Lower Trent Region
WATERSHED
Report Card 2018

Watershed Checkup

Lower Trent Conservation has prepared this report card as a summary of the state of your forests, wetlands, and water resources.

LOWER TRENT CONSERVATION

Member of Conservation ONTARIO

WHERE ARE WE?

What is a Watershed?

A watershed is an area of land drained by a creek, river, or lake. Everything in a watershed is connected. Our actions upstream can affect conditions downstream.

The Lower Trent Conservation watershed region includes the furthest downstream section of the Trent River watershed. It includes the Trent River, which flows out of Rice Lake to the Bay of Quinte at Trenton, and eight main tributaries. The watershed region also includes a number of smaller watercourses that flow directly into Lake Ontario and the Bay of Quinte from Grafton to Quinte West.

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

Wetland Cover

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.

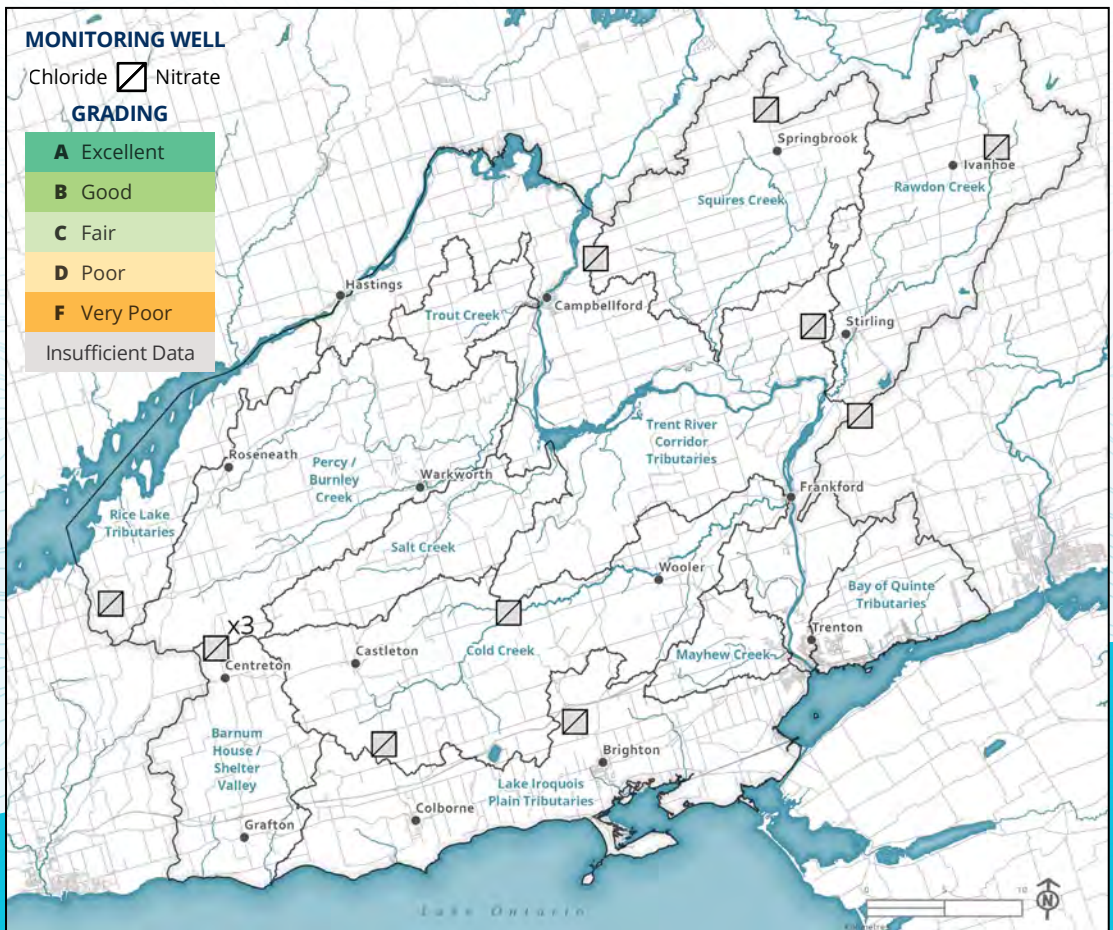
GROUNDWATER QUALITY

Groundwater is water found below the earth's surface. About 60% of the people living in the Lower Trent watershed region rely on groundwater as their source of drinking water through private or municipal wells.

