

Conservation Halton

Watershed Report Card 2023



Conservation Halton has prepared this report card as a summary of the state of your forests 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 then drains into a larger body of water such as a lake. Everything in a watershed is connected. Our actions upstream can affect conditions downstream.

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

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.



Grades for surface water quality are based on chemical (phosphorus concentrations) and biological (benthic invertebrates) indicators of water quality across the watershed.

What Did We Find?

- Grades ranged from A (Excellent) to F (Very Poor).
- Subwatersheds with lower scores (D to F) tend to be in agricultural or urban areas.
- Subwatersheds with higher scores (A to C) tend to be in areas with more natural cover, including higher amounts of forest cover.
- Ongoing efforts to improve stormwater management and increase the use of low impact development (LID) practices will help to improve water quality.
- 9 subwatersheds saw improvements, receiving a higher grade than they had scored in the 2018 Watershed Report Card.
- 9 subwatersheds had more degraded conditions, receiving a lower grade than in 2018.
- 6 out of the 11 water chemistry stations sampled over the last 5 years had chloride concentrations above the water quality objective. These stations were within Sheldon, Fourteen Mile and Sixteen Mile Creeks.

GRADING

A Excellent

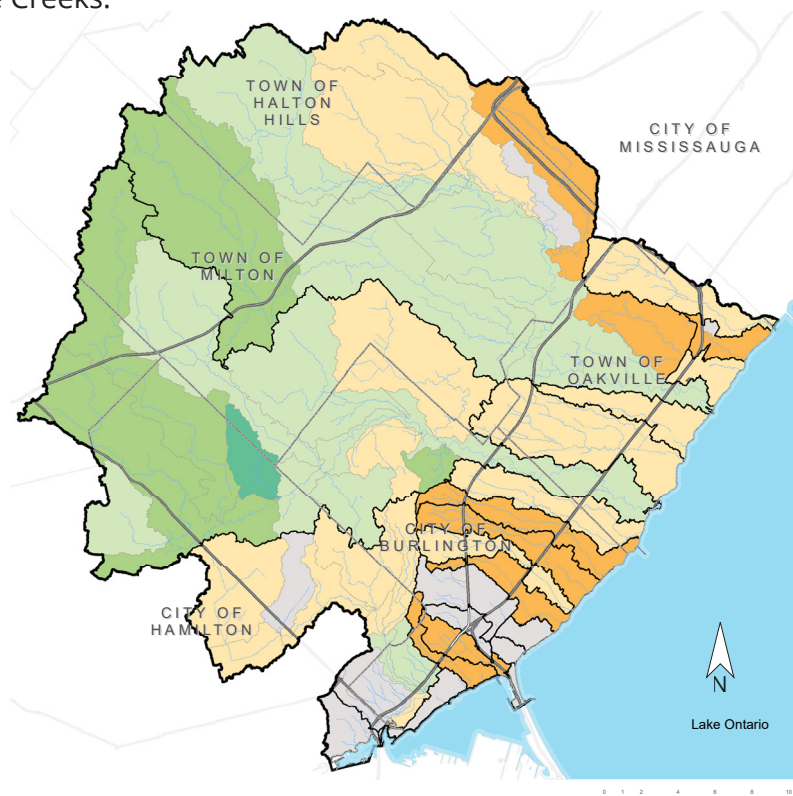
B Good

C Fair

D Poor

F Very Poor

Insufficient Data



This mapping was produced by Conservation Halton GIS Services. This map has been compiled from various sources and is for information purposes only. Conservation Halton takes no responsibility for, nor guarantees, the accuracy of all the information contained within the map.



