

From: Sabrina Pandolfo
Sent: Tuesday, November 27, 2018 3:52 PM
To: craig.d
Cc: Roxanne St. Germain
Subject: FW: 2017-2018 Chief Drinking Water Inspector Annual Report Now Available/ Publication du Rapport annuel 2017-2018 de l'inspectrice en chef de l'eau potable

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Public Wks ☐ S ☐ C
PPP ☐
Social Services ☐

From: Water, Drinking (MECP) [mailto:Drinking.Water@ontario.ca]
Sent: Tuesday, November 27, 2018 3:08 PM
To: Sabrina Pandolfo <projects@temagami.ca>
Subject: 2017-2018 Chief Drinking Water Inspector Annual Report Now Available/ Publication du Rapport annuel 2017-2018 de l'inspectrice en chef de l'eau potable

The Ministry of the Environment, Conservation and Parks has released the 2017-2018 Chief Drinking Water Inspector Annual Report.

This report highlights efforts to provide the people of Ontario with high quality drinking water that is among the best protected in the world.

Visit Ontario's Open Data Catalogue to see our supporting [Drinking Water Quality and Enforcement](#) data.

Le ministère de l'Environnement, de la Protection de la nature et des Parcs a publié le Rapport annuel 2017-2018 de l'inspectrice en chef de l'eau potable.

Ce rapport souligne les efforts qui sont déployés pour fournir à la population de l'Ontario de l'eau potable de grande qualité, l'une des mieux protégées au monde.

Consulter le Catalogue de données ouvertes de l'Ontario pour voir nos données sur la qualité de l'eau potable et l'application des règlements.



2017-2018 Chief Drinking Water Inspector Annual Report

Get information on the performance of our regulated drinking water systems and laboratories, drinking water test results, and enforcement activities and programs.

Message from the Chief Drinking Water Inspector

I am pleased to report that Ontario's drinking water is once again among the best protected in the world. The 2017-18 annual drinking water report shows how key actions are keeping Ontario's drinking water clean and safe.

In 2017-2018:

- 99.8% of the more than half a million drinking water test results from municipal residential drinking water systems met Ontario's drinking water quality standards.
- 99.8% of 659 municipal residential drinking water systems received an inspection rating indicating compliance of over 80% with Ontario's regulations. Seventy-five per cent of systems inspected had a perfect rating of compliance.
- 95.6% of the over 87,000 test results met Ontario's standard for lead in drinking water at schools and child care centres. When looking at flushed samples only, this number increases to 97.6%.
- 6,937 operators were certified to run drinking water systems.
- Eight drinking water systems and two drinking water testing laboratories were convicted and fined \$314,500.

More detailed information on the 2017-18 results can be found on the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page of the [Open Data Catalogue](https://www.ontario.ca/search/data-catalogue) (<https://www.ontario.ca/search/data-catalogue>).

This report includes:

- Information on drinking water test results
- Inspections of drinking water systems and laboratories
- Compliance and enforcement actions taken
- An update from Dr. David C. Williams, the Chief Medical Officer of Health for Ontario, on the performance of regulated small drinking water systems

Ontario uses a risk-based approach to regulate drinking water systems. This means that we identify and evaluate problems and then rank them in order of importance so that we can focus resources on the ones that are most urgent first. We work with partners such as municipalities, local source protection committees and the Ministry of Health and Long-Term Care and apply a variety of tools to help ensure drinking water is protected while not burdening regulated stakeholders.

Providing safe, high quality drinking water to people across Ontario is a vital undertaking and requires skill, expertise and effective working relationships. Through our continued collaborations, we will help ensure that the province's drinking water remains safe and clean for the people of Ontario.

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Chief Drinking Water Inspector (Acting)

Ministry of the Environment, Conservation and Parks

Introduction

Drinking water systems in Ontario are regulated by the Ministry of the Environment, Conservation and Parks and the Ministry of Health and Long-Term Care.

The Ministry of the Environment, Conservation and Parks regulates:

- Municipal residential drinking water systems that are owned by municipalities and serve homes and businesses.
- Non-municipal, privately owned drinking water systems serving year-round residential facilities, such as apartment buildings, condominiums, private subdivisions or trailer parks.
- Drinking water systems that service designated facilities such as children's camps and senior care homes that are not connected to municipal systems.

The Ministry of the Environment, Conservation and Parks does not regulate drinking water from private wells. Home owners that receive their drinking water from a private well on their property can find information about their responsibilities at Wells on your property (<https://www.ontario.ca/page/wells-your-property>).

The Ministry of Health and Long-Term Care regulates:

- Small drinking water systems that provide drinking water to the public where no municipal drinking water system exists, such as restaurants, bed and breakfasts, campgrounds and other public settings.

Ontario's drinking water protection framework

The government uses a number of tools and processes to help prevent contamination, detect and address drinking water quality issues and take other actions. These tools and processes include:

Source-to-tap focus

- Safeguards are in place to address risks to the quality of drinking water, and identify potential issues before problems occur.

