

## WHAT ARE THE WATERSHED'S KEY ISSUES?

### Stormwater and How it's Managed

- Water from rain or snow runs off hard surfaces like pavement into nearby streams. Stormwater runoff is increasing due to expanding urbanization.
- High water flows associated with stormwater results in streambank erosion and increased flooding.
- Insufficient stormwater management also contributes to poor water quality as sediment and contaminants get picked up in the flows and deposited into the aquatic ecosystem.
- Soil degradation and loss of productive soil due to runoff is an issue for the agricultural community.

### Increasing Chloride Concentrations

- Chloride concentrations in the Humber River watershed are increasing. High concentrations of chloride can impact aquatic life.
- Before the 1980s, chloride concentrations were less than 50 mg/L. The average chloride concentration for the watershed for 2012–2016 was over 250 mg/L and the maximum concentration recorded was 5,850 mg/L. Chloride concentrations of less than 120 mg/L are recommended.
- The main source of chloride in the Humber River watershed is the road salt and other deicing materials used in the winter.

### Barriers to Fish Migration

- There are hundreds of potential in-stream barriers that do not allow fish to swim upstream including perched culverts, and dams.

## 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 supplies.
- **Volunteer** for community tree plantings, litter pick-ups, or other stewardship events: [trca.ca/get-involved](http://trca.ca/get-involved)
- **Subscribe** to the Humber Advocate newsletter: [trca.ca/humber](http://trca.ca/humber)

### What local actions have been taken?

**Black Creek Sustainable Neighbourhood Retrofit Action Plan (SNAP)**  
This SNAP was launched to help improve environmental sustainability in the Black Creek neighbourhood of Toronto. To help conserve water, residents were encouraged to make changes to their homes such as rain water collection to water plants. At the San Romanoway apartment towers, hundreds of native trees, shrubs, and flowers were planted along with fruit trees and vegetable gardens. This beautified the area and provides local residents with fresh food. • [sustainableneighbourhoods.ca](http://sustainableneighbourhoods.ca)

**Rural Clean Water Program**  
Through the Rural Clean Water Program, 51 best management practice projects have been completed in Peel and York Regions since 2013. These include well and septic system upgrades, well decommissioning, fuel storage enhancements, livestock access restrictions, tree planting and natural area creation and enhancement, cover cropping and erosion control, irrigation management, and clean water diversions.

**Land Acquisition**  
With York Region support, TRCA acquired 106 hectares (ha) of public conservation lands between 2015 and 2017, including the 45 ha Dalton property in King Township. This property completed an important link between conservation lands with the upper reaches of the Nashville Conservation Reserve. In the Region of Peel, over 20 ha of ecologically sensitive lands were protected through Ecological Gift Donations, including the Douglas J. Reddington Nature Reserve and the Milne Property.

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To learn about The Living City Foundation: [thelivingcity.org](http://thelivingcity.org)



This Watershed Report Card is available online at [reportcard.trca.ca](http://reportcard.trca.ca)

## Humber River WATERSHED Report Card 2018



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



## 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	
<b>A</b>	Excellent
<b>B</b>	Good
<b>C</b>	Fair
<b>D</b>	Poor
<b>F</b>	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:





