed in collaboration with municipal partners. Goal 1 and its associated objectives and management recommendations relate to improved land use and infrastructure development patterns, including low impact development, green infrastructure, and improved stormwater management.</p> <p>Currently the subject lands are not within the urban boundary and no decision has been made on a Settlement Area Boundary Expansion.</p> <p>The findings of the hydrology assessment are consistent with the previous Cole study completed in 2011. One of the key purposes of the CCWP was to demonstrate the potential implications of future development on the watershed, so that the level of impact that needs to be mitigated is clear. It will be up to proponents of potential future development to identify how that impact will be mitigated at the appropriate planning stage, in accordance with provincial policy.</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
	Refer to previous response on the purpose of the NHS.
<b>Ontario Nature, Environmental Defence, Land Over Landings, Environmental Action Now Ajax - Pickering</b>	
<p><b>Vision and Goals</b></p> <p>Congratulations on the thoroughly researched and expertly presented draft plan that you have developed for the Carruthers Creek Watershed. We fully support its vision and the three goals for land use, the WRS, and the NHS.</p>	Comments noted.
<p><b>Concluding Remarks</b></p> <p>Looking across the three scenarios, it is evident that only scenario 2 supports the goals of protecting, enhancing, and restoring water quality, the water resource and natural heritage systems. Scenario 3, which assumes development in the headwaters, would lead to a decline in watershed health across the board. The Planning Team should include concluding remarks related to the adverse impacts of urbanization on the headwaters of Carruthers Creek.</p>	<p>The summary of implications in the CCWP has been updated to better communicate the implications of each scenario and what that means.</p> <p>As noted in the draft CCWP, scenario analysis does not result in decisions about the type and configuration of land uses. The management framework in section 5 of the CCWP is designed to address existing watershed issues and the implications of the potential future scenarios to help inform land use planning decisions.</p>
<b>North East Pickering Landowners Group Inc. (NEPLG) – See Appendix B for Comments on Technical Reports</b>	
<p><b>Recommended Natural Heritage System</b></p> <p>During public engagement, TRCA staff noted that there will be opportunities to refine the proposed NHS with appropriate scientific justification that meets the goals and objectives of the Watershed Plan. The CCWP should be revised to include the following wording: “opportunity for refinement of the NHS would be possible with appropriate scientific justification that still meets the targets and objectives of the Watershed Plan.”</p> <p>There is no mention in the management recommendations that the exact size and configuration of the NHS could fluctuate based on the required future studies. It is requested that Map 2 include wording in this regard as well.</p>	<p>Text has been added to the introduction to Goal 3 and map 2 to address this comment.</p> <p>Management recommendation 3.1.1 has been updated to elaborate on the role of the Region of Durham to provide direction to lower-tier municipalities on the designation of a NHS within lower-tier Official Plans.</p> <p>Language has been added to the management recommendation to distinguish between the need to protect existing natural cover as identified in map 2 and having policies to identify enhancement and restoration opportunities for potential natural cover areas as identified in map 2.</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p><b>Future Management Scenarios</b></p> <p>Concern that Scenario 2 and 3 are unrealistic scenarios because:</p> <ul style="list-style-type: none"> <li>• Scenario 2 assumes that existing rural community will voluntarily set aside significant portions of their agricultural operations for the creation of an enhanced NHS</li> <li>• Scenario 3 is unrealistic as unmitigated development is not allowed given minimum watershed management mitigation and protection requirements. Modelled as unmitigated, the 77% increase in downstream flooding on page 38 is misleading and paints a negative picture related to future development, and is not consistent with overall provincial policy.</li> <li>• Scenario 3 is not permitted based on provincial policy.</li> </ul>	<p>The scope of the scenarios as presented in the draft CCWP was developed by TRCA in collaboration with its municipal partners.</p> <p>For scenario 2, the design of the enhanced NHS was based on objectives to:</p> <ul style="list-style-type: none"> <li>• increase natural cover to a sufficient quantity,</li> <li>• protect natural system quality,</li> <li>• protect biodiversity, and</li> <li>• manage climate vulnerabilities.</li> </ul> <p>These objectives test the benefits of an enhanced NHS. An enhanced NHS has benefits for water quality, the aquatic system, and can reduce the amount of runoff through increased retention and infiltration.</p> <p>Under Goal 1, objective 4 recognizes the need to work with the agricultural community on rural land stewardship. In the event that urbanization does not occur within the headwaters, TRCA would use the enhanced NHS to identify opportunities with rural land owners (e.g. incentive programs, grants, etc.).</p> <p>The flooding results cited (77%) represent an average of two points in the watershed for the Regional Storm (i.e. Hurricane Hazel). As noted in the <a href="#">Hydrological Assessment Technical Report</a>, existing stormwater management facilities were removed from the model to account for the system failing or being at capacity during the Regional Storm event. Subsection 5.4 of the draft CCWP addresses additional studies that would be needed to identify appropriate mitigation measures in the event of future development based on more detailed planning applications.</p> <p>The findings of the hydrology assessment are consistent with the previous Cole study completed in 2011. One of the key purposes of the CCWP was to demonstrate the potential implications of future development on the watershed, so that the level of</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
	<p>impact that needs to be mitigated is clear. It will be up to proponents of potential future development to identify how that impact will be mitigated at the appropriate planning stage, in accordance with provincial policy.</p> <p>The following updates have been made to the CCWP in relation to the comments:</p> <ul style="list-style-type: none"> <li>• Text has been added to Table 3 to explain the assumptions made in Scenario 3 and the appropriate stage of the planning process for detailed assessment of mitigation options,</li> <li>• Text has been added to Subsection 4.3 elaborating on the potential mitigation strategies,</li> <li>• The percent change associated with each scenario for the natural hazards has been modified to show change at both Taunton and Shoal Point Roads for the Regional Storm rather than an average. Text has been added explaining what the Regional Storm and 5-years storm mean. Additionally, a footnote has been added to explain that the modelling for the Regional Storm assumes existing stormwater management facilities fail or at capacity, and</li> <li>• The summary of implications at the end of Subsection 4.3 have been clarified, connecting them to the appropriate management recommendations (e.g. Subsection 5.4 for further studies in the event of headwater development).</li> </ul>
<p><b>Enhanced Natural Heritage System</b></p> <p>Scenario 2 and 3 include an enhanced NHS that is also the TRCA recommended enhanced NHS (map 2) to achieve the third goal. While the NEPLG is committed to the goals within the CCWP, the recommended NHS is misleading as it is the only measure to increase</p>	<p>Provincial policies, including the definition of the NHS, recognize the importance of regional and site-scale connectivity as part of natural heritage system planning.</p> <p>The recommended NHS uses the latest science and practices in natural systems planning. The recommended NHS represents a realistic and attainable system for this urbanizing watershed that</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>diversity and mitigate the impacts of development (Scenario 3).</p> <ul style="list-style-type: none"> <li>CCWP makes recommendations for linkage corridors that are consistent with the size and scale of Regional Corridors (500m or more in width). However, these Regional Corridors have already been established through the Greater Golden Horseshoe NHS system and include the Duffins Creek and Iroquois Shoreline. Local connectivity to these systems will likely require smaller corridors that are more consistent with the existing watercourses.</li> </ul>	<p>is more consistent with federal guidance on how much habitat is necessary to maintain ecological functions and biodiversity.</p> <p>The referenced recommended corridor widths are minimums. The recommended enhanced NHS is about improving connectivity and building long-term resilience to the potential impacts of future growth and climate change.</p>
<p><b>Regional Planning</b></p> <p>The use of the CCWP in the land use planning process needs to be clarified, and significant adjustments made if the intent is that the Region will use this work to update its Official Plan. If this is the case, the work will be used as a land use planning exercise and must be prepared in the context of overall good planning and the public interest. A scenario must be included which assumes full inclusion of northeast Pickering within a settlement area. So as not to preclude the appropriate development of this area, the form and size of the NHS should be appropriately balanced with the overall land use planning objectives of the Provincial Policy Statement and the Growth Plan for the Greater Golden Horseshoe, such as the need to provide for compact and connected communities, viable employment areas, walkability and transit supportive development, and the cost effective and efficient extension of infrastructure. This will typically result in a feature-based NHS with limited linkage areas and a heavier reliance on green infrastructure to support natural processes. In particular, the onus is upon the Region to implement, and where appropriate refine the provincial mapping of the NHS for the Growth Plan at the time of initial implementation in their official plan. If the work prepared by the TRCA will be used by the Region to</p>	<p>Scenario 3 assumes development in northeast Pickering.</p> <p>Provincial policies recognize the integrated nature of natural heritage and water resource systems, and recognize the watershed as the meaningful ecological scale for long-term planning (PPS 2.2.1, Growth Plan 4.2.1 and 4.2.2). PPS policy 2.1.2 states:</p> <p style="padding-left: 40px;">The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.</p> <p>The methods utilized to develop the enhanced NHS as part of the CCWP are consistent with the provincial policy framework, which encourages a systems-based approach.</p> <p>The watershed plan is one of many studies and factors that the Region of Durham will need to consider as part of its Municipal Comprehensive Review.</p> <p>The identification of an “enhanced” or “targeted” NHS is standard practice in contemporary watershed</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>update/refine the NHS in northeast Pickering, then this work must occur within, and not outside of the overall MCR process.</p>	<p>planning exercises. The Region of Durham is considering how to appropriately implement Natural Heritage Systems, including the recognition of enhanced/targeted components through the Municipal Comprehensive Review process. It is acknowledged that the policy treatment for “enhancement” cover areas could be different than existing natural cover areas. A management recommendation that supports this general approach has been included in the final watershed plan to provide flexibility in how the Region and Area Municipalities implement the enhanced Natural Heritage System through their respective land use planning instruments.</p> <p>Management recommendation 3.1.1 has been updated accordingly.</p>
<p><b>CCWP Land Use Definitions</b></p> <p>Some residential estates, golf courses, cemeteries and hydro corridors are designated as agricultural uses and therefore the total agricultural lands are overstated in the CCWP analysis.</p>	<p>Footnote 6 on page 23 of the draft CCWP explains that water, recreational, golf courses, cemeteries, and hydro corridors are not included in the statistics for changes to land cover cited in Subsection 3.2.</p> <p>The draft CCWP mapping uses three general land use classifications (urban, rural, natural) for simple visualization. The technical analyses used more detailed land use classifications than what is presented in the mapping to determine results.</p>
<p><b>Pickering Planning and Development Committee Report</b></p> <p>It should be noted that NEPLG supports all three recommendations within Pickering Report to Planning and Development Committee from September 14, 2020.</p>	<p>Comment noted. <a href="#">Subsection 2.3, page 19</a> of this document considers and responds to the comments in the referenced report.</p>
<p><b>Stakeholder Advisory Committee</b></p> <p>Requesting participation in a Committee which would provide an opportunity for transparency, sharing of information and advancement of the CCWP.</p>	<p>TRCA and its municipal partners will consider the establishment of a Stakeholder Advisory Committee to guide implementation planning of the watershed plan.</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<b>Fieldgate Developments (TFP Pickering Developments Limited)</b>	
<p>TRCA staff mentioned during the February 2021 virtual open houses that three methods were used to determine the NHS being promoted with the study. The results and the methods seem to be beyond which is supported by Provincial Policy and that which is customary through the TRCA’s role in the review and commenting on planning applications and processes. While we recognize that the Watershed Plan is not a planning document it appears to represent TRCA’s position on an NHS system to be further used by its municipal partners to inform planning and growth considerations. Additional clarification is requested on the TRCA adopted methods and how they relate to current planning practices, the conservation authority’s mandate and adherence to Provincial Policy Statement and the Growth Plan for the Greater Golden Horseshoe.</p>	<p>In 2015, the Region of Durham retained TRCA to complete a watershed plan update for Carruthers Creek. The development of the watershed plan supports the Municipal Comprehensive Review process being undertaken by Durham Region and provincial policies related to watershed planning, which encourage collaboration between municipalities and conservation authorities (Growth Plan 4.2.1.1).</p> <p>The Provincial Policy Statement (2020) defines the NHS as:</p> <p style="padding-left: 40px;">a system made up of <b>natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level)</b> and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. These systems can include natural heritage features and areas, federal and provincial parks and conservation reserves, other natural heritage features, lands that have been restored or have the <b>potential to be restored to a natural state, areas that support hydrologic functions, and working landscapes that enable ecological functions to continue.</b> The Province has a recommended approach for identifying natural heritage systems, but <b>municipal approaches that achieve or exceed the same objective may also be used.</b></p> <p style="padding-left: 40px;"><b>(Bold added for emphasis)</b></p> <p>Further, provincial policies recognize the integrated nature of natural heritage and water resource systems, and recognize the watershed as the meaningful ecological scale for long-term planning</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
	<p>(PPS 2.2.1, Growth Plan 4.2.1 and 4.2.2). PPS policy 2.1.2 states:</p> <p style="padding-left: 40px;">The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.</p> <p>The methods utilized to develop the enhanced NHS as part of the CCWP are consistent with the provincial policy framework. Details on the methods used to develop the recommended enhanced NHS can be found in the <u><i>Terrestrial Impact Assessment Technical Report</i></u>.</p> <p>TRCA conducts itself in accordance with the objects, powers, roles, and responsibilities set out for conservation authorities under the <i>Conservation Authorities Act</i> and the MNR Procedural Manual chapter on conservation authorities’ policies and procedures for plan review and permitting activities, such as a public commenting body under the <i>Planning Act</i>, a service provider to municipal partners, and a resource management agency. This includes the review of municipal planning documents like official plans and zoning by-laws (Plan Input) and development applications under the <i>Planning Act</i> (Plan Review). In these roles, and as stated in MECP’s “A-Made-In-Ontario Environment Plan,” conservation authorities work in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.</p>
TFP Pickering requests further dialogue with TRCA and other partners as this plan develops. This is required as the promotions directly impacts the TFP Pickering	This watershed planning process was initiated in 2015. The recent conclusion of the public comment period on the draft CCWP was the final phase of

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>lands, and such promotions should be considered jointly and on consensus. Given this, we support the option of direct stakeholder engagement in decisions and not through online presentations, so that regular discussions can occur. Further these discussions should occur concurrently and with considerations on the establishment of a Structural Plan with the City of Pickering and the regional growth plan exercise. This will ensure a sustainable outline that considers the environment first while looking at complete communities, land needs, and adhering to current planning policies.</p>	<p>public consultation. The CCWP has been updated to address feedback from this public review and submitted to Durham Regional Council for consideration. Reports to Council and the records of the various engagement activities undertaken throughout this process are available on the <a href="#">project webpage</a>. On December 16, 2020, Durham Regional Council authorized staff to resume public consultation to advance the completion of the watershed plan via virtual engagement, which have become a well accepted form of public engagement during Covid-19. Two virtual open houses were held at the beginning of February, attended by a total of 134 individuals, compared to the approximately 50 individuals that attended in person open houses held in Ajax and Pickering in October 2019.</p> <p>The TFP Pickering lands are not currently within the urban boundary. The Region of Durham is currently undertaking its Municipal Comprehensive Review, which will determine whether there is a need for any Settlement Area Boundary Expansions, and if so, where they should occur. In the event that a Settlement Area Boundary Expansion is approved for the lands in northeast Pickering, the management recommendations outlined in subsection 5.4 of the CCWP would apply. These recommendations outline the types of studies that would need to occur prior to planning approvals.</p>
<p>Based on a review of the draft CCWP, prepared by TRCA on behalf of the Region of Durham, it is unclear what the intent of the CCWP is related to the future consideration of lands in northeast Pickering related to urban area expansion. The NHS is mentioned to be refined in the future keeping with the goals of the CCWP, however, the current analysis does not appear to include overall land use planning objectives of the PPS to guide this process and particularly, environmental takeouts. As the CCWP has not been promoted as a planning tool and since the CCWP work</p>	<p>The watershed plan is one of many studies and factors that the Region of Durham will need to consider as part of its Municipal Comprehensive Review. As noted earlier, the analysis is consistent with provincial policies like the PPS.</p> <p>The identification of an “enhanced” or “targeted” NHS is standard practice in contemporary watershed planning exercises. The Region of Durham is considering how to appropriately implement Natural Heritage Systems, including the recognition of enhanced/targeted components through the</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>is being conducted concurrent with planning studies underway please indicate how the studies are to be integrated given the objectives of this plan. Perhaps in consideration of point 2 above there can be better integration to establish one NHS system which can be used as a baseline in establishing recommendations for the watershed and for planning studies.</p>	<p>Municipal Comprehensive Review process. It is acknowledged that the policy treatment for “enhancement” cover areas could be different than existing natural cover areas. A management recommendation that supports this general approach has been included in the final watershed plan to provide flexibility in how the Region and Area Municipalities implement the enhanced Natural Heritage System through their respective land use planning instruments.</p> <p>TRCA has developed the recommended NHS in collaboration with municipal partners and based on in-house technical expertise using the latest science and practices in natural systems planning. The recommended NHS is more consistent with federal guidance on how much habitat is necessary to maintain ecological functions and biodiversity. The recommended NHS represents a realistic and attainable system for this urbanizing watershed and has been demonstrated to assist with achieving broader watershed goals beyond terrestrial ecosystems considerations (e.g. aquatic ecosystem improvements, reduction in peak flows for smaller storm events). Refinements to the recommended NHS may be considered assuming the scientific analysis is consistent with the goals and objectives of the CCWP.</p>

### 2.3 Committee Reports – City of Pickering and Town of Ajax

On September 14, 2020, City of Pickering staff presented a report to the Planning and Development Committee with recommended changes to the draft CCWP. On October 5, 2020, Town of Ajax staff presented a report to the Community Affairs and Planning Committee with recommended changes to the draft CCWP. **Table 4** identifies the recommended changes and responses to both committee reports.

