

Minister's Annual Report on Drinking Water (2023)

Read what we did this past year to protect Ontario's drinking water.

Minister's message

Ontario's drinking water is among the best protected in the world. Preserving clean, safe drinking water, and making sure all Ontarians can access it, continues to be a top priority for this government. In this report, I am pleased to share the actions our government has taken as part of our ongoing commitment to safeguarding this vital resource.

A key indicator of this commitment is that Ontario's residential drinking water systems continue to perform extremely well, year after year. In fact, the 2022-23 data show that 99.9% of more than 521,000 test results from municipal residential drinking water systems met our province's stringent drinking water quality standards.

Another crucially important element of delivering high-quality drinking water is the regular monitoring and inspection of regulated drinking water systems. To this end, we are working on a new Drinking Water Contaminants Benchmarks List that highlights the contaminants that may impact drinking water quality. The list is a comprehensive compilation of Ontario's drinking water quality standards, aesthetic objectives and operational guidelines. This list will be periodically updated to ensure its continued relevance over time.

Our Great Lakes Strategy remains a critical tool as we work to protect and restore these vital water bodies. We have achieved significant progress in various areas, from habitat restoration to nutrient stewardship.

In addition, we are actively engaged in accreditation audits, municipal drinking water license renewals and initiatives to support First Nation communities to promote sustainable water management and infrastructure solutions on reserve.

Effective drinking water protection on a provincial scale is only possible through collaborative effort. I am very proud of all the work that ministry staff continue to do with conservation authorities, municipalities, Indigenous communities, the Ontario Clean Water Agency, water associations and the Walkerton Clean Water Centre. This teamwork has kept our drinking water clean and safe for many years.

Together, we will ensure that every Ontarian has access to clean and reliable drinking water today and for years to come.

Ontario's drinking water standards

One of the most important tools for helping to ensure the delivery of Ontario's high-quality drinking water is regular monitoring and sampling at regulated drinking water systems. Ontario sets stringent limits for contaminants in drinking water. Most of these are based on Health Canada's Drinking Water Quality Guidelines and are reviewed on a regular basis to ensure that they reflect new information when it becomes available. The *Ontario Drinking Water Quality Standards Regulation* (<https://www.ontario.ca/laws/regulation/030169>) under the *Safe Drinking Water Act, 2002* (<https://www.ontario.ca/laws/statute/02s32>), sets out standards for a total of 151 microbiological, chemical and radiological parameters.

The Ontario Drinking Water Advisory Council (formally the Advisory Council on Drinking Water Quality and Testing Standards) (ODWAC), comprised of drinking water experts with expertise in health and water treatment technologies, provides non-binding recommendations to the Minister including whether and how to adopt Canadian Drinking Water Quality Guidelines as Ontario Drinking Water Quality Standards. This year, ODWAC provided advice on 9 Canadian Drinking Water Quality Guidelines. ODWAC's recommendation was to concur with Health Canada's reaffirmation of Guidelines for 3 of the substances (2,4-dichlorophenoxyacetic acid, dimethoate, and boron), maintain the same, more stringent Ontario Drinking Water Quality Standards for 4 substances (bromoxynil, MCPA, malathion, and barium) for which the Health Canada Guidelines became less stringent, and adopt the slightly more stringent Health Canada Guidelines for dicamba and diquat. We are currently reviewing the advice.

Drinking Water Benchmarks List

The ministry is developing a Drinking Water Benchmarks List to highlight the contaminants that may impact drinking water quality. It will consist of the Ontario Drinking Water Quality Standards in *Ontario Regulation 169/03* made under the *Safe Drinking Water Act, 2002*, as well as aesthetic objectives which are non-regulatory benchmarks for parameters that may impair the taste, odour or colour of water. In addition, the list will include operational guidelines which are non-regulatory benchmarks for parameters that, if not controlled, may negatively affect the efficient and effective treatment, disinfection, and distribution of drinking water.

The Drinking Water Benchmarks List will replace the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, which was developed in 2003 and updated in 2006. It is the only publicly available list of Ontario's aesthetic objectives and operational guidelines. Since it was last updated, there have been a number of changes in drinking water standards, aesthetic objectives, and operational guidelines. These changes will be better reflected by the Drinking Water Benchmarks List and can be continuously updated as needed. It is important to note that the replacement of the Technical Support Document with the Drinking Water

Benchmarks list would reflect appropriate stakeholder consultation and a review by the Advisory Council on Drinking Water Quality and Testing Standards. Once complete, the Drinking Water Benchmarks List will be posted to ontario.ca and periodically updated.