Strong laws and regulations

- The *Safe Drinking Water Act* (<https://www.ontario.ca/laws/statute/02s32>), the *Clean Water Act* (<https://www.ontario.ca/laws/statute/06c22>), the *Health Protection and Promotion Act* (<https://www.ontario.ca/laws/statute/90h07>) and their regulations help form the foundation for the drinking water protection framework.

Health-based standards for drinking water

- Standards are based on science, and are regularly reviewed to provide protection.

Regular and reliable testing

- Licensed and eligible laboratories test hundreds of thousands of drinking water samples from the regulated systems to help ensure that drinking water quality meets Ontario's health-based standards.

Swift, strong action on Adverse Water Quality Incidents

- The government oversees, monitors and takes action if an event such as an adverse test result occurs.

Mandatory licensing, operator certification and training requirements

- Licensed municipal drinking water systems, trained and certified drinking water system operators and municipal drinking water system owners across the province are a component of the protection framework.

A multi-faceted compliance improvement toolkit

- The toolkit includes providing information to increase understanding to enable informed and effective actions, targeted inspections to confirm compliance and, where necessary, enforcement actions to address significant non-compliance issues. All efforts are targeted based on the level of risk posed.

Partnership, transparency and public engagement

- The ministry works with partners to deliver safe drinking water to the people of Ontario.
- The ministry produces the Chief Drinking Water Inspector's and the Minister's annual reports on drinking water.
- Data, information and test results from drinking water systems and facilities, is available on Ontario's Open Data Catalogue.

Source water protection in Ontario

Ontario communities rely on safe and clean drinking water that can be passed onto future generations. Preventing the contamination and depletion of our lakes, rivers and groundwater sources is an important first step in protecting drinking water.

That's why 19 local source protection committees were formed across Ontario with representatives from municipalities, First Nations, industry, the farming community and the general public. These committees identified local activities that could pose a risk to their municipal water supplies and developed source protection plans to address those risks.

These local plans cover an area where over 95% of Ontarians live. Plans are being carried out and

Ontarians are kept informed on progress annually.

In the summer of 2018, further improvements were made to Ontario's source protection program. A new regulation entitled the *Municipal Residential Drinking Water Systems in Source Protection Areas (O. Reg. 205/18)* (<https://www.ontario.ca/laws/regulation/r18205>) under the *Safe Drinking Water Act* (<https://www.ontario.ca/laws/statute/02s32>) came into effect to ensure source protection planning is in place for new and expanding municipal drinking water systems, before water is treated for public use.

Drinking water quality standards

Ontario's strict health-based standards help ensure high quality drinking water is delivered from the source to the consumer. These standards, covering microbiological organisms and chemical and radiological substances, are listed in the *Ontario Drinking Water Quality Standards regulation (O. Reg. 169/03)* (<https://www.ontario.ca/laws/regulation/030169?search=e+laws>) under the *Safe Drinking Water Act* (<https://www.ontario.ca/laws/statute/02s32>).

The province regularly updates its drinking water quality standards to reflect the most recent scientific findings. They are developed based on the Canadian Drinking Water Guidelines, which are created by a joint committee made up of federal, provincial and territorial governments. The committee uses a risk-based process to assess scientific data and the risks posed by contaminants to human health to create the guidelines.

Following public consultation, the government turns these guidelines into provincial law by adopting them as standards in regulations. Provincial drinking water standards are only changed when necessary, which helps to ensure that the province is not imposing unnecessary regulatory burden or costs on taxpayers.

Microbiological standards

Ontario's drinking water quality standards include microbiological parameters. If organisms such as total coliforms and *Escherichia coli* (*E. coli*) bacteria are found in drinking water, the owner and operator of that system must report it and take action to fix the issue.

Chemical and radiological standards

Ontario's drinking water quality standards also establish the maximum allowable concentration of chemicals that can be present in drinking water. However, some adverse chemical test results may be due to naturally occurring deposits in the soil such as barium, fluoride or selenium.

In some parts of the province, naturally occurring radiological deposits such as uranium can also be present. In these areas, municipal residential drinking water systems are required to sample for these radiological parameters. No other drinking water systems are required to test for radiological parameters.

Overview of Ontario's requirements for the operation of a drinking water system

The ministry requires owners and operators of drinking water systems to treat the water and conduct regular monitoring and sampling. They must report any adverse water quality incidents to the ministry and the local medical officer of health. Drinking water systems are also inspected by the ministry. Routine

inspections assure the public that owners and operators of drinking water systems are fulfilling their legislated obligations. During an inspection, ministry staff evaluate requirements such as the operation of the treatment system, policy and procedures, sampling and monitoring, operator certification reporting and corrective actions.

Operational parameters such as chlorine levels, the cloudiness of the water (i.e. turbidity) and filter performance are routinely monitored on site by operators to ensure the effectiveness of the treatment. Owners and operators must also submit drinking water samples to licensed laboratories for testing. Laboratories test the samples to determine whether levels of specific contaminants in the water exceed Ontario Drinking Water Quality Standards. The ministry inspects these laboratories including their policy and procedures, methodology, document and record keeping practices and reporting.