**Table 4 - Committee Reports - City of Pickering and Town of Ajax**

Comments	Changes to CCWP (If applicable) / Response to Comments
<b>City of Pickering</b>	
<p>Provide greater clarity about the “77%” figure identified as the potential increase in downstream peak flows under the hypothetical land use Scenario 3 modelling analysis including: explaining that it is a “worst case” scenario and why; identifying the rainfall and storm duration parameters for a Hurricane Hazel type event; and relating the modelled increases in peak flows to the proposed management recommendations;</p>	<p>The following updates have been made to the CCWP:</p> <ul style="list-style-type: none"> <li>• Text has been added to Table 3 to explain the assumptions made in Scenario 3 and the appropriate stage of the planning process for detailed assessment of mitigation options,</li> <li>• Text has been added to Subsection 4.3 elaborating on the potential mitigation strategies,</li> <li>• The percent change associated with each scenario for the natural hazards has been modified to show change at both Taunton and Shoal Point Roads for the Regional Storm rather than an average. Text has been added explaining what the Regional Storm and 5-year storms mean. Additionally, a footnote has been added to explain that the modelling for the Regional Storm assumes existing stormwater management facilities fail or at capacity, and</li> <li>• The summary of implications at the end of Subsection 4.3 have been clarified, connecting them to the appropriate management recommendations (e.g. Subsection 5.4 for further studies in the event of headwater development).</li> </ul>
<p>Revise Management Recommendation 3.1.1 respecting the protection, expansion and restoration of the NHS in the watershed, to reflect discussion in the introductory text that precedes Table 8: NHS Management Recommendations, to allow consideration of alternative configurations, size and</p>	<p>Text has been added to the introduction to Goal 3 and map 2 to address how refinements to the recommended NHS will be considered.</p> <p>Management recommendation 3.1.1 has been updated to elaborate on the role of the Region of</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>composition for an enhanced NHS to that identified on Map 2 of the Draft CCWP.</p>	<p>Durham to provide direction to lower-tier municipalities to designate a NHS within Official Plans.</p> <p>Language has been added to the management recommendation to distinguish between the need to protect existing natural cover as identified in map 2 and having policies to identify enhancement and restoration opportunities for potential natural cover areas as identified in map 2.</p>
<p>Adding a new Management Recommendation 1.3.6 stating that TRCA continues to support and enhance the existing flood model by increasing the number of rainfall monitoring stations and stream flow gauges on all tributaries including the most minor.</p>	<p>TRCA expanded its monitoring network in the Carruthers Creek watershed by installing two new monitoring stations in 2019 to collect more precipitation data in the watershed. These are represented by water quantity stations #5 and #6 as illustrated in Figure 7 of the draft CCWP. One station is just north of Taunton Road, the other north of Hwy 407.</p> <p>Section 6 on Monitoring and Evaluation discusses the need to add additional monitoring stations to track watershed health (See page 56). Text has been added to this section about expanding the monitoring network in the event of further development.</p>
<p><b>Town of Ajax</b></p>	
<p>Management recommendation 1.1.1 encourages new development to minimize impervious cover while controlling higher levels of stormwater. Whereas, less stringent requirements are applied to redevelopment. The management recommendation recognizes it may be more difficult to rehabilitate existing developed to comply with the increased standards, while still applying a quantitative target.</p> <p>A minor amendment is requested to strengthen the management recommendation by replacing the word ‘should’ with ‘shall’ to ensure that this management recommendation is incorporated into Official Plan policy and related standards.</p>	<p>The requested change has been made.</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>Management recommendation 1.1.3 requires that a Terms of Reference be prepared to require additional study, such as completion of a hydraulic assessment, among other requirements, if a SABE is required. Staff have the following comments:</p> <p>While staff agree that a Terms of Reference is required to complete the additional study work and analysis, the management recommendation places the requirement to prepare the ToR on the Region, with input from TRCA, Ajax and Pickering. This management recommendation should be revised to ‘require agreement’ on all components of the ToR between the Region, TRCA, Ajax and Pickering before commencing work.</p> <p>Staff acknowledge that additional information, such as detailed land uses and mapping are needed prior to undertaking a Hydraulic Analysis. Staff are also of the opinion that such an analysis needs to occur at the earliest stage possible. Therefore, the management recommendation should be revised to require the completion of a Hydraulic Analysis during subwatershed planning and development of the secondary plan, but prior to any planning approvals. It should clearly identify the timing for the completion of work if Scenario 3 proceeds by adding “and secondary planning, prior to planning approvals” after subwatershed planning to read “to develop a Terms of Reference outlining requirements for further studies in support of subwatershed and secondary planning, prior to planning approvals, that includes, but is not limited to . . .”</p>	<p>Management recommendation 1.1.3 has been updated to clarify the process and require consensus among the relevant parties on future studies.</p> <p>Management recommendation 2.1.4 has been updated to address these comments.</p>
<p>Management recommendation 1.3.5 regarding flood plain mapping should be clarified. Staff agree that this is an essential management recommendation regardless of which scenario proceeds. However, staff have concerns related to the timing of this management recommendation. Staff believe that mapping needs to occur at the earliest stage possible. Therefore, the management recommendation should</p>	<p>Flood plain mapping is routinely updated as municipal Official Plans change and with the most recent topographical information.</p> <p>This management recommendation has been updated to clarify the flood plain mapping process.</p> <p>Management recommendation 2.1.4 addresses what conditions must be met through secondary planning</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>be revised to require the completion of the updated mapping during secondary planning and sub-watershed planning, but prior to any planning approvals in the headwaters.</p>	<p>in the event of a Settlement Area Boundary Expansion, including a hydraulic analysis (to quantify and map depth and extent of potential flood impacts).</p>
<p>Management recommendation 2.1.1 related to the protection of the Water Resource System should be updated to remove adequately from clause a.</p>	<p>The requested change has been made.</p>
<p>Management recommendation 3.1.1 outlines initiatives that need to be undertaken to protect, enhance and restore the NHS. The current Official Plans of the Region of Durham, City of Pickering, and Town of Ajax have different approaches to protecting the NHS. A consistent approach should be applied to the entire watershed, which ‘designates’ the enhanced NHS in the Regional Official Plan and area municipal Official Plans; similar to the Growth Plan, 2020 approach to designating the Provincial NHS in expanded Settlement Areas.</p> <p>As written, the management recommendation only recommends that the municipally ‘adopted’ enhanced NHS be protected. Recommending only that the municipally adopted enhanced NHS be protected creates ambiguity and undermines the work completed in this watershed plan. Therefore, management recommendation 3.1.1 a) should be strengthened by replacing the word ‘adopted’ with ‘designated’ to read “updating Official Plan policies and associated zoning by-laws to protect a municipally designated enhanced NHS” in order to provide greater and consistent protection of the enhanced NHS throughout the watershed.</p> <p>Similarly, management recommendation 3.1.1 f) should also be amended to replace the word ‘adopted’ with ‘designated’ to read “requiring development and redevelopments be designated and approved to prevent encroachment into the municipally designated NHS.”</p>	<p>Management recommendation 3.1.1 has been split into two recommendations: one for the Region of Durham and one for lower-tier municipalities. ‘Designated’ has replaced ‘adopted’ for the lower-tier recommendation.</p> <p>The principle of achieving an overall ‘net gain’ where possible is already established in TRCA’s ecosystem compensation guideline. The 1:1 ratio only applies to habitat types that can be restored without a long delay in re-establishing the lost ecosystem structure and function. Aside from the increased restoration ratios, there are several opportunities to achieve a net gain as part of the guideline. This includes improved ecosystem quality through enhanced restoration and locating restoration sites adjacent to other natural areas to create large, consolidated ecosystems. The management recommendation has been updated to clarify that ecosystem compensation policies should meet or exceed TRCA’s guideline.</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>To date, staff have not supported implementing ecosystem compensation protocol policies into the Town’s Official Plan in order to prioritize avoidance and protection of features. Further, where compensation has been accepted by the Town, a net gain in environmentally protected land area has been required; whereas the TRCA protocol permits a 1:1 ratio for the lowest level of compensation. Therefore, it is staff’s position that adopting TRCA’s guidelines for ecosystem compensation be removed; unless the guideline is amended to require greater compensation rations for the lowest level of protection.</p>	
<p>Similar to above, management recommendation 3.1.5 should be updated to replace ‘adopted’ with ‘designated’ related to the NHS.</p>	<p>The requested change has been made.</p>
<p>Management recommendation 3.1.6 requires wetland water balance studies be completed by landowners of any potential growth in areas in northeast Pickering, prior to planning approvals. The wording should be strengthened by replacing the word ‘should’ with ‘is to’ to read ‘wetland water balance studies that demonstrate how the hydrologic function of the wetland is to be protected . . .’</p>	<p>The requested change has been made.</p>
<p>The scenario analysis beginning on page 34 of the draft plan demonstrates how the watershed reacts to each scenario. The draft plan compares Scenario 1 against the current conditions (2016). However, the plan changes its approach by comparing Scenarios 2 and 3 against Scenario 1, instead of comparing these scenarios to current conditions. Staff believe that consistent benchmark, using the current conditions, should be used for all scenario evaluations. Although Scenario 1 is approved in Official Plans and is anticipated to occur, it is difficult for the average reader to understand or visualized future conditions resulting from the current approved Official Plan. It is easier for the reader to use their</p>	<p>The technical work conducted during the scenario analysis stage included some assessments that compared scenarios 2 and 3 to scenario 1, while scenario 1 was compared to existing conditions (e.g. hydrological assessment). To ensure consistency across technical disciplines the results presented in subsection 4.3 of the draft CCWP are all presented in this manner.</p>

<b>Comments</b>	<b>Changes to CCWP (If applicable) / Response to Comments</b>
understanding of current conditions within the watershed as the basis when comparing future conditions. Therefore, staff believe that Scenario's 2 and 3 should be adjusted such that the results are compared against the current conditions.	

### 3. Summary of Key Changes to the CCWP

As noted in [Table 2](#), [Table 3](#), and [Table 4](#) edits to the draft CCWP have been made to address feedback from public review. [Table 5](#) identifies the section and page number of the CCWP that was changed, the original text, and the revised text.

Table 5 - Summary of Key Changes to the CCWP

Section / Page Number	Original Text	Revised Text
Executive Summary	Revision is new text.	<p><b>The management framework is focused on:</b></p> <ul style="list-style-type: none"> <li>• <b>Achieving more sustainable land use and infrastructure development patterns through the use of low impact development and green infrastructure policies, improved stormwater management, managing the risks of flooding and erosion, and implementing agricultural best management practices</b></li> <li>• <b>Protecting, enhancing, and restoring the WRS and improving aquatic habitat connectivity</b></li> <li>• <b>Protecting, enhancing, and restoring the NHS and increasing urban forest cover</b></li> </ul>
4.2 Future Scenarios Table 3 Page 32	<p>Scenario 3: This scenario assumes post-2031 development in the headwaters of Carruthers Creek (north of the Greenbelt), outside the enhanced NHS.</p> <p>This scenario provides insights into how watershed conditions will likely change if potential full growth is approved in the watershed.</p>	<p>This scenario assumes post-2031 development in the headwaters of Carruthers Creek (north of the Greenbelt), outside the enhanced NHS.</p> <p><b>This scenario made general assumptions on the types of land uses associated with typical urbanization. It did not make assumptions on the levels of stormwater management controls or other mitigation measures (e.g. green infrastructure) that may accompany urban development. This level of analysis would be completed during subsequent planning stages when detailed land use configurations are known.</b></p> <p>This scenario provides insights into how watershed conditions will likely change if</p>

Section / Page Number	Original Text	Revised Text
		potential full growth is approved in the watershed.
4.3 Scenario Analysis Pop-out box Page 34	<p>It is important to note that scenario analysis does not result in decisions about the type and configuration of land uses. Instead, scenario analysis helps to inform decisions through the municipal planning process (e.g. Official Plans).</p> <p>It is the responsibility of the applicable municipality to determine the ultimate land use configuration for any future changes within the watershed.</p>	<p>It is important to note that scenario analysis does not result in decisions about the type and configuration of land uses. Instead, scenario analysis helps to inform decisions through the municipal planning process (e.g. Official Plans).</p> <p>It is the responsibility of the applicable municipality to determine the ultimate land use configuration for any future changes within the watershed.</p> <p><b>Appropriate mitigation strategies are developed during the detailed planning stages for new developments once the scope of any future land use change is known. These mitigation strategies include assessments of the appropriate levels of stormwater controls, the use of green infrastructure to maintain natural water balance as much as possible, and opportunities for ecological restoration.</b></p>
4.3 Scenario Analysis Water Resource System Page 35	<p>Footnote 11:</p> <p>This assessment does not consider protection measures for the WRS. For example, if impervious surfaces were minimized in groundwater recharge areas, hydrologic function would be maintained.</p>	Footnote removed based on added text noted above in subsection 4.2 and 4.3.
4.3 Scenario Analysis Natural Hazards Page 38	<p>Context at top of page:</p> <p>Focused on flood modelling as measured by peak flows. Percent change is based on an average from both locations for the regional storm only (as the worst-case scenario).</p>	<p>Focused on flood modelling as measured by peak flows. <b>Percent change is based on the Regional Storm (i.e. Hurricane Hazel) at two points in the watershed. The Regional Storm for TRCA's jurisdiction is based on a historical extreme storm of record, Hurricane Hazel. Design storms are based on statistical analysis of rainfall over a period of record. Hurricane Hazel is a 12-hour event</b></p>

Section / Page Number	Original Text				Revised Text									
					<b>with 212 mm of rainfall, which assumes completely saturated soils.</b>									
4.3 Scenario Analysis Natural Hazards Page 38	Current Conditions	Scenario 1	Scenario 2	Scenario 3	Current Conditions	Scenario 1	Scenario 2	Scenario 3						
	% change -	= -2%	= 0%	-77%	% change at Taunton Rd	+2.4%	+1.9%	-112.9%						
4.3 Scenario Analysis Natural Hazards Page 38	Footnote 22 The flood modelling completed as part of scenario analysis did not factor in potential mitigation measures (e.g. modern stormwater infrastructure).				<b>All existing stormwater management facilities were removed from the model to account for the system failing or being at capacity during a Regional storm event.</b>									
4.3 Scenario Analysis Natural Hazards Page 38	<i>Revision is new text.</i>				New footnote: <b>The 5-year storm event uses a 60.07 mm rainfall event over a 24-hour period, which assumes an average (normal) soil condition.</b>									
4.3 Scenario Analysis Summary of Implications Page 39	<p>Summary of implications:</p> <ul style="list-style-type: none"> <li>One of the four subwatersheds shows improved aquatic conditions under scenario 2. Conversely, all four subwatersheds have fair – poor aquatic conditions under scenario 3, likely resulting in the loss of Redside Dace, a listed endangered species, within the Carruthers Creek watershed.</li> <li>The amount of natural cover and habitat quality improves under scenario 2. Under scenario 3, the amount of natural cover</li> </ul>				<p><b>Summary of Implications:</b></p> <table border="1" data-bbox="922 1419 1464 1818"> <thead> <tr> <th colspan="2" data-bbox="922 1419 1464 1465"><b>Scenario 1</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="922 1465 1045 1682"><b>WRS</b></td> <td data-bbox="1045 1465 1464 1682"><b>Aquatic conditions remain relatively poor, similar to existing conditions, and there is an increase in impervious cover across the watershed.</b></td> </tr> <tr> <td data-bbox="922 1682 1045 1818"><b>NHS</b></td> <td data-bbox="1045 1682 1464 1818"><b>Natural cover and habitat quality remain similar to current conditions.</b></td> </tr> </tbody> </table>				<b>Scenario 1</b>		<b>WRS</b>	<b>Aquatic conditions remain relatively poor, similar to existing conditions, and there is an increase in impervious cover across the watershed.</b>	<b>NHS</b>	<b>Natural cover and habitat quality remain similar to current conditions.</b>
<b>Scenario 1</b>														
<b>WRS</b>	<b>Aquatic conditions remain relatively poor, similar to existing conditions, and there is an increase in impervious cover across the watershed.</b>													
<b>NHS</b>	<b>Natural cover and habitat quality remain similar to current conditions.</b>													

Section / Page Number	Original Text	Revised Text	
	<p>improves, while habitat quality decreases compared to scenario 2 due to the influence of surrounding urban development.</p> <ul style="list-style-type: none"> <li>Water quality is currently impaired in the watershed for parameters like chloride, phosphorus, TSS and E. coli. Without improvements to land use practices, salt and stormwater management, water quality is likely to continue to deteriorate with increased urbanization (scenario 3).</li> <li>There are existing flooding issues in the watershed, which will significantly increase under scenario 3 without the implementation of considerable mitigation measures. The hydrologic assessment shows a reduction in peak flows associated with the recommended NHS for smaller design storms (i.e. 2-year storm).</li> </ul> <p>These hypothetical future scenarios are illustrative of potential watershed conditions. In addition to the summary of implications, it is important to recognize the following:</p> <ul style="list-style-type: none"> <li>Protecting, enhancing and restoring the recommended NHS provides vital watershed benefits as illustrated by Scenario 2 and is consistent with targets as identified in Table 2.</li> <li>Limiting impervious cover in any potential future growth areas, or through redevelopments, provides significant benefits to aquatic biodiversity. Federal guidance recommends urbanizing watersheds maintain less than 10% impervious land cover, while already degraded urban systems should not exceed a second threshold of 25 to 30%.</li> </ul>	<b>Water Quality</b>	Slight increases in both total suspended solids and total phosphorus.
		<b>Natural Hazards</b>	Peak flows do not significantly change from current conditions (i.e. increases and decreases at Taunton and Shoal Point Roads under the Regional and 5-year storm events).
		<b>Scenario 2</b>	
		<b>WRS</b>	One of the four subwatersheds shows improved aquatic conditions.
		<b>NHS</b>	Natural cover increases and habitat quality improves.
		<b>Water Quality</b>	Total phosphorus and total suspended solids decrease.
		<b>Natural Hazards</b>	Peak flows decrease slightly at Taunton and Shoal Point Roads under the Regional and 5-year storm events.
		<b>Scenario 3</b>	
		<b>WRS</b>	All four subwatershed have fair-poor aquatic conditions, likely resulting in the loss of Redside Dace, a listed endangered species.
		<b>NHS</b>	Natural cover increases, but habitat quality does not improve by as much as scenario 2.
		<b>Water Quality</b>	Total suspended solids increase, total phosphorus decreases.
		<b>Natural Hazards</b>	Peak flows significantly increase at Taunton and Shoal Point Roads under the Regional

