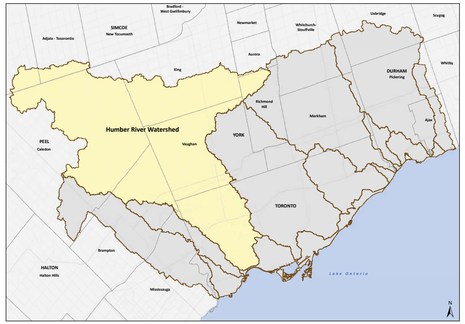
Facts and Figures

Municipalities	Toronto, Peel, York, Adjala-Tosorontio, Aurora, Brampton, Caledon, King, Mississauga, Mono, Richmond Hill, Vaughan
Tributaries	Main Humber, East Humber, West Humber, Black Creek, Centreville Creek, Rainbow Creek, Robinson Creek, Salt Creek
Length of Major Tributaries (km)	Main Humber – 126, East Humber – 65, West Humber – 43
Mean Stream Flow (mouth)	6.8 m^3/sec
Area (km^2)	911
Population (2011)	856,200
Land Use	Rural – 54%, Urbanizing – 13%, Urban – 33%
Physiographic Regions	Iroquois Plain, Niagara Escarpment, Oak Ridges Moraine, Peel Plain, South Slope
Natural Cover	32% of the watershed has Natural Cover: Forest – 17%, Meadow – 9%, Successional – 3%, and Wetland – 2%
Native Plant & Animal Species	Plants – 755, Fish – 42, Birds – 138, Amphibians – 14, Mammals – 24, Reptiles – 9. Of these, 504 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.
- TRCA and its community partners have launched two Sustainable Neighbourhood Retrofit Action Plan (SNAP) projects in the watershed — in the Black Creek neighbourhood of Toronto and around Lake Wilcox in Richmond Hill. With the help of SNAP, local residents are diverting rainwater into their vegetable gardens, increasing tree cover and conserving water and energy.
- Between 2008 and 2012, TRCA and its volunteers have planted over one million trees and shrubs. Over 20,000 trees and shrubs were planted as part of the Black Creek Conservation Project.
- Urban forest studies have been completed for the cities of Brampton, Mississauga, Toronto and Vaughan, and the towns of 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 the City of Toronto has developed a Strategic Urban Forest Management Plan. 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 200 threats to drinking water supplies have been identified preliminarily in the Humber watershed.
- All new developments in the Humber are preparing water budgets to better manage stormwater. Low impact development projects are being implemented — such as rain gardens, green roofs and permeable parking lots that reduce rainwater run-off and protect water quality in our streams. Untreated stormwater carries road salt, gas and oil, animal wastes, pesticides and other contaminants into storm sewers and straight into the Humber.
- TRCA has acquired over 7,760 ha or 43% of its greenspace inventory in the Humber for environmental protection, management, recreation and education purposes.

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.
- **Become a Watershed Champion** to protect, regenerate and celebrate the Humber River watershed. Visit **www.trca.on.ca/watershed-champion** to get involved.
- **Volunteer** for community tree plantings, litter pick-ups or other stewardship events. Register for a volunteer opportunity at **www.trcastewardshipevents.ca**

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

visit **www.trca.on.ca/humber**,
and subscribe to the *Humber Advocate Newsletter*

Canadian Heritage Rivers System / Le Réseau des rivières du patrimoine canadien

Humber River

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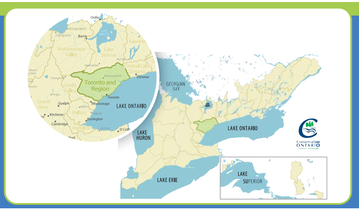
Humber River Watershed
Report Card 2013

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 Humber 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

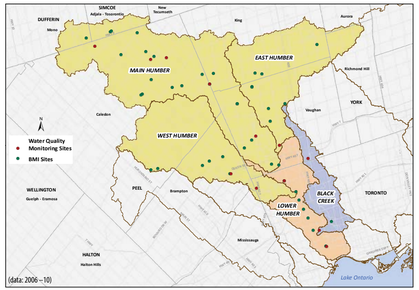
% of Developed Area with Stormwater Controls – Systems that manage the quantity and quality of stormwater run-off generated by our communities to protect watercourses. Stormwater management consists of practices that slow down, hold and reuse water.