Overview of Ontario's inspection program for drinking water systems

Municipal residential drinking water systems

Inspections of these systems occur over a five-year cycle. The ministry conducts a detailed inspection of these drinking water systems once in five years. In the other four years, the ministry conducts targeted inspections that examine key areas of the drinking water system. If the ministry finds a major violation during a targeted inspection, the ministry will conduct a detailed inspection. This approach allows the ministry to focus resources on higher risk systems and rewards systems with good operational performance by reducing burden.

Non-municipal year-round residential drinking water systems and systems serving designated facilities

The ministry conducts proactive, risk-based inspections of these drinking water systems. When considering which systems to inspect, the ministry assesses factors such as compliance history, the number and reasons for adverse water quality incidents and recommendations made by local public health units.

Summary of Ontario's drinking water test results

The Ministry of the Environment, Conservation and Parks regulates three types of drinking water systems:

- Municipal residential drinking water systems
- Non-municipal year-round residential drinking water systems
- Systems serving designated facilities

The drinking water test results show the quality of drinking water produced by Ontario's three regulated system types is high.

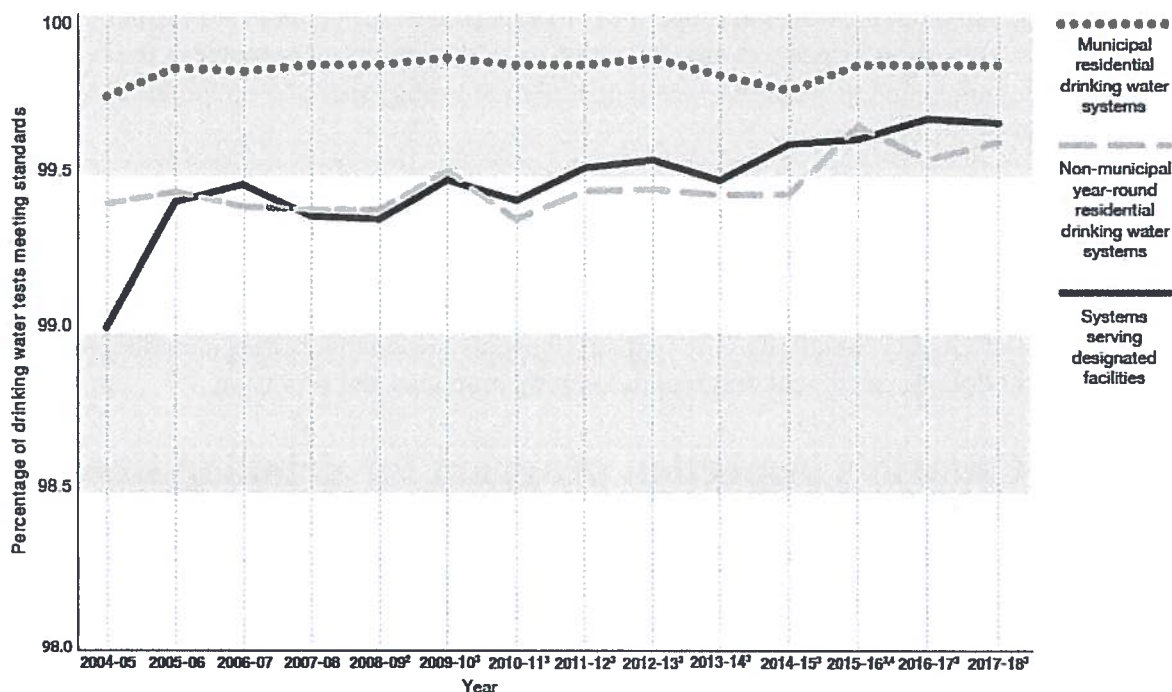


Figure 1 : Trends in percentage of drinking water tests meeting Ontario Drinking Water Quality Standards, by type of facility

[Figure 1 description]

A chart showing trends in percentage of drinking water tests meeting standards for municipal residential drinking water systems, non-municipal year-round residential drinking water systems and systems serving designated facilities over 14 years. The trend is consistent for all 3 system types showing that over 99% of drinking water test results since 2004-05 have met standards.

For municipal residential drinking water systems, the percentage of drinking water test results meeting standards ranged from 99.74% in 2004-05 to 99.84% in 2017-18.

For non-municipal year-round drinking water systems, the percentage of drinking water test results meeting standards ranged from 99.41% in 2004-05 to 99.53% in 2017-18.

For systems serving designated facilities, the percentage of drinking water test results meeting standards ranged from 99.06% in 2004-05 to 99.67% in 2017-18.

Notes for Figure 1:

¹ There were slight variations in the methods used to tabulate the percentages year-over-year due to regulatory changes and different counting methods.

² Lead results were not included as they were reported separately.

³ Lead distribution results were included but lead plumbing results were reported separately.

⁴ The total trihalomethanes running annual average calculation changed part way through fiscal

year 2015-16.

Adverse water quality incidents

The majority of test results from these systems show that the drinking water is safe. However, adverse water quality incidents happen when the test results do not meet the Ontario Drinking Water Quality standards or a drinking water system experiences an operational issue. Operational issues may include insufficient disinfection or equipment malfunction.