Section / Page Number	Original Text	Revised Text		
	<p>Scenario 1 shows impervious cover reaching this 30% threshold with only a marginal improvement to 29% under Scenario 2. See Figure 9 in Section 7 for more information.</p> <p>The management framework developed as part of this watershed plan contains recommendations to improve watershed conditions regardless of potential future land use decisions. The management framework is designed to account for potential future growth, redevelopment and emphasize the importance of protecting, enhancing and restoring both the WRS and NHS.</p>	<table border="1" data-bbox="922 279 1463 373"> <tr> <td data-bbox="922 279 1045 373"></td> <td data-bbox="1045 279 1463 373">and 5-year storms; more so for the former.</td> </tr> </table> <p><b>What does this mean?</b></p> <p><b>These results demonstrate the importance of ensuring that land use and infrastructure planning decisions are made to minimize and mitigate impacts to the watershed regardless of potential future land uses or their configurations. The management framework in Section 5 outlines the goals, objectives, indicators, and management recommendations necessary to ensure the long-term health and sustainability of the watershed.</b></p> <p><b>The results of this scenario analysis emphasize the importance of protecting, enhancing, and restoring the WRS (Subsection 5.2) and the NHS (Subsection 5.3).</b></p> <p><b>In addition to the summary of implications, it is important to recognize the following:</b></p> <ul style="list-style-type: none"> <li>• <b>Limiting impervious cover in any potential future growth areas, or through redevelopments, provides significant benefits to aquatic biodiversity. Federal guidance recommends urbanizing watersheds maintain less than 10% impervious land cover, while already degraded urban systems should not exceed a second threshold of 25 to 30%. Scenario 1 shows impervious cover reaching this 30% threshold with only a marginal improvement to 29% under Scenario 2. See Figure 9 in Section 7 for more information.</b></li> </ul>		and 5-year storms; more so for the former.
	and 5-year storms; more so for the former.			

Section / Page Number	Original Text	Revised Text
		<ul style="list-style-type: none"> <li>• <b>Increasing natural cover and improving habitat quality has noticeable benefits for the watershed (e.g. improvements to aquatic conditions and slight reductions of peak flows).</b></li> <li>• <b>Ecological restoration and improvements to land use practices (e.g. increased use of green infrastructure and improved stormwater management) could address existing water quality issues.</b></li> <li>• <b>The existing flooding and erosion issues can be mitigated through improved land uses (e.g. green infrastructure) and infrastructure (e.g. stormwater management) as outlined in the management recommendations of Subsection 5.1. In the event of future development in the headwaters of Carruthers Creek, it will be vital to develop mitigation strategies to limit the impacts of further urbanization by implementing the management recommendations outlined in Subsection 5.4.</b></li> </ul> <p><b>The management framework is designed to address existing issues and the implications of these scenarios by accounting for new developments, redevelopments, and prioritizing the importance of protecting, enhancing, and restoring both the WRS and NHS.</b></p>
5.1 Land Use and Infrastructure Goal Page 43	1.1.1 Lower-tier municipalities, in collaboration with the Region of Durham and TRCA, to adopt green development policies, or standards, and require new developments, and re-developments, to utilize low impact	1.1.1 Lower-tier municipalities, in collaboration with the Region of Durham and TRCA, to adopt green development policies, or standards, and require new developments, and redevelopments, to utilize low impact

Section / Page Number	Original Text	Revised Text
	<p>development and green infrastructure techniques to limit the impacts of impervious cover. The following should apply to any municipal policies, or standards, in particular within ESGRAs, as identified on map 1b:</p> <ul style="list-style-type: none"> <li>a. new developments should minimize impervious cover and strive to achieve 90<sup>th</sup> percentile volume control of annual rainfall</li> <li>b. redevelopments should minimize impervious cover and strive to achieve 75<sup>th</sup> percentile volume control of annual rainfall</li> </ul>	<p>development and green infrastructure techniques to limit the impacts of impervious cover. The following <b>shall</b> apply to any municipal policies, or standards, in particular within ESGRAs, as identified on map 1b:</p> <ul style="list-style-type: none"> <li>a. new developments <b>shall</b> minimize impervious cover and strive to achieve 90<sup>th</sup> percentile volume control of annual rainfall</li> <li>b. redevelopments <b>shall</b> minimize impervious cover and strive to achieve 75<sup>th</sup> percentile volume control of annual rainfall</li> </ul>
<p>5.1 Land Use and Infrastructure Goal Pages 43 – 44</p>	<p>1.1.3 If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, in accordance with Growth Plan policies, the Region of Durham, in collaboration with lower-tier municipalities and TRCA, to develop a Terms of Reference outlining requirements for further studies in support of subwatershed planning that includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>a. a hydraulic assessment</li> <li>b. how natural hazards will be assessed and mitigated (i.e. the risk of flooding will not increase)</li> <li>c. how the Natural Heritage System and Water Resource System will be protected, enhanced and restored</li> <li>d. how water quality and quantity will be protected.</li> </ul>	<p>1.1.3 If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, the Region of Durham, in collaboration with the lower-tier municipalities and TRCA, <b>will identify, based on consensus between the identified parties, the subsequent planning processes and further studies and assessments, that would be required to implement any such expansion. These requirements should be reflected as policies within the Regional Official Plan and include the requirement for the preparation of a secondary plan and a subwatershed plan (or equivalent), which would be supported by, at a minimum, the following studies, assessments, and further considerations:</b></p> <ul style="list-style-type: none"> <li>a. a hydraulic assessment</li> <li>b. how natural hazards will be assessed and mitigated (i.e. the risk of flooding <b>and erosion</b> will not increase)</li> <li>c. how the Natural Heritage System and Water Resource System will be protected, enhanced, and restored</li> </ul>

Section / Page Number	Original Text	Revised Text
		<p>d. how water quality and quantity will be protected.</p> <p>e. <b>how flood mitigation solutions will be funded, including identification of the responsible parties for providing the funding. This includes the cost of any necessary studies, engineering design, and actual construction/maintenance of flood mitigation works.</b></p>
<p>5.1 Land Use and Infrastructure Goal Page 46</p>	<p>1.3.5 TRCA to complete comprehensive floodplain mapping based on new models and best available information to inform land use and infrastructure decisions.</p>	<p>1.3.5 TRCA <b>will continue</b> to complete comprehensive flood plain mapping based on <b>routinely updated hydraulic</b> models and <b>updated land use information to inform municipal planning decisions. Regulatory flood plain mapping is updated based on approved land uses.</b></p>
<p>5.2 Water Resource System Goal Page 47</p>	<p>2.1.1 The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to ensure the protection of the Water Resource System (map 1A and B) and its functions, by: a. updating Official Plans and zoning bylaws to adequately protect the Water Resource System . . .</p>	<p>2.1.1 The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to ensure the protection of the Water Resource System (map 1A and B) and its functions, by: a. updating Official Plans and zoning bylaws <b>to protect</b> the Water Resource System . . .</p>
<p>5.2 Water Resource System Goal Page 48</p>	<p>2.1.4 If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, in accordance with Growth Plan policies, the City of Pickering, in collaboration with the Region of Durham, Town of Ajax and TRCA, as part of secondary planning to demonstrate through a subwatershed plan (or equivalent) that: a. key hydrologic features will be protected</p>	<p>2.1.4 If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, the City of Pickering, in collaboration with the Region of Durham, Town of Ajax and TRCA, <b>prior to approvals of a secondary plan</b> to demonstrate through a subwatershed plan (or equivalent) that: a. key hydrologic features will be protected <b>and hydrologic functions maintained</b></p>

Section / Page Number	Original Text	Revised Text
	<p>b. where avoidance of key hydrologic areas is not possible, appropriate mitigation measures are to be implemented to maintain downstream hydrologic function, and</p> <p>c. there will be no negative or adverse downstream effects, such as increased flooding, erosion, or deteriorated water quality.</p>	<p>b. <i>no change, except adding an ‘s’ to function</i></p> <p>c. there will be no negative or adverse downstream effects, such as increased flooding, erosion, or deteriorated water quality <b>through a hydraulic analysis (to quantify and map depth and extent of impacts) and other relevant modelling.</b></p>
<p>5.3 Natural Heritage System Goal Page 49</p>	<p>The exact configuration and size of the NHS could fluctuate due to other factors (e.g. construction of infrastructure), assuming the analysis is comparable to the one that resulted in the proposed enhanced NHS recommended by TRCA.</p>	<p><b>Refinements to the recommended NHS may be considered assuming the scientific analysis is consistent with the goals and objectives of the CCWP.</b></p>
<p>5.3 Natural Heritage System Goal Page 50</p>	<p>3.1.1 The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to ensure the protection, enhancement and restoration of a Natural Heritage System consistent with the goals and objectives of this watershed plan (map 2 for recommended NHS) by:</p> <p>a. updating Official Plan policies and associated zoning bylaws to protect a municipally adopted enhanced Natural Heritage System</p> <p>b. assessing existing standards and guidelines for land use and infrastructure development to ensure they reflect current provincial policy direction to maintain, restore or enhance the municipally adopted Natural Heritage System</p> <p>c. avoid infrastructure development (i.e. buildings and structures) and minimize infrastructure linear feature crossings, in</p>	<p>3.1.1 <b>The Region of Durham, as part of its Municipal Comprehensive Review, to ensure the protection, enhancement, and restoration of a Natural Heritage System consistent with the goals and objectives of this watershed plan (map 2 for recommended NHS) by:</b></p> <p><b>a. including existing natural cover areas identified in map 2 in the Regional Official Plan</b></p> <p><b>b. providing direction to lower-tier municipalities to include policies in their Official Plans to protect, enhance and restore existing natural cover areas as identified in map 2</b></p> <p><b>c. recognizing the potential natural cover areas identified in map 2 in the Regional Official Plan and providing direction to lower-tier municipalities to include any relevant policies in their Official Plans to enhance and restore potential natural cover areas</b></p>

Section / Page Number	Original Text	Revised Text
	<p>a municipally adopted enhanced Natural Heritage System</p> <p>d. adopting municipal policies for ecosystem compensation, in accordance with TRCA’s <i>Guideline for Ecosystem Compensation</i>, where development in a municipally adopted enhanced Natural Heritage System is unavoidable</p> <p>e. applying a minimum 30 metre vegetation protection zone along features at the boundary of a municipally adopted enhanced Natural Heritage System to protect ecological function</p> <p>f. requiring development and redevelopments be designed and approved to prevent encroachment into a municipally adopted enhanced Natural Heritage System.</p>	<p><b>d. avoiding infrastructure development (i.e. buildings and structures) and minimizing infrastructure linear crossings, in a municipally designated enhanced Natural Heritage System</b></p> <p><b>e. providing direction to lower-tier municipalities on the establishment of minimum vegetation protection zones along natural heritage features, with the ability of the minimum vegetation protection zone to be confirmed through an appropriate environmental study</b></p> <p><b>3.1.2</b>  <b>Lower-tier municipalities, in collaboration with TRCA, to ensure the protection, enhancement and restoration of a Natural Heritage System consistent with the goals and objectives of this watershed plan (map 2), including the target of achieving 36% natural cover across the watershed, by:</b></p> <p>a. <b>designating in their Official Plans, at a minimum, existing natural cover as identified in map 2</b></p> <p>b. <b>including policies in their Official Plans to identify enhancement and restoration opportunities for potential natural cover areas as identified in map 2</b></p> <p>c. <i>same as b in original text, except adopted is replaced with designated</i></p> <p>d. <i>same as c in original text, except adopted is replaced with designated</i></p> <p>e. adopting municipal policies for ecosystem compensation <b>that meet or exceed</b> TRCA’s <i>Guideline for Ecosystem Compensation</i>, where development in a municipally <b>designated</b> enhanced Natural Heritage System is unavoidable</p>

Section / Page Number	Original Text	Revised Text
		<p>f. <b>applying a minimum vegetation protection zone along natural heritage features at the boundary of a municipally designated enhanced Natural Heritage System. A minimum 30 metre vegetation protection zone is recommended, unless otherwise determined through an appropriate environmental study</b></p> <p>g. <i>same as f in original text, except adopted is replaced with designated, and redevelopments is replaced with site alterations</i></p> <p><i>Remaining 3.1 management recommendations in subsection 5.3 would be numbered sequentially so that the previous 3.1.2 becomes 3.1.3 and so on.</i></p>
<p>5.3 Natural Heritage System Goal Page 51</p>	<p>3.1.5 TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to minimize impacts to the municipally adopted Natural Heritage System from any active recreation and human activity by:</p> <ul style="list-style-type: none"> <li>a. ensuring proper trail management and signage</li> <li>b. providing education and outreach on the importance of the municipally adopted Natural Heritage System</li> <li>c. promoting community stewardship to maintain and monitor the municipally adopted Natural Heritage System for improper trail usage (e.g. off-trail compaction and erosion), illegal dumping and invasive species, while encouraging community restoration programs (e.g. tree plantings).</li> </ul>	<p><b>3.1.6</b> TRCA, in collaboration with the Region of Durham and lower-tier municipalities, to minimize impacts to the municipally <b>designated</b> Natural Heritage System from any active recreation and human activity by:</p> <ul style="list-style-type: none"> <li>a. ensuring proper trail management and signage</li> <li>b. providing education and outreach on the importance of the municipally <b>designated</b> Natural Heritage System</li> <li>c. promoting community stewardship to maintain and monitor the municipally <b>designated</b> Natural Heritage System for improper trail usage (e.g. off-trail compaction and erosion), illegal dumping and invasive species, while encouraging community restoration programs (e.g. tree plantings).</li> </ul>

Section / Page Number	Original Text	Revised Text
5.3 Natural Heritage System Goal Page 51	3.1.6 Wetland water balance studies that demonstrate how the hydrological function of the wetland should be protected will be undertaken by the landowner . . .	<b>3.1.7</b> Wetland water balance studies that demonstrate how the hydrological function of the wetland <b>is to be</b> protected will be undertaken by the landowner . . .
5.4 Carruthers Creek Headwaters Management Pages 54 – 55	Management recommendations 1.1.3, 2.1.4, and 3.1.7 have been updated as noted above.	
6. Monitoring and Evaluation Page 56	Revision is new text.	<b>If development occurs in the headwaters of Carruthers Creek, it may be necessary to add additional monitoring stations.</b>
7. Maps Page 64	Revision is new text.	Map 2, additional note: <b>Refinements to the recommended NHS may be considered assuming the scientific analysis is consistent with the goals and objectives of the CCWP.</b>

## Appendix A

### **Email Campaign Submission to Durham Regional Chair**

*(Generic text from all email submissions provided below)*

Please respect the findings from the TRCA's report on Carruthers Creek and say no to development in headwaters.

The TRCA has completed the Carruthers Watershed Plan. It has now been circulated for public comment. The report shows unequivocally that this watershed is stressed. There is already a serious problem with flooding and erosion. The report indicates that urbanizing the Carruthers Headwaters will increase flooding hazards by a staggering 77 per cent!

Durham Council has already identified flooding as the number one threat from climate change. The costs to local governments and homeowners will be very large. These lands are also prime agricultural lands which are very important to Durham's largest industry.

The TRCA Report makes it very clear that under no circumstances should the Carruthers Headwaters be urbanized. The cost is too great.

### **Response Provided by Region of Durham**

Thank you for your email. Your comments have been added to the Region's file and sent to staff at the Toronto and Region Conservation Authority (TRCA) for consideration. TRCA entered into a service agreement with the Region to complete the watershed plan.

As you may be aware, a Draft of the Carruthers Creek Watershed Plan Update was released on March 13, 2020 for a 90-day public review and comment period. Following the outbreak of the COVID-19 pandemic, the public review and comment period was placed on hold. Public consultation, including a public open house, will resume once the current state of emergency has been lifted. In the meantime, you may continue to submit comments on the [Draft Carruthers Creek Watershed Plan](#) through the Toronto and Region Conservation Authority project website.

The Draft Carruthers Creek Watershed Plan Update assesses the current health of the watershed. It also utilizes scenario modelling to project what the future health of the watershed may be. One of these scenarios (scenario 3) models the likely implications associated with the potential for urban development within the headwaters without mitigation measures. Currently, the lands within the headwaters of Carruthers Creek are not designated as part of the settlement area of the City of Pickering or within the Region of Durham's urban area boundary. At this time there has been no decision to develop the headwaters of Carruthers Creek.

To mitigate the increased risk of downstream flooding, as well as other adverse effects associated with potential urban development within the headwaters, Subsection 5.4 of the Draft Carruthers Creek Watershed Plan outlines a series of management recommendations. The management recommendations of Subsection 5.4 also address the planning processes and further studies that would be required before a decision can be made about development in the headwaters. These management recommendations, along with the broader management framework, would be used to protect, enhance, and restore the Carruthers Creek Watershed, including the implementation of appropriate flood mitigation measures.