Emerging issues

Drinking Water/Wastewater Operator Workforce Assessment

The long-term sustainability of the water operator workforce is crucial to ensure Ontarians can continue to be confident that their drinking water is among the best protected in the world, and that our environment is protected. Operators in Ontario monitor, sample and ensure systems are operating properly.

The Ministry of the Environment, Conservation and Parks is leading a multi-stakeholder project to assess challenges and identify measures needed to help ensure that every Ontario region has a sufficient and qualified workforce for the water and wastewater sector.

Based on information collected through the project, the ministry will develop a comprehensive strategy intended to support water operator workforce recruitment and retention.

Per- and Polyfluoroalkyl Substances (PFAS) Landfill Study

Per- and Polyfluoroalkyl Substances (PFAS) are a group of manufactured chemicals that have been used for decades in fire-fighting foams and consumer products such as cookware, textiles, and food packaging materials. They are called ‘forever chemicals’ as they break down very slowly in the environment and accumulate in the soil, sediments, and water. Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) are the most well-known of the approximately 12,000 catalogued PFAS. In 2017, Ontario developed interim advice for PFAS, recommending that drinking water used for human consumption not exceed 70 ng/L for the sum of 11 different PFAS.

In February 2023, Health Canada posted a consultation document on a treatment-based drinking water objective for PFAS using an approach similar to that used in Ontario. The proposed Health Canada objective is 30 ng/L for the sum of at least 18 different PFAS. Both the Health Canada proposal and the ministry’s interim advice recommend minimizing PFAS levels in drinking water to the lowest level reasonably achievable with available technology. The ministry will review the final Health Canada objective to assess how this objective would inform Ontario’s drinking water programs.

The ministry has continued to undertake PFAS monitoring programs. The focus of these programs is to better understand the presence and prevalence of PFAS in the province. One project is a study of municipal landfills across Ontario. There are approximately 805 active landfills and over 5,000 closed municipal landfills across Ontario. Recent studies funded under the Canada-Ontario Agreement on Great Lakes

Water Quality and Ecosystem Health (<https://www.ontario.ca/document/canada-ontario-great-lakes-agreement>) suggest landfills are likely sources of PFAS and that PFAS-impacted groundwater has the potential to contaminate drinking and irrigation water wells. The ministry is sampling PFAS at approximately 20 landfills across Ontario and the study will provide information on PFAS across a range of site conditions and landfill types.

In addition to sampling within the boundaries of landfills, samples of private well water, groundwater, and where possible, surface water in the vicinity of landfill locations were also obtained. The information collected is shared with the municipalities and health units where the landfill is located and will inform our response to PFAS in the environment.

Key findings from the Chief Drinking Water Inspector report

Ontario’s Chief Drinking Water Inspector reports annually on the performance of Ontario’s regulated drinking water systems. Data associated with the 2022-23 Chief Drinking Water Inspector Report (<https://www.ontario.ca/page/2022-2023-chief-drinking-water-inspector-annual-report>) is also available on Ontario’s Data Catalogue (<https://data.ontario.ca/>).

This year’s results show that Ontario’s drinking water continues to be among the best protected in the world.

Municipal and laboratory results

More than 80% of Ontario residents receive drinking water from a municipal residential drinking water system in the city or town where they live. These drinking water systems are inspected each year to make sure they are following the drinking water regulations.

In addition, laboratories licensed by the province to perform drinking water testing are inspected twice per year and must report all test results to the ministry within ten (10) days.

The 2022-23 test and inspection results for Ontario’s drinking water systems and licensed laboratories show that:

- 99.9% of the over 521,000 drinking water tests from municipal residential drinking water systems met Ontario’s drinking water standards
- 76% of municipal residential drinking water systems received a 100% inspection rating
 - 99.8% of municipal residential drinking water systems received an inspection rating greater than 80%
- 75% of laboratories received a 100% rating in at least 1 of their inspections

- 100% of laboratory inspections received an inspection rating greater than 80%
- 37% of laboratories received a 100% in both inspections

Compliance and enforcement activities

Compliance and enforcement activities are conducted by inspectors and investigators to help ensure the regulated community is in compliance with Ontario's drinking water legislation.

In 2022-2023 the following Orders were issued to address violations:

- 4 Orders to non-municipal year-round residential drinking water systems
- 2 Orders to systems serving designated facilities (for example, universities, health care facilities, children's camps and other facilities as defined in *Ontario Regulation 170/03*)
- 5 Orders to licensed laboratories

In 2022-2023, owners and/or operators of three systems that supplied drinking water to municipal and non-municipal residential systems were charged with offences under the *Safe Drinking Water Act, 2002* (<https://www.ontario.ca/laws/statute/02s32>), convicted, and fined for a combined total of \$128,000.

