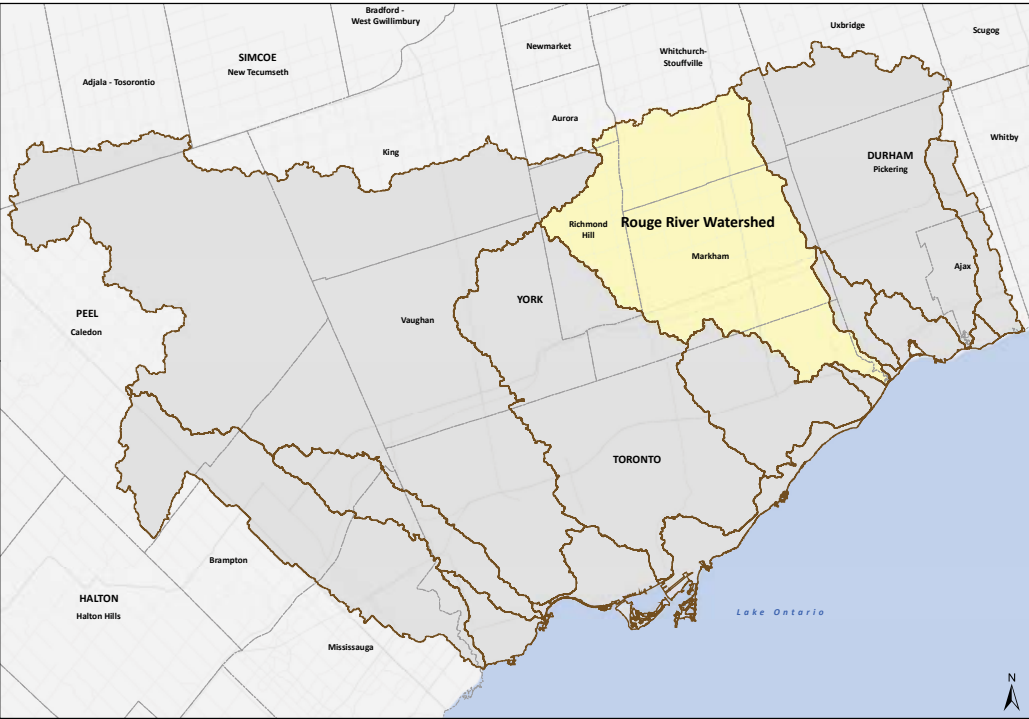


Facts and Figures

Municipalities	Toronto, Durham, York, Markham, Richmond Hill, Whitchurch-Stouffville
Tributaries	Rouge River, Little Rouge Creek (its largest tributary), Morningside Creek, Berczy Creek, Bruce Creek, East Beaver Creek, Robinson Creek, Mt. Joy Creek, Katabokokonk Creek, Exhibition Creek, Eckhardt Creek, Carlton Creek
Length of Major Tributaries (km)	Main Rouge – 58, Little Rouge – 45, Morningside Creek – 10
Mean Stream Flow (mouth)	2.9 m³/sec
Area (km²)	333
Population (2011)	369,890
Land Use	Rural – 51%, Urbanizing – 10%, Urban – 39%
Physiographic Regions	Iroquois Plain, Oak Ridges Moraine, Peel Plain, South Slope
Natural Cover	23% of the watershed has Natural Cover: Forest – 12%, Meadow – 9%, Successional – 1%, and Wetland – 1%
Native Plant & Animal Species	Plants – 625, Fish – 42, Birds – 115, Amphibians – 13, Mammals – 26, Reptiles – 8. Of these, 377 are considered Species of Regional Conservation Concern.