It is important to note that watershed plans are not land use plans, nor do they constitute a land use planning decision. However, as required by Provincial Plans, the data, scientific analysis, modelling, scenario evaluation and management recommendations generated through a watershed plan process would be used by municipalities to inform future land use planning decisions.

Should you have any further questions about the content, or the recommendations contained in the Carruthers Creek Watershed Plan, I encourage you to email [carruthers@trca.ca](mailto:carruthers@trca.ca) and a member of the TRCA project team will respond.

## APPENDIX B

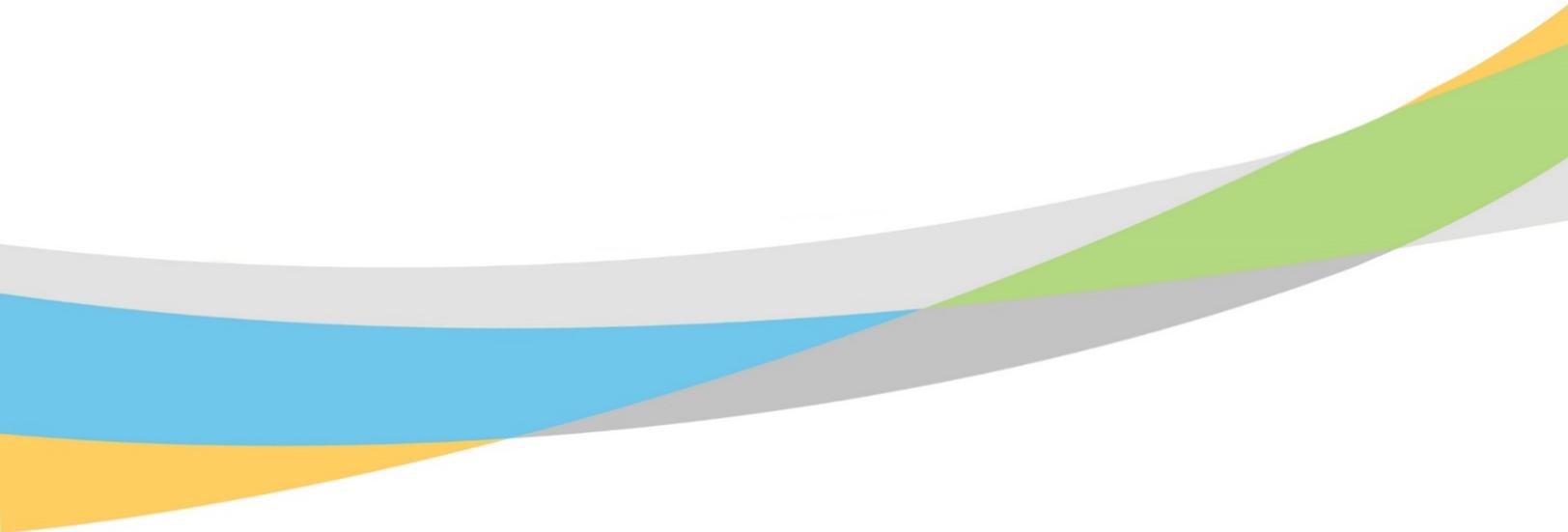
The North East Pickering Landowners Group (NEPLG) letter also contained comments specific to many of the Scenario Analysis Technical Reports completed as part of the watershed planning process. **Table 6** provides a general overview of those comments grouped by theme and relevant responses.

**Table 6 - NEPLG Comments on Technical Reports**

Comments	Changes to CCWP (If applicable) / Response to Comments
<b>Modifications to Technical Reports</b>	
<p>Key comments include:</p> <ul style="list-style-type: none"> <li>• Suggest adding more technical details about methodologies, specifically for the Terrestrial Impact Assessment.</li> <li>• It is not practical to require the development of a Region-wide stormwater management plan for matters related to one watershed. We recognize this recommendation in the technical report was not carried forward to the watershed plan. Therefore, suggest deleting it from the Technical Report.</li> <li>• The hydrologic modelling did not achieve a successful model calibration with the latest stream gauge information. The timing and process for TRCA to complete the hydrologic model calibration should be discussed in the Technical Reports. The hydrology models should undertake a fulsome parameter and calibration/validation exercise, including using more recent data before further use in determining flooding impacts and mitigation approaches. This should be discussed in the documents.</li> </ul>	<p>The Technical Reports developed as part of the CCWP were all peer-reviewed. As noted in Regional Council Report #2020-P-15, TRCA and Regional planning staff are confident the draft Watershed Plan is thorough, sound, and defensible.</p> <p>As noted in the CCWP (Section 5), the management recommendations in the watershed plan are to be considered the final source for goals, objectives, indicators, and management recommendations.</p> <p>As noted in the CCWP, the preparation of a hydraulic analysis and demonstration that new developments will not negatively impact natural hazard areas are included as management recommendations.</p> <p>Additionally, a memo provided to SCS Consulting in January 2021 on the review of the hydrology model has been added to the Reports and Resources library on the CCWP project webpage.</p>
<b>Scenario 2 and 3 Assumptions</b>	
<p>Key comments include:</p> <ul style="list-style-type: none"> <li>• Scenario 2 is not realistic as there is no policy mechanism for existing farmland to be enhanced natural cover.</li> <li>• Scenario 3 is too simplistic without mitigation and could include assumptions on type of land uses,</li> </ul>	<p>The scoping of the scenarios for this watershed-scale planning exercise were developed by TRCA in collaboration with its municipal partners.</p> <p>Under Goal 1, objective 4 recognizes the need to work with the agricultural community on rural land stewardship. In the event that urbanization does not</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>canopy cover, green infrastructure, and stormwater management.</p>	<p>occur within the headwaters, TRCA would use the enhanced NHS to identify opportunities with rural land owners (e.g. incentive programs, grants, etc.).</p> <p>The extent and detailed land uses associated with a Settlement Area Boundary Expansion have not been determined. It is therefore difficult to assume the appropriate level of mitigation measures, which would be determined during the appropriate municipal planning stage (e.g. secondary planning). Scenario 3 was intended to give an overview of potential impacts based on typical urbanization patterns, and identify the appropriate studies, assessments, and considerations to include in any potential future secondary plan/subwatershed study.</p> <p>Subsection 5.4 of the CCWP identifies the studies that would be required in the event of a Settlement Area Boundary Expansion in the headwaters of Carruthers Creek. It is more appropriate to model different mitigation strategies at the appropriate planning stages when detailed land uses and configurations are known.</p>
<b>Additional Development Scenario</b>	
<p>Key comments include:</p> <ul style="list-style-type: none"> <li>• Recommends including a development scenario that includes practices for ecological and hydrological mitigation.</li> <li>• The minimum required stormwater management water quality treatment criteria for new development should be modelled. This is 80% TSS removal.</li> </ul>	<p>See response above.</p>
<b>Findings of Technical Reports</b>	
<p>Key comments include:</p> <ul style="list-style-type: none"> <li>• The impervious cover target needs to recognize impervious cover mitigation measures such as low impact developments. If Scheuler (1994) is going to be used to set system responses to impervious cover, the results should be contextualized with</li> </ul>	<p>The headwaters of Carruthers Creek are not currently within the urban boundary. The Region of Durham will decide on future growth based on the results of its Municipal Comprehensive Review.</p> <p>Additional assessment of potential mitigation strategies for future development would occur at the</p>

Comments	Changes to CCWP (If applicable) / Response to Comments
<p>its commentary on the use of stormwater controls.</p> <ul style="list-style-type: none"> <li>• The scenarios do not consider the impacts of tile drains on headwater drainage features and a future development scenario presents an opportunity to improve the hydrology of these features.</li> <li>• Disagree with the finding that future development will negatively impact fish habitat, as it is more likely that instream habitat conditions will improve in a future development scenario (e.g. naturalized stream corridors, stormwater controls) and that with these improvements fish diversity and abundance will be enhanced.</li> <li>• While low impact development techniques may not be able to erase all impacts of land development, they can certainly reduce the impacts, mitigating the effects of impervious cover.</li> <li>• The TRCA Expanded Groundwater Flow Model is a regional-scale model that was not refined, updated or re-calibrated for Carruthers Creek. The recharge boundary condition as applied in the land use scenarios was interpolated from previous simulations rather than from an updated hydrologic simulation. It is inappropriate to apply preliminary or unvetted tools to make management decisions.</li> <li>• The applied recharge in the future build-out scenario is representative of urban recharge from a large portion of Toronto, Durham, York, and Peel rather than what rates could be achievable with a modern stormwater system in Carruthers Creek.</li> </ul>	<p>appropriate planning stage as outlined in subsection 5.4 of the draft CCWP.</p> <p>While low impact development techniques can moderate some severity of impacts associated with impervious cover, they have yet to be demonstrated at a large enough scale to prevent aquatic tipping points from being exceeded.</p> <p>As noted elsewhere, in the event of future development additional studies would provide an opportunity to demonstrate how a future development scenario could improve the hydrology of headwater drainage features.</p> <p>There is a great deal of scientific evidence to suggest that naturalized stream corridors and improved stormwater controls do not result in the level of improvements to fish and aquatic habitat being asserted. Fish and aquatic habitat quality are governed by flow regime which is determined by runoff coefficients and the timing, magnitude, and durations of stormwater flows. Groundwater discharge also needs to be considered. Mitigation measures and habitat enhancements may improve some conditions initially, but the necessity to increase impervious cover with development shifts the system to a degraded state in the long-term.</p> <p>The decision was made to perform a preliminary groundwater modelling analysis that leveraged existing efforts including a peer-reviewed Tier 3 Source Water Protection numerical model and a comprehensive provincial database containing insights from a variety of groundwater investigations going back decades. This combined with some simple assumptions, such as recharge is land use dependent, provided insight of great value into the hydrological nature of Carruthers Creek.</p>



[www.trca.ca](http://www.trca.ca)





The Regional  
Municipality  
of Durham

Planning and Economic  
Development Department

Planning Division



Corporate Services Department  
Legislative Services Division

# Interoffice Memorandum

To: Ralph Walton, Regional Clerk/Director  
Legislative Services

From: David Perkins, MCIP, RPP  
Planner

Date: May 7, 2021

Re: **New Application for a Regional Official Plan Amendment**

File Number: **OPA 2021-004**  
Applicant: Grainboys Holdings Inc.  
Location: Part Lot 12, Concession 1  
Municipality: Township of Uxbridge

Date & Time Received:	May 10, 2021 11:07 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

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This is to advise that we have received the above noted application.

The application was deemed complete today.

***The purpose of the application is to permit the development of a grain milling and blending facility.***

If your department receives any submissions regarding this application, please forward the original copies to the Planning and Economic Development Department.

Please call me if you have any questions.

*David Perkins*

David Perkins

:lr

Encl: Application package



# Interoffice Memorandum

**Date:** May 14, 2021  
**To:** Health & Social Services Committee  
**From:** Dr. Robert Kyle  
**Subject:** Health Information Update – May 9, 2021

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Health  
Department

Please find attached the latest links to health information from the Health Department and other key sources that you may find of interest. Links may need to be copied and pasted directly in your web browser to open, including the link below.

You may also wish to browse the online Health Department Reference Manual available at [Board of Health Manual](#), which is continually updated.

Boards of health are required to “superintend, provide or ensure the provision of the health programs and services required by the [Health Protection and Promotion] Act and the regulations to the persons who reside in the health unit served by the board” (section 4, clause a, HPPA). In addition, medical officers of health are required to “[report] directly to the board of health on issues relating to public health concerns and to public health programs and services under this or any other Act” (sub-section 67.(1), HPPA).

Accordingly, the Health Information Update is a component of the Health Department’s ‘Accountability Framework’, which also may include program and other reports, Health Plans, Quality Enhancement Plans, Durham Health Check-Ups, business plans and budgets; provincial performance indicators and targets, monitoring, compliance audits and assessments; RDPS certification; and accreditation by Accreditation Canada.

Respectfully submitted,

Original signed by

R.J. Kyle, BSc, MD, MHSc, CCFP, FRCPC, FACPM  
Commissioner & Medical Officer of Health

*“Service Excellence  
for our Communities*

**UPDATES FOR HEALTH & SOCIAL SERVICES COMMITTEE**  
**May 9, 2021**

**Health Department Media Releases/Publications**

**[tinyurl.com/5e3ya2w7](https://tinyurl.com/5e3ya2w7)**

- COVID-19 Vaccination for Special Populations: High-Risk Children 12 to 15 Years of Age (Apr 27)

**[tinyurl.com/vuec8zk](https://tinyurl.com/vuec8zk)**

- Health Department expands vaccine eligibility to residents 45-plus in hot spot areas (Apr 27)

**[tinyurl.com/bmmjfamm](https://tinyurl.com/bmmjfamm)**

- Health Department expands COVID-19 vaccine eligibility to all residents 18+ in hot spot areas (May 3)

**[tinyurl.com/zfhn3wz](https://tinyurl.com/zfhn3wz)**

- Health Department expands COVID-19 vaccine eligibility to essential workers Group 2 (May 7)

**GOVERNMENT OF CANADA**

**Canada Mortgage and Housing Corporation**

**[tinyurl.com/53mhzfk4](https://tinyurl.com/53mhzfk4)**

- The Sanctuary of a Home: CMHC Releases 2020 Annual Report (May 4)

**Department of Finance Canada**

**[tinyurl.com/f4kd895j](https://tinyurl.com/f4kd895j)**

- Government Introduces Legislation to Deliver Jobs and Growth (Apr 30)

**Health Canada**

**[tinyurl.com/ymymuhtd](https://tinyurl.com/ymymuhtd)**

- Statement from Health Canada on AstraZeneca and Janssen COVID-19 vaccines produced at Emergent BioSolutions (Apr 25)

**[tinyurl.com/yhrc86nz](https://tinyurl.com/yhrc86nz)**

- Health Canada authorizes use of the Pfizer-BioNTech COVID-19 vaccine in children 12 to 15 years of age (May 5)

**[tinyurl.com/bawc5zj3](https://tinyurl.com/bawc5zj3)**

- Government of Canada continues to take action to support people with chronic pain (May 5)

**Indigenous Services Canada**

**[tinyurl.com/3e3kwtwd](https://tinyurl.com/3e3kwtwd)**

- Government of Canada COVID-19 Update for Indigenous Peoples and communities (Apr 29)

**[tinyurl.com/7h828nmy](https://tinyurl.com/7h828nmy)**

- Government of Canada COVID-19 Update for Indigenous Peoples and communities (May 5)

**Innovation, Science and Economic Development Canada**

**[tinyurl.com/jz8sp9wr](https://tinyurl.com/jz8sp9wr)**

- Government of Canada invests nearly \$1 million to bring high-speed Internet to 4,557 more homes in the Durham region (May 7)

**Prime Minister's Office**

**[tinyurl.com/4wxat3e2](https://tinyurl.com/4wxat3e2)**

- Investing in young Canadians (Apr 28)

**[tinyurl.com/me8ch9at](https://tinyurl.com/me8ch9at)**

- Prime Minister Justin Trudeau holds 30<sup>th</sup> call with premiers on COVID-19 response (Apr 29)

**[tinyurl.com/p4psuk7a](https://tinyurl.com/p4psuk7a)**

- A safe and dignified retirement for Canadian seniors (May 3)

**[tinyurl.com/2xef3evf](https://tinyurl.com/2xef3evf)**

- Prime Minister announces additional support for equitable access to new COVID-19 medical solutions (May 7)

**Public Health Agency of Canada**

**[tinyurl.com/ssvjwf8a](https://tinyurl.com/ssvjwf8a)**

- Statement from the Chief Public Health Officer of Canada on April 26, 2021

**[tinyurl.com/wftxpk6a](https://tinyurl.com/wftxpk6a)**

- Statement from the Chief Public Health Officer of Canada on April 28, 2021

**[tinyurl.com/s44w7zw9](https://tinyurl.com/s44w7zw9)**

- Government of Canada funds two new projects to encourage vaccine uptake in Canada (Apr 29)

**[tinyurl.com/yzdr2xch](https://tinyurl.com/yzdr2xch)**

- Statement from the Chief Public Health Officer of Canada on April 29, 2021

**[tinyurl.com/mev47yke](https://tinyurl.com/mev47yke)**

- Statement from the Chief Public Health Officer of Canada on May 1, 2021

**[tinyurl.com/45eypkze](https://tinyurl.com/45eypkze)**

- CPHO Sunday Edition – May 2, 2021 – Highlighting Canada's Research Contributions: Polio and COVID-19 Vaccines

**[tinyurl.com/w6yrpv3f](https://tinyurl.com/w6yrpv3f)**

- Statement from the Chief Public Health Officer of Canada on May 3, 2021

**[tinyurl.com/2rtd8kxz](https://tinyurl.com/2rtd8kxz)**

- Statement from the Chief Public Health Officer of Canada on May 5, 2021

[tinyurl.com/2e6d7ue2](https://tinyurl.com/2e6d7ue2)

- Statement from the Chief Public Health Officer of Canada on May 6, 2021

[tinyurl.com/bwspcfsw](https://tinyurl.com/bwspcfsw)

- Statement from the Chief Public Health Officer of Canada on May 8, 2021

[tinyurl.com/2ednuyb8](https://tinyurl.com/2ednuyb8)

- CPHO Sunday Edition – May 9, 2021 – COVID-19: Focus on Substance Use and Stigma

### **Public Safety and Emergency Preparedness Canada**

[tinyurl.com/v9nhrefb](https://tinyurl.com/v9nhrefb)