If an adverse result is identified at a laboratory, the laboratory must immediately notify the owner or operator of the system, the ministry’s Spills Action Centre and the local Medical Officer of Health.

The owners or operators of the drinking water system must also immediately notify the ministry’s Spills Action Centre and the local Medical Officer of Health. This duplication of reporting is a key component of the drinking water protection framework and helps to ensure all appropriate actions are taken.

An adverse water quality incident does not necessarily mean that the water is a risk to the consumer. It means that a potential problem has been identified and corrective actions must be taken to resolve the problem. Ministry staff and local public health units work with affected system owners and/or operators to resolve the issue. This could include resampling and retesting or fixing the operational issues.

If there is concern that the water may not be safe for public consumption, the local Medical Officer of Health may issue a drinking water advisory. Advisories that last for a minimum of 12 consecutive months are considered to be long-term advisories.

Municipal residential drinking water systems

These systems supply drinking water to more than 80% of Ontario’s population. Test results show that they continue to provide high quality drinking water to communities across the province.

In 2017-18:

- 99.84% of the 518,917 drinking water test results from 660 municipal residential drinking water systems met the standards.
- The total number of drinking water test results can be broken down as follows:
 - 99.85% of 460,143 test results met the microbiological standards (see Table 1).
 - 99.76% of 58,768 test results met the chemical standards.
 - 100% of six test results met the radiological standards.

Table 1: Breakdown of microbiological test results for municipal residential drinking water systems in 2017-18

Drinking water facility type	Parameter	Number of test results	Number of test results meeting standards	Number of adverse test results	Number of systems with adverse test results	Percentage of test results meeting Ontario’s Drinking Water Quality Standards
Municipal	E. coli	229,992	229,955	37	30	99.98

Drinking water facility type	Parameter	Number of test results	Number of test results meeting standards	Number of adverse test results	Number of systems with adverse test results	Percentage of test results meeting Ontario's Drinking Water Quality Standards
residential systems						
Municipal residential systems	Total coliform	230,151	229,505	646	196	99.72
Total	E. coli and total coliform	460,143	459,460	683	196	99.85

For more details on chemical and radiological test results, please visit the [Drinking Water Quality and Enforcement \(https://www.ontario.ca/data/drinking-water-quality-and-enforcement\)](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) page on the Open Data Catalogue.

In 2017-18, 1,357 adverse water quality incidents occurred at 378 systems and no new long-term advisories were reported.

Treated drinking water from Ontario's municipal drinking water systems is regularly tested for a number of contaminants, including lead. Treated water that leaves these systems has lead levels within Ontario's Drinking Water Quality Standard. However, any corrosion that exists in older distribution pipes, home service lines and plumbing may result in elevated lead levels at the tap.

The Lynden Drinking Water System has been under a long-term drinking water advisory since 2012-13 as a result of re-occurring high lead test results. Although the test results have remained below the Ontario Drinking Water Quality Standard since the issue first occurred, the advisory will remain in place until lead concentrations in the drinking water supply are stable. The municipality continues to assess and rectify the source of lead, offer residents on-tap filters certified for lead reduction, and search for an alternate water source.

Looking at the province as a whole, test results for lead in drinking water samples taken from taps (i.e. plumbing) in home and businesses supplied by municipal systems indicate that the majority continued to meet the Ontario standard. The table below shows that over 96% of tests in 2017-18 met the standard (Table 2).

Table 2: Summary of drinking water test results for lead in plumbing for municipal residential drinking water systems in 2017-18

Drinking water facility type	Parameter	Number of results	Number of lead exceedances	Number of systems with lead exceedances	Percentage of test results meeting standards
Municipal residential systems	Lead in plumbing [2]	5,090	169	26	96.68

Where lead levels exceed the provincial standard for municipal residential drinking water systems,

owners/operators are required to develop a strategy to reduce lead levels. These may be comprised of one or more tactics including:

- A corrosion control plan which may include the addition of a corrosion inhibitor to the treated water or the adjustment of the pH of the treated water.
- Replacement of lead service lines.
- Upgrades to a treatment plant.
- Public education and outreach to encourage homeowners to replace fixtures and plumbing that contain lead.

As of 2010-11, the ministry directed 20 municipalities to prepare strategies to control lead levels in drinking water. Since that time, eight municipalities have implemented their lead control strategies:

- Six completed implementing their corrosion control plans.
- Two have completed replacement of their lead service lines.

Twelve municipalities continue to make significant progress in addressing their lead issues:

- Four completed implementing their corrosion control plans and are replacing lead service lines.
- Two are in the process of implementing their corrosion control plans.
- Six are replacing lead service lines.

No additional municipal residential drinking water systems prepared lead control strategies in 2017-18.

The province inspects all municipal residential drinking water systems at least once a year to verify whether the owners and operators are complying with Ontario's regulatory requirements in the operation of their systems. In 2017-18, ministry staff inspected all 659 [3] systems.

An inspection rating is assigned to the system to indicate how well the operation of the system complied with regulatory requirements. Of the 659 inspections conducted, 99.8% received an inspection rating higher than 80% and 75% scored 100%.

