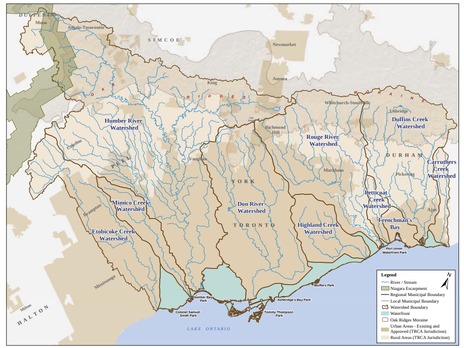
Facts and Figures

Municipalities	Toronto, Peel, York, Durham, Adjala - Tosorontio, Ajax, Aurora, Brampton, Caledon, King, Markham, Mississauga, Mono, Pickering, Richmond Hill, Uxbridge, Whitchurch - Stouffville, Vaughan
Watercourses	Etobicoke Creek, Mimico Creek, Humber River, Don River, Rouge River, Highland Creek, Petticoat Creek, Duffins Creek, Carruthers Creek
Longest Reach of River/Creek (km) (including Waterfront)	Etobicoke Creek – 59, Mimico Creek – 34, Humber River – 126, Don River – 52, Rouge River – 58, Highland Creek – 26, Petticoat Creek – 16, Duffins Creek – 49, Carruthers Creek – 27, Waterfront – 72
Area (km^2)	Total – 3,495, Land – 2,492, Water – 1,003
Population (2011)	4,128,500
Land Use	Rural – 38%, Urbanizing – 10%, Urban – 52%
Physiographic Regions	Iroquois Plain, Niagara Escarpment, Oak Ridges Moraine, Peel Plain, South Slope
Natural Cover	25% of the region has Natural Cover: Forest – 13%, Meadow – 8%, Successional – 2%, and Wetland – 1%
Native Plant & Animal Species	Plants – 915, Fish – 53, Birds – 170, Amphibians – 16, Mammals – 37, Reptiles – 13. Of these, 690 are considered Species of Regional Conservation Concern.



What We Are Doing

- Farm and other rural non-farm private landowners in the Regions of Peel and York have been capping abandoned wells, fencing livestock out of watercourses, building proper manure storage facilities and undertaking other best management practices under TRCA's Rural Clean Water Quality Program and the Peel Rural Clean Water Program.
- From 2008 to 2012, TRCA and its volunteers have planted 1,718,270 native trees, shrubs and aquatic plants within TRCA's watersheds. Healthy forests provide habitat for wildlife, help cool urban areas, retain water and reduce run-off, and capture CO_2 from the air to reduce impacts of climate change.
- Urban forest studies have been completed for the cities of Brampton, Markham, Mississauga, Pickering, Toronto and Vaughan, and the towns of Ajax, Caledon and Richmond Hill; these studies have been completed through the collaborative efforts of TRCA, regional and local municipalities, and neighbouring Conservation Authorities. The Region of Peel, together with Conservation Authorities and area municipalities has developed an Urban Forest Strategy, and both the City of Toronto and the Town of Ajax have developed Strategic Urban Forest Management Plans. Collectively these documents will provide strategic direction for sustaining and expanding the urban forest.
- The Province of Ontario, Conservation Authorities, local municipalities, businesses, farmers and residents have developed a comprehensive Source Water Protection Plan that addresses activities that are deemed to be significant drinking water threats in the watershed. More than 400 significant threats to drinking water supplies have been identified preliminarily in the Humber, Rouge and Duffins watersheds. Solutions to remove these threats have also been identified.
- TRCA, through Partners in Project Green and Sustainable Neighbourhood Retrofit Action Plan (SNAP), is working with partners, local businesses and residents to conserve water and energy, recycle waste, harvest rainwater and retrofit parking areas with permeable pavement.
- TRCA is leading stormwater control guidance and policy with the completion of a low impact development (LID) Stormwater Management Planning and Design Guide and updated Stormwater Management Criteria for new development. Municipalities are also spearheading in-the-ground stormwater infrastructure retrofits.

