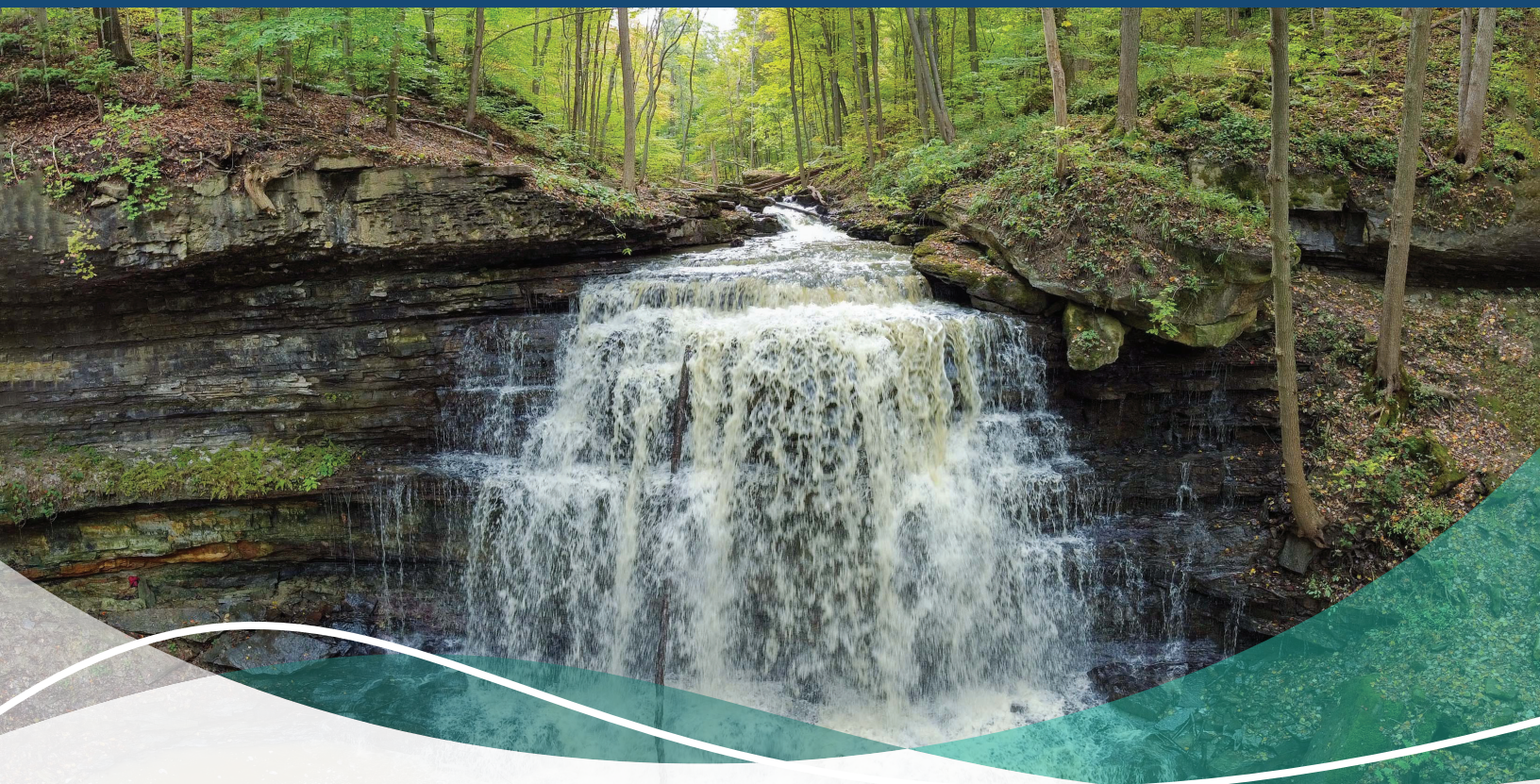


Niagara Peninsula Watershed Report Card 2023



Niagara Peninsula Conservation Authority (NPCA) 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



Watershed Features

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.

