

Central Lake Ontario Watershed Report Card 2023



Central Lake Ontario Conservation Authority has prepared this report card as a summary of the state of your forests, wetlands, 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 body of water such as a lake or pond. 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



Wetland 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.



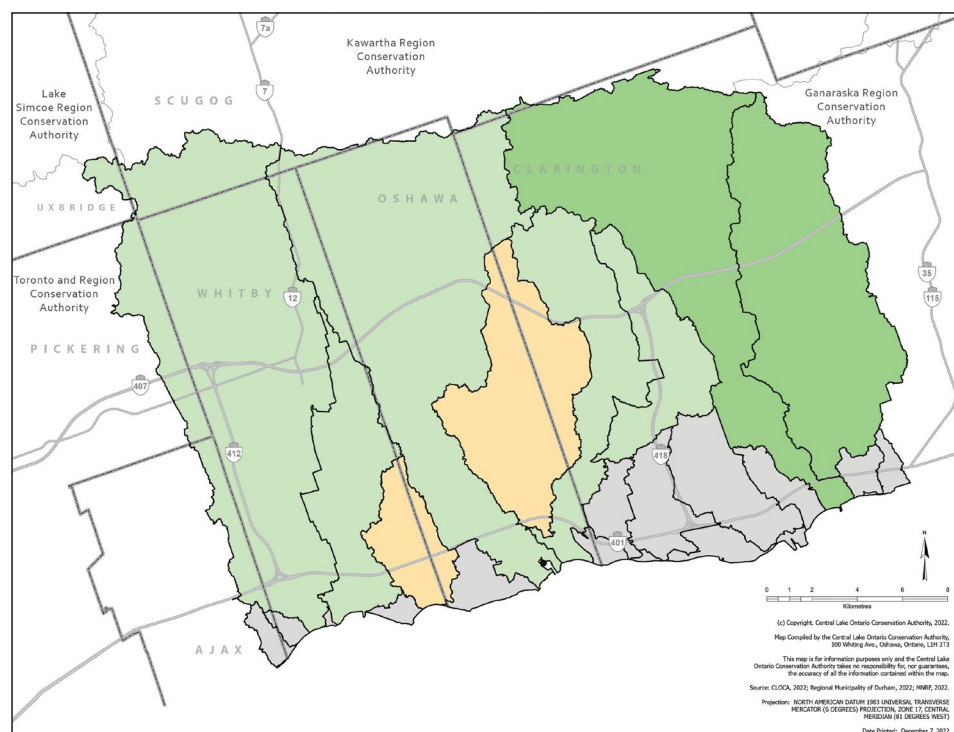
Water in a creek is influenced by the surrounding land use and how that is managed. Concentrations of phosphorous, *Escherichia coli* (E.coli) and benthic invertebrates (small aquatic organisms living in the sediment) are measured at monitoring stations in our creeks, to determine overall surface water quality in our watersheds. All nine of our regularly monitored watersheds have data to represent all three indicators. This is up from one watershed (Oshawa Creek) in the 2018 report card.

What Did We Find?

- Grades range from B to D.
- The 2022 grades show an improvement from the 2018 results in all watersheds with the exception of Black and Harmony Creeks, where there was no change. This improvement may be due to a larger, more complete dataset rather than on-the-ground changes.
- As in 2018, more efforts are needed to reduce bacterial and nutrient inputs through improvements to land management practices. This will improve water quality and support healthy aquatic ecosystems.