When there are problems in the operation of a system, the ministry will work with the owners and operators to resolve it if the problem is not a major one or issue an order that directs the owners of the system to address the situation if it is. In 2017-18, when ministry inspectors observed any violations of regulatory requirements during inspections or as follow-ups to adverse water quality incidents, they worked with the owners and operators to bring the systems into compliance. No orders were issued to these municipal systems.

The Drinking Water Quality and Enforcement (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) webpage on the Open Data Catalogue provides additional details on these systems.

Non-municipal year-round residential drinking water systems

These are standalone, privately-owned systems that supply water on a year-round basis to six or more residences (e.g. trailer parks, apartments, condominium units, townhouses). In 2017-18, 460 of them were registered with the ministry.

In 2017-18:

- 99.53% of the 43,025 drinking water test results from 442 [4] non-municipal year-round residential drinking water systems met the standards.
- The total number of drinking water test results can be broken down as follows:
 - 99.61% of 31,389 test results met the microbiological standards (see Table 3).
 - 99.33% of 11,636 test results met the chemical standards.

Table 3: Breakdown of microbiological test results for non-municipal year-round residential drinking water systems in 2017-18

Drinking water facility type	Parameter	Number of test results	Number of test results meeting standards	Number of adverse test results	Number of systems with adverse test results	Percentage of test results meeting Ontario's Drinking Water Quality Standards
Non-municipal year-round residential systems	E. coli	15,694	15,680	14	9	99.91
Non-municipal year-round residential systems	Total coliform	15,695	15,586	109	62	99.31
Total	E. coli and total coliform	31,389	31,266	123	62	99.61

For more details on chemical test results, please visit the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page on the Open Data Catalogue.

In 2017-18, 192 systems reported 428 adverse water quality incidents including both operational issues that occurred at the system and adverse test results. Reports of adverse water quality incidents do not necessarily mean that the drinking water supplied by the system is unsafe for consumption. Regardless, owners and operators must take corrective actions to address all incidents.

Like municipal residential drinking water systems, the *Drinking Water Systems regulation (O. Reg. 170/03)* (<https://www.ontario.ca/laws/regulation/030170>) requires owners and operators of these systems to test samples of drinking water taken from the plumbing system of the private residences for lead to see if there are any exceedances. In 2017-18, the vast majority of test results met the standard for lead (see Table 4).

Table 4: Summary of drinking water test results for lead in plumbing for non-municipal year-round residential drinking water systems in 2017-18.

Drinking water facility type	Parameter	Number of results	Number of lead exceedances	Number of systems with lead exceedances	Percentage of test results meeting standards
Non-municipal	Lead in	1,442	22	8	98.47

Drinking water facility type	Parameter	Number of results	Number of lead exceedances	Number of systems with lead exceedances	Percentage of test results meeting standards
year-round residential systems	plumbing [2]				

During 2017-18, the ministry inspected 167 systems. Nine systems were issued orders due to their violations of regulatory requirements. For example, one order directed the owner of trailer park to hire a qualified person to run the system.

Detailed information on these systems can be found on the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) webpage of the Open Data Catalogue.

Local services boards

There are communities in Northern Ontario that are not governed by a municipal structure. These communities are run by a local services board that is also responsible for operating the drinking water system. In 2017-18, seven systems were inspected by the ministry. The ministry did not issue any orders to these systems.

Systems serving designated facilities

These are standalone systems that are not connected to municipal drinking water systems. They provide drinking water to facilities that follow special requirements such as children's camps, schools, health care centres and senior care homes. In 2017-18, 1,444 of these systems were registered with the ministry.

In 2017-18:

- 99.67% of the 63,635 drinking water test results from 1,330 [5] systems serving designated facilities met the standards.
- The total number of drinking water test results can be broken down as follows:
 - 99.64% of 38,114 test results met the microbiological standards (see Table 5).
 - 99.71% of 25,521 results met the chemical standards.

Table 5: Breakdown of microbiological test results for systems serving designated facilities in 2017-18

Drinking water facility type	Parameter	Number of test results	Number of test results meeting standards	Number of adverse test results	Number of systems with adverse test results	Percentage of test results meeting Ontario's Drinking Water Quality Standards
Systems serving designated facilities	E. coli	19,050	19,040	10	10	99.95

Drinking water facility type	Parameter	Number of test results	Number of test results meeting standards	Number of adverse test results	Number of systems with adverse test results	Percentage of test results meeting Ontario's Drinking Water Quality Standards
Systems serving designated facilities	Total coliform	19,064	18,938	126	78	99.34
Total	E. coli and total coliform	38,114	37,978	136	78	99.64

For more details on chemical test results, please visit the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page on the Open Data Catalogue.

In 2017-18, 299 systems reported 438 incidents.

The ministry uses a proactive, risk-based approach when determining which of these systems to inspect.

In 2017-18, 360 of 1,444 registered systems were inspected and ministry staff issued four orders to four systems. For example, one order directed the owner/operator to ensure that sampling, testing and monitoring requirements are met.

For detailed information on these systems, please visit the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) webpage of the Open Data Catalogue.