For further details about these orders and convictions, please refer to the 2022-2023 Chief Drinking Water Inspector's Report (<https://www.ontario.ca/page/2022-2023-chief-drinking-water-inspector-annual-report>) or the 2022-2023 Drinking Water Quality and Enforcement Dataset on Ontario's Open Catalogue (<https://data.ontario.ca/en/dataset/drinking-water-quality-and-enforcement>).

Lead testing at schools and child care centres

Ontario requires lead testing in drinking water in all schools and child care centres.

- data from schools and child care centres shows that 97% of the over 27,000 test results (standing and flushed) met the provincial standard for lead (10 micrograms per litre) in drinking water
- this number increases to 98% when only looking at flushed samples

The fact that fewer flushed test results exceeded the lead standard than standing test results is consistent with previous years and demonstrates that flushing is an effective way to temporarily reduce lead levels below the standard for lead. More permanent solutions include replacing or removing problematic fixtures or installing filters and replacing filters in accordance with the manufacturers' instructions.

The ministry's flushing and sampling for lead (<https://www.ontario.ca/page/flushing-and-sampling-lead>) website is an excellent resource for further information about lead in drinking water and contains a wealth of information for the regulated community, as well as a section for parents and guardians.

Drinking water operator certification and training

Ontario's drinking water system operators must be trained and certified according to the type and class of system they operate. Depending on the classification level of the drinking water system in question, operators must complete between 60 and 150 combined hours of continuing education and on-the-job training every three years to renew their certificates. Operators can hold multiple certificates, allowing them to work in more than one type of drinking water system.

As of October 31, 2023, Ontario had 7,756 certified drinking water operators, holding 11,404 certificates in total. Of these operators, 173 were employed as system operators in First Nations across the province, holding 255 drinking water operator certificates in total.

The Walkerton Clean Water Centre provides training for operators and owners of drinking water systems province-wide, with a focus on small and remote communities including First Nations. As of October 24, 2023, more than 400 participants from 113 First Nation communities had been provided with high-quality operator training programs on water treatment equipment, technology and regulatory requirements since the Walkerton Clean Water Centre opened its doors in 2004. Operator training programs also cover environmental issues such as water conservation and energy efficiency, with the aim of increasing the sustainability of drinking water operations.

Actions to support the delivery of clean, safe drinking water in Ontario

Accreditation audits for drinking water systems and drinking water testing services

Municipal residential drinking water systems and licensed laboratories are required to be accredited by third-party organizations designated as accreditation bodies for the purpose of accreditation under the *Safe Drinking Water Act, 2002* (<https://www.ontario.ca/laws/statute/02s32>) .

In 2023, all operating authorities for the drinking water systems were accredited to the requirements of the Drinking Water Quality Management Standard and no accreditations were revoked or suspended. Likewise, all licensed laboratories were accredited to the requirements of the standard for testing and calibration laboratories and none of the licensed laboratories had their laboratory accreditation status suspended or revoked.

Municipal drinking water licence renewals (commencing early 2024)

The *Safe Drinking Water Act, 2002* requires municipal drinking water systems to be licensed and that licences be renewed every five years. To be licensed, municipalities must have:

- a valid Permit to Take Water if the system draws water from a well or surface water source and if they are taking more than 50,000 litres of water a day
- a valid Drinking Water Works Permit for the infrastructure that makes up the system
- an accepted Operational Plan that contains the information necessary to conform with the requirements of Ontario's Drinking Water Quality Management Standard (DWQMS)

- a financial plan for the system that meets the requirements of *Ontario Regulation 453/07* of the *Safe Drinking Water Act, 2002*

In early 2024, the ministry will enter the third-round of municipal drinking water licence renewals since the program began in 2009. At renewal, the ministry undertakes a full technical review of the system, confirming that the above items remain in place for the system, that it can still effectively produce water that meets provincial standards and that the licence and permit contain the most up-to-date conditions for the provision of safe drinking water.

Actions to support First Nation communities

First Nation communities in Ontario have the highest number of long-term drinking water advisories (<https://www.sac-isc.gc.ca/eng/1614386700861/1614386717841>) in the country. As of November 1, 2023, there were 19 long-term drinking water advisories impacting 20 First Nation communities in Ontario.

Although the federal government and First Nations share primary responsibility for providing safe drinking water on First Nations' reserves, our government is committed to engaging with, and providing technical support to, First Nations communities and Tribal Councils that request assistance to help resolve the issue of water quality on First Nation reserves.