Groundwater quality is evaluated by using nitrogen and chloride data. Nitrates and nitrites are forms of nitrogen that come from a variety of sources including industrial/residential wastewater, fertilizers, and failing septic beds. High concentrations of nitrates+nitrites can make water unsafe for human consumption, especially young children. Chloride, a form of salt, can enter groundwater from human activities (e.g., winter road maintenance, discharge from water softeners). High concentrations of chloride in water are harmful to the environment.

What Did we Find?

- Due to the lack of consistent long-term data, groundwater has not been graded for our 12 monitoring wells.
- Based on available data for two wells located in shallow aquifers and vulnerable to surface water runoff, there was 1 exceedance of nitrate+nitrite and 2 exceedances of chloride of the Ontario Drinking Water Standards over the 5 year period.



Data Sources: *Provincial Groundwater Monitoring Network in partnership with the Ministry of the Environment & Climate Change 2012-2016*

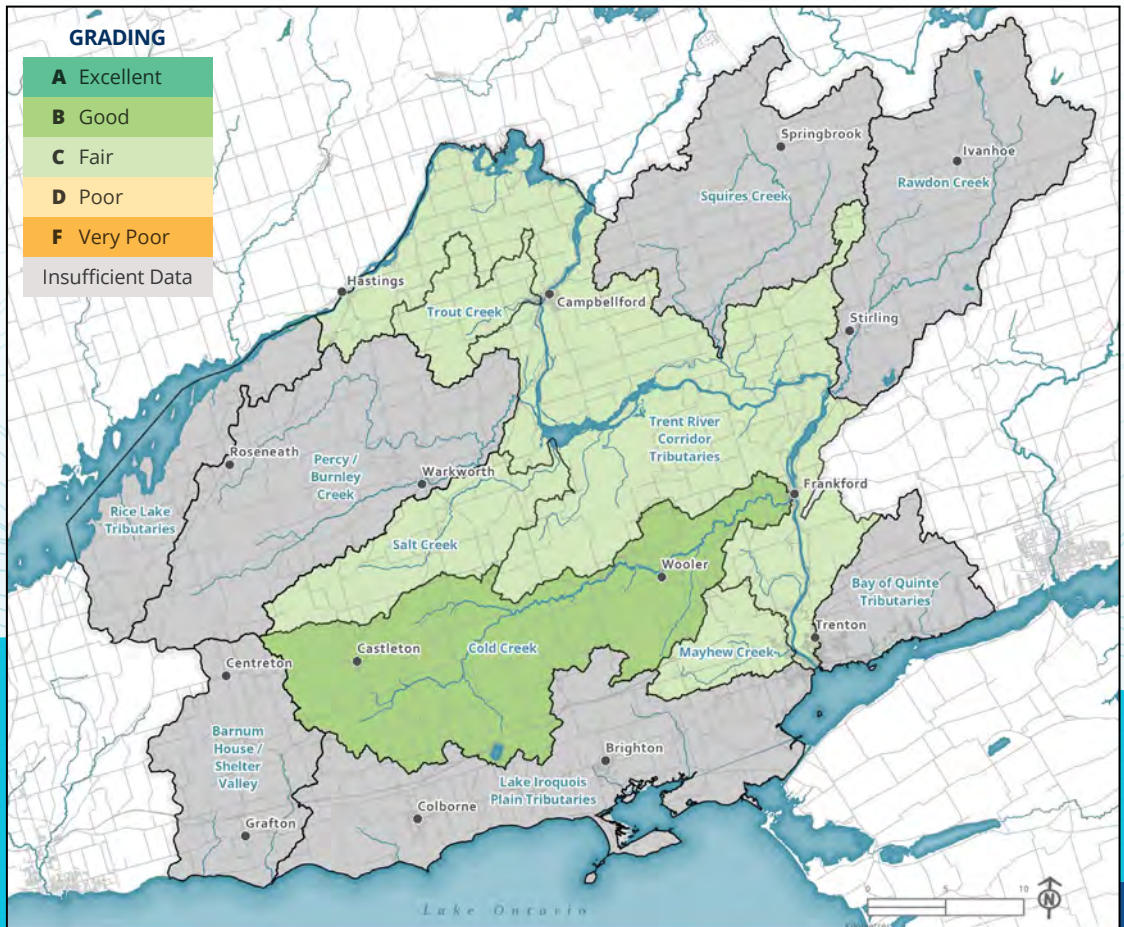
SURFACE WATER QUALITY

Healthy streams and rivers support resilient watersheds and healthy communities. Wildlife and a myriad of human uses – agriculture, drinking water, recreation – benefit from good water quality.

Surface water quality grades are calculated using phosphorus, E. coli, and benthic invertebrate data. Phosphorus is a nutrient that can enter lakes or streams through urban and agricultural runoff (e.g., fertilizers, sewage, stormwater, detergents). E. coli is a bacteria commonly found in human and animal fecal matter. Benthic invertebrates are tiny aquatic organisms living in stream beds. Some species are tolerant of pollution, while others are not.

What Did we Find?

- Grades are only available for 5 of 12 watersheds; results are based on phosphorus and benthic invertebrate data only as *E. coli* is not currently collected as part of our monitoring program.
- "C" grades were calculated for 4 watersheds, with a "B" grade for the Cold Creek watershed.



Data Sources: *Provincial Water Quality Monitoring Network & Ontario Benthos Biomonitoring Network in partnership with the Ministry of the Environment & Climate Change 2012-2016*