What We Are Doing

- From 2008 to 2012, TRCA and its volunteers have restored 20 wetlands, created buffers along streambanks and planted over 170,000 trees and shrubs in the watershed. In addition, the Rouge Park Alliance, the City of Toronto, Region of York and local community groups have reforested more than 210 ha in Rouge Park. Healthy forests provide habitat for wildlife, help cool urban areas, retain water and reduce run-off, and capture CO₂ from the air to minimize the impacts of climate change.
- From 2006 to 2011, five properties, totaling 83 ha, were purchased and protected in the Rouge under York Region's Land Securement strategy. In addition, TRCA has secured 312 ha and manages an additional 105 ha of public land on the Oak Ridges Moraine within the watershed. It is critical that remaining forests, key natural lands and groundwater recharge areas be protected from future urbanization.
- 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 63 threats to drinking water supplies have been identified preliminarily in the Rouge watershed.
- Farm and other rural non-farm private landowners in the Region of York have been capping abandoned wells, fencing livestock out of watercourses, building proper manure storage facilities, and undertaking other best management projects under TRCA's Rural Clean Water Quality Program to help address water quality concerns.
- Urban forest studies have been completed for the cities of Markham and Toronto, and the Town of Richmond Hill; these studies have been completed through the collaborative efforts of TRCA, regional and local municipalities and neighbouring Conservation Authorities. The City of Toronto has also developed a Strategic Urban Forest Management Plan. Collectively these documents will provide strategic direction for sustaining and expanding the urban forest.
- The City of Toronto's 25-year Wet Weather Flow Master Plan was completed to reduce and ultimately eliminate the adverse effects of stormwater flowing into waterways. Under the plan, the City has retrofitted three stormwater management ponds in the Rouge watershed.

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.
- **Volunteer** for community tree plantings, litter pick-ups or other stewardship events. Register for a volunteer opportunity at: www.trcastewardshipevents.ca
- **Participate** in TRCA's York Region Private Land Stewardship program to protect water quality and improve forest conditions on your property.

Donate to The Living City Foundation to support programs and initiatives in the Rouge watershed at www.thelivingcity.org

visit www.rougepark.com

and subscribe to the *Rouge Park Newsletter* and to the *Rouge National Urban Park Initiative Newsletter* www.pc.gc.ca/Rouge to find out more about the park, the latest happenings in the watershed, and how you can get involved.

Join us on Facebook
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Where We Are



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

Rouge River Watershed Report Card 2013



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, stream, 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.

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



About the Indicators

This Report Card provides a snapshot of some environmental conditions in the Rouge River watershed.

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



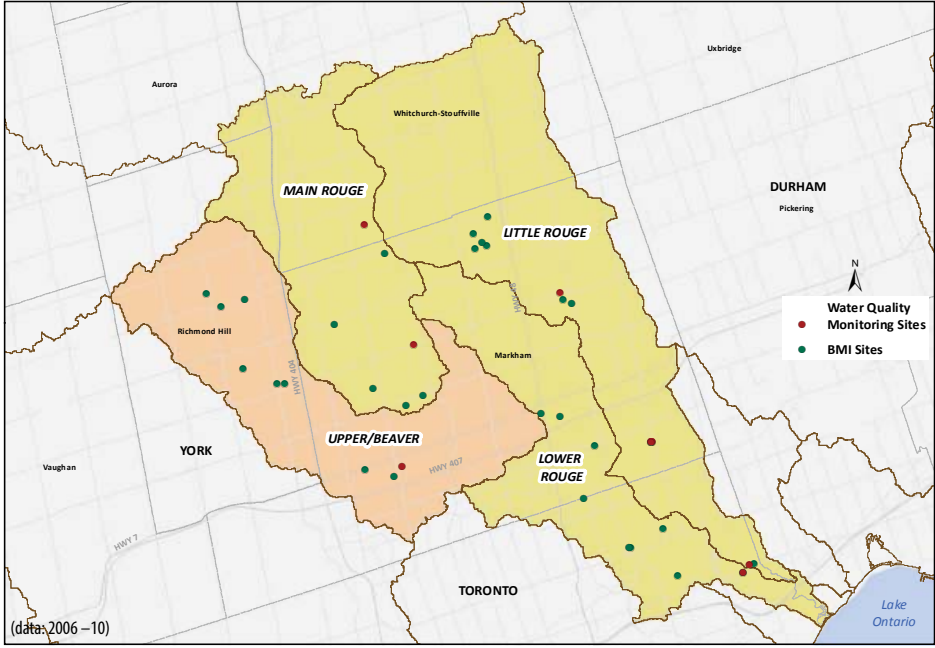
Surface Water Quality

Indicators

Total Phosphorous

E. coli Bacteria

Benthic Macroinvertebrates (BMI)



While water quality varies in the Rouge watershed, it is generally considered “Fair,” earning it an overall “C” grade. However, data shows that water quality has declined since 2001.