Ontario continues to collaborate with our provincial agencies (the Walkerton Clean Water Centre and the Ontario Clean Water Agency), the federal government and First Nations to help provide First Nations communities with the tools they need to support the resolution of long-term drinking water advisories and promote sustainable water management and infrastructure solutions on reserve.

In March 2023, with funding provided by the ministry, the Walkerton Clean Water Centre began a multi-year project engaging with First Nations communities. The goal of this project is to improve awareness and accessibility of existing services; to develop, as necessary, new and more effective approaches to help strengthen and improve how services are delivered; and to build capacity and support First Nations drinking water systems and their operators, management, and leadership. The

Walkerton Clean Water Centre has been providing First Nations communities with training and services since 2016 and is well-positioned to collaborate with First Nations communities on this important work. The first stage of this project, currently underway, involves partnering with First Nations to plan and conduct ‘Voice of Customer’ sessions involving community representatives and drinking water system operators, to help identify and better understand the diverse drinking water needs of communities. Following these sessions, further analysis will be done to identify areas for improvement and priorities for provincial services and delivery. It is anticipated that the project will be completed in early 2025.

Training and other support services

With the support of the ministry, the Walkerton Clean Water Centre provides a state-of-the-art facility and highly skilled research and training staff to meet the specific needs of drinking water operators in First Nation communities. Various courses for operators and managers of First Nations drinking water systems were delivered this year: 2 classroom session of Entry-Level Course for Drinking Water Operators for First Nations; 5 classroom sessions of Managing Drinking Water Systems in First Nations Communities; and 15 sessions of specialized training. As of October 2023, 234 individuals had successfully completed the Entry-Level Course for Drinking Water Operators for First Nations, and 193 had successfully completed Managing Drinking Water Systems in First Nation Communities.

The Walkerton Clean Water Centre also offers a pilot testing program (<https://wcwc.ca/services/pilot-testing/>) to help First Nation drinking water system owners and operators better understand source water characteristics, treatment process performance and alternative treatment options. Pilot testing can address different water quality challenges such as:

- organics and disinfection by-product formation
- taste and odour compounds
- metal contaminants
- cyanobacteria and algal toxins
- plant optimization

During the 2022-23 fiscal year, the Walkerton Clean Water Centre had completed 5 pilot testing projects for First Nations clients, and 4 projects were ongoing.

The Ontario Clean Water Agency (OCWA) helps protect public health by operating water and wastewater plants safely and supports First Nations water hubs with capital, maintenance and technical projects. In 2022, OCWA created a First Nations Regional Hub to focus exclusively on supporting sustainable water and wastewater operations and maintenance services in First Nations communities. Their key priorities for 2023 include responding to water and wastewater emergencies, operator capacity building and peer mentoring, technical and hosted services such as computerized maintenance management systems and remote monitoring installation.

Throughout 2023, OCWA also supported several First Nations communities with

emergency response efforts, including Wabaseemoong Independent Nation during their drinking water reservoir hydrocarbon contamination. OCWA has also been providing ongoing emergency operation and maintenance services to Neskantaga First Nation, a fly-in community in northwestern Ontario, since November of 2020.

In 2021, OCWA established a First Nations Advisory Circle (FNAC) to gain a greater understanding of the broader water issues facing First Nations communities from an Indigenous perspective. The Advisory Circle, which reports to OCWA's Board of Directors through the Board's First Nations Committee, meets at least 4 times annually and is comprised of a diverse group of Indigenous members representing a variety of backgrounds, experiences and communities. The Advisory Circle provides advice and recommendations on the integration of First Nation perspectives into OCWA's strategies and how OCWA can enhance its partnerships with First Nations communities to better support their water and wastewater needs and concerns.

Actions to protect water sources

Investing in Lake Simcoe improvement projects

Ontario has invested annually to support its partners including the Lake Simcoe Region Conservation Authority, community-based groups, researchers and other organizations to continue to build on the significant progress made to protect and restore Lake Simcoe. In 2023, the Ontario government invested over \$1.3 million (<https://news.ontario.ca/en/release/1003789/ontario-supporting-local-projects-to-protect-lake-simcoe>) in four new multi-year projects to improve the ecological health of Lake Simcoe and its watershed and protect access to safe and clean water in the region. Learn about the measures Ontario has taken to implement the Lake Simcoe Protection Plan (<https://www.ontario.ca/page/protecting-lake-simcoe>).

***Clean Water Act* and source protection plan update**

Ontario continues to ensure our sources of drinking water are protected through ongoing oversight and implementation of the source protection program under the *Clean Water Act, 2006* (<https://www.ontario.ca/laws/statute/06c22>). Local conservation authorities acting as 'source protection authorities', along with 19 source protection committees, support implementing these source protection plans including ensuring they are kept up to date.