- Government of Canada assists Ontario with COVID-19 response (Apr 27)

### **Transport Canada**

[tinyurl.com/2undha9c](https://tinyurl.com/2undha9c)

- Minister of Transport proposes noise requirements for hybrid and electric vehicles to protect vulnerable road users (Apr 23)

[tinyurl.com/8dfvn5vp](https://tinyurl.com/8dfvn5vp)

- Transport Canada fines two individuals for presenting fraudulent COVID-19 pre-departure test results (May 6)

## **GOVERNMENT OF ONTARIO**

### **Ministry of Children, Community and Social Services**

[tinyurl.com/2echbsyp](https://tinyurl.com/2echbsyp)

- Ontario Taking Steps to Better Prepare and Support Youth Leaving Care (May 3)

### **Ministry of Colleges and Universities**

[tinyurl.com/pe6pwt5w](https://tinyurl.com/pe6pwt5w)

- Ontario Helps Train More Personal Support Workers (Apr 28)

[tinyurl.com/3ryjxm4h](https://tinyurl.com/3ryjxm4h)

- Ontario Extends Freeze on College and University Tuitions (Apr 30)

### **Ministry of Education**

[tinyurl.com/53ntb5rh](https://tinyurl.com/53ntb5rh)

- Ontario Unveils \$2 Billion Plan to Keep Schools Safe and Support Learning Recovery and Renewal (May 4)

### **Ministry of Finance**

[tinyurl.com/52jnph7f](https://tinyurl.com/52jnph7f)

- Ontario Legislature Passes Budget Bill to Protect Health and Jobs (Apr 26)

### **Ministry of Health**

[tinyurl.com/j8zfbxtf](https://tinyurl.com/j8zfbxtf)

- Ontario Expands COVID-19 Vaccination Booking to Individuals 45 and Older in Hot Spot Communities (Apr 27)

[tinyurl.com/epdys3eu](https://tinyurl.com/epdys3eu)

- Ontario Introduces Legislation to Strengthen Healthcare Workforce Accountability and Enhance Data-Driven COVID-19 Response (Apr 27)

[tinyurl.com/4zcmhryc](https://tinyurl.com/4zcmhryc)

- Ontario Maximizing Critical Care Capacity to Support Hospitals (Apr 28)

[tinyurl.com/k2a89ptn](https://tinyurl.com/k2a89ptn)

- Ontario Prepares to Accelerate Rollout as Vaccines Supply Increases (Apr 29)

[tinyurl.com/4mcjr6yk](https://tinyurl.com/4mcjr6yk)

- 40 Per Cent of Ontario Adults Have Received At Least One Dose of the COVID-19 Vaccine (May 1)

[tinyurl.com/k2a89ptn](https://tinyurl.com/k2a89ptn)

- Ontario Prepares to Accelerate Rollout as Vaccine Supply Increases (Apr 29)

### **Ministry of Labour, Training and Skills Development**

[tinyurl.com/nbke7jfw](https://tinyurl.com/nbke7jfw)

- Ontario to Introduce Paid COVID-19 Leave (Apr 28)

### **Ministry of Long-Term Care**

[tinyurl.com/zenjszy2](https://tinyurl.com/zenjszy2)

- Ontario responds to Auditor General's Report on Long-Term Care (Apr 28)

[tinyurl.com/bfnmbs8x](https://tinyurl.com/bfnmbs8x)

- Minister Statement – Ontario's Long-Term Care COVID-19 Commission Final Report (Apr 30)

[tinyurl.com/ysdf5bcx](https://tinyurl.com/ysdf5bcx)

- Ontario Responds to High Vaccination Rates, Modifies Restrictions in Long-Term Care Homes (May 4)

### **Ministry of the Solicitor General**

[tinyurl.com/xf6wzxud](https://tinyurl.com/xf6wzxud)

- Ontario Launches Mobile Vaccine Units in Hot Spot Workplaces (May 5)

### **Ministry of Transportation**

[tinyurl.com/aryk6bh8](https://tinyurl.com/aryk6bh8)

- Ontario Introduces Legislation to Take Action Against Stunt Driving and Street Racing (Apr 26)

### **Treasury Board Secretariat**

[tinyurl.com/3crw82zm](https://tinyurl.com/3crw82zm)

- Ontario Moves One Step Closer to Becoming a World-Leading Digital Jurisdiction (Apr 30)

## **OTHER ORGANIZATIONS**

### **Association of Local Public Health Agencies**

[tinyurl.com/5bx3a5ec](https://tinyurl.com/5bx3a5ec)

- Extending Public Health Measures Letter (May 7)

### **Canadian Council of the Blind**

[tinyurl.com/4rjxvddc](https://tinyurl.com/4rjxvddc)

- New report reveals vision loss costs Canada almost \$33 billion annually (May 5)

### **Canadian Institute for Health Information**

[tinyurl.com/vsjpv824](https://tinyurl.com/vsjpv824)

- Hospital visits for substance use increased during the first months of the pandemic (May 6)

### **Canadian Society for Medical Laboratory Science**

[tinyurl.com/2h5ndfnx](https://tinyurl.com/2h5ndfnx)

- Medical Laboratory Professionals Concerned with Ongoing State of Laboratories in Canada (May 4)

### **College of Family Physicians of Canada**

[tinyurl.com/33ufv987](https://tinyurl.com/33ufv987)

- The CFPC and CSLTCM call for improvements to long-term care in Canada (Apr 26)

### **Financial Accountability Office of Ontario**

[tinyurl.com/5y28jp](https://tinyurl.com/5y28jp)

- Ontario insolvencies reach lowest annual level since 2000 during pandemic (Apr 28)

### **Higher Education Quality Council of Ontario**

[tinyurl.com/49jmn4fr](https://tinyurl.com/49jmn4fr)

- New HEQCO report brings clarity to the confusing world of microcredentials (May 5)

### **Mental Health Commission of Canada**

[tinyurl.com/3u93zz23](https://tinyurl.com/3u93zz23)

- Mental Health Commission of Canada urges help seeking during mental health week (May 5)

### **Office of the Auditor General of Ontario**

[tinyurl.com/32fcm3p9](https://tinyurl.com/32fcm3p9)

- Lack of Pandemic Preparedness and Poor Infection Control Practices in Long-Term Care Contributed to COVID-19 Impacts: Auditor General (Apr 28)

### **Patented Medicine Prices Review Board**

[tinyurl.com/5a7n9acx](https://tinyurl.com/5a7n9acx)

- Coverage of Oncology Medicines Well Aligned Across Canadian Provinces, but Sources of Funding Differ (May 4)

**Registered Nurses' Association of Ontario**

**[tinyurl.com/ch97ar75](https://tinyurl.com/ch97ar75)**

- Long-Term Care COVID-19 Commission report receives thumbs up from RNAO;  
Will government act? (May 2)



May 3, 2021

Ms. Louise Levert  
Secretariat  
Canadian Nuclear Safety Commission  
280 Slater Street,  
P. O. Box 1046  
Ottawa, ON K1P 5S9

**The Regional  
Municipality of  
Durham**  
Office of the Chief  
Administrative Officer

605 Rossland Rd. E.  
Level 5  
PO Box 623  
Whitby, ON L1N 6A3  
Canada  
905-668-7711  
1-800-372-1102  
durham.ca

**Elaine Baxter-Trahair**  
**B.M. Edu, MBA**  
Chief Administrative  
Officer

Dear Ms. Levert:

**RE: Request to Intervene**

---

We understand that a virtual Public Hearing on matters related to renewing the Power Reactor Site Preparation Licence for the Darlington New Nuclear Project will be held June 9 and 10, 2021. In accordance with a resolution from Durham Regional Council passed April 28, 2021, the Region seeks to make a written intervention and an oral submission during the hearing. Please find attached our formal written submission including the resolution from Durham Regional Council. We appreciate the opportunity to participate.

Yours truly,

Original signed by

Elaine C. Baxter-Trahair  
Chief Administrative Officer

Enclosure

cc:

K. Hartwick, President and Chief Executive Officer, Ontario Power Generation  
R. Manley, Vice President, New Nuclear Development, Ontario Power Generation  
A. Foster, Mayor, Municipality of Clarington  
A. Allison, Secretary-Treasurer, Canadian Association of Nuclear Host Communities  
R. Walton, Regional Clerk/Director of Legislative Services



Submission from the Regional Municipality of Durham regarding Ontario Power Generation's application to renew the Nuclear Power Reactor Site Preparation License (PRSL) for the Darlington New Nuclear Project (DNNP)

May 3, 2021

## **Glossary of Acronyms**

CLOCA	Central Lake Ontario Conservation Authority
CNSC	Canadian Nuclear Safety Commission
DGR	Deep Geologic Repository
DNHC	Durham Nuclear Health Committee
DNNP	Darlington New Nuclear Project
DRPS	Durham Regional Police Service
EIS	Environmental Impact Statement
GHG	Greenhouse Gas
IAEA	International Atomic Energy Agency
ITER	International Thermo-nuclear Energy Reactor
JRP	Joint Review Panel
KI	Potassium Iodide
MASL	Metres above sea level
MOU	Memoranda of Understanding
MWe	Megawatts Electric
NWMO	Nuclear Waste Management Organization
OPG	Ontario Power Generation
PNERP	Provincial Nuclear Emergency Response Plan
PPS	Provincial Policy Statement
PRSL	Power Reactor Site Preparation Licence
SMR	Small Modular Reactor

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# 1 Introduction

A municipality is defined in section 1 of the *Municipal Act, 2001* as a “geographic area whose inhabitants are incorporated.” Section 2 of the *Act* provides that municipalities are created by the Province of Ontario to be responsible and accountable governments with respect to matters within their jurisdiction. There are 444 municipalities in Ontario, all of which play an important role in providing and delivering valuable programs and services to meet the needs of their residents.

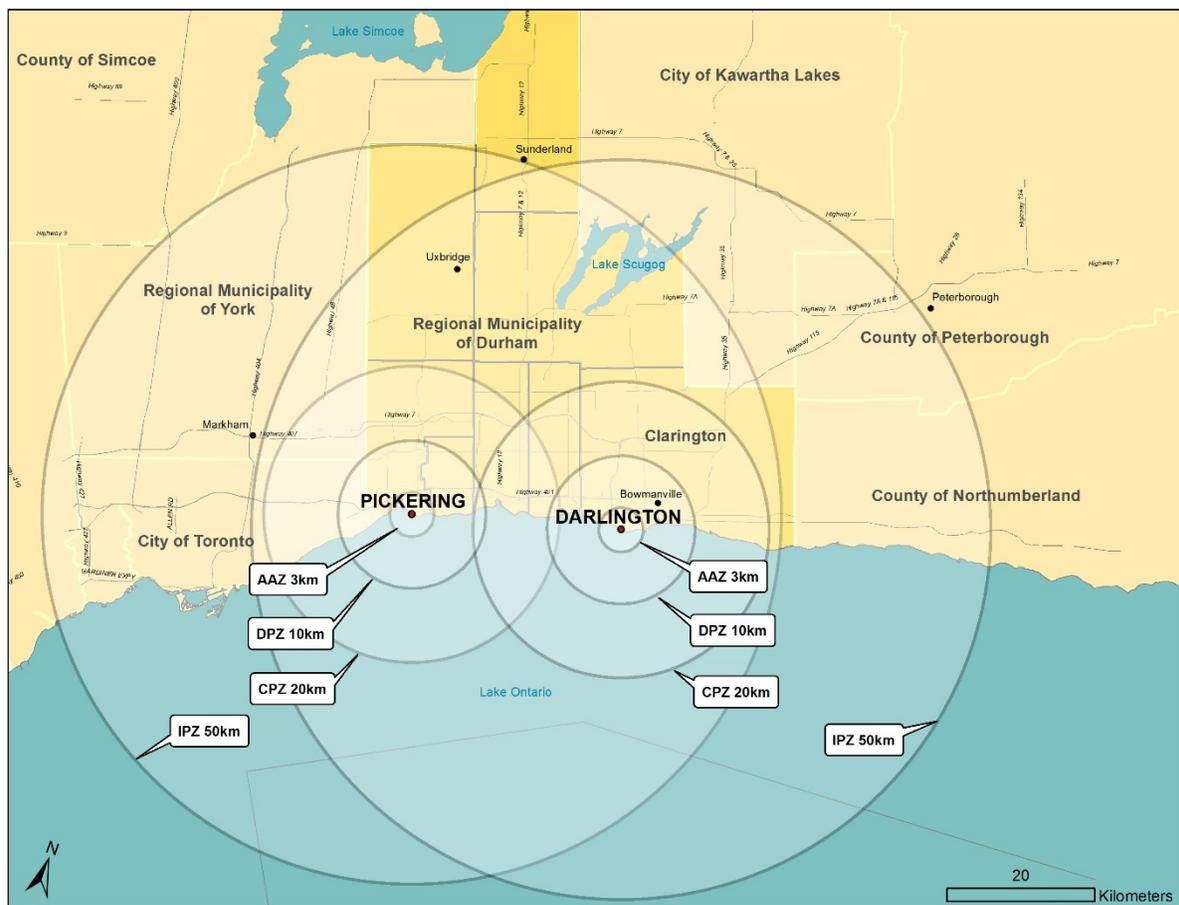
The Regional Municipality of Durham (hereinafter Durham Region or the Region) is an upper tier municipality in Ontario’s system of two-tier municipal government. The upper tier is the regional level, which operates at a broader scale to provide planning, servicing and financing for Region-wide services including police, ambulance, emergency management, public health, land use planning, social services, waste management, transportation, transit services and water and wastewater services. For a more extensive list of Durham Region’s legislated responsibilities see Appendix A.

In Durham Region, eight area municipalities comprise the lower tier (see map below). The Municipality of Clarington is one of the area municipalities. They operate at a more local scale, handling services such as detailed local planning, fire protection, tax collection and parks and recreation.



Durham Region is an experienced and informed nuclear host community. Within the Region, there are two nuclear generating stations and the Port Granby Project for the long-term storage of historic low-level radioactive waste. As the Clean Energy Capital of Canada, our business community includes a vibrant cluster of energy, environmental and engineering businesses. Since its inception in 1974, the Region has been a strong supporter of the operations at the Pickering and Darlington nuclear generating stations. This support has been expressed to the CNSC through Regional Council resolutions and Regional submissions. Regional Council has supported refurbishments at Pickering and Darlington, the ITER<sup>1</sup> Project, and re-licensing applications for the existing stations.

The following map shows the location of the Pickering and Darlington Nuclear Generating Stations and the extent of the associated nuclear planning zones within Durham and beyond.



<sup>1</sup> International Thermo-nuclear Energy Reactor Project – in the 1990s, the site now proposed for the DNNP was the site of Canada’s bid for the ITER project. The ITER bid was won by France.

Durham Region is a leader in municipal efforts to address climate change. In January 2020, Regional Council declared a climate change emergency. To act on this direction, the Region is implementing programs to reduce greenhouse gas emissions and the impacts of climate change and to strive to be a carbon neutral community. The clean electricity supply from nuclear generation will help our community shift to low carbon energy.

Durham Region is a hub of nuclear academia, engineering and manufacturing including the Centre for Canadian Nuclear Sustainability. The Region is positioned to be the centre of excellence in Canada for nuclear generation, research and development, supply chain, deployment of innovative nuclear technology, nuclear waste minimization, decommissioning and fuel recycling. The Region endorsed Canada's SMR Action Plan statement of principles ([2020-EDT-9](#)) and has developed a chapter and local actions to help advance the sector.

The Darlington New Nuclear Project (DNNP) is aligned with the priorities of [Durham Region's Strategic Plan](#) including:

- Goal 1.1: Accelerate the adoption of green technologies and clean energy solutions through strategic partnerships and investment
- Goal 2.2: Enhance community safety and well-being
- Goal 3.4: Capitalize on Durham's strengths in key economic sectors to attract high-quality jobs
- Goal 5.1: Optimize resources and partnerships to deliver exceptional quality services and value

The Region values Ontario Power Generation's (OPG) continued dedication to community organizations, our post-secondary institutions, local procurement, and the relocation of their administrative headquarters to Clarington.

## **2 Durham Region and OPG's Strong Relationship Continues**

The Region is pleased to work in partnership with OPG on various initiatives including public awareness, emergency management, potassium iodide (KI) pill distribution and a study on community impacts and economic opportunities related to the Pickering Nuclear Generating Station decommissioning process. There is considerable effort committed to strengthening this partnership.

### **Community Engagement**

Durham Region appreciates the activities undertaken by OPG to raise awareness of the nuclear sector within the community over the years including the Neighbours Newsletter, information centres, community advisory committees and media campaigns. Durham Region and OPG have partnered for a variety of community engagement activities including emergency preparedness week events and to develop a nuclear emergency preparedness public awareness strategy.

## **Emergency Management**

For decades, the Region has played a leading role in nuclear emergency planning and has significant responsibilities under the Provincial Nuclear Emergency Response Plan (PNERP). As such, the Region has developed a high level of expertise in nuclear emergency preparedness. In 2019, Durham Region supported the International Atomic Energy Agency (IAEA) mission to review Canada's emergency preparedness and response framework for nuclear and radiological emergencies.

Durham Region works closely with OPG and local emergency services to ensure that appropriate planning, practice and coordination are in place to respond to any emergency that may affect the Durham community. OPG provides funding for this program through a Memorandum of Understanding (MOU) with the Region.

## **Potassium Iodide (KI) Pill Distribution Program**

In 2014, the CNSC strengthened the regulatory requirements for the pre-distribution of potassium iodide (KI) tablets in the Detailed Planning Zones (10 km radius). Durham Region and OPG worked in partnership to meet these new requirements and launched a campaign to distribute KI pills to over 200,000 homes and businesses.