The Upper/Beaver subwatershed is the most urbanized and has the lowest water quality in the Rouge, earning it a “Poor” or “D” grade, while the middle and lower portions of the watershed receive “C” grades. Higher concentrations of phosphorus and E. coli enter the waterway from a variety of sources, including overflows from combined sewers, septic systems, livestock and pet wastes, and the use of organic fertilizers. The “Poor” BMI value for the Rouge indicates more must be done to control urban run-off from entering the watercourse. The absence of stormwater management practices in older urban areas adds to water quality problems in the Lower Rouge.



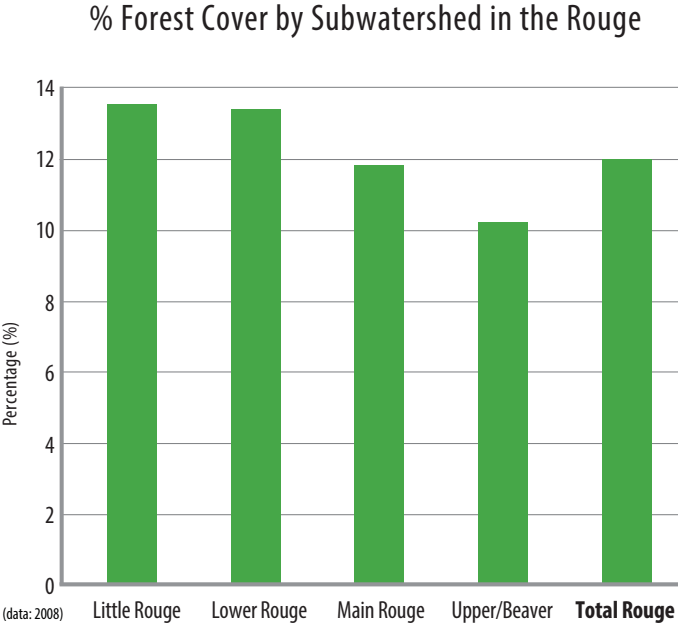
Forest Conditions

Indicators

% Forest Cover

% Forest Interior

% Riparian Zone Forested



Forest conditions in the Rouge are generally considered “Poor,” earning it a “D” grade. Only 12% of the watershed is forested.

Much of the original forest cover was lost during early settlement; as urban areas expand, more stress is put on the remaining forests. Unlike much of the rest of TRCA's jurisdiction, the lower reaches of the watershed (within Rouge Park) have the highest proportion of forest cover. While less than 1% of the watershed is covered by large patches of forest, some areas of Rouge Park contain large blocks of forest with significant interior habitat. Species that are sensitive to urbanization and require large areas of forest, such as wood thrush and ovenbird, are still found in the lower reaches. Although the total forest cover is low in the watershed, approximately one-third of its current streambank riparian cover is forest, with the Lower Rouge having the highest proportion.