Conservation Halton FOREST CONDITIONS

GRADE
D

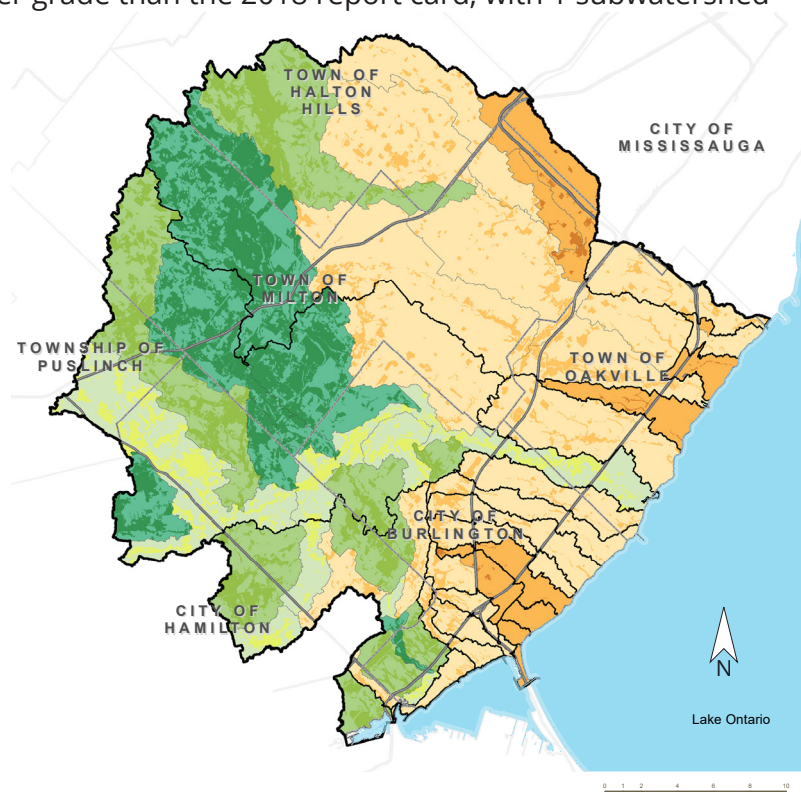
Grades are based on the percentage of forest cover, interior forest cover (forest cover 100m from the forest edge) and streamside vegetation that is forested. Streamside forests in particular help improve water quality.

What Did We Find?

- Grades ranged from A (Excellent) to F (Very Poor).
- Majority of forest cover and forest interior was found above the Niagara Escarpment where urban development and agricultural activities are limited.
- Large tracts of forests are scarce and found largely in the headwaters of Bronte and Sixteen Mile Creek. Most interior forest habitat is found in these areas.
- Forest patches in urban areas are small with many associated with stream valleys.
- While coverage of streamside vegetation is good in some areas, increases in vegetation along streams will aid in improving water quality and the health of aquatic and terrestrial ecosystems.
- -7 subwatersheds received a lower grade than the 2018 report card, with 1 subwatershed receiving a higher grade .

GRADING	
A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor
Insufficient Data	