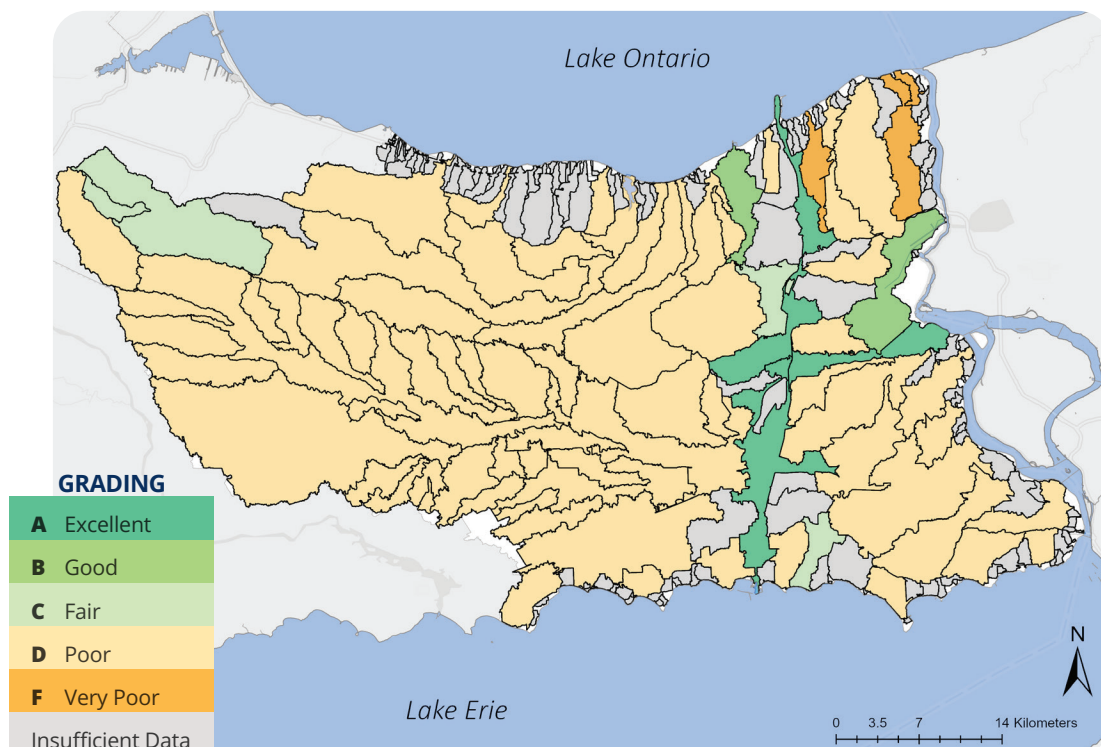


Surface water quality is graded using three indicators:

- Phosphorus (contributions from excessive fertilizer use and wastewater discharge).
- Escherichia coli or E. coli bacteria (found in the intestines of humans and other animals).
- Benthic macroinvertebrates community (small animals without a backbone that live at the bottom of streams). These animals have a range of tolerances to water pollution. Their quantity and variety can provide an indication of the level of water pollution.

What did we find?

- Since 2018, the grades of most watersheds remained consistent and scored a D for poor water quality.
- Phosphorus and E. coli contamination continues to come from non-point sources like faulty septic systems, agricultural and livestock runoff as well as point sources like combined sewer overflow and urban stormwater.
- To improve the water quality, efforts such as protecting and enhancing natural areas and using practices that can help mitigate the effects of land use change are critical as development pressures and climate change continue to threaten the watershed.