Together with OPG and the City of Toronto, [preparetobesafe.ca](http://preparetobesafe.ca) was launched to process KI orders from anyone who lives or works in the Ingestion Planning Zone (50 km radius). Since its inception, the website has processed nearly 100,000 orders (as of December 2020).

The KI distribution program includes collecting tablets nearing expiration and redistributing new tablets, developing and disseminating KI educational materials and raising awareness within the community about the availability of KI. OPG provides funding for this program through an MOU.

## **Durham Nuclear Health Committee**

OPG provides funding and technical assistance to the [Durham Nuclear Health Committee \(DNHC\)](#). DNHC is a committee of Durham Regional Council that is chaired by the Region's Commissioner & Medical Officer of Health. The DNHC is a forum for discussing and addressing potential radiation and environmental human health impacts. Membership of the DNHC consists of nine public members from Whitby, Oshawa, Ajax, Clarington and Pickering, who are appointed by Council; two representatives of OPG; and four provincial/regional government representatives. OPG staff regularly provide educational presentations and updates on environmental monitoring.

## **Policing**

The Durham Region Police Service (DRPS) has an excellent working relationship with both the Emergency Preparedness and Security program and the Emergency Services

(SES) Unit within OPG. To maintain a strong working relationship, DRPS participates in security and emergency services training and exercise activities in OPG's Emergency Management Program. This includes natural, technological and human-induced (criminal) emergencies or disasters. DRPS also participates in annual "Force on Force" security exercises and training opportunities in the roles of participant, observer and evaluator.

In 2017, OPG opted to join the Region's Next/Gen radio system used by responders across Durham region. This system ensures integrated, seamless and interoperable communications among responders. It is an excellent example of a valuable partnership between the Region and OPG. The DRPS and OPG have an MOU for Off-Site Response that provides the framework for police response.

### **Study of the Financial, Economic, and Social Impacts of the Retirement of the Pickering Nuclear Generating Station**

The City of Pickering, Durham Region and OPG are studying community and economic impacts and opportunities related to the decommissioning process at the Pickering Nuclear Generating Station. Through this partnership, the Region will work with the City of Pickering and the Centre for Canadian Nuclear Sustainability to stimulate research, technology development, and innovation related to the decommissioning process, while also attracting industry and talent.

### **3 Durham Region's detailed comments on the DNNP PRSL**

The Region submitted comments to the Joint Review Panel in 2011 related to the environmental, human health, and Regional impacts of the original proposed DNNP ([2011-J-29](#); [2010-J-29](#)). The Region understands that at this time OPG is not considering a 4,800 MWe reactor facility as was originally proposed for the DNNP. The smaller SMR development (300-400 MWe) now proposed is expected to have a reduced footprint. However, our comments are based on the contents of the PRSL application. Once a technology partner for the DNNP has been selected, Durham Region looks forward to continuing its strong partnership with OPG to understand how we can work together to facilitate the project, minimize impacts and maximize benefits to the community.

The Region's submission will provide general comments and specifically address the following sections of OPG's PRSL renewal application within the mandate of the CNSC:

- 3.2 Environmental Risk Assessment
- 4.4 Site Characteristics
- 4.5 Evaluation of Natural External Events
- 5.5 Physical Design
- 5.7 Radiation Protection of OPG's renewal application

The comments below were approved by Regional Council on April 28, 2021 ([2021-COW-8](#)).

### **3.1 General Comments**

- The Region supports the selection of the Darlington site as the first on-grid SMR application in Canada and supports the DNNP.

### **3.2 Comments on section 3.2 Environmental Risk Assessment**

- OPG should be required to develop plans to forecast, mitigate and monitor the impacts of dust, air and noise emissions from site preparation activities on neighbouring residents as a requirement of the PRSL.

### **3.3 Comments on section 4.4 Site Characteristics**

- The application includes the potential for infilling in Lake Ontario. The Region has concerns that lake infilling may alter the near shore currents, resulting in impacts to the water quality at the water supply plants. OPG should avoid lake infilling if possible due to the effects it will have on shoreline facilities, biota, and natural processes. If unavoidable, silt erosion and control mitigation must be in place to ensure that the nearby water treatment plant intakes are not impacted. OPG should investigate potential impacts to ensure the operation of Regional infrastructure is not negatively impacted.
- Unique to Ontario, Conservation Authorities are local watershed management agencies that deliver services and programs to protect and manage impacts on water and other natural resources in partnership with all levels of government, landowners and many other organizations. Conservation Authorities promote an integrated watershed management approach balancing human, environmental and economic needs. The Darlington Nuclear Generating Station and DNNP are within the Central Lake Ontario Conservation Authority's (CLOCA) jurisdiction. OPG should ensure that any biological or environmental impacts related to the development of the site or lake filling are discussed with CLOCA.
- The Region has conducted extensive analysis of cancer and congenital anomaly data for areas around the Pickering Nuclear Generating Station and Darlington Nuclear Generating Station, resulting in "Radiation and Health" reports. The 2007 report concluded that disease rates in Ajax-Pickering and Clarington did not indicate a pattern to suggest that the Pickering and Darlington nuclear generating stations were causing health effects in the population. More recently, population health assessments have focused on analysis by [Health Neighbourhood](#) and a broad range of [health data](#). This information helps to understand the health status of Durham Region residents and can be used by OPG in the context of human health risk assessments.

- The Land Use Report prepared for the Site Preparation Licence Renewal Activity Report was prepared in 2019. Since this report was finalized there has been an update to the [Provincial Policy Statement](#) (2020) (PPS), which guides planning decisions in the province. These changes should be reflected in the application. Specifically, section 1.2.6.2 of the PPS provides an update on Land Use Compatibility and smaller technical changes related to energy generation have been made throughout. These should be noted, and the Land Use Report should be updated.
- Changes should be made to recommendations number 43 and 44 in Table 12: Status of Government of Canada Recommendations Applicable to the Site Preparation Phase to reflect that the Provincial Policy Statement is the appropriate planning document, not the Public Policy Statement.
- The Region has engaged in a review of the Durham Regional Official Plan. This review has been identified in the Land Use Report provided in support of the application. [Envision Durham](#) has proposed changes to policies related to the Darlington site and energy generation in the Region. In the time since the Land Use Report was finalized, the Region released [Proposed Policy Directions](#). Specifically, Envision Durham is considering extending the Urban Boundary to include the Darlington Site. The Durham Regional Official Plan would recognize the Automatic Action Zone by including policies that:
  - Restrict sensitive land uses within the Automatic Action Zone; and/or
  - Outline how the impacts of these facilities will be considered through the review of development applications.

The Region has proposed policy directions related to the Darlington Site and it is recommended that OPG review these and provide feedback, preferably by June 30, 2021, as detailed in the policy directions report.

### **3.4 Comments on section 4.5 Evaluation of Natural External Events**

- The Region, through the Ontario Climate Consortium, recently undertook a climate modelling exercise to update the current climate projections to include both Global and Regional Climate Models through an ensemble approach. The report, titled "[Guide to Conducting a Climate Change Analysis at the Local Scale: Lessons Learned from Durham Region](#)", should be used to inform future updates to climate change assessments undertaken as part of the DNNP PRSL. The report includes climate projections that will provide guidance on the future conditions that the site will need to accommodate. This is relevant in terms of adapting to changes in drainage, groundwater flow, the effort needed to maintain species diversity onsite, impacts of invasive species and shoreline impacts.
- Water levels across the Great Lakes are primarily the result of natural, uncontrolled water supplies into the basin. Lake Ontario experienced a record-

high water level in 2017 of 75.88 meters or 248.95 feet. It then exceeded that just two years later in 2019, with a new record of 75.92 meters or 249.09 feet. These water levels resulted in damages and other impacts across the system including shoreline properties in Clarington. OPG should undertake a flood hazard assessment for future high water levels of Lake Ontario to ensure that site preparation, flood protection and erosion control measures are sufficient. OPG should ensure shoreline flooding is addressed with CLOCA.

- Impacts of algae on cooling water intakes should be considered during technology selection and design.

### **3.5 Comments on section 5.5 Physical Design**

- Since the PRSL was approved in 2012, transportation infrastructure and demand in the area have changed. Updated impact assessments for site preparation, construction and operation of the revised DNNP should be provided for the Region's review at the earliest opportunity to allow for advance planning.
- Excavation and grading are major components of site preparation. These activities may generate large volumes of truck traffic for removing surplus soil from the site and/or importing fill and aggregates to the site. Before initiating site preparation activities, OPG should identify haul routes, expected truck volumes and schedules, and prepare a traffic management plan that addresses impacts on safety, dust, traffic operations, and pavements along the haul routes. OPG should comply with O.Reg. 406/19 made under the Environmental Protection Act and with applicable local municipal site alteration/fill by-laws for the export and import of fill.
- Several key transportation infrastructure improvements have been completed in the area of the DNNP that will benefit site preparation, construction, and operation of the site. The Region has additional road improvements planned in the next two to three years. Subject to the outcome of an updated transportation impact assessment of the DNNP, OPG should commit to funding any additional improvements necessary to ensure that transportation infrastructure required for the DNNP is in place before the commencement of major works on the site. This will help avoid having key access routes under construction while the DNNP is in progress. This could include road network upgrades such as pavement strengthening, widening and intersection modifications.
- OPG should provide their existing and proposed water usage and sanitary sewer discharge quantity and quality calculations for the DNNP to the Region to allow for long term servicing planning.

### **3.6 Comments on section 5.7 Radiation Protection**

- If changes to the nuclear planning zones are anticipated, OPG should consult with the Region to update the KI distribution program.

## **4 Conclusion**

Durham Region is pleased to be at the forefront of SMR deployment in Canada. As an experienced nuclear host community, Durham Region understands the potential benefits of SMR technology and the opportunities this technology brings to Canada.

## Appendix A - Legislated Responsibilities of the Regional Municipality of Durham

The following chart lists key pieces of applicable legislation for Durham Region but is not an exhaustive list.

<b>Regional Responsibility:</b>	<b>Legislation:</b>
Borrowing of Money for Capital Expenditures of Upper and Lower Tier Municipalities	Municipal Act, 2001.
Community and Land Use Planning including: the Regional Official Plan and implementation thereof; approval authority function for lower-tier municipal official plans and amendments thereto; industrial, commercial and residential development approvals; Land Division consent applications; administration of development charges; strategic land use planning; plan of subdivision and condominium approvals; and site plan application commenting function.	Planning Act; Greenbelt Act, 2005; Oak Ridges Moraine Conservation Act, 2001; Oak Ridges Moraine Protection Act, 2001; Lake Simcoe Protection Act, 2008; Places to Grow Act, 2005; Development Charges Act, 1997; Environmental Protection Act.
Economic Development and Tourism	Municipal Act, 2001
Emergency Management including detailed arrangements and procedures for implementing precautionary and protective measures; detailed planning for public alerting system requirements, public education program, and provision of emergency communications; arrangements to receive and accommodate evacuees; carry out the required response as prescribed by the province; conduct training and exercises to prepare Regional staff; ensure availability of essential facilities, emergency centres, resources and equipment required by the Region to respond.	Emergency Management and Civil Protection Act, Provincial Nuclear Emergency Response Plan, 2017.
Emergency Services including: 9-1-1 management; land ambulance services and police services.	Municipal Act, 2001; Ambulance Act; Police Services Act; Development Charges Act, 1997.
Policing	Several acts recently amended by the Safer Ontario Act 2018 including for example the Police Services Act.

<b>Regional Responsibility:</b>	<b>Legislation:</b>
Property taxes.	Municipal Act, 2001; Assessment Act; Electricity Act, 1998.
Provincial Offences Court including prosecution services, court administration and collection of fines.	Provincial Offences Act.
Public Health programs, services and Paramedic Services.	Health Protection and Promotion Act, the Ambulance Act, and numerous other acts and regulations which reference public health.
Regional roads, bridges and traffic signals.	Municipal Act, 2001; Planning Act; Highway Traffic Act; Development Charges Act, 1997.
Social Services including arrangements to receive and accommodate evacuees, child care centres, nursery school programs, Durham Behaviour Management Services (children), family counselling, long-term care and services for seniors, Ontario Works, and social housing.	Municipal Act, 2001; Day Nurseries Act; Child and Family Services Act; Ontario Works Act, 1997; Ontario Disability Support Program Act, 1997; Family Benefits Act; Social Housing Reform Act, 2000; Occupiers Liability Act.
Solid Waste Management including diversion, recycling, compostables, yard waste, white goods and bulk items.	Development Charges Act, 1997; Municipal Act, 2001; Resource Recovery and Circular Economy Act, 2016, Waste Diversion Transition Act, 2016, Environmental Protection Act.
Transit and specialized transit services.	Municipal Act, 2001; Accessibility for Ontarians with Disabilities Act, 2005.
Water infrastructure and services: drinking water supply, treatment, distribution and billing.	Development Charges Act, 1997; Municipal Act, 2001; Ontario Water Resources Act; Safe Drinking Water Act, 2002; and Clean Water Act, 2006.
Wastewater infrastructure and services sewage collection, treatment and billing.	Development Charges Act, 1997; Municipal Act, 2001; Ontario Water Resources Act.
By-law enforcement.	Numerous Acts and Regional By-laws.

References to Acts include references to applicable Regulations and Plans.

Additionally, the Region has numerous agreements with public-sector partners that may govern the activities noted above, in addition to Council-adopted policies and initiatives that may be applicable, including:

- a. Durham Region Strategic Plan 2020-2024
- b. Durham Region Official Plan
- c. Transportation Master Plan 2018
- d. Long Term Transit Strategy 2015
- e. Long Term Waste Management Strategy 2021 - 2040
- f. 2021 Regional Business Plans and Budgets
- g. 2019 Asset Management Plan and 2020 Corporate Asset Management Update Report
- h. Annual Accessibility Plan (covers all regional services per Ontarians with Disabilities Act, 2001)
- i. Durham Regional Police Strategic Business Plan (3-year plan)
- j. From Vision to Action, Region of Durham Community Climate Change Local Action Plan, 2012
- k. Towards Resilience: Region of Durham Community Climate Adaptation Plan 2016
- l. Durham Community Energy Plan 2018

While this list is not exhaustive, it does include the key documents that lay out the framework for the Region's infrastructure and relevant services.



Corporate Services Department Legislative Services Division	
Date & Time Received:	May 10, 2021 11:20 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

Development Services Department  
Planning Services

May 6, 2021

File: D-1100-0038

**Ministry of Municipal Affairs and Housing**

Via email: [greenbeltconsultation@ontario.ca](mailto:greenbeltconsultation@ontario.ca)

**Re: Ministry of Municipal Affairs and Housing Consultation on Growing the Size of the Greenbelt (ERO 019-3136)**

Further to our letter dated April 16, 2021, please be advised that on April 26, 2021, Oshawa City Council endorsed the recommendation of the Development Services Committee on the above-noted matter as follows:

1. That the City of Oshawa supports expanding the existing Urban River Valley designated areas in the Greenbelt Plan to include the Proposed Expansion Areas, as generally outlined in Attachment 1, to the extent that they coincide with associated lands designated as Open Space and Recreation on Schedule 'A', Land Use, of the Oshawa Official Plan and as Natural Heritage System and Natural Heritage and/or Hydrologic Features outside of the Natural Heritage System on Schedule "D-1", Environmental Management, of the Oshawa Official Plan;
2. That the City of Oshawa supports expanding the existing Urban River Valley designated areas in the Greenbelt Plan to include Corridors 2 and 3 as generally outlined in Attachment 1, given that Corridor 2 is subject to Policy 5.1.9 of the Oshawa Official Plan which, among other matters, supports the maintenance and restoration of a continuous corridor function within the Lake Iroquois Beach area, and given that Corridor 3 coincides with lands already subject to Policy 5.7.2.6 of the Oshawa Official Plan which, among other matters, explicitly recognizes the importance of lands within one (1) kilometre of the Lake Ontario shoreline as wildlife habitat and a regional wildlife movement corridor;
3. That the Province of Ontario be requested to provide implementing land acquisition funding to acquire new public Greenbelt Urban River Valley connection lands including Lake Ontario Waterfront lands;
4. That staff be authorized to forward Item DS-21-72 and any related resolution of the Development Services Committee to the Ministry of Municipal Affairs and Housing and to provide subsequent follow-up once Council has considered this matter; and,
5. That a copy of Item DS-21-72 and the related Council resolution be sent to the Ministry of Municipal Affairs and Housing in response to the posting on the Environmental Registry of Ontario entitled "Consultation on growing the size of the Greenbelt" (Posting Number ERO 019-3136), with copies also provided to the Region of Durham, Durham area municipalities, Durham area M.P.P.s, the Central

Lake Ontario Conservation Authority, and the City's Building Industry Liaison Team which includes the Durham Chapter of the Durham Region Home Builders' Association."

If you require further information or clarification, please contact Victoria White at the address shown or by telephone at (905) 436-3311, extension 2945 or by email to [vwhite@oshawa.ca](mailto:vwhite@oshawa.ca).



Tom Goodeve, M.Sc.Pl., MCIP, RPP, Director  
Planning Services

VW/k

- c. Region of Durham
- City of Pickering
- Town of Ajax
- Town of Whitby
- Municipality of Clarington
- Township of Brock
- Township of Scugog
- Township of Uxbridge
- Durham area MPPs
- Central Lake Ontario Conservation Authority
- Oshawa's Building Industry Liaison Team



Date & Time Received:	May 10, 2021 9:51 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

Mayor Virginia Hackson, B.A., B.Ed.