Groundwater Quality

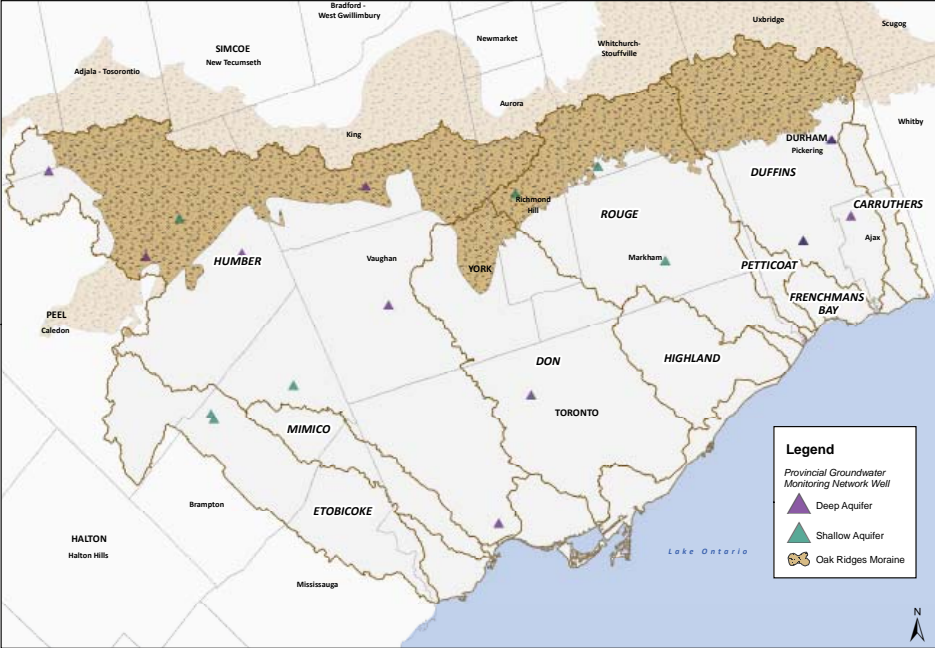
Indicators

Nitrate and Nitrite

Chloride

Groundwater quality in the Rouge is not graded 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.

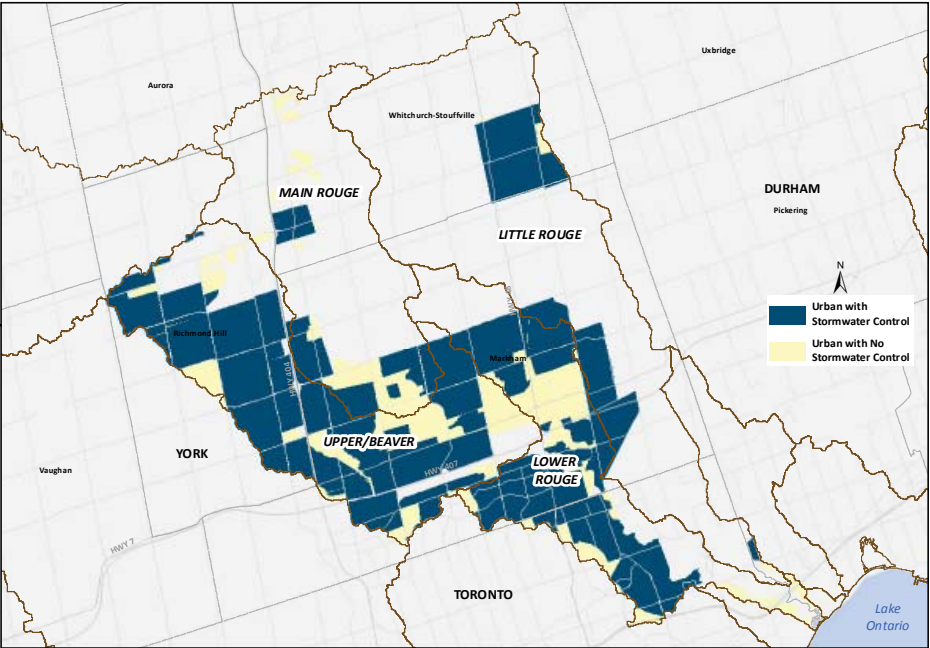
The majority of the wells yield very good results for nitrates and nitrites, indicating little or no contamination from agricultural manure, fertilizers or leaky septic systems. However, several wells show chloride levels above the Canadian drinking water standard in urbanized portions of the watersheds, 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)



The Rouge has seen rapid urbanization over the past 30 years. As of 2013, 77% of the developed areas in the watershed have stormwater controls, a far higher proportion than any other watershed in TRCA's jurisdiction.

The City of Markham has the highest levels of controls within the watershed. The majority of stormwater controls in the watershed consist of conventional stormwater management ponds. The focus in the Rouge should be on low impact development controls — such as, rain gardens, green roofs and permeable parking lots that allow rainwater to seep into the ground, filter and evaporate in order to maintain a more natural water balance.