What You Can Do

- **Divert** your downspouts away from paved areas and install a rain barrel to capture and reuse the rainwater that falls on your roof. This reduces run-off to sewers, prevents flooding and saves money on your water bill.
- **Reduce** or eliminate the use of salt, pesticides and fertilizers, which contaminate rivers, ponds and groundwater supplies.
- **Decommission** old wells on your property and maintain your septic system regularly to prevent contaminants and disease-causing bacteria and viruses from entering groundwater and getting into drinking water sources. Contact your regional municipality or Conservation Authority for more information on well decommissioning.
- **Volunteer** for community tree plantings, litter pick-ups or other stewardship events. Register for a volunteer opportunity at: **www.trcastewardshipevents.ca**
- **Become a Watershed Champion** to protect, regenerate and celebrate TRCA's watersheds. **www.trca.on.ca/watershed-champion**

Donate to The Living City Foundation to support programs and initiatives in Toronto and Region watersheds at
www.thelivingcity.org

For more information, visit our website at
www.trca.on.ca

Join us on Facebook
www.facebook.com/TorontoConservation

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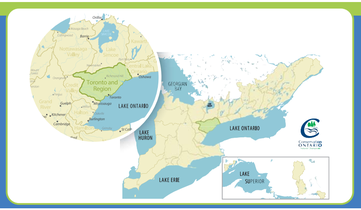
Toronto and Region Watersheds
Report Card 2013

Toronto and Region Conservation (TRCA) has prepared this Watershed Report Card on the state of forests, surface water, groundwater and stormwater conditions.

Member of Conservation Ontario Natural Champions

Toronto and Region Conservation for The Living City

Where We Are



We are one of 36 Conservation Authorities across Ontario under the umbrella organization of Conservation Ontario.

What Does this Report Card Measure?

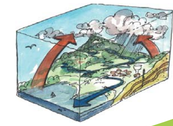
Surface Water Quality | Forest Conditions | Groundwater Quality | Stormwater Management

Why Measure?

Measuring helps us better understand our watersheds. It helps us to focus our efforts where they are needed most and to track the progress made. It also helps us to identify ecologically important areas that require protection or enhancement.

What is a Watershed?

A watershed is the area of land that catches rain and snow, which drains or seeps into a marsh, creek, river, lake or groundwater. Watersheds are the collectors, filters, conveyers and storage compartments of our fresh water supply.



Grading

A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor

The standards used in this Report Card were developed by Conservation Authorities to ensure consistent reporting across the Province of Ontario. They are intended to provide watershed residents with the information needed to protect, enhance and improve the precious natural resources that surround us.

About the Indicators

This Report Card provides a snapshot of some environmental conditions in the Toronto and Region watersheds.

Monitoring, measuring and reporting helps us better understand the watershed, the progress we've made in protecting it and the threats to its future health. Tracking the environmental indicators used in this Report Card provides watershed residents, and the general public with the information needed to protect, restore and improve the precious natural resources within our watersheds. Where possible, an arrow is included alongside grades to show whether conditions are improving, getting worse, or stable.

What Does this Report Card Measure?

Surface Water Quality

Total Phosphorous – High levels can trigger blooms of algae that choke waterways with plant life and deplete oxygen levels in watercourses.
***E. coli* Bacteria** – Indicate the presence of untreated human or animal waste.
Benthic Macroinvertebrates (BMI) – Bottom-dwelling stream insect larvae, snails, crayfish and clams are sensitive to many pollutants. The presence or absence of certain invertebrate species reflects the water quality conditions.

Forest Conditions

% Forest Cover – Woodlands absorb run-off, filter out pollutants and increase biodiversity. They also help reduce the impacts of climate change.
% Forest Interior – Large blocks of forest cover provide homes for many sensitive species of birds and other animals.
% Riparian Zone Forested – Vegetation along watercourses keeps the water cool, prevents erosion and provides homes for many species.

Groundwater Quality

Nitrate and Nitrite – These contaminants come from agricultural manure, fertilizers and leaky septic systems, and may indicate a possible health threat.
Chloride – High chloride levels indicate road salt may be reaching groundwater.

Stormwater Management

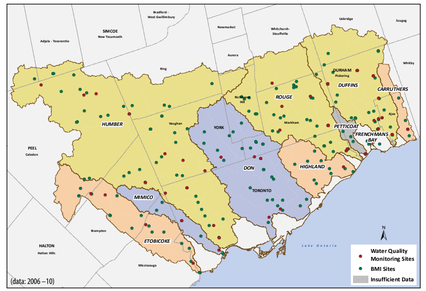
% of Developed Area with Stormwater Controls – Systems that manage the quantity and quality of stormwater run-off generated by our communities to protect watercourses. Stormwater management consists of practices that slow down, hold and reuse water.

Grading	
A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor

Surface Water Quality

Indicators
Total Phosphorous
E. coli Bacteria
Benthic Macroinvertebrates (BMI)

D ↘



Overall, the Humber, Rouge and Duffins watersheds have the best water quality within TRCA's jurisdiction, and receive a "Fair" or "C" grade, while the Don and Mimico watersheds have the worst, and receive an "F" or "Very Poor" grade.