FOREST



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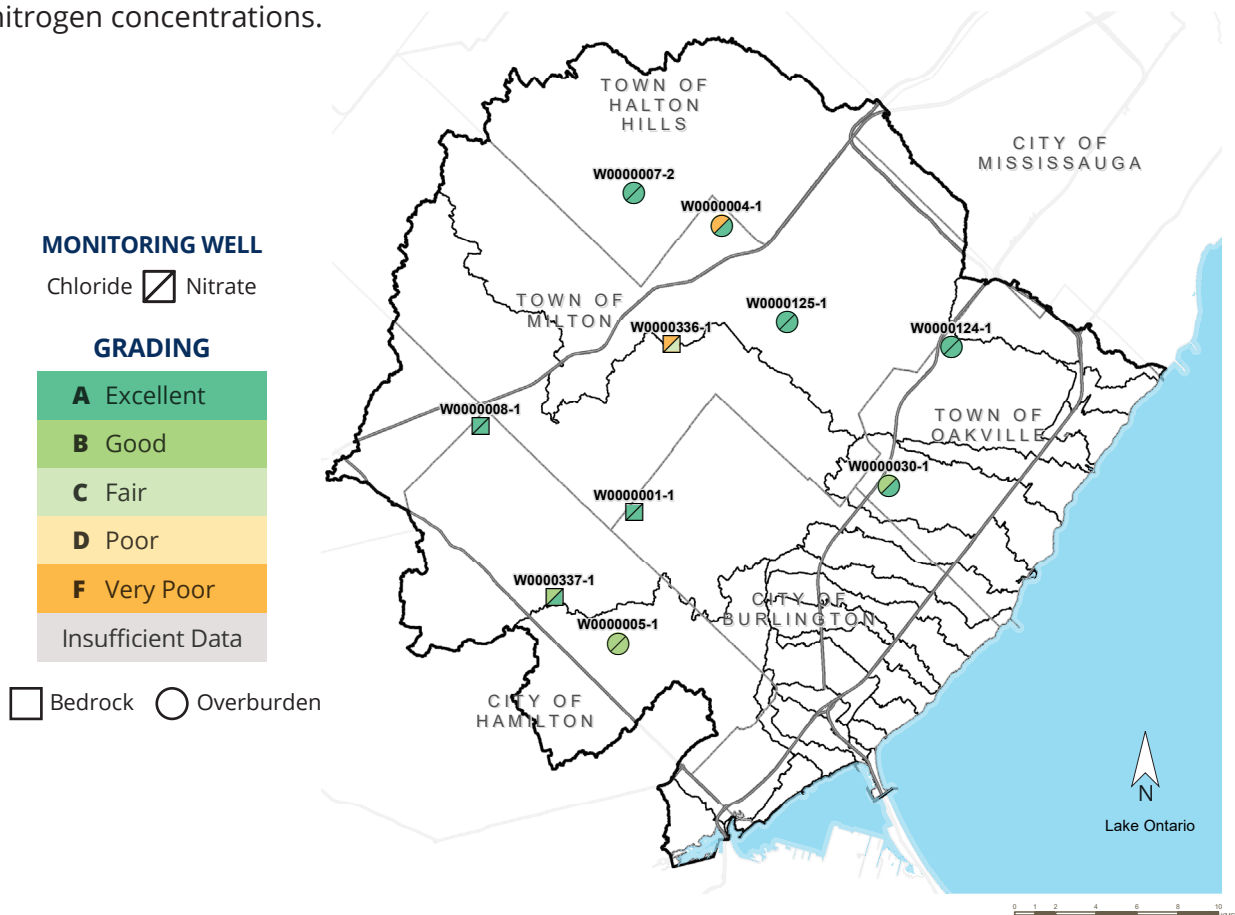
Conservation Halton GROUNDWATER QUALITY

GRADE
A

Grades for groundwater quality are based on concentrations of nitrate + nitrite and chloride levels at 10 groundwater wells across the Conservation Halton watershed. Wells have been monitored for the past 21 years

What Did We Find?

- Grades ranged from A (Excellent) to F (Very Poor) with mostly A grades, which represent the groundwater conditions at the well locations only.
- Groundwater quality can vary significantly from site to site and be influenced by geology, land use, human activities, etc.
- Two wells (W004-1 and W030-1) exhibit naturally higher chloride concentrations due to proximity to shale bedrock.
- Two wells (W336-1 and W005-1) are showing impacts from human activities such as road salting and agricultural activities as they are higher in both chloride and nitrogen concentrations.



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Conservation Halton

WHAT'S TRENDING?

As part of Conservation Halton's Long-term Environmental Monitoring Program, staff have been collecting, analyzing, and reporting on environmental data for almost 20 years. Some of the most evident trends in our watershed include:

Water Quality:



Analysis of over 50 years of water quality data shows that chloride (salt) concentrations continue to increase across the watershed. In some watersheds, the values are more than double the limit considered safe for aquatic life. When snow melts, the salt applied to hard surfaces like roads and sidewalks in the winter enters waterways and groundwater recharge areas. Chloride can also be re-suspended during rain events, causing harmful effects into the summer months. Chloride, combined with the added stress of warming stream temperatures has an adverse impact on our streams, impacting habitat and stressing aquatic organisms. There is no current treatment for chloride removal from our environment. Prevention is the key! Reducing salt application and protecting our waterways through streamside plantings and other nature-based climate solutions helps to reduce stream temperatures and protect water quality.

