



Living in Niagara – 2023 Report Environment

It is essential for Niagara residents to see their role in ensuring a sustainable future, by protecting and restoring our natural assets; reducing and recycling household waste; and responding to climate impacts.

This Sector aligns with UN SDGs #2- Zero Hunger; #6 - Clean Water and Sanitation; #7 - Affordable and Clean Energy; #9 - Industry, Innovation and Infrastructure; #12 - Responsible Consumption and Production; #13 - Climate Action; #14 - Life Below Water; #15 - Life on Land

Happening Now

- In 2021, the Niagara Community Foundation launched the \$5 million [Dorothea Thomas Foundation endowment fund](#), directed exclusively to supporting environmental causes in Niagara.
- The Niagara Region [Community Dashboard](#) includes a total of seven Environment Indicators: Corporate building energy consumption; Residential solid waste diverted from disposal; Residential organics collected; Residential hazardous waste collected; Wastewater estimated to have bypassed all treatment; Treated wastewater; Emerald ash borer beetle tree remediation.
- In 2022, the [Niagara Climate Change Action Network](#) (NCCAN) was formed, to support and accelerate a progressive, collaborative, and equitable approach to addressing the effects of climate change in the Niagara region. A total of 51 NCCAN member organizations are working together, with a focus on: a pathway to net zero; biodiversity; and climate resilient infrastructure.
- [Niagara Region Blue/Grey Box recycling](#) collection services are evolving to a more circular economy model in January, 2024. Materials are collected, recycled and returned to producers, for use as recycled content in new products and packaging. Niagara Region maintains collection of: curbside garbage; large household items; organics (Green Bin); leaf and yard waste; and all materials from industrial, commercial and some institutional establishments.
- In 2023, the Niagara Geopark Trail Network was formed, as an outcome of the [Niagara Geopark Trail Summit](#). The intent of [Niagara Geopark](#) is to share the rich geological and cultural layers of Ontario's Niagara Peninsula, through a sustainable tourism-oriented model.
- In 2021, the Niagara Peninsula Conservation Authority (NPCA) released its 10-year [strategic plan](#) which identifies climate change as a critical priority. The plan includes numerous climate-related actions across six strategic priorities. The NPCA plays an important role in climate change mitigation and adaptation through its work in watershed-based natural resource management, water monitoring, flood forecasting and warning,



floodplain mapping, sustainable development, ecosystem restoration and stewardship, shoreline coastal resiliency, land securement, and outreach/education.

- Niagara River Remedial Action Plan partners continue to make progress in improving the river's water quality and ecosystem health. In 2021, a [Delisting Strategy for the Niagara River \(ON\) Area of Concern](#) was completed, to guide actions for addressing remaining ecosystem impairments. An updated plan is underway in 2024.
- In 2023, the NPCA, in collaboration with Ontario Nature and Conservation Ontario, announced the [addition of 11 local natural areas](#) toward Canada's ambitious goal of protecting 30 per cent of its lands and waters by 2030. The 830 hectares encompassed in these areas play a critical role in the conservation of the local ecoregion and its characteristic species, including species at risk such as barn swallows, monarch butterflies and butternut trees.
- In 2022, the [Niagara Escarpment Biosphere Network](#) (NEBN) incorporated in Ontario. NEBN supports the management of the Niagara Escarpment Biosphere as a community-led, grassroots organization, working to meet the criteria and standards required by United Nations Educational, Scientific, and Cultural Organization (UNESCO). The Biosphere runs west from Niagara, and then north to Tobermory, extending some 725+ kilometres. Plenty Canada, an Indigenous non-governmental organization is partnering, nurturing, and assisting in NEBN's development, with support from Environment and Climate Change Canada.

What's Emerging

- Work is underway to build a Community Energy Plan for Niagara, drawing upon what was learned at the [2023 Niagara Climate Change Summit](#). The summit focused on energy resilience and advancing carbon reduction efforts, to inspire and encourage climate action. The intent is to transform what was learned at the summit into a plan for Niagara to manage its energy use, and transition toward more sustainable and efficient energy sources, with NCCAN playing an important role in shaping the plan.
- Many local municipalities in Niagara have created plans to improve climate resilience, address climate-related risks, reduce impacts of extreme weather events, and integrate climate change adaptation practices into their operations.
- Natural asset accounting initiatives are being led by several local municipalities and the NPCA. This involves evaluating local natural resources (e.g., wetlands, forest, meadows, etc.) and the communal benefits they offer, such as stormwater management, erosion prevention, air and water quality improvements, wildlife habitat, urban heat reduction, and recreation opportunities. Understanding and valuing these natural assets promotes data-informed decision-making when leaders seek to implement actions for managing more climate resilient communities.
- A variety of volunteer opportunities exist with several organizations doing work in the Environment Sector. For example, in 2023, the [NPCA](#) engaged a total of 846 active



volunteers, who contributed over 8,200 hours to support environmental programming, including the planting of 4 new pollinator gardens and participating in 51 stewardship events, such as tree plantings and invasive species removals within the Niagara Peninsula watershed.

- Food security is a topic of growing local and national concern. The Food Affordability in Niagara [2023 Nutritious Food Basket](#) survey shows that approximately one in five households in Niagara are food insecure. More than half of Canadians are either very or extremely [concerned about the impact that climate change could have on food security](#), according to a 2023 Dalhousie University Agri-Food Analytics Lab survey.

Suggested Community Action Steps

- Emphasize that it is urgent for people in Niagara to take action to reduce climate and environment impacts. The conversation has shifted from planning for the future, toward acting now. “The great acceleration” of climate change is upon us, and the health of our environment is connected to all socio-economic sectors.
- Acknowledge that social inclusion and social justice are at the centre of people and communities taking action to deal with climate and environmental impacts.
- Enhance communication about, and mobilize knowledge to Niagara’s people and communities, to make them more aware of the state of the environment, and inspire them to take practical actions to deal with climate and environmental impacts.
- Encourage more community science and volunteerism to build baseline awareness about the environment in Niagara, spark a feeling of ownership, and inform local decision-making.

Indicators

- **Air**
- **Biodiversity**
- **Climate Impacts**
- **Land**
- **Waste**
- **Water**



Indicator: Air

Quality

Environment and Natural Resources Canada provides provincial Air Quality Health Index (AQHI) Summary information and forecast maximums for Ontario (and sub-locations within the province, e.g., St. Catharines and Hamilton) at:

https://weather.gc.ca/airquality/pages/provincial_summary/on_e.html .

A Guide to Air Quality Health Index (AQHI) forecasts is available at:

<https://www.canada.ca/en/environment-climate-change/services/weather-health/publications/guide-air-quality-index-forecasts.html>

[Air Quality Ontario](#) is provided by the Ontario Ministry of the Environment, Conservation and Parks. This table shows the health risk categories and related index levels and health messages.