Schools and child care centres

The *Schools, Private Schools and Child Care Centres regulation (O. Reg. 243/07)* (<https://www.ontario.ca/laws/regulation/070243>) was created in Ontario to address potential sources of lead in drinking water including requirements for schools and child care centres to protect children's health.

Lead is generally not found in water that is supplied from municipal drinking water plants. Lead in drinking water is most likely to come from lead service lines and lead-containing components (e.g. pipes, solder and fixtures) used in plumbing, especially in buildings built before 1990.

Flushing the plumbing in these older buildings effectively reduces the lead content in the drinking water. Because flushing decreases the amount of time that the water stands in the facility's plumbing, the potential for lead from plumbing components that may contain lead to leach into the water is also reduced.

Schools, Private Schools and Child Care Centres regulation requirements

Facilities must:

- Flush their plumbing, either weekly or daily depending on risk factors
- Sample all taps and fountains used to provide water to children at least once, before and after the fixture was flushed, and test for lead
- Report lead levels above the provincial standard to the Ministry of Environment, Conservation and Parks as well as the local health unit and the Ministry of Education
- Take corrective actions to address high levels of lead in drinking water

Schools, Private Schools and Child Care Centres regulation amendments

The *Schools, Private Schools and Child Care Centres regulation* was amended in 2017 to further protect children's health. Studies showed that lead levels in drinking water from plumbing can vary substantially between individual taps or fountains. Testing each drinking water fixture used to provide drinking water or prepare food and/or drink for children gives assurance that children are not being exposed to lead through the facility's plumbing. The province amended the regulation requiring testing of all drinking water fountains and taps located in schools, private schools and child care centres by 2022.

To ensure that each drinking water fixture is tested for lead, the ministry created templates and an online, self-report survey to collect drinking water fixture inventory data from all regulated facilities. Ontario collected over 8,000 inventories from public schools, private schools and child care centres which enabled an assessment of sampling compliance to help target inspection sites as well as education and outreach resources.

The amendments recognize the effectiveness of NSF certified filters for lead reduction. The use of certified filters has been demonstrated to be as good as flushing or better in terms of minimizing lead exposure.

Furthermore, facilities must take immediate action at any tap or fountain where a test result from a flushed sample shows a lead exceedance by rendering the tap or fountain inaccessible to children by disconnecting or bagging it. Facilities could also replace the fixture, increase flushing, install a filter or other device that is certified for lead reduction, or take other measures as directed by the local Medical Officer of Health until the issue is resolved.

Government oversight

Where lead levels exceed the provincial standard, the Ministry of Education, local public health unit and the Ministry of the Environment, Conservation and Parks' Spills Action Centre all receive records from the facility operators identifying what corrective actions were taken and details of how the issue was resolved.

By monitoring reports from the Spills Action Centre, ministry inspectors make sure that the corrective actions issued by the local Medical Officer of Health to address adverse test results have been implemented by the facilities throughout the year and during inspections.

In addition, Ontario has implemented a compliance program which includes inspections and audits to check whether these facilities are following the rules.

Results

The test results from flushed samples show that the vast majority of schools and child care centres have had no issues with lead in their drinking water.

In 2017-18:

- 95.58% of 87,219 test results met the standard for lead in drinking water from schools and child care centres as shown in Table 6. Of these:
 - 97.64% of 43,582 flushed test results and
 - 93.53% of 43,637 standing test results met the standard.
- 7,755 schools and child care centres submitted flushed drinking water samples to licensed and eligible laboratories for lead testing. Of these facilities, 93.69% met the standard.
- Staff conducted 13 inspections and 60 compliance audits of the 11,544 registered facilities and did not issue any orders.

The fact that fewer flushed test results exceeded the standard than standing test results is consistent with previous years and demonstrates that flushing works.

Table 6: Test results for schools and child care centres under *O. Reg. 243/07* in 2017-18

Parameter	Number of results	Number of lead exceedances	Percentage of test results meeting Ontario's Drinking Water Quality Standards	Number of schools and child care centres submitting results	Number of schools and child care centres with lead exceedances	Percentage of schools and child care centres submitting results meeting standards
Lead-Flushed	43,582	1,028	97.64	7,755	489	93.69
Lead-Standing	43,637	2,824	93.53	7,772	1,148	85.23
Lead- Total for Standing and/or Flushed	87,219	3,852	95.58	7,779	1,223	84.28

For more details on these results, please visit the [Drinking Water Quality and Enforcement Catalogue](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page on the Open Data Catalogue.

Licensed and eligible laboratories

Before a laboratory can test a drinking water sample, it must meet certain requirements such as being accredited (i.e. meet competency requirements of internationally recognized standards) and licensed. Accreditation is performed by designated organizations that are outside of government.

The ministry grants licences for laboratories located within Ontario. Laboratories located outside of Ontario can also test Ontario's drinking water but must apply and satisfy Ontario's requirements and be placed on an [eligibility list](https://www.ontario.ca/page/list-licensed-laboratories) (<https://www.ontario.ca/page/list-licensed-laboratories>). Two laboratories located outside of Ontario but associated with laboratories inside Ontario have been given testing privileges.

All licensed laboratories are inspected by provincial staff at least twice a year to see if they are complying with regulatory requirements. In 2017-18, a total of 54 laboratories were inspected.