Invasive Species:



Ecosystems are under threat from invasive species. Invasive species are plants, animals, pests, and pathogens that out-compete native species when introduced to a new area. They often become predators, competitors, parasites, and carriers of disease for our native plants and animals. Analysis and results of forest health monitoring done by Conservation Halton at selected sites demonstrate that forests across the watershed are being drastically altered and damaged. Once established, invasive species are costly and difficult to remove. Planting native species, ensuring that plants and animals are not moved from one location to another and disposing of invasive species in the garbage (NOT the compost) protects biodiversity and helps to prevent spread.

WHAT IS OUR WATERSHED'S KEY ISSUE?



There are many issues affecting our environment from climate and land use changes to local habitat impairments or alterations. One concerning issue is pollution of our streams.

Pollution Of Our Streams:

- Chemical and physical pollution, including the warming of waterways, has significant impacts on water quality, and the species, including humans, that rely on clean water.
- Pollution comes from various sources across urban, residential, and agricultural landscapes and results from choices we make, such as whether to apply fertilizers to our home garden.
- During rain or snowmelt, pollutants and soils run off fields, roads, and yards and enter streams or are absorbed into the groundwater.



What Actions Can You Take To Reduce Pollution In Our Streams?

- Conserve natural landscapes, especially wetlands and streamside vegetation, that naturally aid in removing pollutants.
- Reduce nutrients from entering waterways by implementing best management practices on your property.
- Prevent stormwater from entering streams by using low impact development and redirecting water to lawns and gardens.
- Get out and explore Conservation Halton parks and the natural areas around you. Appreciating and exploring nature is the first step in making wise choices to help protect it.



WHAT CAN BE DONE?



What Can your Community do?

- Support initiatives to improve stormwater management.
- Adopt low impact development practices to help reduce runoff.
- Direct development away from areas of environmental significance.
- Minimize salt use and explore new alternatives.
- Protect and connect wetlands and other natural heritage features.
- Support monitoring and restoration initiatives to track environmental change and improve conditions



What can agencies do?

- Evaluate the effectiveness of their environmental programs and take steps to green their operations
- Work together to manage natural systems to protect and enhance connected natural habitats on the landscape
- Protect and create more urban greenspace to reduce stormwater, cool temperatures and provide healthy outdoor living and recreational opportunities for people

WHAT LOCAL ACTIONS HAVE BEEN TAKEN?



Over the past five years, Conservation Halton has completed many restoration projects on both private and public property, including Flamborough Centre Park, Courtcliffe Park, Drumquin Park, Area 8 and Glenorchy Conservation Area, to support watershed function and resilience to climate change. Since 2018, Conservation Halton worked with hundreds of landowners and partners to:



Manage 11,000 acres of Conservation Halton lands



Serve over 664,000 residents in the watershed



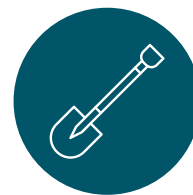
Rehabilitate 231 hectares of floodplain, forest, and wetland



Engage 167,836 watershed residents in educational programs



Plant more than 319,900 trees and shrubs



Engage more than 35,900 watershed residents in conservation activities



Improve 24 km of stream habitat through projects like sediment mat construction, debris removal, and creekside plantings



Monitor over 500 sites across the watershed to support environmental efforts and inform science-based decision making



Manage 21 invasive species including Phragmites, Garlic Mustard, Dog-strangling Vine, European Buckthorn and Giant Hogweed



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

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The Watershed Report Card is available online and in other formats upon request.