April 21, 2021

Controlled Substances and Cannabis Branch  
Health Canada  
Address locator 0302B  
Ottawa, Ontario  
K1A 0K9

Attn: The Honourable Patty Hajdu

Dear Minister:

**Re: Submissions of the Town of East Gwillimbury  
Health Canada Consultation on Guidance on Personal Production of Cannabis for  
Medical Purposes**

The Town of East Gwillimbury is pleased to have the opportunity to comment on Health Canada’s draft “Guidance on personal production of cannabis for medical purposes”.

The Town supports this initiative of Health Canada to articulate factors that may be considered by Health Canada, at an administrative level, when it makes the decision to refuse or revoke a registration to produce medical cannabis on the basis of public health and safety grounds pursuant to the *Cannabis Regulations*.

**Health Canada’s Proposal**

In particular, the Town supports Health Canada’s proposal to include the following factors in every consideration of whether a registration, renewal, or amendment is likely to create a risk to public health and safety, including the risk of illicit diversion, and whether revocation of a registration is reasonably necessary to protect public health and safety:

**1. Amount of daily authorized cannabis by health care practitioner and information to support the amount authorized:**

Is the authorized daily amount of cannabis supported by credible clinical evidence and/or published treatment guidelines?

Is the amount of daily authorized cannabis considered reasonable, after taking into account the route of administration?

.../2



**2. Non-compliance or history of non-compliance with the *Cannabis Act* and *Cannabis Regulations* by the registered or designated person including the relevant circumstances:**

What is the overall history of non-compliance, including the number, nature and severity of previous instances of non-compliance, and how has the person responded to previous non-compliance?

Are the registered- or designated person growing, or have they grown, more than the amount authorized by the registration?

**3. Criminal activity and/or diversion of cannabis:**

Is the production site linked, or has it been linked, to the diversion of cannabis, a controlled substance, or to criminal activities?

Are the registered or designated person, the owner of the production site or an individual with another direct link to the site or operation involved in the diversion of cannabis, a controlled substance, or have they been involved in or do they contribute, or have they contributed to such diversion?

Is the production site linked, or has it been linked, to organized crime? Are the registered or designated person, the owner of the production site or an individual with another direct link to the site or operation associated with organized crime or have they been associated with organized crime?

**4. Health care practitioner is or has been involved with criminal activities or has been subject to disciplinary review or action by a licensing authority in relation to their prescribing practices with cannabis or controlled substances:**

Has a provincial licensing authority investigated or disciplined the health care practitioner in relation to their prescribing practices with cannabis or other controlled substances?

Is or has the health care practitioner been involved in or contributed to activities prohibited by or conducted in contravention of the *Cannabis Act* or the *Controlled Drugs and Substances Act*?

Is or has the health care practitioner been a member of a criminal organization, or is or has been involved in, or contributes to, the activities of such an organization?

## East Gwillimbury's Proposal

In its own experience, the Town has encountered production sites where the production of medical cannabis has occurred:

- without required zoning approval;
- without required building permits; and
- in contravention of municipal by-laws regulating noxious odour.

Problems relating to noxious odour associated with cannabis production adversely impacting adjacent residential and other sensitive uses is exacerbated when multiple Health Canada registrations issue for a single production site. In the Town's own experience, multiple registrations at a single site have resulted in Health Canada authorizations to grow in excess of 1,000 plants at the site. In the result, production occurs at a scale that is more commercial than personal. Noxious odours emanating from these sites have necessitated municipal compliance orders and enforcement proceedings initiated by the Town.

Accordingly, in addition to the factors already proposed by Health Canada, the Town proposes that the following additional factors be considered in Health Canada's registration and revocation decision making process:

### 5. Non-compliance with local planning regulations and applicable site plan requirements:

Is the production site compliant with local zoning regulations and site plan requirements including but not limited to regulations regarding use, setbacks, lot coverage, illumination controls, proximity to sensitive uses and site plan obligations?

Is the production site the subject of a municipal compliance order restraining the continued use of the site for cannabis production?

Is the owner/occupant of the production site in default of its municipal site plan obligations?

### 6. Non-compliance with the Building Code and/or Fire Code:

Are structures erected, or proposed to be erected, at the production site compliant with local permitting requirements and applicable Building Code and Fire Code requirements?

Is the production site the subject of a Building Code or Fire Code compliance or cease and desist order?

**7. Non-compliance with the requirements of any public utility or applicable technical standards and safety authority:**

Are the premises at the production site operated in accordance with requirements of public utilities providing services to the production site and is equipment at the production site operated in compliance with the requirements of the applicable technical standards and safety authority?

**8. Production is a nuisance:**

Does cannabis production at the site constitute a common nuisance (i.e. light pollution/noxious odour)?

Has the production site been the subject of municipal compliance orders relating to noxious odour?

Are effective measures in place at the production site to mitigate against light pollution?

Are effective measures in place at the production site to mitigate against the emanation of noxious odours?

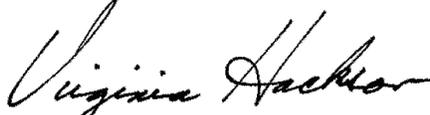
Is there sufficient physical separation between the production site and adjacent residential and other sensitive uses that may be adversely impacted by noxious odours emanating from the production site?

In preparing these submissions for your consideration the Town is hopeful that, in advance of required regulatory reform of the personal medical cannabis production regime, the Town's experience and comments will serve to inform Health Canada's decision making process in the matter of registration refusals and revocations on the basis of public health and safety grounds.

The Town encourages Health Canada to use the administrative discretion available to it to protect the public from production activities that occur at the expense of community health and safety and in contravention of applicable law.

Thank you Minister for providing the Town with this opportunity provide comments.

Sincerely,



Mayor Virginia Hackson

 Corporate Services Department Legislative Services Division	
Date & Time Received:	May 10, 2021 11:04 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	



**Legislative Services**  
 111 Erie Street North  
 Leamington, ON N8H 2Z9  
 519-326-5761  
 clerks@leamington.ca

SENT VIA EMAIL

May 5, 2021

**Re: Advocacy for Reform  
 Municipal Freedom of Information and Protection of Privacy Act (MFIPPA)**

Please be advised that the Council of The Corporation of the Municipality of Leamington, at its meeting held Tuesday, April 27, 2021 enacted the following resolution:

**No. C-119-21**

**Re: Advocacy for Reform - MFIPPA Legislation**

BE IT RESOLVED that the Council of the Municipality of Leamington has received Clerk's Department Report LLS-15-21 regarding Advocacy for Reform of Municipal Freedom of Information and Protection of Privacy Act ("MFIPPA"); and

That that the following motion be passed in support of a request to review and reform of MFIPPA:

WHEREAS MFIPPA dates back 30 years;

AND WHEREAS municipalities, including the Municipality of Leamington, practice and continue to promote open and transparent government operations, actively disseminate information and routinely disclose public documents upon request outside of the MFIPPA process;

AND WHEREAS government operations, public expectations, technologies, and legislation surrounding accountability and transparency have dramatically changed and MFIPPA has not advanced in line with these changes;

AND WHEREAS the creation, storage and utilization of records has changed significantly, and the municipal clerk of the Municipality is responsible for records and information management programs as prescribed by the Municipal Act, 2001;

AND WHEREAS regulation 823 under MFIPPA continues to reference antiquated

technology and does not adequately provide for cost recovery, and these financial shortfalls are borne by the municipal taxpayer;

AND WHEREAS the threshold to establish frivolous and/or vexatious requests is unreasonably high and allows for harassment of staff and members of municipal councils, and unreasonably affects the operations of the municipality;

AND WHEREAS MFIPPA fails to recognize how multiple requests from an individual, shortage of staff resources or the expense of producing a record due to its size, number or physical location does not allow for time extensions to deliver requests and unreasonably affects the operations of the municipality;

AND WHEREAS the name of the requestor is not permitted to be disclosed to anyone other than the person processing the access request, and this anonymity is used by requesters to abuse the MFIPPA process and does not align with the spirit of openness and transparency embraced by municipalities;

AND WHEREAS legal professionals use MFIPPA to gain access to information launch litigation against institutions, where other remedies exist;

AND WHEREAS there are limited resources to assist administrators or requestors to navigate the legislative process;

AND WHEREAS reform is needed to address societal and technological changes in addition to global privacy concerns and consistency across provincial legislation;

BE IT RESOLVED THAT the Ministry of Government and Consumer Services be requested to review MFIPPA, and consider recommendations as follows:

1. That MFIPPA assign the municipal clerk, or designate to be the Head under the Act;
2. That MFIPPA be updated to address current and emerging technologies;
3. That MFIPPA regulate the need for consistent routine disclosure practices across institutions;
4. That the threshold for frivolous and/or vexatious actions be reviewed, and take into consideration the community and available resources in which it is applied;
5. That the threshold for frivolous and/or vexatious also consider the anonymity of requesters, their abusive nature and language in requests to ensure protection from harassment as provided for in Occupational Health and Safety Act;
6. That the application and scalability of fees be designed to ensure taxpayers are protected from persons abusing the access to information process;

7. That administrative practices implied or required under MFIPPA, including those of the Information and Privacy Commissioner, be reviewed and modernized;
8. That the integrity of MFIPPA be maintained to protect personal privacy and transparent governments.

**Carried**

Sincerely,  
Brenda M. Percy, Clerk

cc: Rick Nicholls, MPP Chatham Kent - Leamington  
Dave Epp, MP Chatham Kent - Leamington  
Minister of Consumer Services  
Information and Privacy Commissioner of Ontario  
Association of Municipalities of Ontario  
Association of Clerks and Treasurers of Ontario  
Ontario Clerks

 Corporate Services Department Legislative Services Division	
Date & Time Received:	May 10, 2021 11:10 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

May 7, 2021

RE: Support for 988 – a 3 Digit Crisis and Suicide Prevention Hotline

Please be advised that the Council of the Municipality of Grey Highlands, at its meeting held May 5, 2021, passed the following resolution:

**2021-312**

**Moved by Aakash Desai, Seconded by Dane Nielsen**

**Whereas the Federal government has passed a motion to adopt 988, a National three-digit suicide and crisis hotline; and**

**Whereas the ongoing COVID-19 pandemic has increased the demand for suicide prevention services by 200%; and**

**Whereas existing suicide prevention hotlines require the user to remember a 10-digit number and go through directories or be placed on hold; and**

**Whereas in 2022 the United States will have in place a national 988 crisis hotline; and**

**Whereas the Municipality of Grey Highlands recognizes that it is a significant and important initiative to ensure critical barriers are removed to those in a crisis and seeking help; now**

**Therefore be it resolved that the Municipality of Grey Highlands endorses this 988 crisis line initiative; and**

**That the Municipality of Grey Highlands request that this initiative move forward expeditiously; and**

**That a copy of this resolution be sent to Bruce-Grey-Owen Sound MP Alex Ruff, Bruce-Grey-Owen Sound MPP Bill Walker, Federal Minister of Health Patty Hajdu, the Canadian Radio-television and Telecommunications (CRTC) and all municipalities in Ontario.  
CARRIED.**

As per the above resolution, please accept a copy of this correspondence for your information and consideration.

Sincerely,

*Jerri-Lynn Levitt*

Jerri-Lynn Levitt  
Deputy Clerk  
Council and Legislative Services  
Municipality of Grey Highlands

---

**The Municipality of Grey Highlands**

206 Toronto Street South, Unit One P.O. Box 409 Markdale, Ontario N0C 1H0  
☎ 519-986-2811 Toll-Free ☎ 1-888-342-4059 Fax 519-986-3643  
🌐 [www.greyhighlands.ca](http://www.greyhighlands.ca) ✉ [info@greyhighlands.ca](mailto:info@greyhighlands.ca)



 Corporate Services Department Legislative Services Division	
Date & Time Received:	May 10, 2021 11:13 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

Legislative Services  
Michael de Rond  
905-726-4771  
clerks@aurora.ca

Town of Aurora  
100 John West Way, Box 1000  
Aurora, ON L4G 6J1

May 3, 2021

**Delivered by email**  
**Patty.Hajdu@parl.gc.ca**

The Honourable Patty Hajdu  
Minister of Health  
House of Commons  
Ottawa, Ontario K1A 0A6

Dear Minister:

**Re: Town of Aurora Council Resolution of April 27, 2021**

**Re: Correspondence from Mayor Allan Thompson, Town of Caledon; Re: Support for 988, a 3-Digit Suicide and Crisis Prevention Hotline**

Please be advised that this matter was considered by Council at its meeting held on April 27, 2021, and in this regard Council adopted the following resolution:

- 1. That the memorandum regarding Correspondence from Mayor Allan Thompson, Town of Caledon; Re: Support for 988, a 3-Digit Suicide and Crisis Prevention Hotline, be received; and**
- 2. That Council support the Town of Caledon initiative regarding 988, a 3-Digit Suicide and Crisis Prevention Hotline; and**
- 3. That a letter demonstrating Aurora Council's support be sent to Leona Alleslev, MP Aurora—Oak Ridges—Richmond Hill, Tony Van Bynen, MP Newmarket—Aurora, Michael Parsa, MPP Aurora—Oak Ridges—Richmond Hill, Hon. Christine Elliott, MPP Newmarket—Aurora, Hon. Patty Hajdu, Federal Minister of Health, the Canadian Radio-television and Telecommunications Commission (CRTC), and all Ontario municipalities.**

The above is for your consideration and any attention deemed necessary.

Town of Aurora Council Resolution – Support for 988, a 3-Digit Suicide and Crisis  
Prevention Hotline

May 3, 2021

Page 2 of 2

Yours sincerely,

A handwritten signature in black ink, appearing to read "Michael de Rond". The signature is fluid and cursive, with the first name being the most prominent.

Michael de Rond

Town Clerk

The Corporation of the Town of Aurora

MdR/lb

Attachment: Correspondence dated March 31, 2021, from Mayor Allan Thompson,  
Town of Caledon; Re: Support for 988, a 3-Digit Suicide and Crisis  
Prevention Hotline

Copy: Leona Alleslev, MP Aurora—Oak Ridges—Richmond Hill  
Tony Van Bynen, MP Newmarket—Aurora  
Michael Parsa, MPP Aurora—Oak Ridges—Richmond Hill  
Hon. Christine Elliott, MPP Newmarket—Aurora  
Canadian Radio-television and Telecommunications Commission (CRTC)  
All Ontario Municipalities



*Allan Thompson*  
Mayor

---

Sent via E-Mail to: [Patty.Hajdu@parl.gc.ca](mailto:Patty.Hajdu@parl.gc.ca)

March 31, 2021

The Honourable Patty Hajdu  
Federal Minister of Health  
House of Commons  
Ottawa, ON K1A 0A6

Dear Ms. Hajdu,

**RE: SUPPORT FOR 988, A 3-DIGIT SUICIDE AND CRISIS PREVENTION HOTLINE**

I am writing to advise that at the Town Council meeting held on March 30, 2021, Council adopted a resolution endorsing the 988 crisis line initiative to ensure critical barriers are removed to those in a crisis and seeking help.

The resolution reads as follows:

*Whereas the Federal government has passed a motion to adopt 988, a National three-digit suicide and crisis hotline;*

*Whereas the ongoing COVID-19 pandemic has increased the demand for suicide prevention services by 200%;*

*Whereas existing suicide prevention hotlines require the user to remember a 10-digit number and go through directories or be placed on hold;*

*Whereas in 2022 the United States will have in place a national 988 crisis hotline;*

*Whereas the Town of Caledon recognized that it is a significant and important initiative to ensure critical barriers are removed to those in a crisis and seeking help;*

*Now therefore be it resolved that the Town of Caledon endorses this 988 crisis line initiative; and*

*That a letter demonstrating Caledon's support be sent to Kyle Seeback, MP, Dufferin-Caledon, the Honourable Sylvia Jones, MPP, Dufferin-Caledon, the Honourable Patty Hajdu, Federal Minister of Health, the Canadian Radio-television and Telecommunications (CRTC) and all municipalities in Ontario.*



*Allan Thompson*  
*Mayor*

---

Thank you for your attention to this very important matter. We look forward to hearing from you.

Sincerely,

Allan Thompson  
Mayor

Cc. Kyle Seeback, MP Dufferin-Caledon, [Kyle.Seeback@parl.gc.ca](mailto:Kyle.Seeback@parl.gc.ca)  
Honourable Sylvia Jones, MPP Dufferin-Caledon, [sylvia.jones@pc.ola.org](mailto:sylvia.jones@pc.ola.org)  
Ian Scott, Chairperson and Chief Executive Officer, Canadian Radio-Television and  
Telecommunications Commission (CRTC), [iscott@telesat.com](mailto:iscott@telesat.com)  
All Ontario Municipalities

---

**THE CORPORATION OF THE TOWN OF CALEDON**

6311 Old Church Road, Caledon East, Caledon, ON, Canada L7C 1J6  
T. 905.584.2272 | 1.888.225.3366 | F. 905.584.1444 | [www.caledon.ca](http://www.caledon.ca) | [allan.thompson@caledon.ca](mailto:allan.thompson@caledon.ca)

 Corporate Services Department <b>Legislative Services Division</b>	
Date & Time Received:	May 10, 2021 11:18 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

The Honourable Doug Downey, MPP, Attorney General  
 20 Bell Farm Road

(sent via email [doug.downey@pc.ola.org](mailto:doug.downey@pc.ola.org))

Dear Minister Downey:

**Re: NATIONAL 3-DIGIT SUICIDE AND CRISIS HOTLINE**

On behalf of the Council of The Corporation of the City of Barrie, I wish to advise you that City Council adopted the following resolution at its meeting held on April 26, 2021:

**21-G-098 NATIONAL THREE DIGIT SUICIDE AND CRISIS HOTLINE**

WHEREAS the Federal government has passed a motion to adopt 988, a National three-digit suicide and crisis hotline; and

WHEREAS the motion calls for the federal government to consolidate all existing suicide crisis numbers into one three-digit hotline; and

WHEREAS the ongoing COVID-19 pandemic has increased the demand for suicide prevention services by 200%; and

WHEREAS existing suicide prevention hotlines require the user to remember a 10-digit number and go through directories or be placed on hold; and

WHEREAS in 2022 the United States will have in place a national 988 crisis hotline; and

WHEREAS the City of Barrie recognized that it is a significant and important initiative to ensure critical barriers are removed to those in a crisis and seeking help;

NOW THEREFORE BE IT RESOLVED as follows:

1. That the City of Barrie endorses this 988 crisis line initiative.
2. That a letter demonstrating Barrie's support be sent to Todd Doherty, MP Caribou-Prince George, John Brassard, MP, Barrie-Innisfil, Doug Shipley, MP, Barrie-Springwater-Oro-Medonte, the Honourable Andrea Khanjin, MPP, Barrie-Innisfil, the Honourable Doug Downey, MPP, Barrie-Springwater-Oro-Medonte, the Honourable Patty Hajdu, Federal Minister of Health, the Canadian Radio-television and Telecommunications (CRTC) and all municipalities in Ontario.