Air Quality Health Index (AQHI) Categories and Health Messages			
Health risk	Air Quality Health Index	Health messages At risk population**	Health messages General population
Low	1-3	Enjoy your usual outdoor activities	Ideal air quality for outdoor activities.
Moderate	4-6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual activities unless you experience symptoms such as coughing and throat irritation.
High	7-10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very high	Above 10	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.
**People with heart or breathing problems are at greater risk. Follow your doctor’s usual advice about exercising and managing your condition.			
Source: Environment and Climate Change Canada			



Highlights from the 2021 Air Quality Ontario Report include:

- Overall, air quality in Ontario has improved over time as both ambient concentrations of common air pollutants and emissions to air have decreased. Over the last 10 years, nitrogen dioxide concentrations have decreased by 28%, fine particulate matter concentrations by 18%, and sulphur dioxide concentrations by 54% on average across the province (see table at: <https://www.ontario.ca/document/air-quality-ontario-2021-report#section-0>).
- In 2021, Ontario reported air quality in the low-risk category 93% of the time, based on the Air Quality Health Index (AQHI).
- Ozone and fine particulate matter, the main components of smog, remain as pollutants of concern from a regional perspective. Sulphur dioxide and benzene remain a concern at the local level in some communities.
- In 2021, there were exceedances of the provincial Ambient Air Quality Criteria and/or Canadian Ambient Air Quality Standard for ground-level ozone, fine particulate matter and sulphur dioxide in some communities.
- Decreasing trends were observed for some traffic-related pollutants including black carbon and sulphate in fine particulate matter, while others showed no trend.
- Air quality in Ontario can vary from year to year due to a variety of factors including pollutant emissions, weather, natural events such as forest fires, and the long-range transport of air pollutants from the United States and elsewhere. Long-term trends are thus a better reflection of any improvements or a deterioration in air quality over time versus year over year changes.
- The percentage distribution of hourly AQHI readings for each of the 38 monitoring sites around Ontario, by AQHI value and the number of high risk AQHI days is detailed in the Appendix: [2021 Air Quality Health Index summary](#).

Source: Air Quality Ontario

Retrieved from: <http://www.airqualityontario.com/> and <https://www.ontario.ca/document/air-quality-ontario-2021-report>

Heat Warning information is provided on the Niagara Region website. Health effects during a high heat alert include: heat stroke; heat exhaustion; sun safety. Niagara Region Public Health (NRPH) refers residents to Environment Canada and Health Canada for heat warnings for Niagara Region, at:

https://weather.gc.ca/index_e.html?layers=alert&zoom=3¢er=60.47104290,-120.66375860 .

NRPH recommends that residents check with their local municipality to see if cooling centres are available.

Source: Niagara Region Public Health

Retrieved from: https://www.niagararegion.ca/living/health_wellness/inspection/highheat.aspx



Niagara Parks Commission Air Emissions Reduction Program

In 2001, the Niagara Parks Commission entered into a partnership with the Ontario Ministry of the Environment to launch the Spare the Air Emissions Reduction Program. This initiative uses public awareness activities to encourage motor coach and truck drivers to turn off their engines when parked and has resulted in measurable reductions in hazardous air emissions.

Since that time, Spare the Air has been expanded to include truck and motor coach drivers operating along the entire length of the Niagara River corridor, with the support and participation of numerous local partners. Each partner distributes educational flyers and posts signs to remind drivers to “Turn off your engine when parked”.

Source: Niagara Parks Commission

Retrieved from: <https://www.niagaraparks.com/corporate/about-us/environmental-protection/>



Indicator: Biodiversity

Niagara Escarpment Biosphere Network (NEBN)

In March 2022, the Niagara Escarpment Biosphere Network became officially incorporated in Ontario. The network supports the management of the Niagara Escarpment Biosphere as a community-led, grassroots organization, working to meet the criteria and standards required by United Nations Educational, Scientific, and Cultural Organization (UNESCO). The Biosphere runs west from Niagara, and then north to Tobermory, extending some 725+ kilometres. Plenty Canada, an Indigenous non-governmental organization is partnering, nurturing, and assisting in the development of the Niagara Escarpment Biosphere Network, with support from Environment and Climate Change Canada.

The Niagara Escarpment Commission transferred its role and responsibilities related to the Niagara Escarpment Biosphere to a Transition Leadership Committee in 2019. The Committee then began working directly with Plenty Canada to reactivate the work necessary to meet UNESCO criteria and obligations regarding the stewardship of biosphere reserves.

Part of the rationale by UNESCO for directing a renewed Niagara Escarpment Biosphere organizational model was that it was no longer appropriate to have oversight nested within a government agency, namely the Niagara Escarpment Commission. In 2021, the Transition Leadership Committee and Plenty Canada signed a memorandum-of-understanding to work together on developing this new co-governance structure. Work has progressed well and in March 2022, the Niagara Escarpment Biosphere Network became officially incorporated under provincial regulations.

See the NEBN Periodic Review Report, January 2024 at: <https://nebnetwork.org/resources/>

Source: Niagara Escarpment Commission and UNESCO

Retrieved from: <https://nebnetwork.org/> and <https://www.unesco.org/en/mab/niagara-escarpment>

Niagara River Ramsar Designation

Niagara River Remedial Action Plan (RAP) partners continue to make progress in improving the river's water quality and ecosystem health. In 2021, a [Delisting Strategy for the Niagara River \(ON\) Area of Concern](#) was completed, to guide actions for addressing remaining ecosystem impairments. An updated plan is underway for 2024.

The Niagara River offers several ecological, recreational and economic beneficial water uses, such as power generation, tourism, recreation; it is a source of drinking water; and it supports over 1200 species. An infographic showing "A Brief History of Progress Made on the Niagara River Remedial Action Plan" tracks the significant improvements that have been made in water quality, habitat, and the clean-up of contaminated sediments, since 1987. The infographic is available at: <https://ourniagarariver.ca/track/>

The Niagara River Ramsar Binational Steering Committee is pursuing a transboundary Ramsar Site designation. This would commit, under the global Ramsar Convention, Canada



and the US to continue to work together to ensure advancement of environmental progress achieved in the past 50 years. In October, 2019, the Niagara River (US) Corridor was officially designated as a Ramsar Site (Wetland of International Importance).

The Ramsar Convention is a voluntary Treaty, committed to promoting the conservation and wise use of water-based ecosystems through international engagement and collaboration. The Treaty was signed in Ramsar, Iran; in 1971. Canada signed the Treaty in 1981, and has 37 Ramsar sites. The United States signed the Treaty in 1987 and, with the recent designation of the American side of the Niagara River, now has 40 Ramsar sites. There are 169 member countries that have designated more than 2,227 Ramsar Sites (215,000,000 ha) around the world.

Source: Niagara River Remedial Action Plan

Retrieved from: <https://ourniagarariver.ca/ramsar/> and <http://ourniagarariver.ca/wp-content/uploads/2021/05/Niagara-River-Area-of-Concern-Delisting-Strategy-FINAL-May-2021.pdf> and <https://ourniagarariver.ca/track/>

Threat of Invasive Species

Invasive Species are non-native species whose introduction or spread threatens the environment, the economy, or society. The Niagara Region 2041 Official Plan – Growing Region was adopted by Niagara Region Council in June, 2022. The plan’s Vision is: *“Niagara is a region of distinct, vibrant and connected urban and rural communities. Niagara Region will support and grow a sustainable and diversified economy while providing exceptional quality of life for all, and protecting our beautiful natural landscape.”*

The plan projects a minimum population of 694,000 people and 272,000 jobs by 2051 – an increase of over 200,000 people and 85,000 jobs compared to 2021.

