WHAT ARE THE WATERSHED'S KEY ISSUES?

Increased Urbanization

- Urbanization is the cause of a unique set of issues for humans, plants, and animals.
- Increased urbanization and its consequences (example: more roads, cars, pollution) are and will continue to impact the natural environment.

Stormwater Runoff

- Water from rain or snow runs off hard surfaces like pavement into nearby streams.
- The high water flows associated with stormwater result in streambank erosion and increased flooding during storm events.
- Stormwater is also associated with poor water quality because it carries sediments and contaminants directly into the river system.
- Old stormwater infrastructure in existing urban areas was designed for water quantity control only and does not protect or improve water quality.

Habitat Protection for Redside Dace

- The Redside Dace is a small, colourful fish that lives in the Duffins Creek watershed. It is listed as an endangered species by both the federal and provincial governments.
- The habitat of the Redside Dace is critical to its survival. Changes to its habitat such as changes in water quality and quantity, siltation, and the clearing of streamside vegetation are threatening the survival of this species.

HOW CAN WE ENHANCE THE WATERSHED?

What can you do?

- **Plant** native trees and shrubs on your property.
- **Reduce** or eliminate the use of deicing salt, pesticides, and fertilizers which can contaminate water.
- **Volunteer** for community tree plantings, litter pick-ups, or other stewardship events: **trca.trca.ca/get-involved**
- **Participate** in TRCA's *Private Land Tree Planting* program to improve forest conditions on your property.

What local actions have been taken?

- TRCA is a partner in the *Bring Back the Salmon* program. The program aims to re-establish the native Atlantic Salmon population in Duffins Creek through fish stocking and habitat restoration.
- TRCA is working with Environment and Climate Change Canada to use the results from their water quality model to develop ecological restoration plans that will benefit both the watershed and Lake Ontario.

trca.ca/duffins TorontoConservation @TRCA_News

Toronto and Region Conservation | 5 Shoreham Drive, Downsview, ON M3N 1S4
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To learn about The Living City Foundation: **thelivingcity.org**

Duffins Creek Watershed | The Living City Foundation | Toronto and Region Conservation for The Living City

This Watershed Report Card is available online at reportcard.trca.ca

Duffins Creek
WATERSHED
Report Card 2018

Watershed Checkup

Toronto and Region Conservation has prepared this report card as a summary of the state of our forest and water resources.

Duffins Creek Watershed | Member of Conservation Ontario | Toronto and Region Conservation for The Living City

WHERE ARE WE?

What is a watershed?

A watershed is an area of land, drained by a creek or stream into a river, which drains into a body of water such as a lake. Everything in a watershed is connected. Our actions upstream affect conditions downstream.

GRADING	
A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor
Insufficient Data	

What is a watershed report card?

Ontario's Conservation Authorities report on watershed conditions every five years. The watershed report cards use Conservation Ontario guidelines and standards developed by Conservation Authorities and their partners.

Why measure?

Measuring helps us better understand our watershed. We can target our work where it is needed and track progress. We measured:

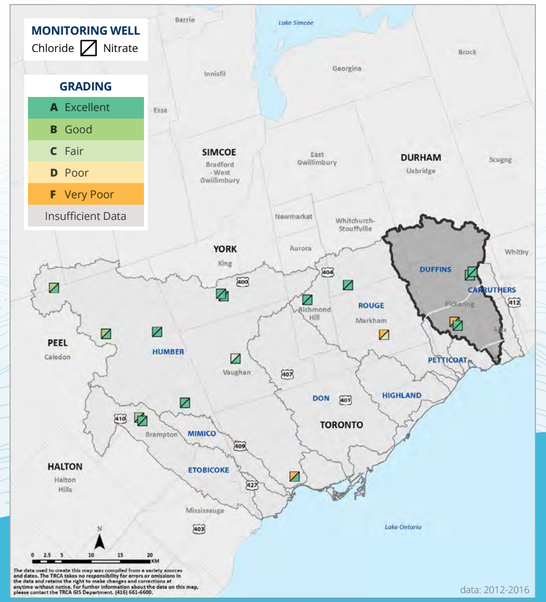
- Groundwater Quality
- Surface Water Quality
- Forest Conditions
- Land Cover

GROUNDWATER QUALITY

Fertilizers (nitrogen) and road salt (chloride) are common sources of contamination in groundwater. Concentrations of nitrate and chloride were measured at 17 monitoring wells across the TRCA jurisdiction. Grades were calculated for each well but not for each watershed. Learn more about groundwater at ***trca.ca/source-water-protection***

What did we find?

- All 4 wells in the Duffins Creek watershed received an 'A' grade for nitrate.
- About 60% of the monitoring wells in the TRCA jurisdiction received an 'A' grade for chloride. One of the 4 wells located in the Duffins Creek watershed received an 'F' grade. It is located near a major road and is likely contaminated from road salt.



data: 2012-2016

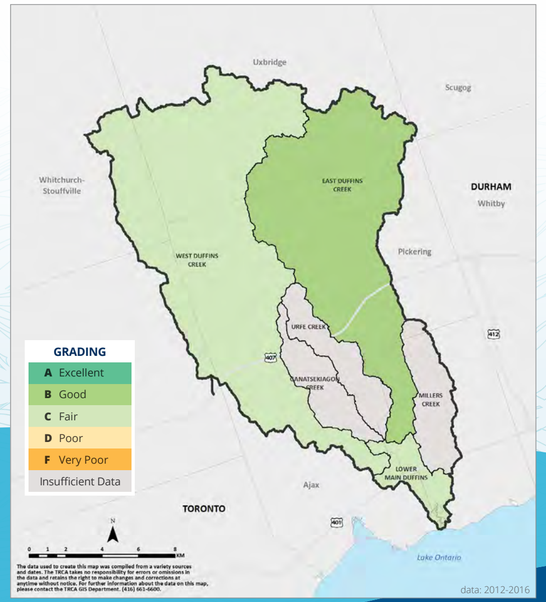
Monitoring wells are part of the Ontario Ministry of the Environment and Climate Change's Provincial Groundwater Monitoring Network (PGMN).