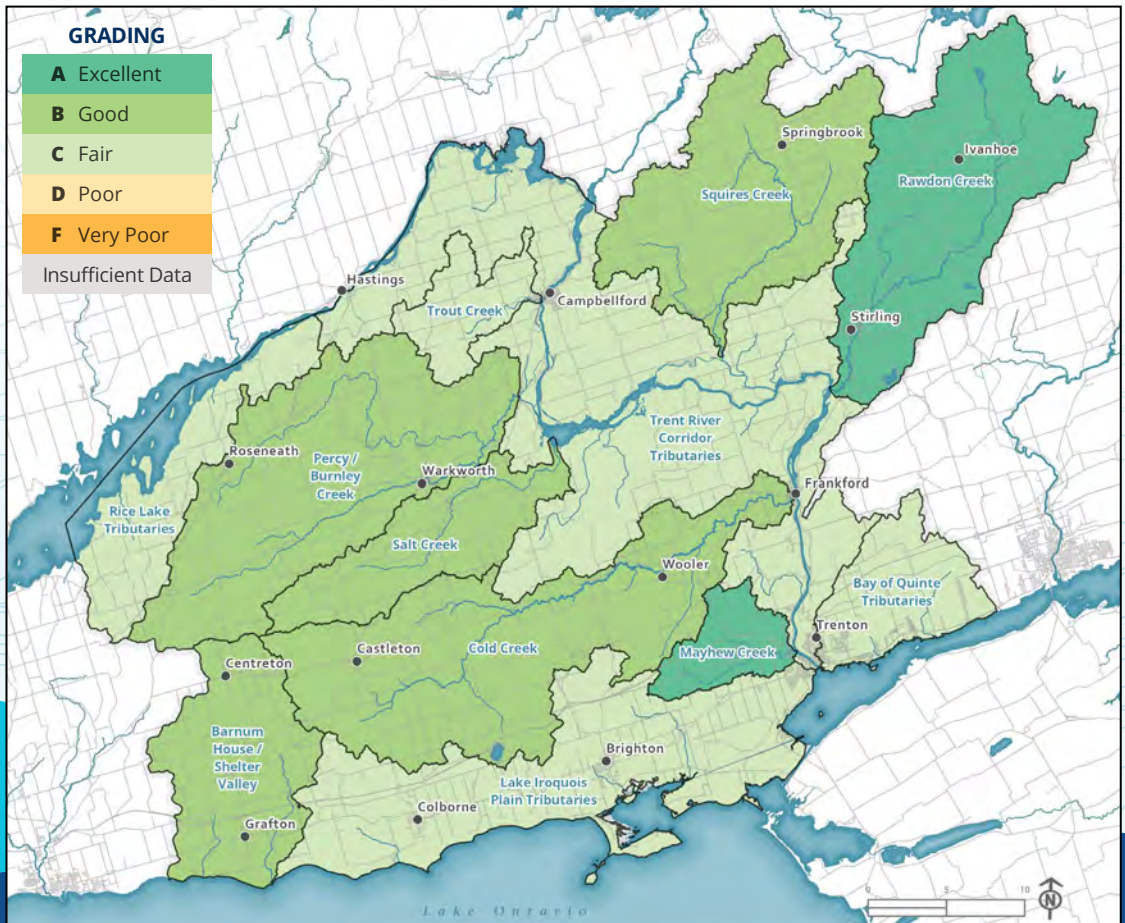
FOREST CONDITIONS

Healthy forests clean the air and water, prevent flooding and erosion, provide homes for wildlife, and enhance parklands.

Forest conditions were assessed using digital mapping data for forest cover, forest interior, and riparian forest cover. Forest cover is the total area of wooded land. Forest interior, required by some wildlife species for survival, is the wooded area that is more than 100 metres from a forest's edge. The forested riparian area is the amount of wooded area within 30 metres of a shoreline, and is important in maintaining healthy lakes and streams.

What Did we Find?

- Approximately 35% of the watershed region is forested, of which 7% is forest interior; 43% of the riparian area is forested.
- Grades range from "A" to "C" across the 12 watersheds, with "B" and "C" being most common. Lower scores are more predominant in watersheds where agriculture and urban development are more prevalent.



Data Sources: *Ecological Land Classification 2016, South Central Ontario Orthophotography Project 2013, Ontario Ministry of Natural Resources & Forestry*