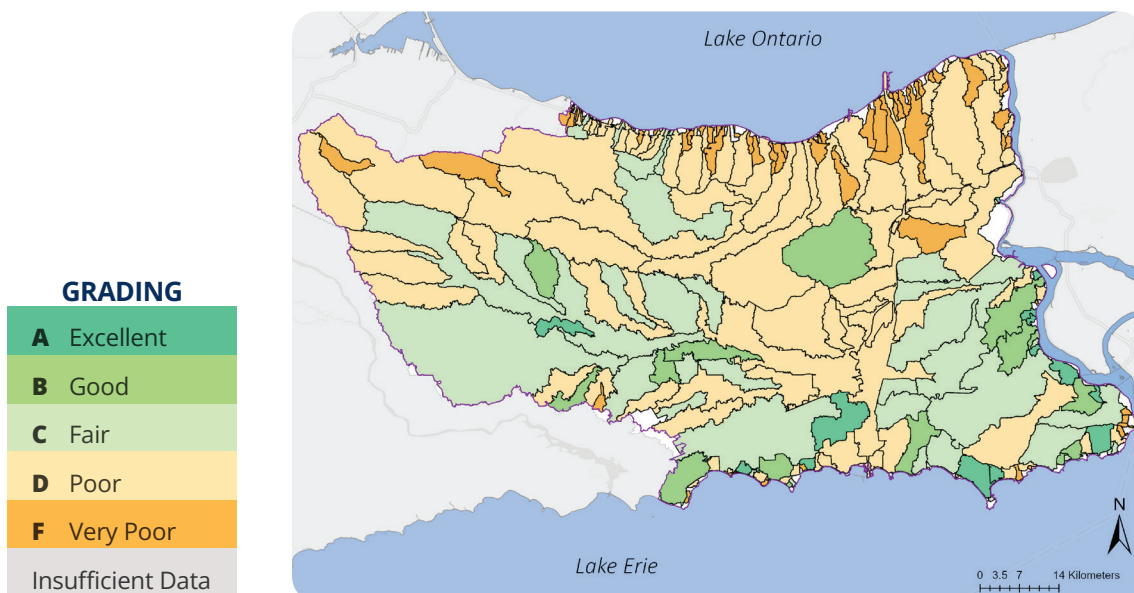


Forests are ecosystems that are composed of a diverse group of plants, animals, and other organisms. Forests provide many social and ecological benefits such as habitat for flora and fauna, carbon sequestration, building materials, and opportunities for recreation.

The percentages of forest cover and forest interior were used to evaluate the forest conditions of the watershed.

What did we find?

- Since 2018, the grade for forest conditions improved slightly from a D to C- for Fair conditions. This is due to updated and more accurate mapping data rather than actual forest improvement.
- Approximately 17 percent of the Niagara Peninsula watershed land base is forested cover and is lower than the 30 percent cover required by conservation science for a healthy watershed.
- The lowest grades for forest condition were found in the highly developed areas of the watersheds, along the Lake Ontario shoreline, portions of Hamilton, and the urban centres such as St. Catharines and Niagara Falls.
- The highest grades for forest condition were found in southern portions of the watershed, where there is less development and contains forested wetlands.
- It is crucial that forest conditions improve in the Niagara Peninsula watershed. Forests are important natural assets that help build resilient watersheds, able to adapt to the effects of land use and climate change.