SURFACE WATER QUALITY

Concentrations of phosphorus and Escherichia coli (E. coli) bacteria were measured at 6 stations in the Duffins Creek watershed. Benthic invertebrates (small aquatic animals living in the sediment) were identified at 21 stations. The type and proportion of these animals are indicators of water quality conditions. These indicators were combined to provide a grade for the watershed.

What did we find?

- The Duffins Creek watershed received an overall 'C' grade for surface water quality which is the same as the 2013 report card. The East Duffins Creek subwatershed received an above average grade of 'B'.
- Chloride concentrations are not part of the surface water grade for this report card but it is important to note that stream chloride concentrations have been increasing over time. The chloride found in streams is typically from road salt and elevated chloride concentrations can harm aquatic life.



data: 2012-2016

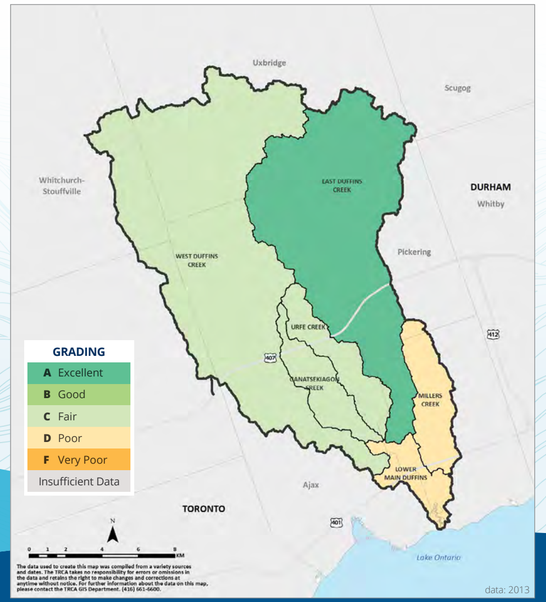
Data are based on surface water quality monitoring stations that are part of the Ontario Ministry of the Environment and Climate Change's Provincial Water Quality Monitoring Network (PWQMN) and/or TRCA's Regional Watershed Monitoring Program (RWMP).

FOREST CONDITIONS

Forests help to clean our air and water, provide habitat and shade, improve water infiltration, and help to reduce both erosion and flooding. The percentages of forest cover, forest interior, and streamside cover were measured with Geographic Information Systems (GIS) and combined to provide a grade for the watershed.

What did we find?

- The Duffins Creek watershed received a 'C' grade for forest conditions which is the same as the previous report card in 2013.
- There was about 27% forest cover, 4% interior forest cover, and 54% streamside cover. The Duffins Creek watershed had the highest proportions of forest cover of all watersheds in the TRCA jurisdiction. The amount of forest cover increased by almost 3% since the last report card in 2013 which is a sign of improvement.



data: 2013

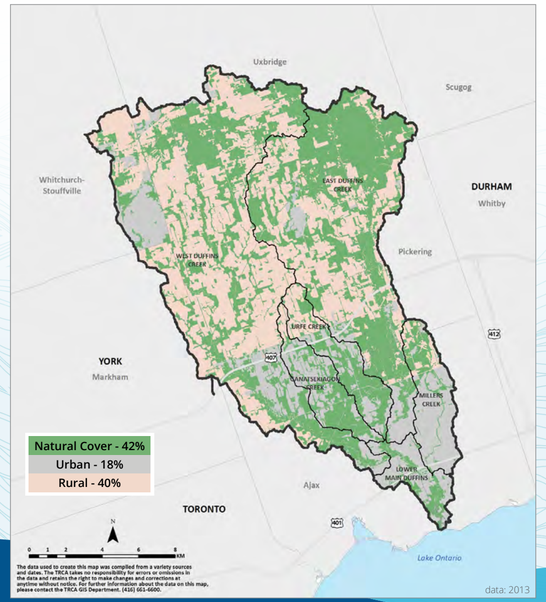
Forest condition targets were set by Conservation Ontario. TRCA has a unique set of targets for natural cover which consists of areas of natural vegetation such as forest, wetland, and meadow. TRCA specific targets are not included in this report card.

LAND COVER

How we use land affects the natural environment and our health. Forests and wetlands have been removed over time because agricultural and urban land uses have expanded. As our region continues to grow, we need to consider how to increase the amount of natural cover and greenspace available so that people can enjoy the many health benefits of nearby nature.

What did we find?

- The Duffins Creek watershed has the highest proportion of natural cover (42%) in the TRCA jurisdiction.
- Over 70% of the population in the Duffins Creek watershed is within 300 m of natural cover greater than 1 ha in size.
- Natural cover is unevenly distributed across the Toronto region. More natural cover would mean additional opportunities to support wildlife populations and habitat, and equal access to nature for residents.



data: 2013

Natural cover consists of vegetation such as forest, wetland, and meadow. Distance to natural cover and size values are based on indicators recommended in scientific literature (e.g. Van den Bosch et al., 2015).