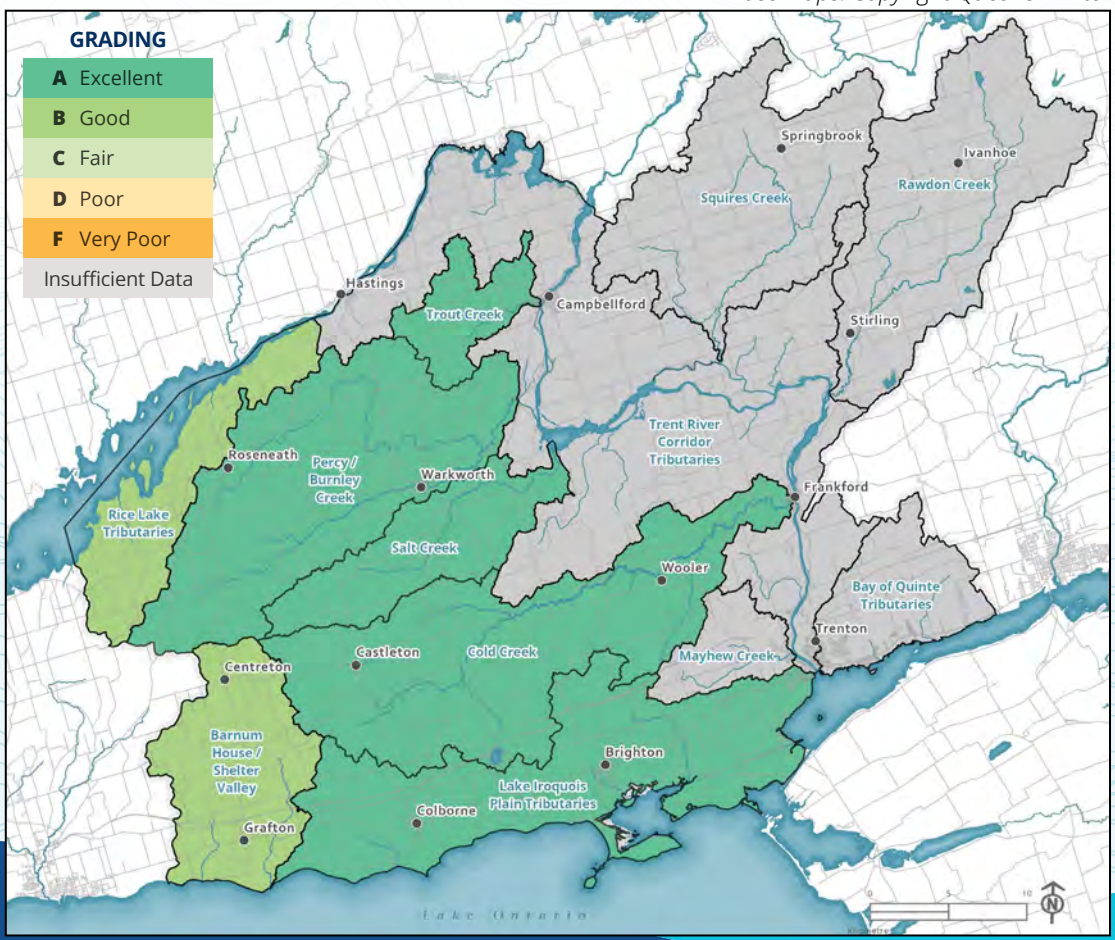
WETLAND COVER

Wetlands play many important roles in overall watershed health including filtration of sediments, nutrients and pollutants from surface and ground water, and providing important habitat for many forms of wildlife.