Source protection plans have been in effect for all 38 source protection areas in Ontario since 2016. These locally developed plans contain policies to protect sources of drinking water for almost 440 municipal drinking water systems (and 3 First Nations' systems) from risks such as handling or storage of road salt, fuel, pesticides, and other activities that can be detrimental to the quality and quantity of our drinking water.

Ontario continues to fund source protection authorities to carry out their duties in this role, and support municipalities in meeting their obligations, which includes keeping their plans up to date.

The ministry continues to provide strong leadership for the program, including maintaining the technical work and making source protection plans available in a central, public-facing mapping tool, the Source Protection Information Atlas (<https://www.lioapplications.lrc.gov.on.ca/SourceWaterProtection/index.html?viewer=SourceWaterProtection.SWPViewer&locale=en-CA>) (SPIA). For example, in 2022, 9 source protection plans were updated or amended to address new or changing systems, and the ministry made associated updates to the SPIA to keep stakeholders, municipalities, government and the public aware of changes to the vulnerable areas. SPIA is also used by consultants and project proponents to understand and mitigate the potential impacts of new projects on the source of drinking water and receives over 100,000 user sessions per year.

The ministry also delivered 2 training sessions to help ensure municipalities have qualified risk management officials and inspectors in place to carry out their duties under the *Clean Water Act, 2006*.

By the end of 2022, local source protection authorities reported that cumulatively:

>270

More than 270 municipalities are updating their official plans to implement land use planning policies to prohibit certain activities that pose a risk to sources of drinking water, such as septic systems, the storage of pesticides and waste disposal sites.

>1,710

More than 1,710 property-specific risk management plans are in place across the province, covering over 2,100 properties and addressing over 3,300 drinking water threat activities, such as the handling and storage of road salt, fuel, or organic solvents, among other activities.

99.7%

Provincial ministries have completed 99.7% of the review and amendments to their prescribed instruments (i.e., permits, approvals, licences, etc. that govern existing drinking water threat activities).

7,000

Over 7,000 septic systems are undergoing regularly scheduled inspections.

>2,100

Over 2,100 road signs have been installed across the province on certain municipal roads and provincial highways to help increase awareness of drinking water protection zones.

The source protection authorities also note achievement in communicating the importance of source water protection. For example:

- In the Credit Valley-Toronto and Region-Central Lake Ontario (CTC) source protection region, the Lake Ontario Collaborative Group, with support from the Ontario government, installed real-time water monitoring stations in Lake Ontario Water to monitor water quality, allowing forecasting of potential impacts from contaminant spills to their water treatment plant intakes. Phase 2 of this work is underway, including updated spill tracking and additional lake monitoring equipment installation.
- The City of Windsor implemented the Basement Flooding Subsidy program to

promote disconnecting foundation drains in home and buildings to reduce storm/ground water flows to storm or combined sewers.

- The City of Greater Sudbury launched a Road Salt Campaign that distributed 400 handouts on responsible salt use to local businesses with information on winter preparedness tips, a Smart About Salt training and certification coupon, source protection maps, and a salt cup flyer. The Road Salt Campaign was featured on CBC Radio and in a Time Magazine article.

- The Mattagami source protection region carried out several education and outreach programs, including the Yellow Fish Road program, participated by 248 students who marked 194 storm drains and distributed over 713 educational door hangers through the City of Timmins. In addition, a new Drinking Water Protection Zone video was developed and featured Mattagami Region Source Protection Committee members.
- Using the best practices for source water protection (<https://www.ontario.ca/document/best-practices-source-water-protection>), the Mississippi-Rideau source protection region initiated a project to study private drinking water systems on lakes in the Rideau Valley watershed not currently part of the source protection plan. The study includes identifying the location of individual intakes and wells, a risk assessment and determining how at risk intakes and wells are to contamination. The end goal is to better understand how to best protect their source of drinking water. The project will be completed in early 2024.

First Nations work on best practices for source water protection

In early 2023, the ministry entered into agreements with two First Nations to fund work related to the best practices for source water protection (<https://www.ontario.ca/document/best-practices-source-water-protection>) — a range of simple, cost-effective tools to protect their source(s) of drinking water that are not included in provincially approved source protection plans. This is an opportunity for participating communities to further understand their drinking water systems and source waters, and identify risks and actions they can take to protect their drinking water sources (for example, septic system maintenance and proper chemical storage). Additionally, the ministry is actively working with other First Nations that have expressed interest in applying the best practices in their communities.