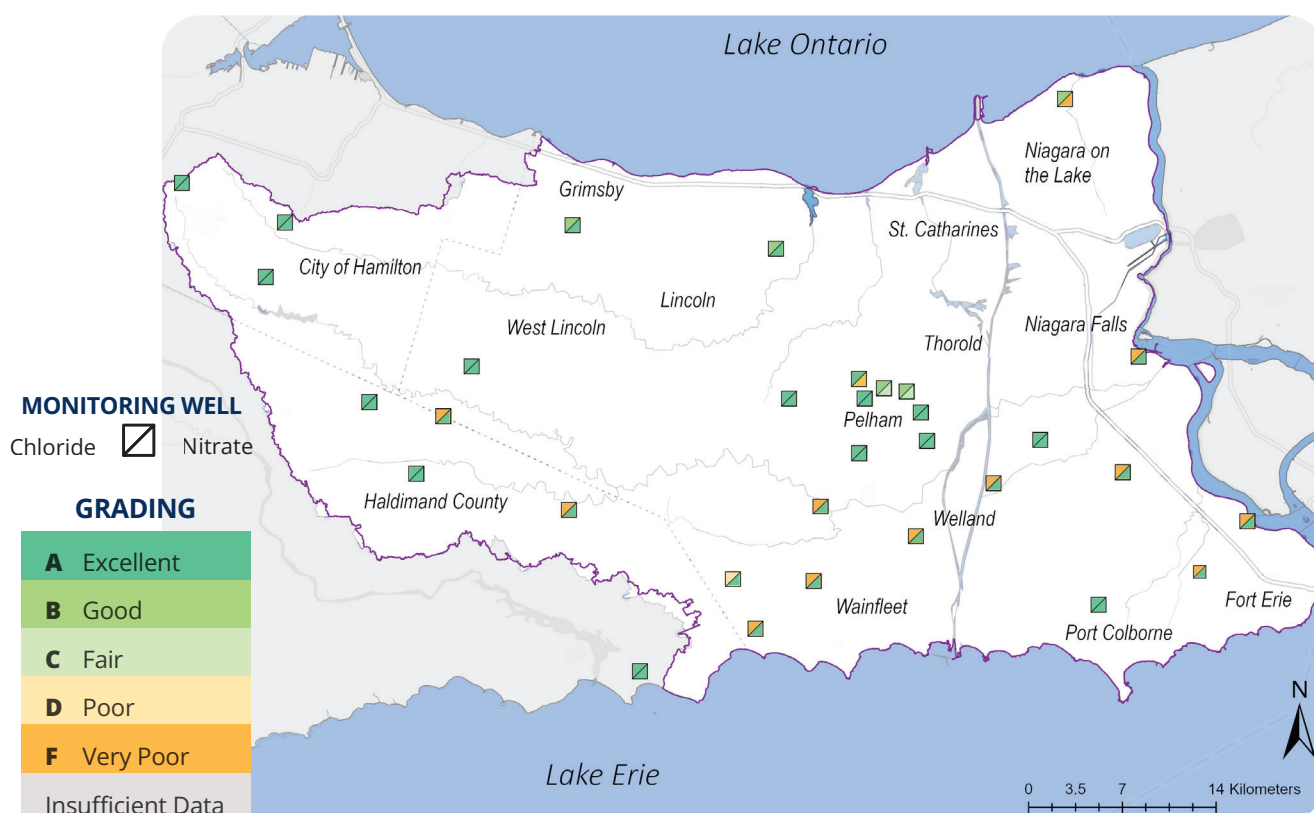




The NPCA monitors 46 sites in locally significant hydrogeologic areas within its watershed. Most of the Niagara Peninsula watershed is serviced by municipal drinking water, however, there are areas where residents use private wells.

What did we find?

- Since 2018, the overall grade for groundwater remained consistent at a B for Good. However, ground water quality can be influenced by its geology, land use, and human activities, and vary significantly between monitoring sites.
- The low grades for chloride of some of the monitoring wells are attributed to the natural conditions of the groundwater where salts have been dissolved from the bedrock formations over time.
- The high nitrate conditions found in two of our monitoring wells are due to local agricultural activities at these sites.





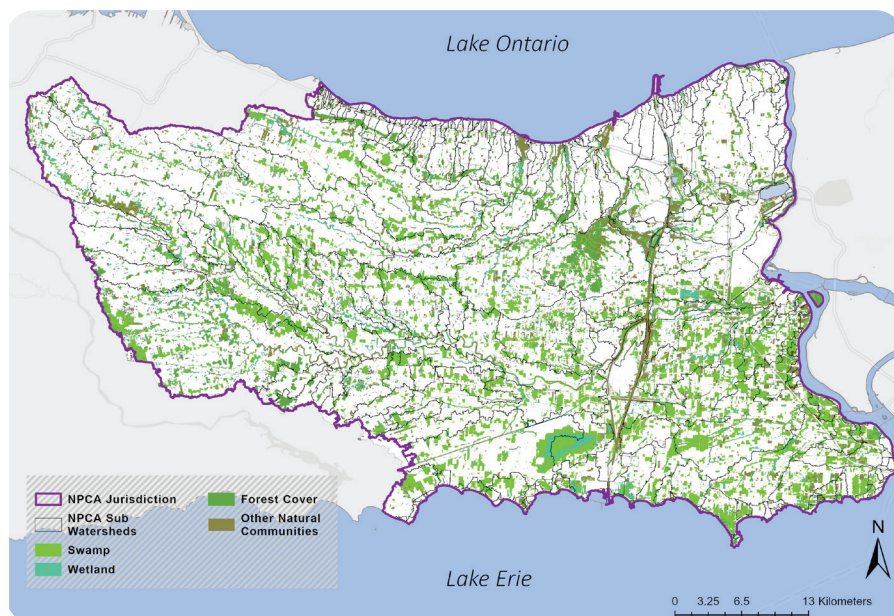
Niagara Peninsula

WATERSHED FEATURES

The Niagara Peninsula Conservation Authority serves approximately 520,000 people and covers an area of 2,424 square kilometers, including the entire regional municipality of Niagara, 21 percent of the City of Hamilton, and 25 percent of Haldimand County. The Niagara Peninsula watershed is a natural treasure of distinct cultural, geological, hydrological, and biological aspects not found elsewhere in North America. It is part of the Carolinian life zone and one of the most biodiverse and threatened ecoregions in Canada. The Niagara Peninsula watershed contains critical habitats such as forested woodlots, slough forests, alvars, and coastal wetlands that support rich biodiversity, including rare plants and animals.

What did we find?

- The Niagara Peninsula watershed currently has 28 percent of its land base in some form of natural cover.
- Approximately, 14 percent of the land base in the Niagara Peninsula watershed is wetland cover. However, it has been identified as the area with the highest percentage loss of wetlands in Ontario, since the watershed was once predominately wetland.
- More than 2,200 species of plants and animals live in the Niagara Peninsula watershed.
- Unfortunately, nearly 10 percent of these species are rare or at risk due to habitat loss, urban sprawl, invasive species competition, pollution, and climate change.
- More than 93 percent of the land in the watershed is privately owned. Protecting and preserving wildlife and their habitats is everyone's responsibility.