Natural areas help slow run-off, filter out nutrients and contaminants, and increase the amount of water that infiltrates into the ground. Not surprisingly, the watersheds with the best scores also have the highest percentages of natural cover. BMI data shows an overall decline in water quality in most watersheds since 2001. Phosphorus levels show a reduction or improvement over the past 20 years due to better wastewater treatment and legislation requiring the reduction of phosphorus in soaps and detergents. The highest concentrations of phosphorous are found in the Etobicoke, Mimico, Don and Carruthers watersheds. Highest *E. coli* levels are found in the urban watersheds of Mimico, Don and Highland.

Forest Conditions

Indicators
% Forest Cover
% Forest Interior
% Riparian Zone Forested

D ↔

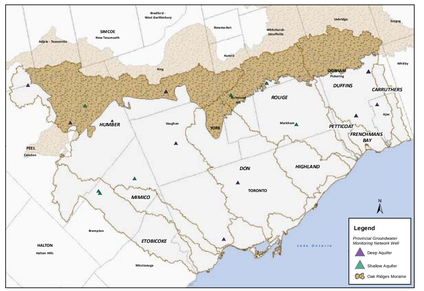
Duffins Creek has the highest percentage of forest, interior forest and riparian forest, earning a "C" or "Fair" grade, while the heavily urbanized Mimico and Etobicoke Creeks have the lowest and receive an "F" for "Very Poor" forest conditions.

Forest cover varies widely within TRCA's jurisdiction, and is more prevalent in the more rural, upper and headwater reaches of the watersheds, and along the river and creek valleys. However, several watersheds including the Rouge, Highland, Petticoat and to some extent the Don, have forest cover predominately located in the lower portions of the watershed. The remaining forests in TRCA's watersheds have been fragmented into small woodlots by urban development and farming practices. Effort is needed to protect and maintain the existing forests, as well as expand cover and connect fragmented patches to provide corridors for wildlife.

Groundwater Quality

Indicators
Nitrate and Nitrite
Chloride
Groundwater quality not reported by watershed due to insufficient data.

NO GRADE



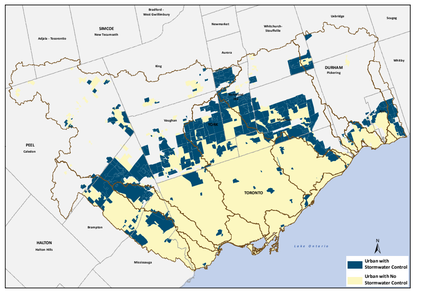
Overall, groundwater quality in TRCA's watersheds is "Good" with the best water quality found in the intermediate aquifer on the Oak Ridges Moraine.

The majority of the wells yield very good results for nitrates and nitrites, indicating little or no contamination from agricultural manure, fertilizers or leaky septic systems. However, several wells show chloride levels above the Canadian drinking water standard in urbanized portions of the watersheds, where road salt may be a factor or in deeper aquifers over shale bedrock that have naturally elevated chloride levels. There are 21 groundwater monitoring wells in the current monitoring network, concentrated in northern sections of TRCA's jurisdiction where wells still provide municipal drinking water. There is no data for the Mimico, Highland, Carruthers and Petticoat watersheds, and limited data for the other watersheds. Over time, TRCA intends to expand the network through partnerships with the regional municipalities of Peel, York and Durham.

Stormwater Management

Indicator
% of Developed Area with Stormwater Controls-Quality and Quantity *(i.e., stormwater management pond)*

F ↗



All of TRCA's watersheds receive "Very Poor" and "Poor" or "D" and "F" grades for stormwater management, with the exception of the Rouge and Carruthers which receive "Good" or "B" grades. As of 2013, only 35% of the developed urban areas in TRCA's jurisdiction have stormwater management controls. This ranges from 77% in the Rouge to 9% in the Highland.

Urbanization, with its increases in impervious surface cover, is changing the patterns, volumes and quality of water that reaches our creeks, rivers and lakes. These changes result in increased run-off that directly discharges into our watercourses and less water that makes its way into the ground to naturally recharge our streams, wetlands and groundwater resources. These changes have led to increases in flooding, stream erosion, water pollution and loss of aquatic and terrestrial habitats. In order to mitigate these impacts, managing the hydrologic cycle through stormwater management is vital. Current monitoring is showing that stormwater management is working to mitigate decreases in baseflow and increases in flooding, erosion and water pollution. It is imperative that over the next 5 years, stormwater management be applied to all new developments and stormwater practices be retrofitted in older neighbourhoods and redeveloping areas. Stormwater management practices include conventional stormwater ponds and new and innovative low impact development practices, such as green roofs and permeable pavements that are designed to use natural systems for infiltration, evapotranspiration and/or reuse of stormwater.