The Plan addresses:

- Growth (forecasts, regional structure-directing growth, housing)
- Sustainability (natural environment, natural heritage systems, special Escarpment Plan and Greenbelt lands, species at risk, watershed planning, source water protection, stewardship,
- Climate change and resiliency, excess soil management)
- Competitiveness (agricultural system, employment, mineral aggregate resources, petroleum and mineral resources, economic prosperity)
- Connectivity (transportation, complete streets, movement of goods, infrastructure, public spaces, recreation, parks, trails and open spaces)
- Vibrancy (district plans, urban design, active transportation, healthy communities, archaeology, conservation, cultural heritage)

Source: Niagara Region

Retrieved from: <https://www.niagararegion.ca/official-plan/>



Natural Environment is a key component of Niagara Region’s new Official Plan. A September, 2019 Niagara Environmental Background Study report was prepared to inform development of the Niagara Region 2041 Official Plan. This background study report includes a section on Invasive Species. It also includes examples of policies and guidance to support the management of invasive (or non-native) species, and reduce the impact to the natural environment in Niagara. The report cites prevention as the most effective way to manage the spread of invasive species.

In addition to the cost to ecosystem services, there is a direct economic cost resulting from managing the impact of invasive species. The Ontario Invasive Species Strategic Plan (Ministry of Natural Resources, 2012) provides two examples of costs resulting from invasive species impacts:

- \$37 million to cut and replace ash trees affected by Emerald Ash Borer (*Agilus planipennis*) (EAB) in the City of Toronto over five years
- \$30 million spent up to 2012 by the Canadian Food Inspection Agency (CFIA) to cut ash trees to slow the spread of EAB

The background study report suggests Niagara Region has the opportunity to consider including policies in the new Niagara Official Plan that support the management of invasive species including:

- supporting management initiatives on public and private land
- limiting the use of invasive species on public land
- restricting the use of plantings for new developments approved through the planning process.

The Region could also consider the development of an Invasive Species Plan to be coordinated and implemented with the area municipalities, the Niagara Peninsula Conservation Authority, other interested agencies, and landowners. Some of the invasive species of most concern in Niagara include:

Terrestrial Invasive Flora

- Garlic Mustard
- European Buckthorn
- Common Reed
- Dog-strangling Vine

Terrestrial Invasive Fauna

- Emerald Ash Borer
- Gypsy Moth
- Beech Bark Disease

Aquatic Invasive Species

- Eurasian Water Milfoil
- European Frog-bit
- Yellow Iris
- Round Goby
- Zebra and Quagga Mussels
- Rusty Crayfish
- Golden Mussel
- Asian Clam
- Sea Lamprey

Source: Natural Environment Background Study, Niagara Region, September 26, 2019. New Niagara Official Plan – Sustainable Region.

Retrieved from: <https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/natural-environment-work-program-study.pdf> and <https://www.niagararegion.ca/official-plan/>





Species at Risk

A “species at risk” is any naturally-occurring plant or animal in danger of extinction or of disappearing. Reasons for species becoming at risk include habitat loss and fragmentation, pollution, resource management activities, changing land use activities, and spread of invasive species or disease. When species are at risk in a region, it threatens the amount of biodiversity (the variety of different habitats and types of plants, animals, fish and insects) in that region.

In Canada, species at risk (SAR) are listed both provincially and federally. A provincial list of SAR is available on the Ontario Ministry of Natural Resources and Forestry’s website at <https://www.ontario.ca/page/species-risk-ontario> . A provincial Forest Health Conditions report is available at: <https://www.ontario.ca/page/forest-health-conditions>. Information on the federal Species at Risk Act can be found at www.sararegistry.gc.ca .

Land Care Niagara (LCN) is committed to creating a healthy and sustainable rural and urban environment, consisting of citizens who are knowledgeable and active in land resource management. LCN provides services and information to rural landowners and other users of private and public lands in Niagara through educational outreach, training initiatives, and land stewardship activities.

LCN states that there are about 20,000 wild species of plants and animals in Niagara, and more than 65 species are at risk. LCN projects include:

- In 2022, LCN began a 3-year project, in collaboration with the agricultural sector, to promote sustainable land management practices. The project focuses on the creation of pollinator habitat in the Niagara region, on agricultural properties located in close proximity to the shorelines of Lake Erie and Lake Ontario. Project activities are targeted for the Monarch Butterfly (*Danaus plexippus*), a regional identified priority species listed as Endangered under COSEWIC (Committee on the Status of Endangered Wildlife in Canada), and will benefit over 8 additional SAR (Species at Risk) in Ontario
- In 2021, LCN started working on a project to identify and confirm hibernacula using scientific methods for all Species at Risk (SAR) bats in the Niagara region. Habitat restoration activities are being performed that will create, enhance and reconnect core habitat for SAR bats and Gray Ratsnake.

Source: Land Care Niagara

Retrieved from: <https://landcareniagara.com/programs/species-at-risk/>

Biodiversity Monitoring

The [Ontario Biodiversity Council](#) leads Ontario’s 2023 - 2030 Biodiversity Strategy, which guides conservation across the province. Strategy Goals include:

- Empower all people to value, respect and take steps to conserve, recover and sustainably manage biodiversity.
- Listen to and learn from Indigenous People and pursue reconciliation through biodiversity conservation.



- Manage biodiversity sustainably in an inclusive and equitable way.
- Mobilize human and financial resources to scale up actions to conserve biodiversity.
- Protect, restore and recover ecosystem, species and genetic diversity and the benefits that biodiversity provides for all living things.

The Strategy includes thirteen targets:

1. By 2025, sectors have developed action plans in support of Ontario's Biodiversity Strategy and by 2030 those plans are being implemented.
2. By 2025, the capacity for people to conserve biodiversity is increased and by 2030 people are taking action to protect and care for biodiversity in their daily lives.
3. By 2030, biodiversity conservation programs and actions are inclusive, equitable and reflect Indigenous knowledge and diverse perspectives.
4. By 2030, land use planning approaches to maintain and enhance biodiversity, such as natural heritage systems, are implemented at local, regional, and provincial levels.
5. By 2030, the harmful impacts of invasive species on biodiversity are further reduced.
6. By 2030, the release of ecologically damaging pollutants is reduced to a level that is not harmful to biodiversity and ecosystem services.
7. By 2030, the impacts of climate change on biodiversity are minimized and biodiversity is enhanced to support climate mitigation and adaptation.
8. By 2030, Ontario's per-capita resource consumption and waste generation is reduced and is within Ontario's biocapacity limits.
9. By 2025, priority restoration areas are identified and by 2030 efforts are underway to restore biodiversity to at least 30 per cent of priority areas.
10. By 2030, at least 30 per cent of terrestrial and aquatic ecosystems are conserved through well-connected networks of protected areas and conservation lands.
11. By 2030, the conservation of species and ecosystems in Ontario is improved.
12. By 2030, Ontario's biodiversity research, monitoring and reporting framework is improved, accessible and reflects diverse knowledge systems and perspectives.
13. By 2030, biodiversity considerations are integrated into the public and private sectors including through budgeting, funding, investments and financial disclosure.