If you have any questions, please do not hesitate to contact the undersigned, [wendy.cooke@barrie.ca](mailto:wendy.cooke@barrie.ca) or (705) 739.4220, Ext. 4560.

Yours truly,

Wendy Cooke  
City Clerk/Director of Legislative and Court Services

WC/bt

cc:

- The Honourable Patty Hajdu, MP, Minister of Health
- John Brassard, MP, Barrie-Innisfil
- Doug Shipley, MP, Barrie-Springwater-Oro-Medonte
- Todd Doherty, MP, Caribou-Prince George
- Andrea Khanjin, MPP, Barrie-Innisfil
- The Canadian Radio-television and Telecommunications (CRTC)
- All municipalities in Ontario



**Municipality of Chatham-Kent**

Corporate Services

Municipal Governance

315 King Street West, P.O. Box 640

Chatham ON N7M 5K8

Tel: 519.360.1998 Fax: 519.436.3237

Toll Free: 1.800.714.7497

May 10, 2021

Via Email: [Lisa.Thompson@pc.ola.org](mailto:Lisa.Thompson@pc.ola.org)

Hon. Lisa M. Thompson  
Minister of Government and Consumer Services  
5<sup>th</sup> Floor, 777 Bay Street  
Toronto, ON M7A 2J3

Dear Hon. Thompson:

 Corporate Services Department <b>Legislative Services Division</b>	
Date & Time Received:	May 12, 2021 10:03 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

**Re: Time for Change  
Municipal Freedom of Information and Protection of Privacy Act**

Please be advised the Council of the Municipality of Chatham-Kent at its regular meeting held on March 1, 2021 passed the following resolution:

WHEREAS the Municipal Freedom of Information and Protection of Privacy Act R.S.O. 1990 (MFIPPA) dates back 30 years;

AND WHEREAS municipalities, including the Municipality of Chatham-Kent, practice and continue to promote open and transparent government operations, actively disseminate information and routinely disclose public documents upon request outside of the MFIPPA process;

AND WHEREAS government operations, public expectations, technologies, and legislation surrounding accountability and transparency have dramatically changed and MFIPPA has not advanced in line with these changes;

AND WHEREAS the creation, storage and utilization of records has changed significantly, and the Municipal Clerk of the Municipality is responsible for records and information management programs as prescribed by the Municipal Act, 2001;

AND WHEREAS regulation 823 under MFIPPA continues to reference antiquated technology and does not adequately provide for cost recovery, and these financial shortfalls are borne by the municipal taxpayer;

AND WHEREAS the threshold to establish frivolous and/or vexatious requests is unreasonably high and allows for harassment of staff and members of municipal councils, and unreasonably affects the operations of the municipality;

AND WHEREAS the Act fails to recognize how multiple requests from an individual, shortage of staff resources or the expense of producing a record due to its size, number or physical location does not allow for time extensions to deliver requests and unreasonably affects the operations of the municipality;

AND WHEREAS the name of the requestor is not permitted to be disclosed to anyone other than the person processing the access request, and this anonymity is used by requesters to abuse the MFIPPA process and does not align with the spirit of openness and transparency embraced by municipalities;

AND WHEREAS legal professionals use MFIPPA to gain access to information launch litigation against institutions, where other remedies exist;

AND WHEREAS there are limited resources to assist administrators or requestors to navigate the legislative process;

AND WHEREAS reform is needed to address societal and technological changes in addition to global privacy concerns and consistency across provincial legislation;

BE IT RESOLVED THAT the Ministry of Government and Consumer Services be requested to review the MFIPPA, and consider recommendations as follows:

1. That MFIPPA assign the Municipal Clerk, or designate to be the Head under the Act;
2. That MFIPPA be updated to address current and emerging technologies;
3. That MFIPPA regulate the need for consistent routine disclosure practices across institutions;
4. That the threshold for frivolous and/or vexatious actions be reviewed, and take into consideration the community and available resources in which it is applied;
5. That the threshold for frivolous and/or vexatious also consider the anonymity of requesters, their abusive nature and language in requests to ensure protection from harassment as provided for in Occupational Health and Safety Act;
6. That the application and scalability of fees be designed to ensure taxpayers are protected from persons abusing the access to information process;
7. That administrative practices implied or required under the Act, including those of the IPC, be reviewed and modernized;
8. That the integrity of the Act be maintained to protect personal privacy and transparent governments.

If you have any questions or comments, please contact Judy Smith at [ckclerk@chatham-ketn.ca](mailto:ckclerk@chatham-ketn.ca)

Sincerely,

Judy Smith, CMO  
Director Municipal Governance  
Clerk /Freedom of Information Coordinator

c.

Lianne Rood, MP  
Dave Epp MP  
Rick Nicholls, MPP  
Monte McNaughton, MPP  
Information and Privacy Commissioner of Ontario  
Association of Municipalities of Ontario  
AMCTO Legislative and Policy Advisory Committee  
Ontario municipalities

 <b>Corporate Services Department Legislative Services Division</b>	
Date & Time Received:	May 11, 2021 10:42 am
Original To:	CIP
Copies To:	
Take Appropriate Action	<input type="checkbox"/> File <input type="checkbox"/>
Notes/Comments:	

**From:** Ontario BIA Association <info@obiaa.com>  
**Sent:** May 11, 2021 9:14 AM  
**To:** Ralph Walton <Ralph.Walton@durham.ca>  
**Subject:** DMS Update - April 2021 Digital Main Street Report

Digital Main Street Update

[View this email in your browser](#)



92 Lakeshore Road East  
Mississauga, ON L5G 4S2  
1-866-807-2227 | 905-271-7222  
[dms@obiaa.com](mailto:dms@obiaa.com) | [www.obiaa.com](http://www.obiaa.com)

## DMS April Report

The Ontario BIA Association (OBIAA) is very pleased to release our May 2021

report, *Keeping Small Businesses Connected*, on the impact of Digital Main Street (DMS) and specifically the DMS Ontario Grants Program (OPG) on Ontario's small businesses. The report will be issued on May 11, along with an accompanying [video](#), and can be accessed at [obiaa.com](http://obiaa.com). The press release that was issued today is attached.

The theme of the report was inspired by the main street small businesses that triumphed over the pandemic, and how they redefined why and how we connect. With traditional bricks-and-mortar operations facing extended lockdowns and public safety measures, getting their businesses online became critical to their survival.

Recognizing the value of DMS in helping businesses cope through the pandemic, both federal and provincial governments stepped up in June 2020 so the program could expand its reach. The [Federal Economic Development Agency for Southern Ontario \(FedDev Ontario\)](#) provided \$42.5 million under the [Regional Relief and Recovery Fund \(RRRF\)](#), and the provincial government's Ministry for Economic Development, Job Creation and Trade (MEDJCT) contributed \$7.5 million.

The Ontario BIA Association (OBIAA) was again honoured to administer the OPG, including the Digital Service Squad Grant, the Digital Transformation Grant and some of the training webinars for the main street small businesses that lie at the heart of Ontario's communities.

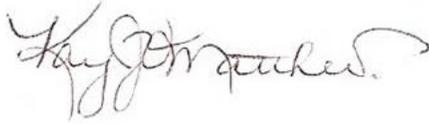
*Keeping Small Businesses Connected* features the stories of small businesses from across the province, as well as two of the local Digital Service Squads (DSS) that helped them transform. Our stories span rural to urban, village to major metropolitan areas, and reveal why connection to people, customers and community is integral to the success of businesses and the health of our neighbourhoods and downtown cores.

The report also includes some data highlights that demonstrate the importance of the DMS OGP to small business. Ninety-one percent of reporting businesses said that they were more resilient to the pandemic, while an incredible 99% considered the program to be successful.

DMS has clearly become part of the innovative ecosystem for small business success. OBIAA is primed to continue delivering the DMS Ontario Grants Program to help Ontario's small businesses thrive today and be ready for the future, by connecting with customers globally and sustaining their communities locally.

We are all eager for good news, and *Keeping Small Businesses Connected* tells a tale of success, commitment and hope. I urge you to share this letter within your community of influence, your stakeholders and anyone else who is committed to the success of small businesses.

Sincerely,



Kay Matthews  
Executive Director  
**Ontario BIA Association**  
[kay@obiaa.com](mailto:kay@obiaa.com)

## Media Release



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Our mailing address is:  
**Ontario BIA Association**  
92 Lakeshore Road East  
Mississauga, ON L5G 4S2  
T: 905-271-7222  
M: 647-521-5341  
TF: 1-866-807-2227

[www.obiaa.com](http://www.obiaa.com) | [dms@obiaa.com](mailto:dms@obiaa.com)

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	<b>PUBLIC AGENDA</b>
	<b>MAY 18, 2021</b> Link to View Live Video
	<hr/> <b>8:30 AM to 2 PM</b>

**AGENDA TOPICS**

1. **Call to Order / Declarations of Interest / Traditional Territory Acknowledgement.**

2. **Adoption of Minutes:** April 20, 2021.

3. **Presentation**

- a) [Operational Indicators & Statistics.](#)

4. **Policy/By-Law Review**

5. **Chair's Monthly Brief**

6. **Monitoring Report(s)**

- a) [Equipment and Use of Force Regulation.](#)  
 b) [Financial Activities and Conditions.](#)  
 c) [Strategic and Financial Planning.](#)  
 d) [Treatment of Residents and Visitors.](#)

7. **Consent Items**

- a) [Human Resources Update.](#)

8. **Chief's Update**

9. **New Business**

- a) Monthly Update of the DRPS 4 Initiatives to Address Systemic Barriers. (Verbal)  
 b) [Summary of Finance Committee Meeting– April 20, 2021.](#)  
 c) Correspondence from the President of the Durham Regional Police Association – Radio Information Campaign – April 2021.  
 i) [Letter from DRPA](#)  
 ii) [PSB statement](#)

10. **S.I.U. Report(s)**

11. **Calendar of Events**

12. **Follow Up Action Items**

13. **Donation(s)**

- a) [Trent University – Gift Agreement for the Roger Anderson Prize In Policing & Community Well-Being.](#)  
 b) Ajax Mayor's Gala 2021.  
 i) [Gala letter from Mayor](#)  
 ii) [Sponsorship package](#)  
 c) [Law Enforcement Torch for Special Olympics.](#)  
 d) [Golf Fore Kids – Boy and Girls Club of Durham.](#)  
 e) [Lakeridge Health Foundation's Golf Classic.](#)  
 f) [Request for support - Abilities Centre.](#)

14. **Letters of Appreciation**

15. **General Information**

- a) [21-0047 - All Chiefs Memo - Proposed Regulations under the Community Safety & Policing Act.](#)  
 b) [2020-2021 Durham Regional Police Services Board - Roger Anderson Memorial Award.](#)

	Corporate Services Department <b>Legislative Services Division</b>	
	Date & Time Received:	May 13, 2021 7:10 am
Original To:	CIP	
Copies To:		
Take Appropriate Action	<input type="checkbox"/>	File
Notes/Comments:		

**16. Board Member's Reports**

**17. Other Business**

**In-Camera**

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2097.

## **The Regional Municipality of Durham**

### **MINUTES**

#### **9-1-1 MANAGEMENT BOARD**

**April 27, 2021**

A regular meeting of the 9-1-1 Management Board was held in the Council Chambers, Regional Municipality of Durham Headquarters, 605 Rossland Road East, Whitby, at 9:30 A.M. In accordance with Provincial legislation, electronic participation was permitted for this meeting.

#### **1. Roll Call**

Present: P. Hallett, Durham Regional Police (Chair)  
T. Cheseboro, Region of Durham Paramedic Services  
B. Drew, Durham Regional Council  
M. Simpson, Director of Risk Management, Economic Studies and Procurement, Durham Region  
G. Weir, Clarington Emergency & Fire Services  
J. Wichman, Communications/9-1-1 Technical Manager  
**\* all members of Committee participated electronically**

Absent: L. Kellett, Oshawa Central Ambulance Communications Centre, Ministry of Health – Emergency Health Program Management & Delivery Branch

#### **Staff**

Present: R. Inacio, Systems Support Specialist, Corporate Services – IT  
T. Fraser, Legislative Services Division – Corporate Services Department

#### **2. Declarations of Interest**

There were no declarations of interest.

#### **3. Approval of Minutes**

It was noted that the date of the June meeting has been re-scheduled to Thursday, June 24, 2021.

Moved by G. Weir, Seconded by M. Simpson,

(1) That the minutes of the 9-1-1 Management Board meeting held on February 25, 2021, be adopted.

CARRIED

#### **4. 9-1-1 Call Statistics**

J. Wichman provided the statistics on calls transferred from January to March 2021. He advised that there was a decrease in call volume in January and February 2021 compared to 2020 and the number of calls received in March

2021 was higher than 2020. He noted that fewer calls have been transferred to OPP and that the number of wireless hang-up and no answer calls have stayed consistent.

J. Wichman responded to a question with respect to the number of calls transferred to Ajax/Pickering and Oshawa Fire dispatch.

**5. 9-1-1 System Complaints reported by Technical Manager**

J. Wichman advised that this item has been added to the agenda pursuant to the Region of Durham E9-1-1 P.E.R.S. Policy and Procedure Manual. He provided an overview of the following issues involving the 9-1-1 system:

- Primary Public Safety Answering Point (P.P.S.A.P.) was receiving ghost calls at the start of April 2021 and was resolved on April 16, 2021. The issue was investigated with Bell Canada and after a full system re-boot the issue appears to have been resolved. A potential hardware issue was identified, and replacement equipment was ordered and retained in the area in case of further issues.
- Oshawa Fire received a call transfer intended for Richmond Hill Fire. Following investigation with Bell Canada it was determined this call was likely transferred from a Voice over Internet Protocol (VoIP) service.
- Oshawa Fire received a call transfer intended for Ajax Fire. Further details are required before an investigation can be commenced. It could be an issue with a cell phone caller being on municipal borders.
- Primary Public Safety Answering Point (P.P.S.A.P.) was receiving hang-up calls from the Durham District School Board. Upon investigation it was determined the building was closed and the individual was dialing incorrectly. The procedures to be followed for misdials was provided to the caller and it was requested that this information be circulated to staff within the building.

J. Wichman responded to a question with respect to the 9-1-1 system issues and whether they relate to previous discussions regarding improving location details for VoIP service within buildings.

**6. Farm 911 Presentation**

M. Simpson provided a PowerPoint presentation regarding the Durham Region Farm 911 project. Highlights of her presentation included:

- Overview and Approach
- Consultations

- Key Findings from Consultations
- Implementation
- Next Steps

Discussion ensued and members provided suggestions for possible expansion of the project, including the possibility of installing signage along larger trails with a location marker number and QR code with location details; the possibility of engaging what3words in the project; and the possibility of involving co-op stores in promoting the Farm 911 project. It was also noted that some lower-tier municipalities in Ontario have considered offering a property tax rebate for property owners who fund the cost of signage themselves.

G. Weir advised that an advertisement for the Farm 911 project has been included in the Clarington Fire Department's display in the municipal building and has been promoted through social media.

## **7. Other Departments - Comments/Concerns**

### a) Comments/Concerns – Regional Council

There were no comments.

### b) Comments/Concerns – Durham Police

J. Wichman provided an update on the installation of the Komutel CTI Solution. He advised that installation was delayed due to COVID-19 and they are now making progress on the roll-out. He also advised that feedback from call takers has been positive and that this system will help with the transition to next-generation 9-1-1 (NG9-1-1). He added that he foresees preliminary work concluding in one or two months and full installation at the primary and back-up sites.

J. Wichman also advised that a meeting was held recently with Oshawa and Ajax Fire dispatches and the Central Ambulance Communications Centre (CACC) to share information on everyone's plans for migration to NG9-1-1.

### c) Comments/Concerns – Fire Departments

There were no comments.

### d) Comments/Concerns – Oshawa Central Ambulance Communications Centre

There were no comments.

e) Comments/Concerns – Durham Finance

There were no comments.

f) Comments/Concerns – Region of Durham Paramedic Services

There were no comments.

**8. Other Business**

There was no other business.

**9. Date of Next Meeting**

The next meeting of the 9-1-1 Management Board will be held on Thursday, June 24, 2021 at the Regional Municipality of Durham Headquarters, 605 Rossland Road East, Whitby, in Council Chambers.

**10. Adjournment**

Moved by G. Weir, Seconded by T. Cheseboro,  
(2) That the meeting be adjourned.

CARRIED

The meeting adjourned at 10:16 AM

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P. Hallett, Chair

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T. Fraser, Committee Clerk