Ontario Community Environment Fund

In April 2023, the ministry opened the 2023 Ontario Community Environment Fund (OCEF) funding round for applications. This is the second funding round since the re-launch of OCEF in 2021. Supported by funds collected through the ministry's environmental penalty framework, over \$1.5 million in funding was made available for local environmental projects in the MECP enforcement regions where the penalties were collected. For the 2023 funding round, this included Northern Region (approximately \$75,000 in funding), West Central Region (approximately \$364,000 in funding) and Southwest Region (approximately \$1.1 million in funding).

Funding is available for 2 different kinds of environmental improvement projects:

1. Increasing environmental restoration and remediation activities which repair

environmental harm. For example:

- rebuilding fish habitat and creating fish spawning beds
- restoring streams to improve habitat and water quality

2. Resilient communities and local solutions to environmental issues. For example:

- improving the resilience of natural ecosystems by restoring wetlands and preserving areas of significant environmental and ecological importance
- environmental monitoring that provides data to understand and support the protection and conservation of the natural environment.

The application period closed in June 2023 and the ministry is aiming to notify applicants and award funding in early 2024.

Great Lakes Strategy 2nd progress report

Ontario's Great Lakes Strategy is a key tool under the *Great Lakes Protection Act, 2015* (<https://www.ontario.ca/laws/statute/15g24>) to protect and restore the Great Lakes, and includes the province's priority actions to improve water quality, restore natural features and native species, grow a sustainable economy and support community-led activities to protect the Great Lakes. The second progress report (<https://www.ontario.ca/page/ontarios-great-lakes-strategy-second-progress-report#section-1>) on the strategy was released on May 26, 2023. The report includes actions and achievements undertaken by 16 ministries over the past several years to implement Ontario's Great Lakes Strategy.

Examples of progress on actions in the Strategy include:

- advancing work with Canada and Great Lakes partners to restore 14 historically degraded areas around the Great Lakes
- 2,500 farms, comprising of over 590,000 acres of farmland, are now actively implementing the 4R Nutrient Stewardship program to effectively retain nutrients within the fields and prevent their runoff into water sources
- Ducks Unlimited Canada, through its partnership with the Eastern Habitat Joint Venture, has made investments to safeguard approximately 3,800 acres of wetland and 9,900 acres of upland habitats within the Great Lakes Basin
- expanding the Great Lakes Waterfront Trail, which now stretches over 3,600 kilometers and connects 155 communities, villages and First Nations communities
- restoring and enhancing over 4,200 acres of wetlands across Ontario through 180 Wetlands Conservation Partner Program (<https://www.ontario.ca/page/wetlands-conservation-partner-program>) projects

Water Opportunities Act, 2010

The *Water Opportunities Act, 2010* (<https://www.ontario.ca/laws/statute/10w19>) requires

public reporting by the Minister of the Environment, Conservation and Parks at least once every three years. This is the fourth progress report on the implementation of the Act and covers the period from 2020 to 2023.

Encouraging people to conserve and use water more efficiently

Ontarians remain one of the lowest per capita water consumers across Canada and Ontario's average residential water use continues to decline. Ontario's average daily residential water use per capita of 172 litres is lower than the Canadian average of 215 litres and lower than nine other provinces and territories, according to Statistics Canada (2019).

Ontario's average residential water use declined by 17% from 2011-2019, from 208 litres per person per day in 2011 to 172 litres in 2019, demonstrating a continued trend toward lower water consumption in the province's residential sector. One of the aims of the *Water Opportunities Act, 2010* is to encourage Ontarians to use water more efficiently by creating and implementing innovative approaches to conservation. The province and broader public sector play a leadership role in this area. Several activities that support achieving the goals of the *Water Opportunities Act, 2010* are already underway or planned.

Ontario's Building Code (<https://www.ontario.ca/page/ontarios-building-code>) has increasingly progressive requirements to reduce water consumption from plumbing fixtures such as showerheads, toilets, urinals and faucets. Ontario made changes to its Building Code that came into effect on January 1, 2020 to enhance water efficiency in new construction and renovations. Changes include requirements related to lower-flow public and residential washroom faucets as well as requiring automatic water shut-offs in public showers (such as recreation centres) and urinals when they are not in use. These changes align Ontario's Building Code with National Plumbing Code requirements. Reducing the amount of water that is used and wasted helps to save money and the energy that municipalities use to pump and treat water. It also keeps excess water out of sewage systems that might otherwise be overwhelmed during storm events.

Ontario sets water efficiency standards for energy consuming products which also consume water through *Ontario Regulation 509/18, Energy and Water Efficiency — Products and Appliances* (<https://www.ontario.ca/laws/regulation/180509>), under the *Electricity Act, 1998* (<https://www.ontario.ca/laws/statute/98e15>). The regulation includes water efficiency standards for appliances and products such as clothes washers, dishwashers, pre-rinse spray valves and ice makers. Energy and water efficiency standards for these products are harmonized with the US Department of Energy (DOE) and are updated automatically when DOE changes their standards. This keeps Ontario's regulation up to date and aligned with leading jurisdictions in North America.