This provincial strategy helps to advance both the [UN Convention on Biological Diversity](#) and the [Canadian Biodiversity Strategy](#).

Source: Ontario Biodiversity Council

Retrieved from: <https://ontariobiodiversitycouncil.ca/> and <https://ontariobiodiversitycouncil.ca/ontarios-strategy/>

Niagara College Sustainability (NCS) reports that, as of September, 2023, the College has identified over 900 species across its Welland and Niagara-on-the-Lake campuses. To aid in biodiversity efforts, the College hosts an annual [Niagara College Bioblitz](#). This event is open to



the community, for participants to come onto campus and identify species alongside local experts.

In March, 2023, Niagara College signed the [Nature Positive Pledge](#), committing to creating a baseline of biodiversity across all campuses, followed by targets and actions related to increasing biodiversity. Action on the targets began in the spring and summer of 2022, with an invasive species management plan, piloted at the Niagara-on-the-Lake campus. Working with Ecosystem Restoration students, the location and prevalence of *Phragmites australis*, an invasive grass was mapped, and students presented on different management strategies based on the location where removal was taking place on campus.

Source: Niagara College Sustainability

Retrieved from: <https://www.niagaracollege.ca/sustainability/biodiversity-2/>

The Niagara Parks Commission (NPC) provides information about its Environmental Protection initiatives. NPC's environmental commitment includes programs of stewardship and leadership based on 5 principles:

- Conservation
- Education
- Environmental Management
- Innovation
- Preservation and Restoration

NPC Project Green Initiatives include several partnerships, including:

- Environmental Alliance - Niagara Parks, Niagara College and the Niagara Peninsula Conservation Authority formed this alliance, dedicated to the promotion of a healthy and sustainable environment.
- Niagara River Restoration Partnership – Niagara Parks and the Niagara Peninsula Conservation Authority (NPCA) work in partnership to address local water quality concerns stemming from the substantial number of Canada Geese living along the River specifically near Fort Erie where goose droppings were unsightly and unpleasant and had the potential to pose health concerns. NPCA staff maintain a buffer of vegetation along the River to deter the geese from accessing adjacent land. Buffer strips are proven to contribute to water quality improvements by filtering surface runoff and they provide bank stabilization, erosion control, and increased habitat for many types of wildlife.

Source: Niagara Parks Commission – Environmental Protection

Retrieved from: <https://www.niagaraparks.com/corporate/about-us/environmental-protection/>



Indicator: Climate Impacts

Climate Change Planning

The Climate Change in Niagara page on the Niagara Region website states that projections show that Niagara can expect impacts of climate change, such as: Increased temperatures; Higher precipitation; More extreme weather events.

Source: Niagara Region Culture and Environment

Retrieved from: <https://www.niagararegion.ca/culture-and-environment/climate-change/general/default.aspx>

In 2022, the [Niagara Climate Change Action Network](#) (NCCAN) was formed, to support and accelerate a progressive, collaborative, and equitable approach to addressing the effects of climate change in the Niagara region. A total of 51 NCCAN member organizations are working together, with a focus on: a pathway to net zero; biodiversity; and climate resilient infrastructure. Projects and initiatives of NCCAN members are profiled at:

<https://nccan.ca/projects-and-initiatives/>

Source: Niagara Climate Change Action Network

Retrieved from: <https://nccan.ca/>

The Niagara Region [Community Dashboard](#) includes a total of six Environment Indicators:

- Residential solid waste diverted from disposal; Residential organics collected
- Residential organics collected
- Residential hazardous waste collected
- Wastewater estimated to have bypassed all treatment
- Treated wastewater
- Emerald ash borer beetle tree remediation

Source: Niagara Region

Retrieved from:

https://www.niagararegion.ca/community_dashboard/category.aspx?q=Community%20well-being#category_Environment

► 2022 Niagara Region Official Plan

The [2022 Niagara Official Plan](#) includes a [Sustainable Region](#) section, which outlines the objectives and policies for a Regional natural heritage system and water resource system.

The intent of the natural heritage system is to preserve and enhance the biodiversity, connectivity, and long-term ecological function of the natural systems in the region. The intent of the water resource system is to protect the ecological and hydrological integrity of water resources and the various watersheds in the region.



Objectives of the Sustainable Region section include: *recognize the important role the natural environment system plays in mitigating the impacts of climate change by protecting and enhancing natural features;*

Source: Niagara Region

Retrieved from: <https://www.niagararegion.ca/official-plan/final.aspx> and <https://www.niagararegion.ca/official-plan/pdf/final/chapter3-sustainable-region.pdf>

► Canada in a Changing Climate: Advancing our Knowledge for Action is the national assessment of how and why Canada’s climate is changing; the impacts of these changes on communities, environment and economy; and how we are adapting across the country.

Source: Natural Resources Canada

Retrieved from: <https://natural-resources.canada.ca/climate-change/canada-in-a-changing-climate/19918>

► The Federation of Canadian Municipalities Building a Legacy of Local Climate Action report summarizes impacts of the 2016-2022 Municipalities for Climate Innovation Program, which provided \$54.6 million of Government of Canada funding to 321 local municipal climate change action projects. Some of the projects were completed in Niagara.

The Niagara Adapts project saw seven of the twelve local municipalities in Niagara collaboratively develop climate adaptation plans over a two-year period. Niagara Adapts cites the United Nations (UN) definition of climate change: *Climate change refers to long-term shifts in temperatures and weather patterns. Human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas.* A 2021 Niagara Adapts video states that Niagara is experiencing flooding, heat waves and more variable climate extremes.

The 2-year Niagara Adapts partnership supported collaborative climate change adaptation assessment, planning and implementation among the Town of Grimsby, Town of Lincoln, City of Niagara Falls, Town of Niagara-on-the-Lake, Town of Pelham, City of St. Catharines and the City of Welland.: The Niagara Adapts Climate Vulnerability Fact Sheet highlights results from a baseline climate vulnerability survey, completed in the fall of 2019 by 1,087 people (63% female; 37% male) across the seven local municipalities in Niagara. The survey asked people in those municipalities what ‘adaptation to climate change’ means to them.

