

# Bobcaygeon Drinking Water System

## 2025 Annual Water Report

Drinking Water System Number: 210000318

Drinking Water System Operating Authorities: City of Kawartha Lakes and Ontario  
Clean Water Agency

Drinking Water System Category: Large Municipal Residential

Reporting Period: January 1<sup>st</sup> – December 31<sup>st</sup>, 2025



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# 2025 Annual Drinking Water System Summary Report

## General Information

The City of Kawartha Lakes prepares a report summarizing system operation and water quality for every municipal drinking water system annually. This report has been prepared to satisfy the annual reporting requirements in O. Reg. 170/03 Section 11 and Schedule 22. The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and the [City's website](#). Notification that the reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

This system does not serve more than 10,000 residences.

- Drinking Water System Number:** 210000318
- Drinking Water System Name:** Bobcaygeon Drinking Water System
- Drinking Water System Owner:** City of Kawartha Lakes
- Drinking Water System Category:** Large Municipal Residential
- Reporting Period:** January 1, 2025 – December 31, 2025

## Compliance Summary

**Table 1. Drinking Water Compliance Summary**

	Number of Events	Date (yyyy/mm/dd)	Details
<b>Ministry (MECP) Inspections</b>	1	2025 11 10	Announced, Focused Drinking Water Inspection. Inspection Rating 100%
<b>Adverse Water Quality Incidents (AWQIs)</b>	1	2025 07 21	AWQI 169106 - Distribution sample combined chlorine residual 0.21mg/L (Free 0.09mg/L & Total 0.30mg/L). Combined chlorine residual minimum requirement 0.25mg/L.
<b>Non-Compliances</b>	0		
<b>Boil Water Advisories</b>	0		

	Number of Events	Date (yyyy/mm/dd)	Details
<b>Health and Safety</b>	0		

## Drinking Water System Description

The Bobcaygeon drinking water system is a large municipal residential drinking water system serving the Village of Bobcaygeon, Ontario within the City of Kawartha Lakes. The drinking water system is classified as a Class III Water Treatment and Class I Water Distribution subsystems in accordance with O. Reg. 128/04.

### Source Water

The water supply is obtained from the Big Bob Channel, which is connected to Sturgeon Lake and classified as a surface water source. Raw water is drawn directly from this surface water body for treatment.

### Water Treatment Facility

The Bobcaygeon drinking water system consists of two package-type conventional filtration plants. Raw water is received from the Big Bob Channel connected to Sturgeon Lake. Each filtration plant includes a flocculator/clarifier unit equipped with automatic sludge withdrawal, followed by dual-media high-rate gravity filters with automatic backwash.

Primary disinfection is achieved using sodium hypochlorite. SternPAC is applied as a coagulant during the treatment process to enhance particle removal. Following filtration, treated water is directed to four clearwells and one high lift chamber. Ammonium Sulphate is added to establish secondary disinfection prior to distribution. Treated water is then pumped to an elevated water tower for storage and distribution to the system.

A diesel generator is located onsite to provide standby power to the water treatment facility in the event of a power failure.

### Distribution System

The distribution system consists of approximately twenty-five kilometres of watermains and one elevated storage tower. The system is rated for fire protection. Watermain materials within the Bobcaygeon Distribution System include PVC, asbestos cement, ductile iron and high-density polyethylene HDPE.

**Table 2. Treatment Chemicals Used**

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Univar Solutions
SternPAC	Coagulant	Kemira
Ammonium Sulphate	Chloramination	Univar Solutions

## Summary of Non-Compliance

### Adverse Water Quality Incidents

**Table 3. Adverse Water Quality Incidents**

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
2025 07 21	169106	Distribution	Distribution sample combined chlorine residual was 0.21 mg/L (Free 0.09 mg/L & Total 0.30 mg/L)	The combined chlorine residual is never less than 0.25 milligrams per litre, if the drinking water system from which the water is obtained provides chloramination.	O. Reg. 170/03 Schedule 1-2	-Flushed the distribution system at location of adverse, upstream and downstream -Tower was taken offline, drained and refilled -Two sets of bacti samples collected

### Non-Compliance

There were no non-compliances reported during the reporting period.