Ontario Regulation 506/18: Reporting of Energy Consumption and Water Use (<https://www.ontario.ca/laws/regulation/180506>), made under the *Electricity Act, 1998* (<https://www.ontario.ca/laws/statute/98e15>), requires owners of prescribed properties that are 50,000 square feet or larger to report their buildings' annual energy and water use to the Ministry of Energy by July 1st of each year.

This initiative helps building owners and operators access accurate and reliable information about building performance, save money by tracking usage, identify energy and water efficiency opportunities, and compare energy and water usage to similar buildings. Exemptions to reporting are available for those that meet specific exemption criteria. Portions of the data collected under the regulation are publicly disclosed on the Ontario Data Catalogue. Making this information publicly available can help building owners better manage energy and water use and costs.

Improving municipal wastewater and stormwater infrastructure to be more sustainable

Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure (<https://www.ontario.ca/laws/regulation/170588>) came into effect on January 1, 2018 and required all 444 municipalities in the province to prepare asset management plans for their core infrastructure assets (including drinking water, wastewater and stormwater) by July 1, 2022 and all other assets by July 1, 2024. By July 1, 2025, all municipalities must have a comprehensive asset management plan in place for all their infrastructure that builds upon the asset managements plans completed by 2024. A comprehensive asset management plan includes an identification of proposed levels of service, activities required to meet proposed levels of service, and a strategy to fund these activities.

The regulation has been designed to improve the standardization and consistency of municipal asset management planning information which could help the province and municipalities work collaboratively to address structural challenges and better target funding resources and financing tools. Municipalities’ asset management plans for their core infrastructure are now posted online by each municipality.

Ontario provides municipalities with support for critical wastewater and stormwater infrastructure through the Ontario Community Infrastructure Fund (OCIF). Through the OCIF, the Ministry of Infrastructure (MOI) provides formula-based funding to 425 small, rural and northern communities to renew and rehabilitate core infrastructure, including roads, bridges, water, wastewater and stormwater projects. Communities may accumulate their annual grant funding for up to five years to address larger infrastructure projects and will report on how and when banked funds will be used.

In 2022, MOI provided \$400 million in funding to the OCIF, which was an increase of \$200 million from the previous year. In 2023, OCIF continued to provide \$400 million in grant funding under the OCIF.

Ontario also invests in critical infrastructure through the Investing in Canada Infrastructure Program (<https://www.infrastructure.gc.ca/plan/icp-pic-INFC-eng.html>) (ICIP), which represents up to \$30 billion in combined federal, provincial and partner funding. The provincial investment of approximately \$10 billion includes transit, green, community, culture and recreation, rural and northern and other priority infrastructure under the ICIP. These investments help communities meet the demand for infrastructure renewal, respond to a changing climate, and support economic growth.

As part of the ICIP, Ontario is investing \$182 million to support the rehabilitation and

replacement of existing water, drinking, wastewater and stormwater infrastructure facing critical health and/or safety risk.

In January 2022, the Ontario government committed \$25 million to build, upgrade and rehabilitate storm and wastewater infrastructure in the province. This investment includes dedicating \$15 million to improve aging and outdated stormwater and wastewater infrastructure in 18 Ontario municipalities to enhance water efficiency and reliability. The remaining \$10 million will help 19 municipalities to upgrade sewage monitoring and public reporting capacity.

As announced in the 2023 Fall Economic Statement, Ontario is also investing \$200 million over three years in a new Housing-Enabling Water Systems Fund as another step in protecting communities and helping to unlock new housing opportunities. Eligible municipalities will be able to apply for funding for the repair, rehabilitation and expansion of core water, wastewater and stormwater projects that promote growth and enable housing development.

Fostering innovative water management

The Walkerton Clean Water Centre (WCWC) safeguards drinking water for Ontarians through high quality training, applied research and technology demonstrations. The WCWC co-ordinates and delivers education and provides information, advice and training to owners, operators, and operating authorities of Ontario's drinking water systems and the public.

Ontario works in partnership with WCWC to support innovative water initiatives, such as pilot testing services related to source water quality, treatment performance and alternative treatment technologies which are performed at WCWCs Technology Demonstration Facility and on-site.

The Ontario Clean Water Agency (OCWA) was established in 1993 to provide water, wastewater, and related services to clients in a manner that protects human health and the environment and encourages the conservation of water resources. Four and a half million Ontarians rely on OCWA for clean water.