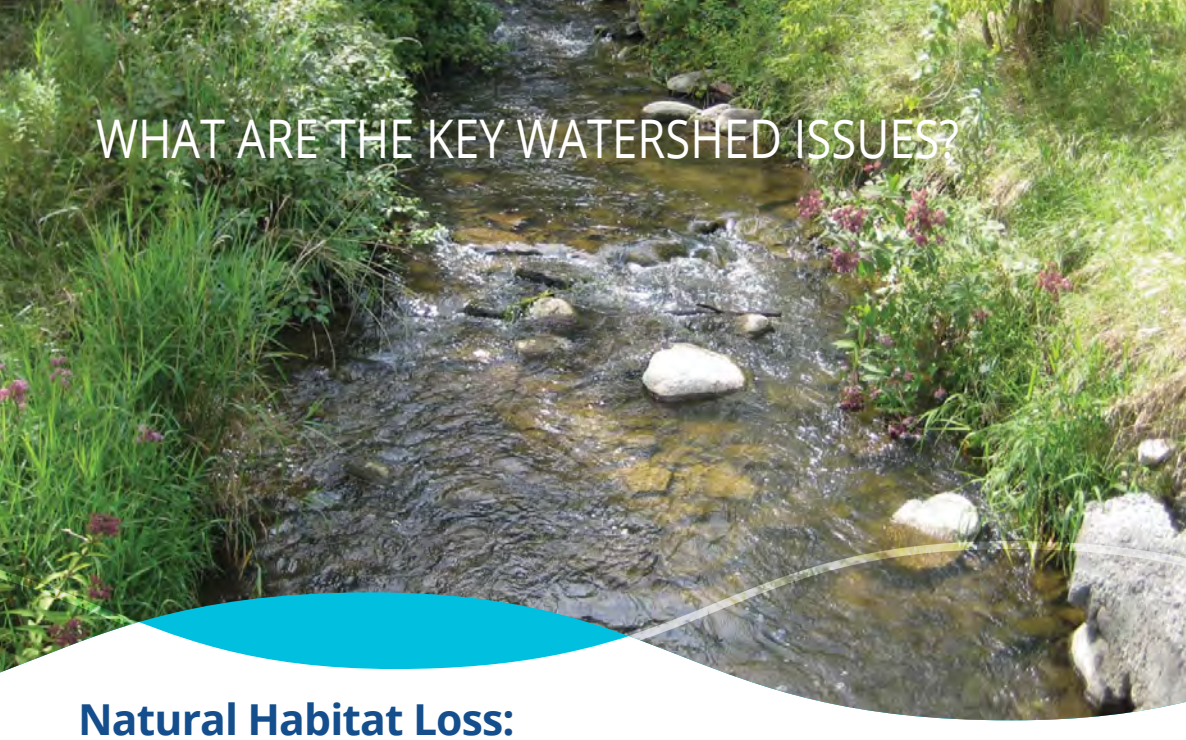
The percentage of wetland cover was assessed using digital mapping data. Wetlands include marshes, swamps, bogs, and fens – lands that are permanently or seasonally wet.