### Non-Compliance Identified in a Ministry Inspection

There were no non-compliances identified in a Ministry Inspection during this period.

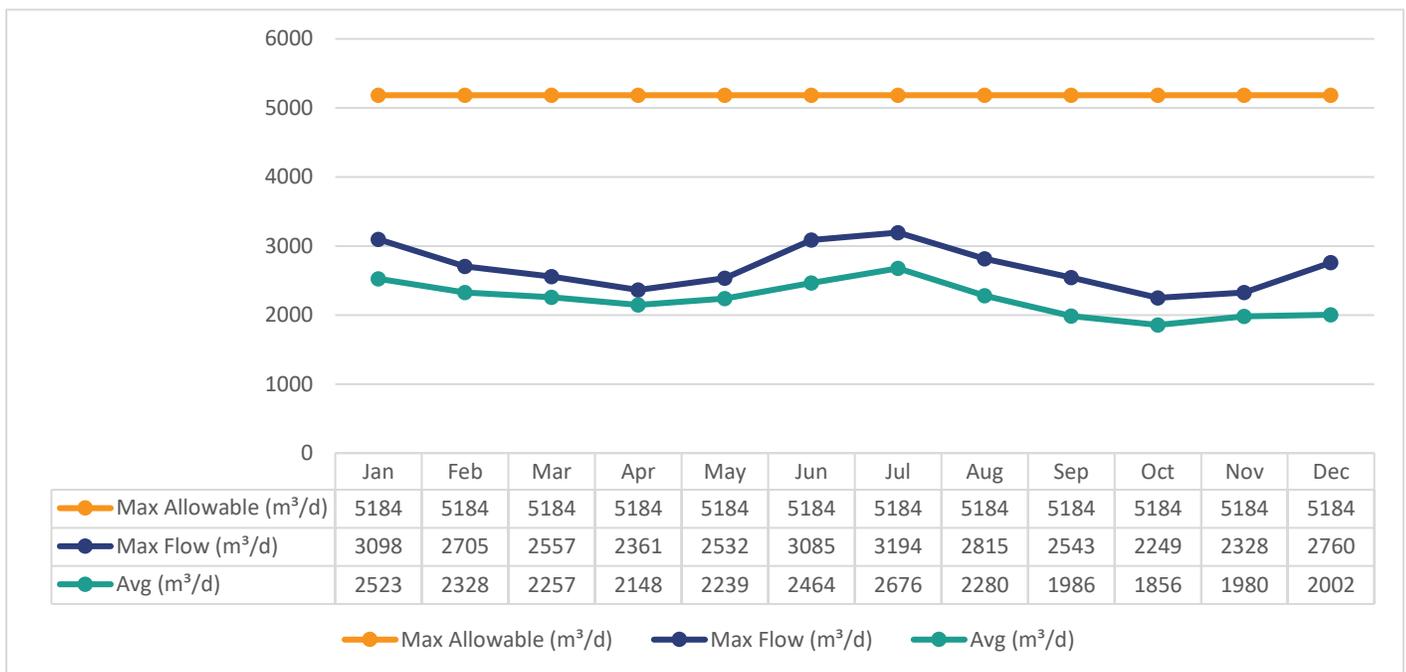
# Flows

The Bobcaygeon Drinking Water System is operating near or over half the rated capacity. The rated capacity of the system (treated water flows) is 5,184 m<sup>3</sup>/day.