OCWAs core business is the operation and maintenance of water and wastewater treatment facilities and their associated distribution and collection systems on behalf of municipalities, First Nations communities, institutions, and private sector companies.

OCWA also offers a broad array of related services, including engineering, training, technical and advisory solutions, process optimization, and energy and asset management. OCWA incorporates a climate adaptation and resiliency lens into consideration of future facility optimization and capital improvement projects.

OCWA assists municipalities in developing and implementing asset management plans to support optimization and understanding of capital expenditures, climate change related risks, and sustainability of water and wastewater infrastructure. Comprehensive asset management plans help clients maximize efficiency and enhance the resiliency of their water and wastewater infrastructure, with the need

greatest in small to medium sized communities lacking staff and expertise.

The agency also offers a series of free “Water Talks” webinars on a quarterly basis, led by OCWA subject matter experts. Webinar topics range from introducing operational technologies and innovation to educating participants on regulatory requirements and important or emerging environmental issues.

Working with partners such as the Ontario Water Consortium and other innovative technology partners, OCWA helps to identify, assess, pilot and implement new and emerging technologies that will improve the operation of water and wastewater facilities province-wide.

Examples of recent projects include a pilot to divert 50 percent of the biosolids from the South Peel Clarkson wastewater facility from incineration to beneficial use, and a pilot demonstration to promote innovative approaches to lagoon cleaning and sludge management in the Town of Bruce Mines.

OCWA, (in collaboration with the Ministry of the Environment, Conservation and Parks (MECP), the Ministry of Health, other government organizations, and Ontario universities), established a provincial wastewater-based epidemiology program, beginning with a pilot in 2021. Detection and monitoring of SARS-CoV-2 (COVID-19) genetic signatures in wastewater identifies the existence or increased prevalence of COVID-19 in specific communities. OCWA and MECP also supported the development of a Royal Society of Canada policy brief to enhance wastewater surveillance programs in Ontario and across Canada.

OCWA has established relationships and developed partnerships with several water technology companies over the years to support the development and testing of their new technologies with the goal of addressing the agency’s client and operational needs. The agency will continue to work with these companies in 2023 and beyond and to look for opportunities to collaborate with new partners.

Conserving and sustaining water resources

After several years of engagement with the public, including engagement with Indigenous communities, MECP has advanced how water quantity is managed in Ontario to ensure water resources are protected and used sustainably, now and in the future. This included an extensive review of the policies, programs and science tools used to manage water takings across the province, including groundwater takings for water bottling. It also included an assessment of the state of water resources in select areas of Ontario and the effect water takings, population growth and climate change may have on these resources.

The review confirmed that Ontario has a strong foundation of policies, programs, and science tools for managing water takings. The review found that groundwater and surface water resources are generally sustainable under current climate conditions and levels of water use. An independent third-party review validated the ministry’s findings that water takings for bottling are managed sustainably in Ontario under the existing water taking framework and that bottled water takings are not impacting the sustainability of groundwater resources. All reports associated with the review are

available for download at: “Updating Ontario’s Water Quantity Management Framework (<https://ero.ontario.ca/notice/019-1340>) .”

The review identified opportunities to enhance the current water taking framework to be more resilient to current and future water quantity management challenges. To that end, the ministry moved forward with enhancements to the province’s water taking program as part of its commitment to help ensure that Ontario’s water resources are protected and used sustainably, now and for future generations.

The new rules came into effect on April 1, 2021. These changes included:

- Requiring water bottling companies to have the support of their host municipalities for new or increased water takings.
- Establishing priorities of water use that can guide the ministry’s decisions on how water should be shared among water users when there are competing demands for water. The ministry has published guidance to support the implementation of the new priorities of water use (<https://www.ontario.ca/page/guidance-support-priorities-water-use>) policy.
- Putting in place a new, more flexible approach for assessing and managing water takings in areas of the province where water sustainability is a concern. The ministry has published guidance to support the implementation of the new area-based water quantity management (<https://www.ontario.ca/page/guidance-support-area-based-water-quantity-management>) policy.
- Enabling the ministry to make more water taking data available to the public to increase transparency of how Ontario manages water resources. Actual volumes of water (<https://data.ontario.ca/en/dataset/water-taking>) taken by permitted water takers was made available to the public starting in July 2022.

Conclusion

The data summarized in this report and in the Chief Drinking Water Inspector’s Annual Report shows that Ontario continues to have clean and safe drinking water that is among the best protected in the world. Our collaborative approach to drinking water management, combined with our strong protection framework, will continue to help ensure protection of water sources and that our drinking water is held to Ontario’s high safety standards.

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