GRADING

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





Central Lake Ontario FOREST CONDITIONS

GRADE
D

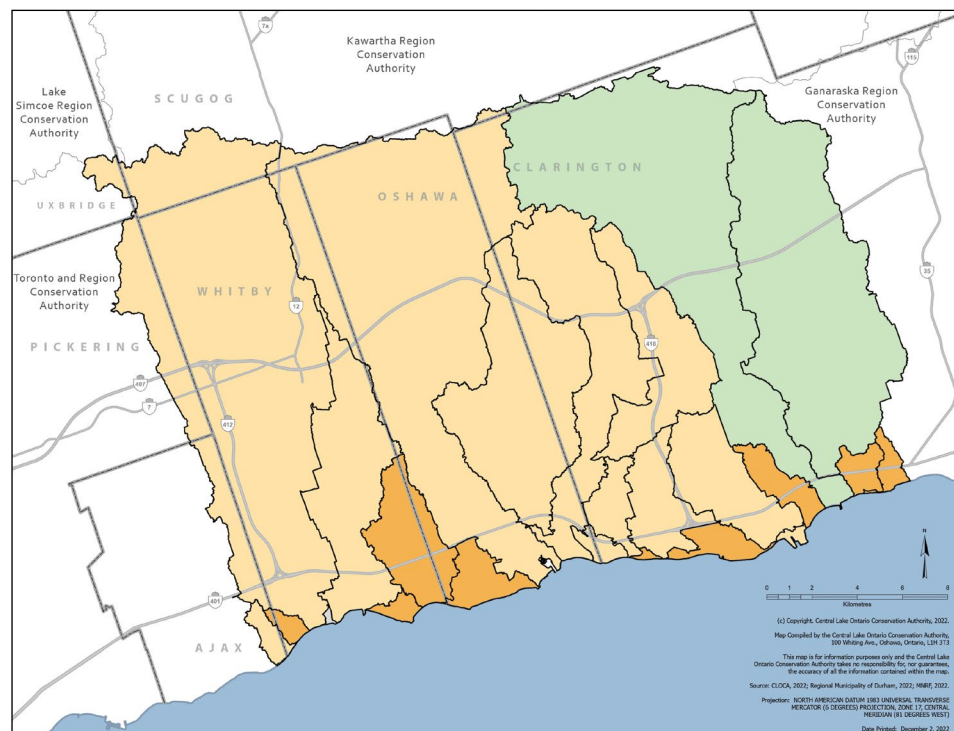
Urbanization continues to place tremendous pressure on our remaining forests and is negatively impacting their condition. Climate change is also introducing new stresses to these same forests, including droughts, disease, and invasive species. Forests are important natural assets that help build resilience in our watersheds and make them better able to adapt to changes in land use and climate. As such, Central Lake Ontario Conservation Authority is working closely with partners, stakeholders and private landowners to plant more trees across its jurisdiction through its expanding stewardship and restoration programs and services.

What Did We Find?

- Grades across our jurisdiction continue to range from C to F.
- Bowmanville and Soper Creek watershed continues to be the highest scoring watershed with a C grade due to a higher proportion of rural non-farmland uses and lower proportion of urban land cover. Grade increases seen in several watersheds in 2023 compared to 2018 are due to a change in the methodology used to calculate streamside cover and does not reflect an overall improvement in forest conditions. As reported in previous report cards, the small watersheds in the southern portion of our jurisdiction, where urban and agricultural land use have traditionally limited forest cover, continue to receive an F grade.

GRADING

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





Central Lake Ontario GROUNDWATER QUALITY

GRADE
A

Groundwater is the water found beneath the earth's surface, in water-bearing layers known as aquifers. This resource provides an important source of baseflow to our creeks and potable water to residents and businesses in our rural communities. The two indicators used to assess groundwater quality include Nitrite + Nitrate and Chloride. In partnership with the Ontario Ministry of Environment, Conservation and Parks (MECP), the concentrations of these indicators are analysed at 13 monitoring wells across Central Lake Ontario Conservation Authority's (CLOCA's) jurisdiction.

What Did We Find?

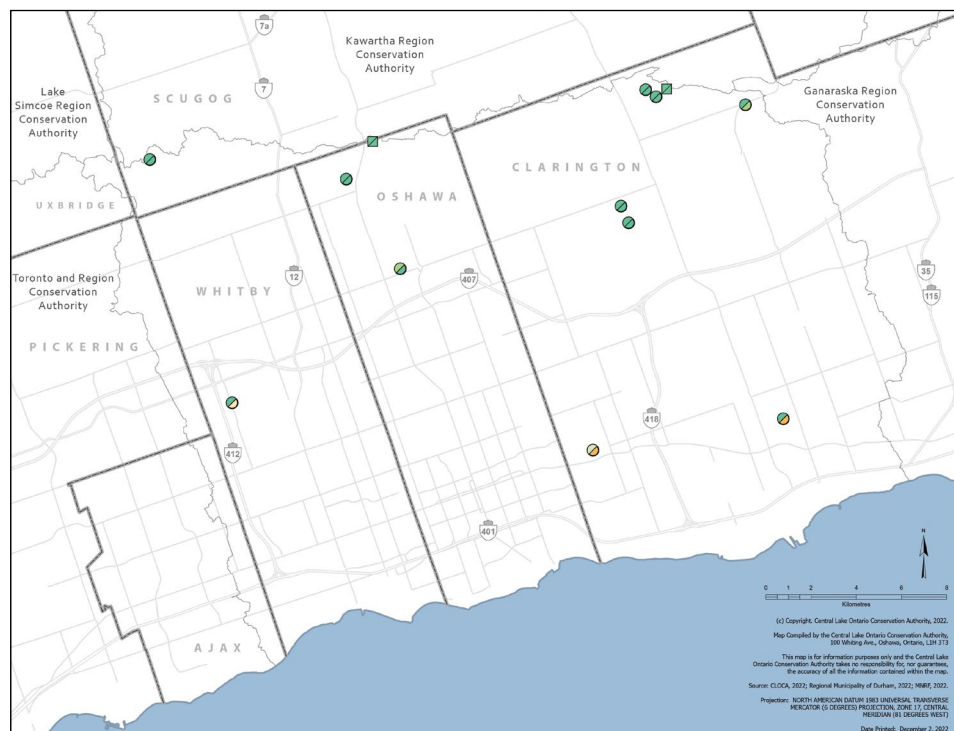
- Nitrogen as Nitrate + Nitrite occurs naturally in rocks and groundwater. Nitrate + Nitrite concentration can be significantly increased by excessive fertilizer and manure application, and leaky septic systems. Chloride is a naturally occurring element found at high concentrations under natural circumstances and may similarly be increased by anthropogenic activities such as de-icing salt applications.
- The Nitrate + Nitrite concentrations from the monitoring well samples did not exceed the prescribed limit set under the Ontario Drinking Water Standards (ODWS).
- Chloride concentrations on samples from two of the 13 monitoring stations exceeded the ODWS prescribed limit for this parameter. These wells are situated in highly urbanized area where intensive winter salting is a common practice.
- Overall, CLOCA groundwater obtained Grade A on 10 of its 13 monitoring wells. Note that groundwater quality results only apply to specific location of monitoring wells and do not represent the condition for the entire watershed.
- Well water samples were only analyzed for chemical quality and no reports on bacteriological quality.
- CLOCA highly recommends that private drinking water supply wells be tested for chemical quality every two years and bacteria content every six months.