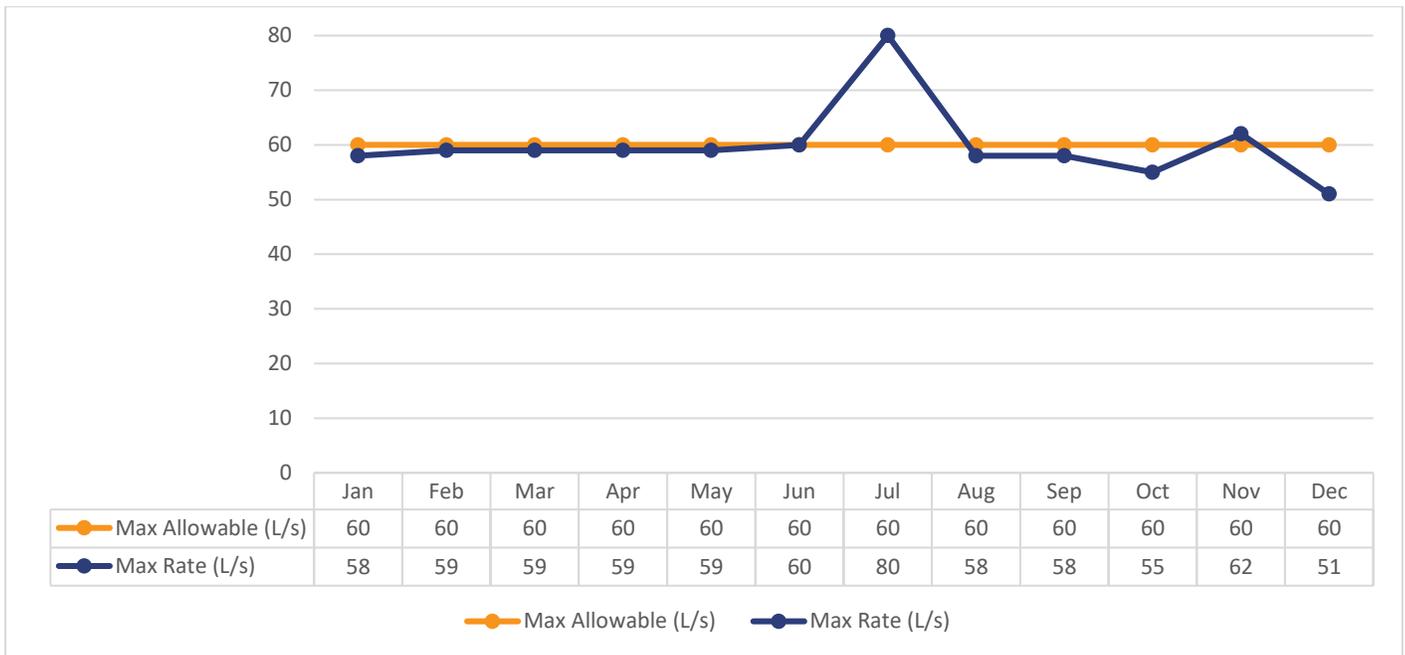
## Raw Water Flows

The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #7640-AQJHCV. The confirmation of the data that was submitted is attached in Appendix A.