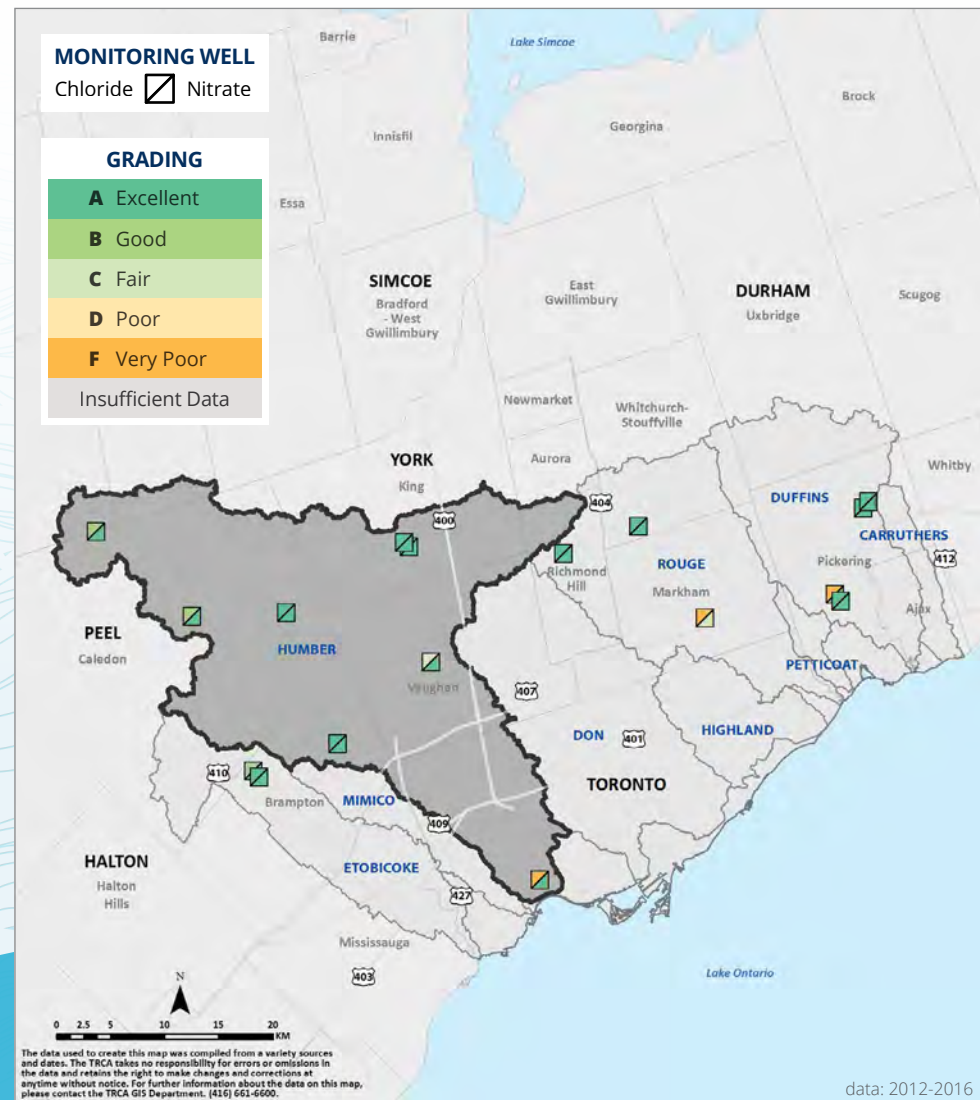


## GROUNDWATER QUALITY

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](https://trca.ca/source-water-protection)

### What did we find?

- All 8 wells in the Humber River watershed received an 'A' grade for nitrate.
- Half of the monitoring wells in the Humber River watershed received 'A' grades for chloride but the remaining wells received 'B' (2 wells), 'C', or 'F' grades. These wells appear to be influenced by contamination from road salt and/or water softeners for septic systems.