Source: Niagara Adapts, Environmental Sustainability Research Centre, Brock University, and Municipalities for Climate Innovation Program (2017-2022)

Retrieved from: <https://brocku.ca/esrc/niagara-adapts/> and <https://fcm.ca/en/programs/municipalities-climate-innovation-program>

► The Town of Grimsby Sustainability and Climate Change Policy Direction Report is part of the Envision Grimsby 2051 Official Plan Review. It states: *“Grimsby, as with the rest of the Niagara region, is projected to experience more hot days, a shortened and milder winter, more extreme weather changes and events, and more precipitation. These changes will have far-reaching effects on all aspects of life and business in Grimsby.”*



- ▶ The 2021 [Town of Lincoln Corporate Climate Adaptation Plan](#) includes eight goals:
 1. Integrate climate change considerations into Town strategies, plans, policies, procedures, operations, & services
 2. Increase resiliency & adaptive capacity within economic development, community services, parks, & recreation
 3. Protect natural resources, promote ecosystem services, & minimize environmental degradation
 4. Mitigate harmful consequences of extreme weather & emergency events
 5. Minimize health & safety risks to community members and staff
 6. Foster Lake Ontario shoreline resilience through planning, management & protection
 7. Consider climate change impacts in built infrastructure & asset management
 8. Increase climate change literacy among staff & public

- ▶ The 2021 [City of Niagara Falls Climate Adaptation Plan](#) includes ten goals, created using the city council's strategic priorities as a base concept. Each goal was provided to the public for survey and feedback, and the goals were further refined into five main goals:
 1. Increase climate change literacy among staff and public
 2. Invest in infrastructure and assets that are prepared for the impacts of climate change
 3. Encourage green methods of transportation
 4. Create and implement energy conservation strategies for City facilities
 5. Mitigate consequences of extreme weather, emergency events and safety risk to the community.

- ▶ The 2022 [Town of Niagara-on-the-Lake Climate Change Adaptation Plan](#) includes twenty-seven actions that the municipality will undertake, that contribute to six overarching goals:
 1. Integrate Climate Change into Plans, Policies, By-Laws and Standards
 2. Urban Forest Resiliency
 3. Reduce Flooding Risks
 4. Incorporate Climate Change in Design and Construction
 5. Minimize Health and Safety Risks to Community Members
 6. Support Public Awareness and Education

- ▶ The 2021 [Town of Pelham Corporate Climate Change Adaptation Plan](#) aims to mitigate the anticipated impacts of climate change on the Pelham community. Goals of the plan include:
 1. Protect community members and outdoor workers from potential health risks related to climate change
 2. Build awareness of climate change impacts and risks among Town's staff and community members
 3. Develop a comprehensive strategy to manage extreme weather events and emergencies
 4. Foster adaptive capacity in the design, construction, and maintenance of Town-owned infrastructure



5. Preserve, protect, and restore Town's urban and rural forests
6. Cultivate resiliency to heavy rainfall and flooding events
7. Streamline Town services to provide sustained support to Pelham community
8. Mainstream climate change information into Town's planning, policy, and decision-making processes

► The [2021 City of St. Catharines Corporate Climate Change Adaptation Plan](#) highlights four common areas where the City can expect to see the impacts of climate change – an increase in heat, precipitation, heavy precipitation events, and in extreme weather events. The plan identifies 28 adaptation actions that fall under six goal areas:

1. Prepare for hotter summers
2. Prepare for and respond to extreme weather events
3. Develop a flood prevention strategy
4. Improve stormwater management including the use of green infrastructure
5. Prepare for high Lake Ontario water levels
6. Re-think how the City addresses climate change.

► In 2019, the City of Welland announced it was developing a [Corporate Climate Adaptation Plan](#). The [City's 2023-2026 Strategic Plan](#) aims to inspire and promote an active, resilient, and sustainable community delivering the best quality of life possible for all. The Strategic Plan includes an Environmental Stewardship priority, focused on *'protecting the ecosystem through a responsible approach to minimize the impact on the environment through supportive decision-making, professional processes, incentives, policies, and operational practices'*.

Environmental Stewardship Objectives include:

- Become a leader in environmental sustainability while reducing carbon footprint and preparing for the impacts of climate change.
- Promote and implement programs, policies, and incentives that maintain and improve the quality of the land, water, and air throughout the city, including tree protections and canopy expansion.
- Deliver carbon-neutral initiatives in alignment with upper levels of government and industry best practices.
- Improve and promote abilities in waste management, waste diversion, and recycling.
- Prioritize and leverage infrastructure improvements that support environmental protection and sustainability

► The Intact Centre for Climate Adaptation, University of Waterloo provides the 2023 report, ["Making Nature Count for Adaptation: Global, National and Local Action to Value Services Provided by Nature"](#).. Opportunities for nature-based strategies in climate adaptation are highlighted - they can help manage climate risks in a way that provides benefits for both people and nature, e.g., protecting and restoring wetlands to manage downstream flooding, or increasing urban forest cover to reduce extreme heat in cities. The report cites a sense of momentum in how we recognize the role and value of nature for adaptation, stating, "the



finance and business sector are at the nature table”. The intent is for insights from expert panel members and an international audience to inspire users to take action themselves, based on showcased resources and shared experiences.

Source: Intact Centre for Climate Adaptation, University of Waterloo

Retrieved from: <https://www.intactcentreclimateadaptation.ca/making-nature-count-for-adaptation/>

Climate-Change and Health

► The Association of Local Public Health Agencies (aLPHa) represents Ontario’s 34 public health units. The association states:

“aLPHa strongly agrees that climate change is the greatest global health threat of the 21st century and as such is the defining public health issue of our time. We believe that impacts of human activity on climate change and its observable health effects due to more frequent extreme weather events, changing patterns of infectious diseases, and threats to the quality of our air, food and water are irrefutable. We also believe that there is an important opportunity to develop a multi-disciplinary climate change mitigation and adaptation strategy to minimize the effects of climate change on health.”

The June, 2022 aLPHa newsletter, provides Climate Change Liaison Report #5, ‘[What is going on with climate change and health?](#)’. The report states, “...climate-events illustrate how climate change is impacting human health and well-being directly and indirectly”.

Source: Association of Local Public Health Agencies (Ontario)

Retrieved from: https://www.alphaweb.org/page/Climate_Change and https://cdn.ymaws.com/www.alphaweb.org/resource/collection/8732D26A-679B-4AB9-9C50-532E0CC3A278/CC_Liaison_Report_Adapted_210622.pdf

► Fostering Healthy, Equitable & Climate-friendly Communities is a January, 2023 webinar recording that presents case studies of strategies utilized by 3 Canadian public health organizations to advance policies that address health, health equity, and climate emissions in their communities. Two case studies are in BC and one is in the Simcoe Muskoka District of Ontario.

Source: Canadian Public Health Association

Retrieved from <https://niagaraknowledgeexchange.com/resources-publications/fostering-healthy-equitable-climate-friendly-communities-webinar-recording/>

► Health Canada provides Climate Change and Health Vulnerability and Adaptation Assessments: Workbook for the Canadian Health Sector (2022). Assessments may be completed at local, regional, provincial, and international scales, to assist health authorities in identifying and interpreting information needed to prepare health systems for impacts of climate change.

Source: Health Canada

Retrieved from: <https://www.canada.ca/en/health-canada/services/publications/healthy-living/climate-health-adapt-vulnerability-adaptation-assessments-workbook.html>



Indicator: Land

Agriculture and Food

► The Niagara Agriculture Profile, December 2022 is provided by Niagara Region Economic Development. The Profile draws upon the 2021 Statistics Canada Census of Agriculture, and provides a detailed report on agricultural characteristics and economic impact in Niagara. Key facts include:

- In 2021, there were 1,651 farms operating in Niagara, generating \$1.71 billion in Gross Domestic Product (GDP) and supporting 24,073 jobs.
- There were fewer farms and less farmland in production in 2021 than in 2016, however agricultural GDP impact in Niagara grew substantially, by 21%.
- Most farms in Niagara are still small businesses and/or family enterprises.
- In 2021, Niagara generated 41% of the total agriculture GDP impact in the Golden Horseshoe area, which includes Niagara Region, Durham Region, York Region, Hamilton, Halton Region, and Peel Region.