**Graph 1. Total Monthly Flows (m<sup>3</sup>/d) – Big Bob Channel (Max Allowable PTTW)**



**Graph 2. Monthly Rated Flows (L/s) – Big Bob Channel (Max Allowable Rate PTTW)**

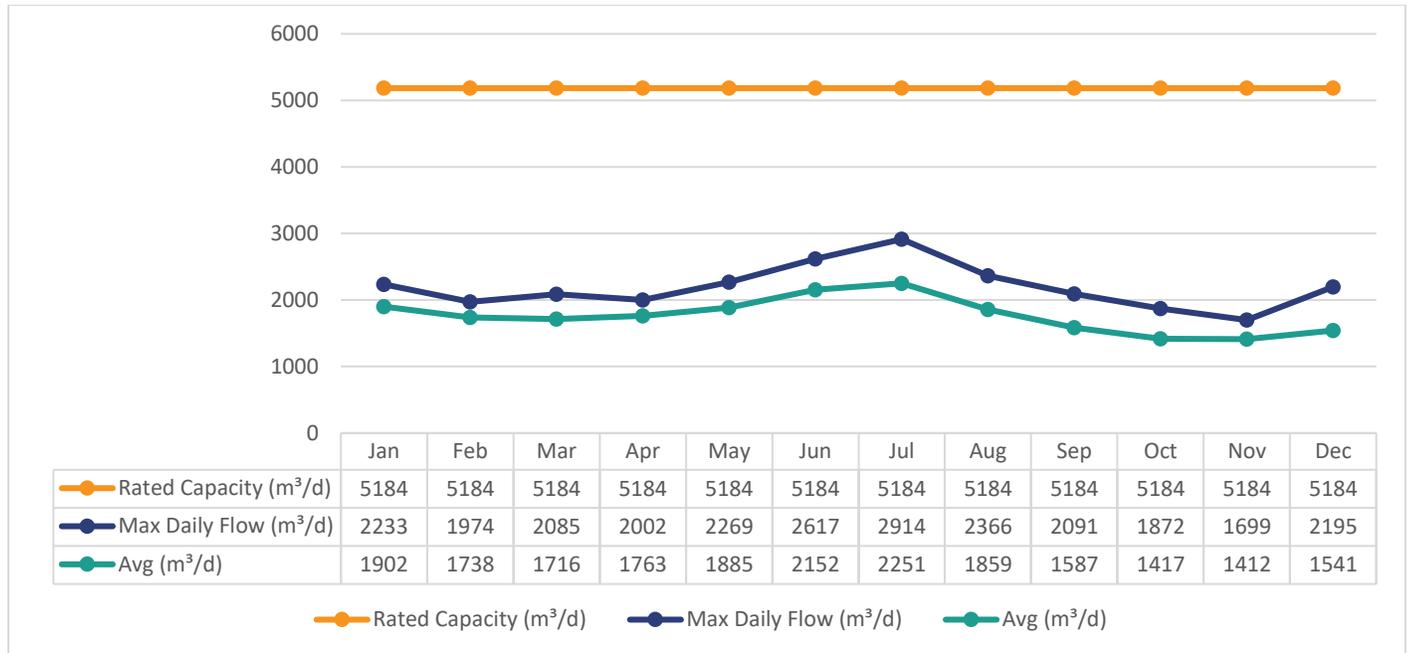


**Note:** Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In July and November 2025, the allowable rate was momentarily surpassed due to filter maintenance. All spikes are reviewed for compliance with O. Reg. 170/03.