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

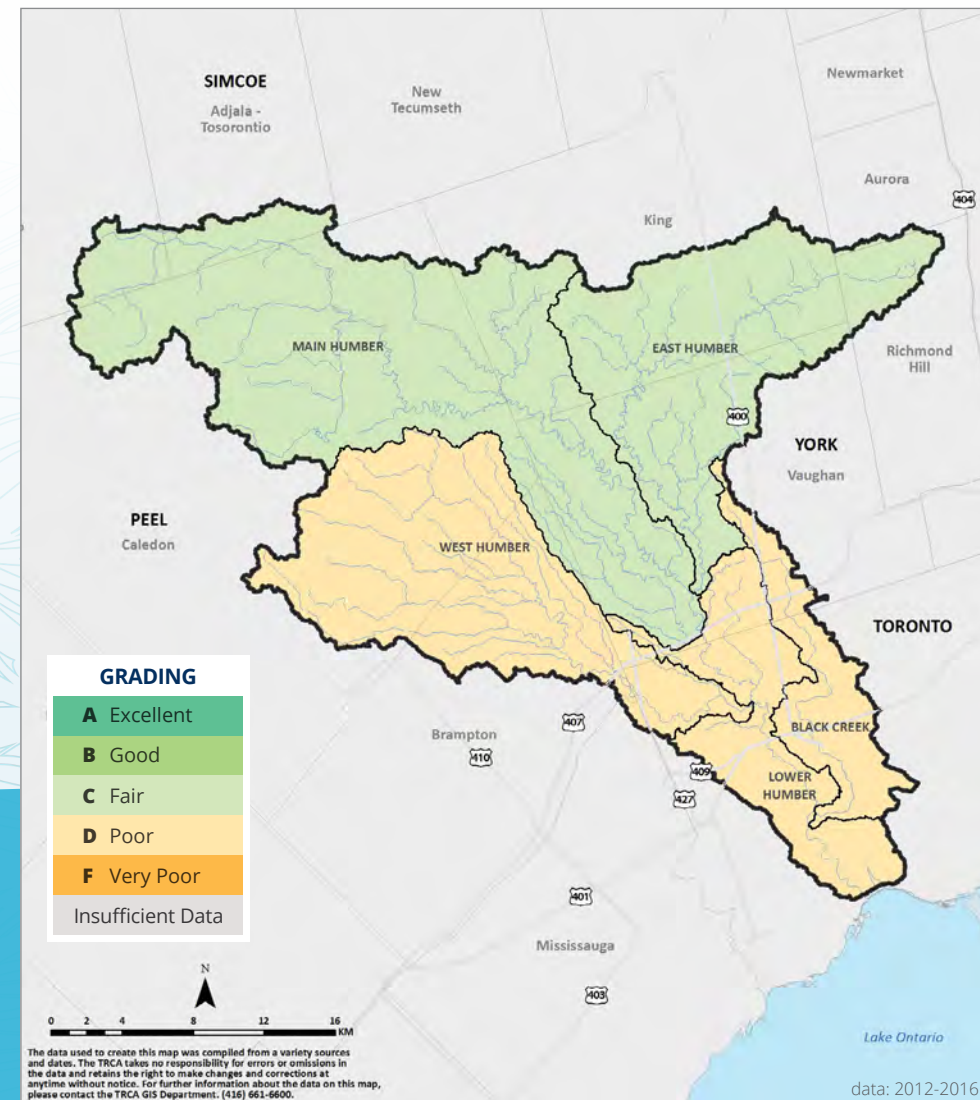


## SURFACE WATER QUALITY

Concentrations of phosphorus and *Escherichia coli* (E. coli) bacteria were measured at 11 stations in the Humber River watershed. Benthic invertebrates (small aquatic animals living in the sediment) were identified at 36 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 Humber River watershed received an overall 'C' grade for surface water quality which was the same as the previous report card in 2013.
- Chloride concentrations are not included in the grade but chloride is becoming an issue in the watershed. Almost 50% of the samples collected had concentrations above the recommended guideline. The chloride found in streams is typically from road salt and elevated concentrations can harm aquatic life.



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).