Source: Niagara Region Economic Development

Retrieved from: <https://niagaracanada.com/data/reports/> and <https://pub-niagararegion.escribemeetings.com/filestream.ashx?DocumentId=33077>

► The Golden Horseshoe Food and Farming Alliance (GHFFA) is a partnership between the regional municipalities and Federations of Agriculture in Niagara, Peel, Halton, York, and Durham, and the cities of Hamilton and Toronto, Conservation Authorities, the Greenbelt Fund, Durham College and Niagara College, the Holland Marsh Growers and members of the food industry.

Vision - GHFAA Action Plan 2021-2026:

The Golden Horseshoe is globally renowned as a vibrant and sustainable agri-food cluster, characterized by profitable farming operations of all sizes, a thriving hub of food processing and food retail, extensive research capacity, and innovative technology.

Goals:

- The GHFFA is recognized as the leading organization with expertise on food and farming issues and opportunities in the Golden Horseshoe Region of Ontario
- Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-food cluster
- Enable the agri-food cluster to support sustainability outcomes

The full Action Plan is available at <https://foodandfarming.ca/food-and-farming-action-plan/>

The GHFFA provides an [Agriculture at a Glance Local Snapshot \(as of 2021\) for the Niagara Region Census Division](#). (see next page)

Source: Golden Horseshoe Food and Farming Alliance

Retrieved from: <https://foodandfarming.ca/>



Agriculture at a Glance

AS OF 2021



1,651
farms



208,414
acres of farmland



126 acres
is the average sized farm

Local Snapshot

Niagara Region
CENSUS DIVISION



Local Farm Sales

23%
sell farm
products directly
to the
consumer.



13
farms operate a CSA
(Community Supported Agriculture)



78 farms sell
at farmers' markets



296 farms sell directly from their
farm, at stands, or pick-your-own

Economic Contributions in 2021

Local Impact



The local agri-food sector
employed **30,855** people
through **3,750** local agri-food
business establishments

Farm Cash Receipts



\$930 million
in Farm Cash
Receipts



- Floriculture & Sod
- Fruit
- Poultry & Eggs

Across the Province

Farm cash receipts
generated by local farms
supported **\$2.0 billion**
in GDP and **30,582**
employees in the agri-food
sector from farm to fork
across Ontario

Farm Facts



16.9%
generate renewable
energy, including
solar, bioenergy and
wind power



32.2%
of farm
operators
are female



56.5%
are small farms
(less than \$100,000
in revenue)



Source: Ontario Ministry of Agriculture, Food and Rural Affairs (2021) County Profiles.

ofa.on.ca | [@OntarioFarms](https://twitter.com/OntarioFarms) | [OntarioFarms](https://facebook.com/OntarioFarms) | [OntarioFarms](https://youtube.com/OntarioFarms) | [ontariofarms](https://instagram.com/ontariofarms)





► The [Niagara Food Security Network](#) (NFSN) is a collective working to address food insecurity in the Niagara region. The collective has a theory of change that focuses on four strategies: Accessing; Growing, Harvesting and Securing; Logistics, Distribution and Storage; Preparing and Eating. The intended impact is: “within ten years, 80 per cent of food insecure households in Niagara will have access to affordable, healthy, culturally appropriate food, at the right time and in the right place.

Source: United Way Niagara

Retrieved from: <https://www.unitedwayniagara.org/community-initiatives/niagara-food-security-network/>

► Feed Niagara is a collaborative of the ten food banks that cover the Niagara region, and are members of Feed Ontario. Feed Niagara states that food bank visits are increasing, and thus their efforts must compliment and support each other. The ten food banks are working together on challenges and opportunities in their current systems, including storage, warehousing, transportation and staff support. The intent is to develop approaches together that allow for more efficient and streamlined delivery across the Niagara region.

Source: Feed Niagara

Retrieved from: <https://feedniagara.ca/feed-niagara/> and <https://feedniagara.ca/food-banks-in-niagara-feeling-the-pinch-as-holiday-season-approaches/>

► The Food Affordability in Niagara Nutritious Food Basket Survey 2023 shows that approximately one in five households in Niagara are food insecure. The Survey summarizes the cost of 61 food items that align with the 2019 Canada’s Food Guide and the eating and purchasing behaviours of Canadians. The food items fall into four categories: Vegetables and Fruits; Whole Grains; Protein Foods; Fats and Oils.

Source: Niagara Region Public Health

Retrieved from: <https://niagaraknowledgeexchange.com/resources-publications/food-affordability-in-niagara-nutritious-food-basket-survey-2023/> and <https://niagaraknowledgeexchange.com/wp-content/uploads/sites/2/2023/11/Food-Affordability-in-Niagara-Infographic.pdf>

Green Space

► The Niagara Peninsula Conservation Authority (NPCA) 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 bring together nature, culture and adventure. The NPCA provides a [conservation area location map](#).

Source: Niagara Peninsula Conservation Authority

Retrieved from: <https://npca.ca/parks-recreation/conservation-areas>



► In March, 2022, the Niagara Escarpment Biosphere Network became officially incorporated in Ontario. The network supports the management of the Niagara Escarpment Biosphere as a community-led, grassroots organization, working to meet the criteria and standards required by United Nations Educational, Scientific, and Cultural Organization (UNESCO). The Biosphere runs west from Niagara, and then north to Tobermory, extending some 725+ kilometres. Plenty Canada, an Indigenous non-governmental organization is partnering, nurturing, and assisting in the development of the Niagara Escarpment Biosphere Network, with support from Environment and Climate Change Canada.

The Niagara Escarpment Commission transferred its role and responsibilities related to the Niagara Escarpment Biosphere to a Transition Leadership Committee in 2019. The Committee then began working directly with Plenty Canada to reactivate the work necessary to meet UNESCO criteria and obligations regarding the stewardship of biosphere reserves.

Part of the rationale by UNESCO for directing a renewed Niagara Escarpment Biosphere organizational model was that it was no longer appropriate to have oversight nested within a government agency, namely the Niagara Escarpment Commission. In 2021, the Transition Leadership Committee and Plenty Canada signed a memorandum-of-understanding to work together on developing this new co-governance structure.

Source: Niagara Escarpment Biosphere Network

Retrieved from: <https://nebnetwork.org/>

► The Niagara Geopark celebrates the internationally significant geoheritage of the Niagara Region of Ontario. The Niagara Peninsula is home to Niagara Falls, the Niagara Escarpment UNESCO Biosphere Reserve, the Niagara River gorge, the Niagara Whirlpool, the Chert stores of the Onondaga Escarpment and the Queenston formation, which shows evidence of the largest extinction event in Earth's history. The Geopark boasts 20 Geosites across the Niagara Region.