HOW CAN WE ENHANCE THE WATERSHED?



What can you do?

- Plant native trees, wildflowers, shrubs and enhance wetlands.
- Prevent the spread of invasive species by gardening with non-invasive plants, washing your boat, disposing bait away from water, and cleaning shoes after using trails.
- Reduce the use of household chemicals, including detergents, cleaners, and lawn chemicals. Salt responsibly during the winter.
- Conserve water by installing low-flow showers and toilets, using high-efficiency appliances, and collecting water with rain barrels.
- Decommission aging and abandoned water wells.
- If you own a septic system, have it inspected every three to five years.

What can your community do?

- Protect and connect wetlands and other natural heritage features.
- Deploy effective sediment and erosion control measures on development sites.
- Seek ways to reduce carbon emissions.
- Support monitoring and restoration initiatives to track environmental change and improve conditions.

What can agencies do?

- Establish a corporate volunteering program to support local initiatives such as tree plantings.
- Adopt Low Impact Development (LID) practices and promote natural designs such as bio-swales, infiltration trenches, and permeable pavement, and as well as stormwater retrofits.
- Purchase environmentally important lands that will protect and connect natural features.
- Encourage the greening of work operations and spaces.



ABOUT THE NPCA



The NPCA is one of 36 Conservation Authorities in the Province of Ontario and manages 41 Conservation Areas within the Niagara Peninsula watershed held in public trust for recreation, heritage preservation, conservation, and education. These natural and shared greenspaces marry nature, culture, and adventure to create limitless opportunities for discovery.

The NPCA is a community-based natural resource management agency that works to protect, enhance, and sustain healthy watersheds. With more than 63 years of experience, the NPCA offers watershed programs and services that focus on keeping people and their property safe from floods and natural hazards, protecting local sources of drinking water, conserving, and restoring ecosystems, community stewardship, and land management.

The NPCA's curriculum-based education programs available at different Conservation Areas also allow teachers and educators to bring the classroom outdoors for fun and innovative experiences.

Nature For All— The next 10 years of conservation

In 2021, the NPCA set its strategic direction for the next decade of conservation action. The [2021-2031 Strategic Plan](#) envisions a healthy and vibrant environment with shared greenspace and clean water that sustains life for future generations and prioritizes result-oriented actions to make well-informed decisions.

It focuses on six overarching strategic priorities related to:

- Healthy and climate resilient watersheds
- Supporting sustainable growth
- Connecting people to nature
- Strengthening partnerships
- Financial sustainability
- Organizational Excellence

[Learn more and **get involved** in the future of conservation.](#)

WHAT ACTIONS IS THE NPCA TAKING



Reporting

Annual Water Quality Report: scientific data helps define current and emerging issues, tracks water quality trends, and determines the effects of climate change on the Niagara Peninsula watershed.

Corporate Programs and Initiatives

Trees For All: the Niagara Peninsula Tree Planting Partnership aims to bring as many trees to the Niagara Peninsula watershed as possible with support and participation from the community.

Become an NPCA volunteer: learn new skills, network, support local conservation projects, and step into nature.

Niagara River Remedial Action Plan: efforts from many key partners continue to help complete priority actions for the restoration, protection, and enhancement of the Niagara River ecosystem.

Climate Change Action Plan: the NPCA is developing its first ever climate change action plan that will guide the efforts in achieving a climate resilient and sustainable future through on-the-ground actions.

Niagara Peninsula Conservation

Foundation: is a registered charity, governed by a volunteer Board of Directors who are dedicated to raising funds that aid in the conservation of our natural environment for present & future generations. Donate today!

Land Securement: NPCA's new Land Securement Strategy lays the foundation for an ambitious and technically sound acquisition program that will address priorities for greenspace access, climate change, and protection of natural and cultural heritage across the watershed.

Grant Programs

Restoration: fostering collaboration among partners in the watershed to protect and restore water quality and diverse habitats by completing projects that meet the long-term mandate of the NPCA.

Water Well Decommissioning: the NPCA is pleased to offer a grant program to watershed residents for the plugging and sealing of abandoned or unused water wells.



*Do you have questions not answered by this summary document?
Visit npca.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.