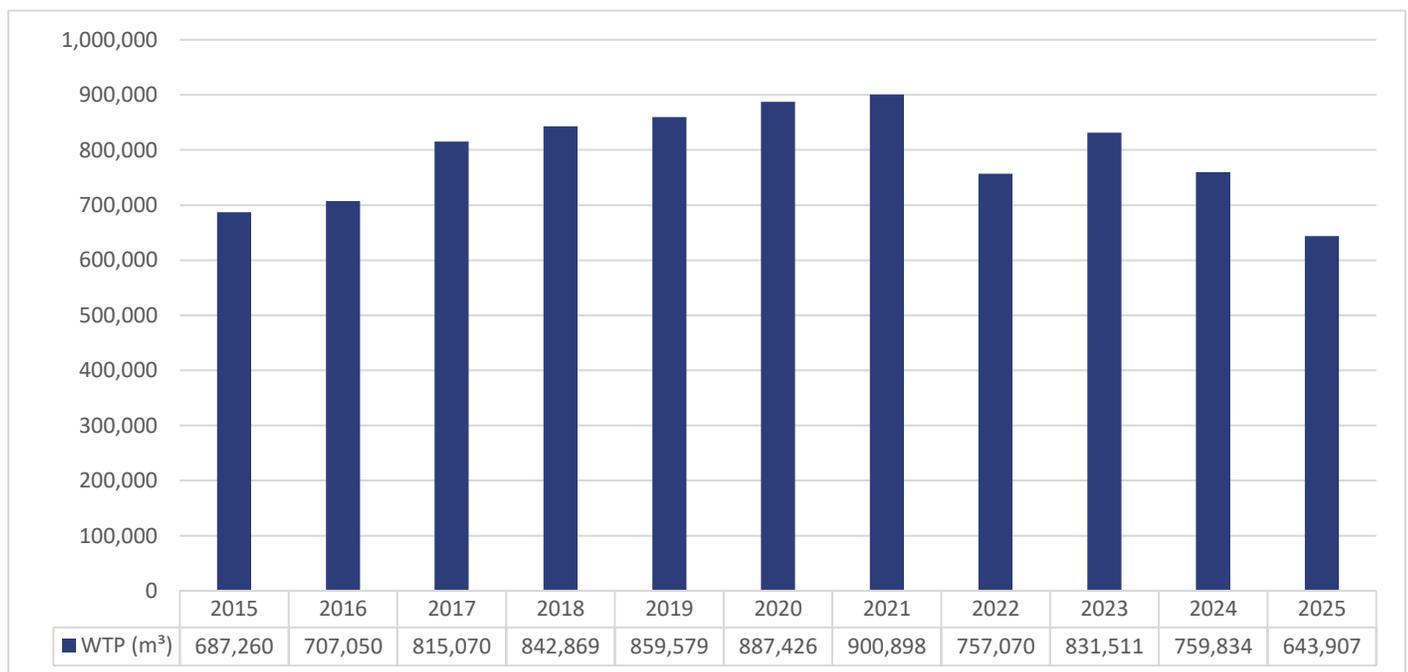
## Treated Water Flows

The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-105.

### Graph 3. Monthly Rated Flows (m<sup>3</sup>/d) – Rated Capacity - MDWL



### Graph 4. Annual Total Flow Comparison (m<sup>3</sup>)



# Regulatory Sample Results Summary

## Microbiological Testing

**Table 5. Microbiological Test Results**

	Number of Samples Collected	Range of E. Coli Results	Range of E. Coli Results	Range of Total Coliform Results	Range of Total Coliform Results	Range of HPC Results	Range of HPC Results
		Min	Max	Min	Max	Min	Max
<b>Raw</b>	52	0	25	0	252	N/A	N/A
<b>Treated</b>	57	0	0	0	0	0	37
<b>Distribution</b>	162	0	0	0	0	0	5

OG = Overgrowth

HPC = Heterotrophic Plate Count

**Note:** There were 2 NDOGT raw sample results that did occur. NDOGT – No Data, Overgrown with Target bacteria

## Operational Testing

**Table 6. Operational Test Results**

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
<b>Turbidity Raw (NTU)</b>	33	0.45	1.92
<b>Turbidity Filter 1 (NTU)</b>	8760	0.02	0.84
<b>Turbidity Filter 2 (NTU)</b>	8760	0.02	1.70
<b>Chlorine</b>	8760	0	5.16
<b>Fluoride</b> (If the DWS provides fluoridation)	N/A	N/A	N/A

**Note:** Record the unit of measurement if it is **not** milligrams per litre.

**Note:** For continuous monitors 8760 is used as the number of samples. Spikes recorded by online instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03.

## Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every five years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the

parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

**Table 7. Inorganic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Antimony	2025 01 07	<MDL 0.6	µg/L	6.0	No
Arsenic	2025 01 07	<MDL 0.2	µg/L	10.0	No
Barium	2025 01 07	21.7	µg/L	1000.0	No
Boron	2025 01 07	8.0	µg/L	5000.0	No
Cadmium	2025 01 07	<MDL 0.003	µg/L	5.0	No
Chromium	2025 01 07	0.08	µg/L	50.0	No
Mercury	2025 01 07	<MDL 0.01	µg/L	1.0	No
Selenium	2025 01 07	0.04	µg/L	50.0	No
Uranium	2025 01 07	0.013	µg/L	20.0	No
<b>Additional Organics</b>					
Fluoride	2023 01 17	<MDL 0.06	mg/L	1.5	No
Nitrate	2025 01 07	0.104	mg/L	10.0	No
Nitrate	2025 04 14	0.605	mg/L	10.0	No
Nitrate	2025 07 15	0.093	mg/L	10.0	No
Nitrate	2025 10 14	0.056	mg/L	10.0	No
Nitrite	2025 01 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 14	0.003	mg/L	1.0	No
Nitrite	2025 07 15	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 10 14	<MDL 0.003	mg/L	1.0	No
Sodium	2023 01 17	8.13	mg/L	20*	No

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. Sodium results exceeding 20 mg/L are to be reported to the Medical Officer of Health as per Schedule 16-3 (8) of O. Reg. 170/03.