Niagara's Geosites are monuments to the region's Indigenous past, present and future. The Attawandaron (Neutrals), Wendat, Huron, Anishinaabe (Ojibway) and Haudenosaunee (Iroquois) Nations have all, over the course of time, either occupied and/or shared the land and resources that have existed here since the last great ice sheet retreated.

The 2023 the Niagara Geopark Trail Summit was held at the Niagara-on-the-Lake campus of Niagara College. Summit participants unanimously agreed to form the Niagara Geopark Trail Network.

The Niagara Geopark is working toward UNESCO Global Geopark designation, and is anticipating its first visit from UNESCO evaluators in 2024.

Source: Niagara Geopark

Retrieved from: <https://www.niagarageopark.com/>



Land Use Planning

► The Greenbelt Plan (2017) is designed to protect agricultural lands, water resources and natural areas in Ontario's Greater Golden Horseshoe region. The Greenbelt is the cornerstone of Ontario's Greater Golden Horseshoe Growth Plan, which is an overarching strategy that provides clarity and certainty about urban structure, where and how future growth should be accommodated and what must be protected for current and future generations.

The Greenbelt Plan, together with the ORMCP (Oak Ridges Moraine Conservation Plan) and the NEP (Niagara Escarpment Plan), identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas and functions occurring on this landscape.

Source: Greenbelt Foundation

Retrieved from: <https://www.greenbelt.ca/learn>

► The 2022 Niagara Official Plan is a long-range land use planning document that sets out what we protect while managing where and how the region will accommodate growth. The region is anticipated to grow to a population of 694,000 people and 272,000 jobs by the year 2051

Source: Regional Municipality of Niagara

Retrieved from: <https://www.niagararegion.ca/official-plan/#:~:text=The%202022%20Niagara%20Official%20Plan,Natural%20environment>



Indicator: Waste

The [Municipal Benchmarking Network Canada \(MBN\) 2022 Performance Report](#) includes measures comparing Niagara Waste Management statistics to that of nine other Canadian municipalities.

The report states that residents want waste to be collected in a reliable manner, as scheduled; for it to be managed in an environmentally sustainable way, and for any issues to be addressed in a timely manner.

A total of five Waste Management graphs in the MBN 2022 Performance Report include statistics reported by Niagara Region, compared to nine other municipalities in Canada:

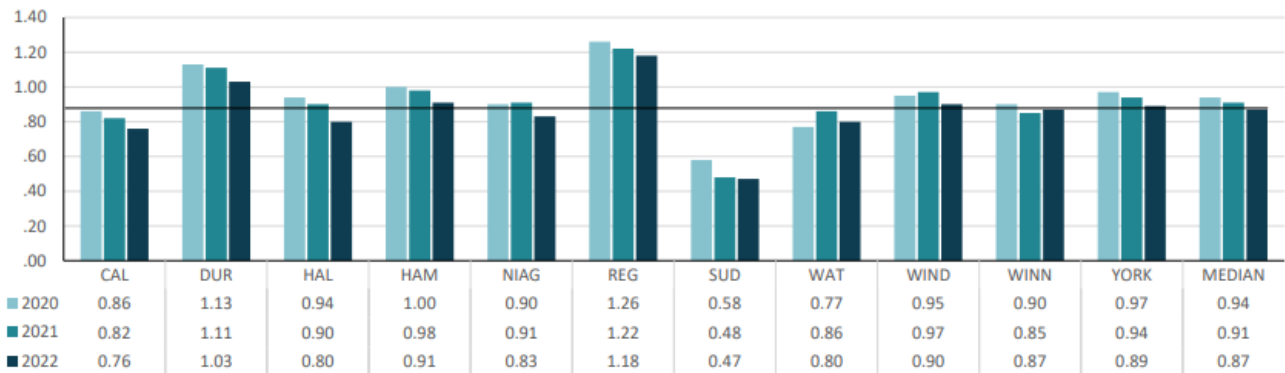
- SWST205 Tonnes of All Residential Material Collected per Household
- SWST220 Tonnes of Residential Solid Waste Disposed per Household
- SWST235 Tonnes of Residential Solid Waste Diverted per Household
- SWST311T Total Cost for Garbage Collection per Tonne - All Property Classes
- SWST325T Total Cost for Solid Waste Disposal per Tonne-All Property Classes

Graph SWST205 shows that in 2022, Niagara Region collected 0.83 Tonnes of residential waste material per household. This is slightly below the 0.87 Tonnes median for ten Canadian municipalities.

Waste Management

SWST205 - Tonnes of All Residential Material Collected per Household

Residential waste includes organics, blue box, leaf and yard, municipal hazardous or special waste, other recyclable materials such as wood, metal and tires, as well as construction and demolition materials.



Sudbury: The City implemented collection strategies to encourage residents to divert more waste resulting in a reduction in the amount of material being collected.

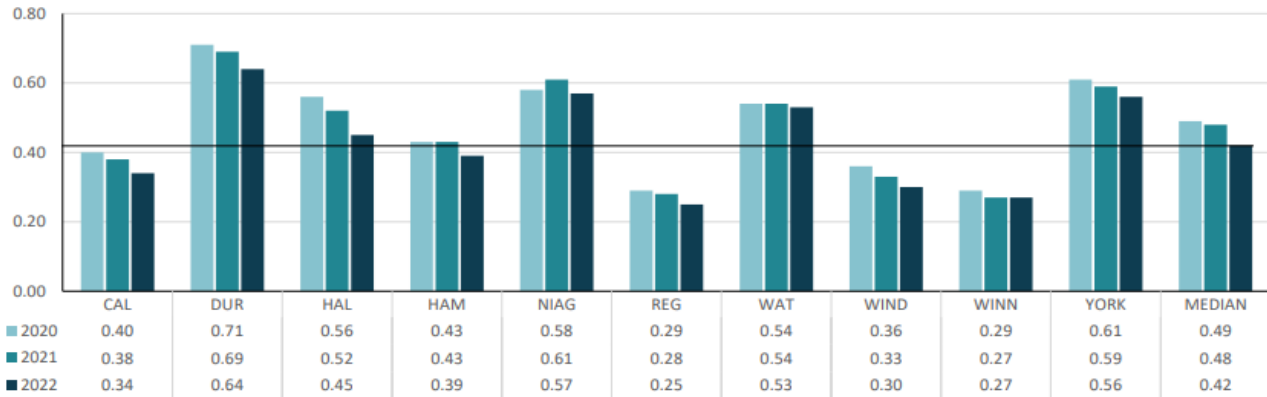


Graph SWSST235 shows that in 2022, Niagara diverted 0.57 tonnes of residential waste away from landfills and incineration through programs such as organics, blue box, leaf and yard, municipal hazardous or special waste and other recyclable materials. This is above the 0.42 tonnes median for ten Canadian municipalities.

Waste Management

SWST235 - Tonnes of Residential Solid Waste Diverted per Household

This measure demonstrates the tonnes of residential waste diverted away from landfills and incineration through programs such as organics, blue box, leaf and yard, municipal hazardous or special waste and other recyclable materials.