During an inspection, provincial inspectors ask questions and examine documentation and records pertaining to the requirements that a laboratory must meet. The ministry then assesses the information and assigns an overall rating of how the laboratory performed during the inspection. In 2017-18, all ratings were greater than 85% and 66% of all inspections resulted in perfect scores of 100%.

In 2017-18, the ministry issued five orders to four licensed laboratories. These orders encompassed non-compliance activities such as failing to immediately report exceedances and testing drinking water samples for parameters that the laboratory was not licensed to test. The [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page on the Open Data Catalogue provides details on these laboratories.

Compliance and Enforcement regulation requirements

The Ontario government itself is also legally accountable for its oversight role. The *Compliance and Enforcement regulation (O. Reg. 242/05)* (<https://www.ontario.ca/laws/regulation/050242>) of the *Safe Drinking Water Act* (<https://www.ontario.ca/laws/statute/02s32>) spells out the specific responsibilities that Ontario must carry out with respect to inspecting municipal residential drinking water systems and laboratories that test drinking water. These include:

- Inspecting all municipal residential drinking water systems yearly
- Ensuring at least one out of three inspections of each municipal residential drinking water system is unannounced
- Inspecting all licensed and eligible laboratories a minimum of twice a year and ensuring that at least one inspection is unannounced
- Reporting on any requests from the public asking for an investigation of an alleged contravention of the *Safe Drinking Water Act* or any of its regulations

In 2017-18, Ontario fulfilled its responsibilities under this regulation and no applications for an investigation were received from the public.

Convictions

The province holds those responsible for the provision of safe drinking water accountable for their actions.

In 2017-18, eight systems that supplied drinking water to residences such as trailer parks and retirement homes and two drinking water testing laboratories were convicted for committing serious violations (see Table 7). The convictions resulted in fines totaling \$314,500. The conviction statistics reflect the year in which the defendant was convicted and not the year in which the offence was committed. More information on these convictions is available on the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page on the Open Data Catalogue.

Table 7: Summary of convictions for drinking water prosecutions by facility type in 2017-18

Facility type	Number of facilities	Number of cases with convictions ^[6]	Fines
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Facility type	Number of facilities	Number of cases with convictions ^[6]	Fines
Municipal residential drinking water systems	0	0	\$0
Non-municipal year-round residential drinking water systems ^[7]	3	3	\$11,500
Systems serving designated facilities ^[7]	5	5	\$41,500
Schools and child care centres	0	0	\$0
Licensed laboratories ^[7]	2	3	\$261,500
Non-licensed facility	0	0	\$0
Total	10	11	\$314,500

Operator certification and training

The province of Ontario certifies and requires training for operators of regulated drinking water systems. Drinking water operator certification and training requirements are based on the facility they operate. Operators may work in more than one type of system and hold multiple certifications.

As of March 31, 2018, 6,937 drinking water operators held 9,416 certificates. Since March 31, 2008, the number of certified drinking water operators has increased by 694. This represents an 11% increase over the last 10 years. This means that today, owners of drinking water systems have a bigger pool of trained operators to choose from to run their systems.

More information on operator certification is available on the [Drinking Water Quality and Enforcement](https://www.ontario.ca/data/drinking-water-quality-and-enforcement) (<https://www.ontario.ca/data/drinking-water-quality-and-enforcement>) page on the Open Data Catalogue.

[Walkerton Clean Water Centre](https://www.wcwc.ca/en/) (<https://www.wcwc.ca/en/>) is a key partner in the delivery of operator training and education programs across the province. As of March 31, 2018, 76,106 participants completed courses provided by the Centre since its start.

In addition to offering mandatory training required for operator certification, the Centre delivers the Statutory Standard of Care course for municipal officials to help them understand their role and responsibilities in providing safe drinking water to their community under [Section 19 of the *Safe Drinking Water Act*](https://www.ontario.ca/laws/statute/02s32#BK22) (<https://www.ontario.ca/laws/statute/02s32#BK22>). As of March 31, 2017, 2,682 municipal officials have received training.

Operator certification and training requirements, along with inspections, prosecutions and fines help Ontarians have confidence in their drinking water and provide real consequences for those who do not follow regulations.

Small Drinking Water Systems Program – Ministry of Health and Long-Term Care

Message from the Chief Medical Officer of Health

Ontario's Small Drinking Water Systems Program continues to demonstrate its value in protecting the health of Ontarians with the release of the 2017-2018 program results. This year, we reach a significant 10 year milestone since the start of the Small Drinking Water Systems Program by the Ministry of Health and Long-Term Care. As we reflect on its accomplishments, it is important to recognize that we owe much of its success to the continued collaboration between Ontario's boards of health, Public Health Ontario Laboratories, the Ministry of the Environment, Conservation and Parks, and the Ministry of Natural Resources and Forestry.

These partners share a commitment to excellence that ensures that the people of Ontario and its visitors continue to benefit from a comprehensive safe drinking water program.

