

2023 Saugeen Valley Conservation Authority Watershed Report Card

Saugeen Conservation has prepared this report card as a summary of the 2017-2021 state of water quality, forests, and wetlands in our watershed. These report cards are released every five years together with Conservation Ontario.

A watershed describes an area, and the waterways that flow through it and towards a major outlet such as a lake. Everything in a watershed is connected and actions upstream can affect conditions downstream.

We measure certain features in our watershed to learn about their current condition, as well as trends. This information helps us plan for the future.

The map below shows all 36 conservation authorities, and Saugeen Conservation's boundaries.



1. Groundwater

Groundwater is flowing water that is found below the ground, that is often stored in aquifers. Groundwater is monitored at 23 sites in our watershed through the Provincial Groundwater Monitoring Network (PGMN). Groundwater quality for this report was graded on chloride and nitrogen (nitrate + nitrite) levels.

Chloride and nitrogen can exist naturally, however natural levels in water are generally minimal. Increased levels in our waterways can be related to:

- the use of road salts (chloride only)
- septic systems
- fertilizers and manure
- industrial discharge
- erosion

What's different in this report card?

Previous watershed report cards only used five years of data to come up with their findings. This report card uses a minimum of ten years of data, or more if it was available for a better view of long-term trends.

Our Findings:

Chloride levels at all tested sites received a grade of A (excellent).

Nitrogen levels at most (86%) of the sites received a grade of A (excellent).

Two sites received nitrogen grades of B (good) and one site received a D (poor).

Different nitrogen grades from these sites could be caused by using more data from a longer period of time. The three sites that did not receive an A grade are in locations where we might expect to see higher levels of nitrogen, based on their environments.

The map is a visual representation of our findings.



Note:

- These findings are not to be considered indicators of drinking water quality.

- Groundwater quality results being reported are specific to the site location and do not apply to the watershed as a whole.
- No biological levels (ie. *E.coli*) were considered.

2. Surface Water Quality

Surface water is monitored at 31 sites along major streams and rivers in our watershed. This monitoring happens through the Provincial Water Quality Monitoring Network (PWQMN) and through Saugeen Conservation's own network. Sampling occurs monthly from April to November each year. Surface water quality for this report was graded on phosphorus, *Escherichia coli* (*E.coli*), and benthic macroinvertebrates.

Phosphorus is an essential nutrient for all living organisms, however it can have harmful effects on aquatic life at high levels. Phosphorus levels can be natural, and increase with human influence.

E.coli is a type of bacteria commonly found in the intestines of warm blooded animals. *E. coli* is often used as an indicator of contamination from human and animal waste. *E.coli* levels may increase after heavy rainfalls and snowmelt.

Benthic macroinvertebrates refer to small aquatic bugs that live on the bottom of streams, rivers, and lakes; they can tell us about long term water quality because they are sensitive to their environments. Certain types of bugs can only thrive in good water, as they have a low tolerance to pollution.

What's different in this report card?

Previous watershed report cards only used the downstream monitoring sites. This report card used data from all surface water sites in our watershed. Using more data allows us to have more confidence in our findings.

Our Findings:

- Overall grades range from A (Excellent) to C (Fair), with mostly (60%) B (Good) grades.
- Most overall grades have not changed from the 2018 report card, however the Beatty Saugeen River, Lake Fringe and Upper Main Saugeen River areas have improved.
- Phosphorus grades fell in the South Saugeen River and Lower Main Saugeen River. Remaining grades stayed the same.
- *E.coli* grades remained mostly unchanged across the watershed, with improvement for the Penetangore River area.
- Benthic macroinvertebrate grades generally improved.

The map is a visual representation of our findings.



Note:

Streams and rivers are constantly changing, and water quality results represent only a snapshot in time.

3. Forest Conditions

Forests provide important habitat for wildlife and plants. Forests also give us cleaner air and water, economic benefits, and recreational areas for people to enjoy.

Forest conditions in the 2022 report card were graded on the percentage of forest cover, forest interior and riparian cover, which is the area between land and a river or stream.

Forests in our watershed have changed since early settlement, with agriculture and housing development driving the demand for forest clearing. The growing presence of invasive plant and animal species can also overwhelm forests.

Geographic Information Systems (GIS) tools were used to determine forest grades.

Our Findings:

- Grades range from A (excellent) to D (poor), with mostly B (good) and C (fair).

The map is a visual representation of our findings.



Note:

- Forests grow slowly, but the benefits begin as soon as trees are planted. Changes in forest cover will be noticed in five years or more.
- In 2022, Saugeen Conservation planted 28,000 trees and more than that number again were sold directly to landowners for independent planting.

4. Wetland Conditions

Wetlands play a very important role in our watershed. They help lessen the impact of floods and droughts, protect our shorelines, absorb pollutants, improve water quality, and provide habitats for many species. Protecting our wetlands is critical to the well being of people and our planet.

Wetlands were graded on the percentage of wetland cover. Geographic Information Systems (GIS) tools were used to inform wetland grades.

Our Findings:

- Grades range from A (excellent) to D (poor) with mostly excellent grades.
- Only 17.5% of the Saugeen watershed is covered by wetlands.

The map is a visual representation of our findings.



What can you do to support the health of our watershed?

- Support your local conservation authority through donation
- Volunteer with local environmental organizations
- Advocate for the environment through delegations to municipal council, and engaging your elected officials
- If your municipality has an environmental committee of council, consider joining
- Ask your local government to support environmental initiatives
- If you have a septic system, inspect and pump it every three to five years
- Decommission unused or damaged wells
- Dispose of household chemicals at hazardous waste depots
- Plant native species and educate yourself on invasives in your area

Consider how we are all connected.

Have questions?

Saugeen Conservation
 1078 Bruce Rd. 12 Box 150, Formosa, ON, NOG 1W0
publicinfo@svca.on.ca 519-364-1255
www.watershedcheckup.ca