Sudbury: Does not report - unable to separate residential tonnage.

Graph SWST311T in the 2022 MBNCanada report shows Total Cost for Garbage Collection per Tonne – All Property Classes. This measure reflects the total cost for garbage collection for all property classes which includes residential, and industrial, commercial and institutional (ICI) locations on a per tonne basis. In 2022, the cost/tonne for Niagara was \$114, which is below the \$164 median for eight other municipalities.

The graph description states that, for Niagara, “Overall garbage collection-related operating costs increased in 2021 as a result of the new collection contract, which started on October 19, 2020”.

Source: Municipal Benchmarking Network Canada 2022 Performance Report

Retrieved From: <https://mbnccanada.ca/publications/2022-Performance-Measurement-Report.pdf>

Waste Diversion

The Niagara Region [Waste Management Strategic Plan](#) web page provides several reports and documents. The 2025 Plan will have short (5-year) and long-term (25 year) goals. Technical Memo 2, *Waste Generation Trends, December, 2023* provides an overview of waste generation and diversion trends at a national and provincial level, with three key takeaways:

- Canadians still generate disproportionately large quantities of waste but their generation rate is declining by weight and diversion efforts are improving. Significant change continues to occur in the types and composition of waste being generated as plastics





overtake the use of traditional materials such as wood, glass and steel in the production of packaging and durable goods.

- Packaging composition, in particular, has and continues to undergo fundamental changes as pressures to make packaging meet a range of regulatory, environmental and consumer needs. Ongoing trends in light weighting and material substitution are expected to continue. Significant growth is also expected in the development of compostable and biodegradable packaging and its penetration into traditional packaging markets.
- Significant increases are also expected in the generation of food waste, textiles, incontinence product waste and electronic waste as a result of shifting demographics. Continued monitoring of these trends is recommended to ensure Niagara Region continues to provide effective diversion programs to meet the needs of its residents and local businesses.

Source: Niagara Region

Retrieved from: <https://www.niagararegion.ca/projects/waste-management-strategic-plan/> and <https://www.niagararegion.ca/projects/waste-management-strategic-plan/pdf/technical-memo-2-waste-generation-trends.pdf>

Reducing Food Waste

► The Vancouver-based National Zero Waste Council (NZWC) provides the website lovefoodhatewaste.ca. Love Food Hate Waste (LFHW) Canada is modelled on the LFHW campaign in the UK, a proven behaviour change campaign, saying, “*Food waste is an urgent, but solvable, global challenge.*”

In 2022 the NZWC conducted research on household food waste in Canada. Results include:

- 63% of the food Canadians throw away could have been eaten.
- For the average Canadian household that amounts to 140 kilograms of wasted food per year – at a cost of more than \$1,300 per year!
- For Canada as a whole, that amounts to almost 2.3 million tonnes of edible food wasted each year, costing Canadians in excess of \$20 billion!
- All types of food are wasted; in Canada the most prominently wasted foods by weight are:
 - Vegetables: 30%
 - Fruit: 15%
 - Leftovers: 13%
 - Bread and Bakery: 9%
 - Dairy and Eggs: 7%

To put that in perspective, every day in Canada we waste:

- 130,000 heads of lettuce,
- 1,300,000 tomatoes,
- 2,600,000 potatoes,
- 650,000 loaves of bread,
- 1,300,000 apples,
- 640,000 bananas,
- 1,000,000 cups of milk
- and 470,000 eggs

Source: National Zero Waste Council

Retrieved from: <https://lovefoodhatewaste.ca/about/food-waste/>



Indicator: Water

Water Quality

The Niagara Peninsula Conservation Authority (NPCA) encompasses the entire Niagara region, 21% of the City of Hamilton and 25% of Haldimand County. The Niagara Peninsula is one of the most complex watersheds in the province. Its climate, biodiversity and growing zones are unique in North America. The Peninsula includes lands drained by the Niagara River, Twenty Mile Creek, the Welland River and the Welland Canal; is nestled between Lake Erie and Lake Ontario; and is traversed by the Niagara Escarpment.

The NPCA regularly collects and tests surface water and groundwater samples (non-drinking water) at stations located throughout its watershed jurisdiction. The 2023 NPCA Water Quality Monitoring Report Fact Sheet shows the following:

For Surface Water:

- Results indicate most of the watershed's jurisdiction have poor water quality.
- The high concentrations of total phosphorus, E. coli and chlorides within surface water continue to be a major cause of poor water quality.
- The sources of these pollutants are from both urban areas (combined sewer overflows and stormwater runoff) and rural areas (agricultural runoff and faulty septic systems).
- The best water quality is found in watercourses where water is introduced from Lake Erie and the Niagara River, in watercourses with significant groundwater discharges and in watersheds with substantial natural landscapes.

For Groundwater:

- The groundwater quality was found to be highly variable depending on the aquifer where it was found.
- The natural groundwater conditions from its host rocks and sediments and local human contaminant sources can contribute to poor groundwater quality.
- Private well owners are responsible for having their well water tested regularly and to ensure their well is properly maintained and in good condition.

Protecting water at its source is the first step in ensuring we all have access to safe drinking water. For detailed information about the Source Water Protection Initiative and its implementation in the NPCA watershed, visit www.sourceprotection-niagara.ca

Source: Niagara Peninsula Conservation Authority

Retrieved from: https://npca.ca/images/uploads/common/Water_Quality_Report_2023-Final.pdf and

https://npca.ca/images/uploads/common/Water_Quality_Monitoring_Summary_Report_2024_Draft-1.pdf and

<https://npca.ca/watershed-health#source-water-protection>



Niagara Region Water Quality Reporting

Water quality reports for the 6 water treatment plants operated by Niagara Region, and local municipalities in Niagara are available on the Water Quality Reports page of the Niagara Region website.

Source: Niagara Region

Retrieved from: <https://www.niagararegion.ca/living/water/water-quality-reports/default.aspx>

Every year between May (Victoria Day) and September (Labour Day), Niagara Region Public Health tests over 25 public beaches for levels of E. Coli bacteria. When unsafe levels are present, the beaches may be posted as unsafe or closed. Bacteria levels can rise, due to: large numbers of swimmers; wind and high waves; large numbers of birds; recent heavy rainfall; and cloudy water.

Source: Niagara Region Public Health

Retrieved from: <https://www.niagararegion.ca/living/water/beaches/default.aspx>

Water Quantity

The Niagara Irrigation Initiative is taking action to develop a new agricultural irrigation system in northwest Niagara as well as the expansion of the existing Niagara on the Lake irrigation system. Niagara Region has been working with the Grape Growers of Ontario and the Ontario Tender Fruit Growers since 2004 to advance development of agricultural irrigation, with a focus on North Niagara. The next step is to complete a Municipal Class Environmental Assessment. The assessment would allow the planning of municipal infrastructure, utilizing an approved procedure designed to protect the environment and consider public input through consultation.

Source: Niagara Region Report to Planning & Economic Development Committee, June 7, 2023

Retrieved from: <https://pub-niagararegion.escribemeetings.com/filestream.ashx?DocumentId=31778>