MONITORING WELL

Chloride ☒ Nitrate

GRADING

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



WHAT IS OUR WATERSHED'S KEY ISSUE?



What happens here matters

- Central Lake Ontario Conservation Authority (CLOCA) continues to report the overall health of the CLOCA watershed declines as you travel from the headwater areas in the Oak Ridges Moraine to the more urban and developing areas located in the mid reaches and along the Lake Ontario waterfront. There are still significant areas of habitat features such as wetlands, forests and riparian buffers in the headwaters that protect ground and surface water resources.
- There are numerous environmental concerns and challenges facing our watershed. These have been highlighted in our Watershed Management Plans and Integrated Watershed Monitoring Program.
- Working together, CLOCA staff continue to develop Watershed Management Plans, Strategies and Action Plans to support implementation of programs and projects to improve watershed health. Central Lake Ontario Conservation Authority believes that a cooperative approach between local governments, businesses, homeowners, schools and other stakeholders is essential for improving watershed health. We want to ensure we focus on the ecosystem as a whole and address the source of the problems before they intensify.

HOW CAN WE ENHANCE THE WATERSHED?



What Can You Do?

- Watershed stewardship is caring for our water, air, land, and biodiversity within the ecologically connected area of a watershed. The challenge is balancing human and economic requirements with the needs of the natural environment which means that we need to plan, promote and implement management practices that contribute to restoration and protection of our natural resources.
- When water falls on the earth's surface, it starts to move either through the soil or overland. Before it gets to the creek or the lake, it will run over our lawns, driveways, fields and streets, picking up a variety of contaminants in its path. This can and does have an impact on the local water we use every day. As a home/landowner, we need to consider the role our actions have on the land and local waterways. If we can identify sources of pollution, then we can take steps to reduce or eliminate them.
- Private landowners in our urban and rural communities play a key role in ensuring we have healthy watersheds now and in the future. Central Lake Ontario Conservation Authority can help landowners with a reforestation or forest management project, planting trees, creating a rain garden, greening school yards or decommissioning an unused well. Find out more:

<https://www.cloca.com/stewardship>

HOW CAN WE ENHANCE THE WATERSHED?



Durham Region Coastal Wetland Monitoring Project

- The Durham Region Coastal Wetland Monitoring Project (DRCWMP) is a long-term monitoring program that uses biological and physical indicators to assess the condition of 18 coastal wetlands. The information collected through monitoring provides direction for management and restoration. Data is collected on water quality, water levels, bird, amphibian, fish, macroinvertebrate and submerged aquatic vegetation communities.
- Monitoring data collected between 2017 and 2021 shows the wetland indicators are in Poor to Fair condition. Conditions in coastal wetlands reflect the cumulative impacts of land-use activities in our watersheds. The implementation of conservation, restoration, and enhancement initiatives to improve water quality, vegetation cover, and wildlife habitat, is necessary in both the wetlands and their watersheds to protect these important ecosystems and improve their overall health.



*Do you have questions not answered by this summary document?
Visit **cloca.com** or contact us for more information:*

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