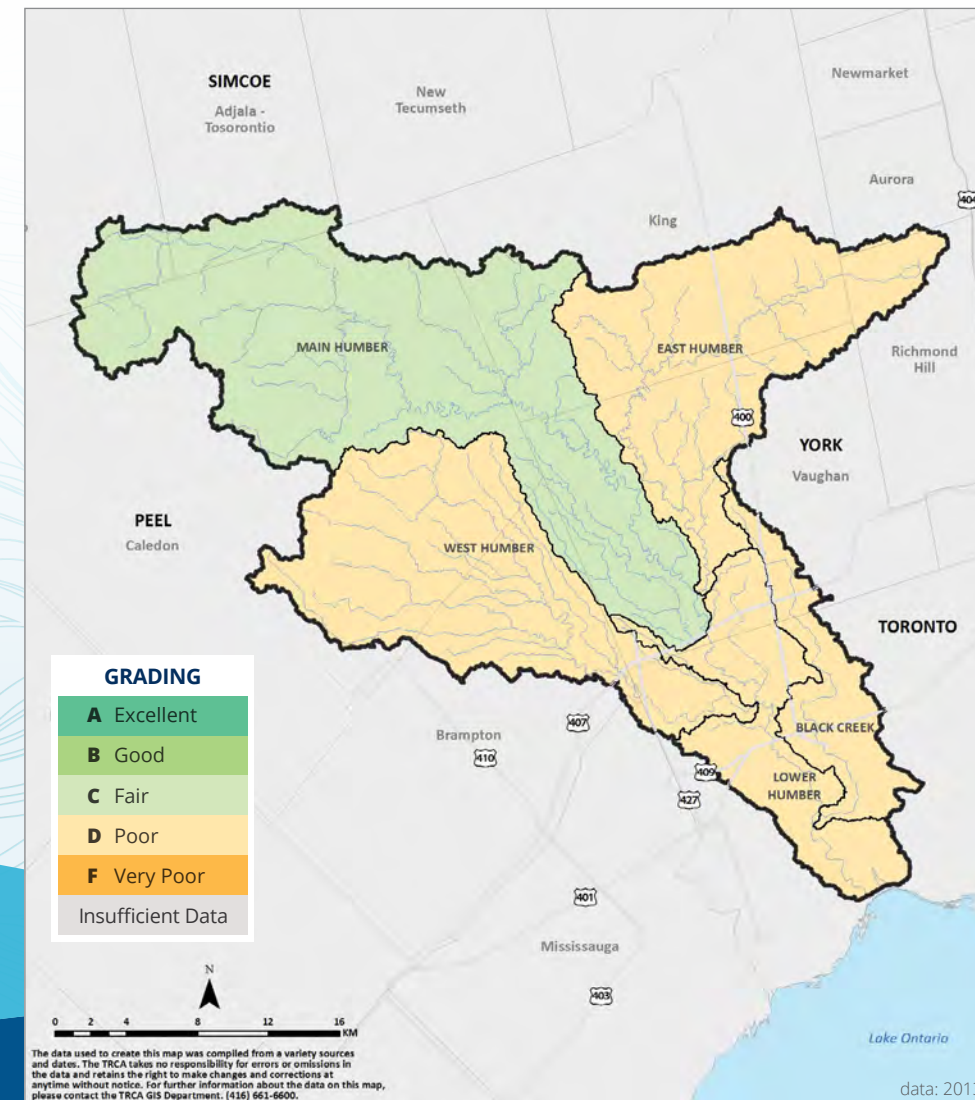


## FOREST CONDITIONS

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 Humber River watershed received a 'D' grade for forest conditions which is the same as the previous report card in 2013.
- There was about 19% forest cover, 2% interior forest cover, and 35% streamside cover. All three categories increased by 1–3% since the last report card which is a sign of improvement.



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.

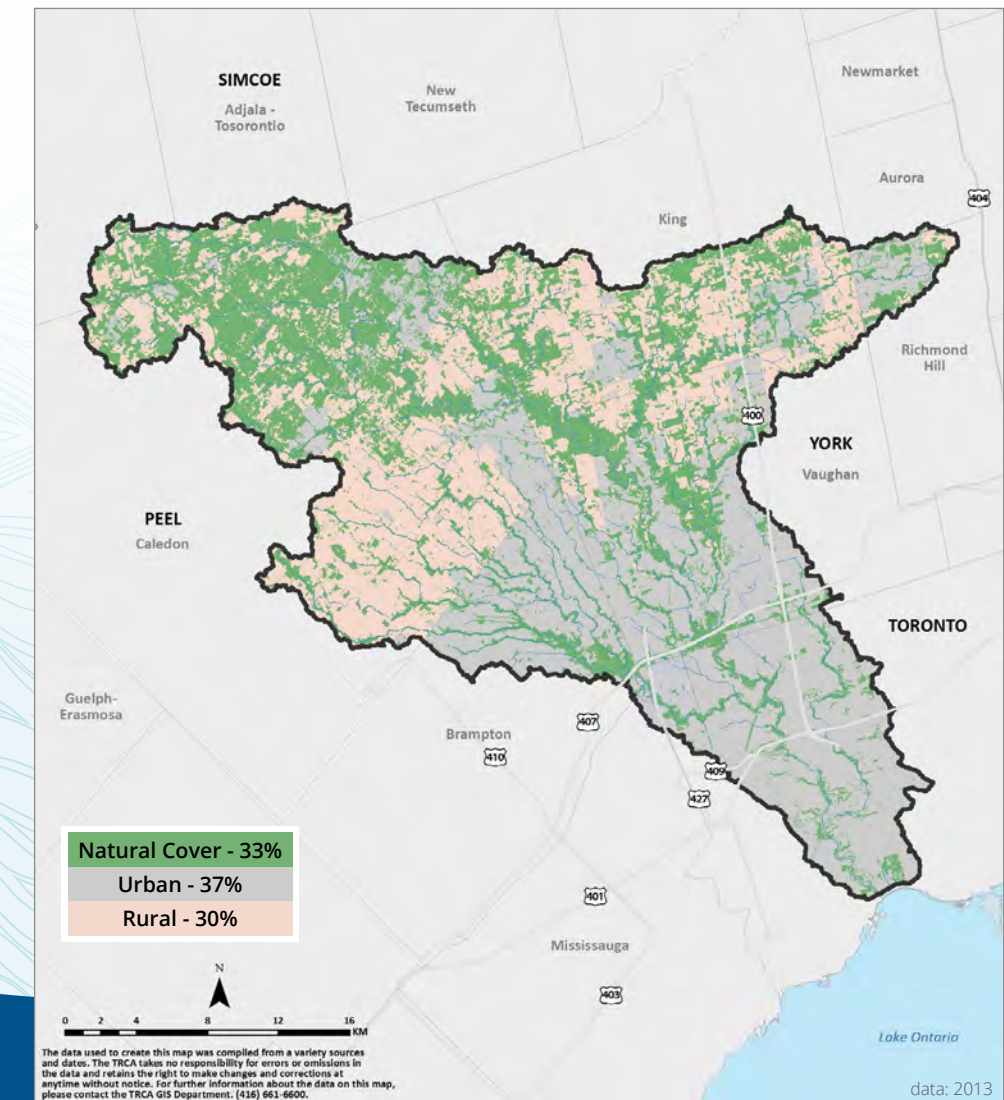


## LAND COVER

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 Humber River Watershed is 37% urban, 30% rural, and 33% natural cover.
- About 30% of watershed residents are farther than 300 m away from 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.



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).