What Did we Find?

- Approximately 14% of the graded area is covered by wetlands.
- Grades are available for 7 of 12 watersheds, as Ecological Land Classification is only available for Northumberland County.
- Of the 7 graded watersheds, 5 were assigned "A" grades, with the remainder assigned "B" grades. While development pressures are higher in the Lake Iroquois Plain Tributaries, the watershed obtained an "A" grade due to the presence of large coastal wetlands.



Data Sources: *Ecological Land Classification 2016, Ontario Ministry of Natural Resources & Forestry*



WHAT ARE THE KEY WATERSHED ISSUES?

Natural Habitat Loss:

- Although forest and wetland cover are slightly above Environment Canada's recommended minimum thresholds for ecological integrity, these natural habitats are vulnerable to impacts of development pressure.
- Continued loss of natural habitat could result in decline of many ecological services, leading to increased flooding, loss of native plants/animals, reduced drinking water quality, and decreased outdoor recreational potential.

Insufficient Data:

- Ecological Land Classification has only been completed for Northumberland County, representing approximately 50% of the Lower Trent watershed region. Ecological Land Classification is a standardized method to characterize vegetation communities and is the best source of information to assess wetland and forest conditions.
- Surface water data is limited to 9 Provincial Water Quality Monitoring Network stations located in 5 watersheds and does not include *E. coli*. More monitoring stations and analyses are needed for all watersheds.
- The Provincial Groundwater Monitoring Network is not comprehensive enough to provide adequate data to grade the wells.

What Actions are We Taking?

- Providing advice to local municipalities and the public regarding development near waterways and wetlands, and administering our *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation*.
- Seeking opportunities to enhance our monitoring programs.
- Providing information and services to the public to improve environmental awareness and encourage environmental action (e.g., public events, tree seedling sales, incentive programs).
- Protecting and maintaining 1500 hectares of natural areas in our Conservation Lands.
- Providing youth environmental education opportunities to foster environmental values in the next generation.

HOW CAN WE ENHANCE LOCAL WATERSHEDS?

What Can You Do?

If we all work together, we can make a difference. Imagine if the 75,000 people living in our watershed region all made wise environmental choices! Improving the health of local watersheds requires us to think and act on ways to balance environmental concerns with everyday life. Here are some examples of good environmental stewardship activities you can do to enhance your property, protect your health, and protect our natural environment.

- Plant native trees and shrubs to protect shorelines, enhance wildlife habitat, and encourage species diversity.
- Inspect and pump out your septic system every 3 to 5 years.
- Use phosphate free products inside and outside your home (e.g., detergents, fertilizers).
- Fence livestock and leave a 30 metre buffer of natural vegetation along shorelines to filter runoff and provide wildlife habitat.
- Reduce the amount of household chemicals you use and store (e.g., antifreeze, paint, lawn chemicals, detergents, and cleaners).
- Decommission unused wells – old wells can provide a path for contamination to groundwater supplies.
- Learn to identify and report non-native, invasive species and how to prevent their spread.

*Do you have questions not answered by this summary document? Visit **www.LTC.on.ca** for the full report or contact us for more information.*

LOWER TRENT CONSERVATION

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