The Program has upheld Justice O'Connor's recommendations by upholding rigorous drinking water quality standards established for the province while enabling reduced regulatory burden on small system operators. Comprehensive inspections and risk-based assessments provided by public health inspectors, employed by the local board of health, produce a customized site-specific plan for owner/operators of small drinking water systems to keep their drinking water safe. Ongoing monitoring of the Program ensures accountability and supports the Ontario government's commitment to public transparency.

I want to thank the local boards of health and all of our drinking water partners for their hard work and vigilance to ensure the provision of safe drinking water for Ontarians and their families.

David C. Williams, MD, MHSc, FRCPC
Chief Medical Officer of Health
Ministry of Health and Long-Term Care

2017-18 Highlights of Ontario's Small Drinking Water System Results

Across Ontario, thousands of businesses and other community sites use a small drinking water system to supply drinking water to the public. These communities may not have access to a municipal drinking water supply and are most often located in semi-rural and remote communities.

These systems, which are regulated under the *Health Protection and Promotion Act* (<https://www.ontario.ca/laws/statute/90h07>) and its regulation, *O. Reg. 319/08 (Small Drinking Water Systems)* (<https://www.ontario.ca/laws/regulation/080319>), often provide drinking water in restaurants, places of worship and community centres, resorts, rental cabins, motels, lodges, bed and breakfasts, campgrounds, and other public settings.

The Small Drinking Water Systems Program is a unique and innovative program overseen by the Ministry of Health and Long-Term Care and administered by local boards of health. Public health inspectors conduct detailed inspections and risk assessments of all small drinking water systems in Ontario, and provide owner/operators with a tailored, site-specific plan to keep their drinking water safe. This customized approach has reduced unnecessary burden on small system owner/operators without compromising strict provincial drinking water standards.

Owners and operators of small drinking water systems are responsible for protecting the drinking water that they provide to the public. They are also responsible for meeting Ontario's regulatory requirements, including regular drinking water sampling and testing, and maintaining up-to-date records.

At a glance:

- Since 2012-13, there have been progressively positive results including a steady decline in the proportion of high-risk systems (10.86% in 2017-18 down from 16.65% in 2012-13). As of March 31, 2018, over three quarters (76.56%) of small drinking water systems are now categorized as low risk.
- Adverse water quality incidents and the number of systems that reported an adverse water quality incident fluctuated but continued to demonstrate a downward trend from 2013-14. A decline of 12.59% in total number of adverse water quality incidents was observed between 2013-14 (1,517) and 2017-18 (1,326); and the number of small drinking water systems that reported an adverse water quality incident for the same period also declined by 12.75% from 1,216 in 2013-14 to 1,061 in 2017-18. [8]
- 97% of over 100,000 drinking water samples submitted from small drinking water systems during the reporting year have consistently met Ontario Drinking Water Quality Standards.
- Over the past 10 years, as of March 31, 2018, 20,404 [9] risk assessments have been completed for the approximately 10,000 small drinking water systems.
- Over 89% of systems are categorized as low/moderate risk and subject to regular re-assessment every four years; while the remaining systems, categorized as high risk, are re-assessed every two years.

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Footnotes

- [Figure 1 description] ^
- [2] ^ Samples are taken after system is flushed.
- [3] ^ In 2017-18, 660 municipal residential drinking water systems were registered with the ministry and 659 systems were inspected. The two lists differ for the following reason. The Varna Drinking Water System switched categories from non-municipal year-round residential to municipal residential during the year. This system submitted drinking water samples for testing and was inspected as a non-municipal year-round residential drinking water system. Because it was inspected as a non-municipal year-round residential drinking water system, the inspection rating is not available.
- [4] ^ In 2017-18, there were 460 registered non-municipal year-round residential drinking water systems, however, only 442 of these systems submitted samples for testing as some ceased to operate and/or data was not provided to the ministry.
- [5] ^ The number of systems serving designated facilities that were registered in 2017-18 was more than those that submitted samples for the following reasons: some systems ceased to operate and/or data was not provided to the ministry, while some received drinking water for their cistern from municipal residential drinking water systems which carried out the required sampling on their behalf. Sampling was not required for those systems that posted notices advising people not to drink the water.
- [6] ^ A case may involve one or more charges.
- [7] ^ Includes convictions against legal entities and individuals.
- [8] ^ An adverse test result does not necessarily mean that users are at risk of becoming ill. When an adverse water quality incident is detected, the small drinking water system owner/operator is required to notify the local medical officer of health and to follow up with any action that may be required. The public health unit will perform a risk analysis and determine if the water poses a risk to health if consumed or used and take additional action as required to inform and protect the

public. Response to an adverse water quality incident may include issuing a drinking water advisory that will notify potential users whether the water is safe to use and drink or if it requires boiling to render it safe for use. The public health unit may also provide the owners and/or operators of a drinking water system with necessary corrective action(s) to be taken on the affected drinking water system to address the risk.

- [9] ^ The reported number of risk assessments will change as new systems come into use/change in use, and routine re-inspections and risk assessments are completed. Risk categories may also fluctuate (e.g. if recommended improvements are taken to reduce the system's risk). Similarly, a system may require reassessment to determine if the risk level has changed (e.g. if the water source or system integrity is affected by adverse weather events or system modifications).