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

Surface Water Quality

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

Grade: C ↘



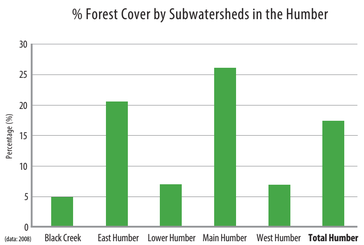
While the Humber watershed receives an overall "Fair" grade of "C", water quality varies within the watershed, with the Black Creek subwatershed having the worst water quality, followed by the Lower Humber.

Based on results from 48 monitoring sites, two of the three water quality indicators — phosphorus and *E. coli* receive a "C" grade. Phosphorus values are too high in both urban and rural areas, as uncontrolled run-off carries nutrients, as well as bacteria, pesticides and sediments into streams. *E. coli* levels, which indicate untreated sewage, are higher in older urban areas with poor stormwater controls. The Humber receives an overall "D" grade for BMI. Site scores for BMI ranged from Fair "C" to very poor "F," indicating more must be done to control rural and urban run-off.

Forest Conditions

Indicators
% Forest Cover
% Forest Interior
% Riparian Zone Forested

Grade: D ↔



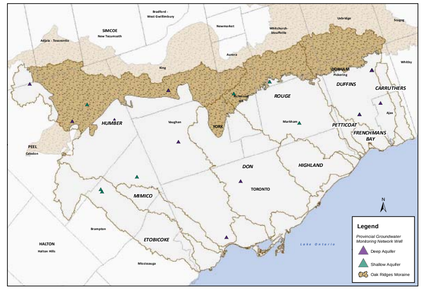
Forest conditions in the watershed are "Poor," earning it a "D" grade. The Main branch of the Humber has the highest percentage of remaining forest cover.

Today, only 17% of the watershed is forested. Much of the original forest was cleared for agriculture. As urban areas expand, more stress is placed on the remaining forests. The Main Humber subwatershed is the only subwatershed with "Fair" overall forest cover conditions, earning it a "C" grade. A minimum of 30% forest habitat is recommended to maintain diverse and healthy wildlife communities, and preserve native species in a watershed. Forested streambanks or riparian areas provide habitat for wildlife, shade streams, stabilize the banks, reduce erosion and help slow run-off. Riparian forest conditions are "Fair" across the watershed with the exception of the West Humber which receives a "D" grade. TRCA's largest watershed has only 1.3% interior forest habitat patches that are at least 100 metres deep from their edges, earning an "F" grade across the watershed. Public and private tree planting programs are enlarging small patches, filling gaps, protecting streambanks and improving forest health.

Groundwater Quality

Indicators
Nitrate and Nitrite
Chloride
Groundwater quality in the Humber is not graded due to insufficient data.

NO GRADE



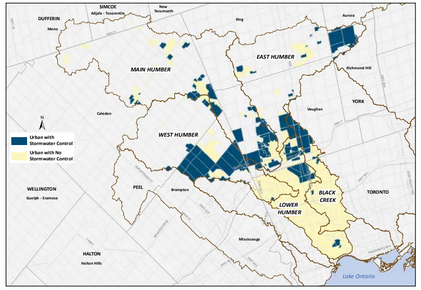
Overall, groundwater quality in TRCA's watersheds is "Good" with the best water quality found in the intermediate aquifer on the Oak Ridges Moraine.

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)*

Grade: F ↗



As of 2013, only 38% of urban areas in the Humber do a good job of collecting and properly managing stormwater. The cities of Brampton and Vaughan have better stormwater controls within the watershed than older, more developed areas in the City of Toronto.

The absence of stormwater management practices in older urban areas contributes significantly to the "Very Poor" stormwater management, earning the watershed a "F" grade. Combined sewers in older neighbourhoods still discharge sewage into the Humber during heavy rainfalls. Older areas are susceptible to flooding and poor water quality, while the rural areas in the upper reaches of the watershed are healthy. Therefore, retrofitting older areas with stormwater controls and ensuring future developments in the rural areas apply state of the art stormwater management controls, including low impact development, is vital in restoring and maintaining the health of the Humber.