**Schedule 15 Sampling (Lead)**

The Schedule 15 sampling is required under O. Reg. 170/03. This system is under reduced sampling. Only distribution samples were collected, and no plumbing samples were collected.

**Table 8. Schedule 15 Test Results (Lead)**

	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Alkalinity (mg/L)	3	6	53	63	N/A	N/A
pH	3	6	7.02	7.51	N/A	N/A
Lead (µg/L)	N/A	N/A	N/A	N/A	10.0	N/A

### Organic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

**Table 9. Organic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Alachlor	2025 01 07	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2025 01 07	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2025 01 07	<MDL 0.05	µg/L	20.0	No
Benzene	2025 01 07	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2025 01 07	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2025 01 07	<MDL 0.33	µg/L	5.0	No
Carbaryl	2025 01 07	<MDL 0.05	µg/L	90.0	No
Carbofuran	2025 01 07	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2025 01 07	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2025 01 07	<MDL 0.02	µg/L	90.0	No
Diazinon	2025 01 07	<MDL 0.02	µg/L	20.0	No
Dicamba	2025 01 07	<MDL 0.20	µg/L	120.0	No
1,2-Dichlorobenzene	2025 01 07	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2025 01 07	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2025 01 07	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2025 01 07	<MDL 0.33	µg/L	14.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Dichloromethane (Methylene Chloride)	2025 01 07	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2025 01 07	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2025 01 07	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2025 01 07	<MDL 0.40	µg/L	9.0	No
Dimethoate	2025 01 07	<MDL 0.06	µg/L	20.0	No
Diquat	2025 01 07	<MDL 1.0	µg/L	70.0	No
Diuron	2025 01 07	<MDL 0.03	µg/L	150.0	No
Glyphosate	2025 01 07	<MDL 1.0	µg/L	280.0	No
Malathion	2025 01 07	<MDL 0.02	µg/L	190.0	No
2-Methyl- 4chlorophenoxyacetic Acid (MCPA)	2025 01 07	<MDL 0.12	µg/L	100.0	No
Metolachlor	2025 01 07	<MDL 0.01	µg/L	50.0	No
Metribuzin	2025 01 07	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2025 01 07	<MDL 0.30	µg/L	80.0	No
Paraquat	2025 01 07	<MDL 1.0	µg/L	10.0	No
PCB	2025 01 07	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2025 01 07	<MDL 0.15	µg/L	60.0	No
Phorate	2025 01 07	<MDL 0.01	µg/L	2.0	No
Picloram	2025 01 07	<MDL 1.0	µg/L	190.0	No
Prometryne	2025 01 07	<MDL 0.03	µg/L	1.0	No
Simazine	2025 01 07	<MDL 0.01	µg/L	10.0	No
Terbufos	2025 01 07	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2025 01 07	<MDL 0.35	µg/L	10.0	No
2,3,4,6- Tetrachlorophenol	2025 01 07	<MDL 0.2	µg/L	100.0	No
Triallate	2025 01 07	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2025 01 07	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2025 01 07	<MDL 0.25	µg/L	5.0	No
Trifluralin	2025 01 07	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2025 01 07	<MDL 0.17	µg/L	1.0	No
<b>Distribution Water</b>					
Haloacetic Acids Running Annual Average Q1	2025 01 07	37.33	µg/L	80.0	No
Haloacetic Acids Running Annual Average Q2	2025 04 14	37.95	µg/L	80.0	No
Haloacetic Acids Running Annual Average Q3	2025 07 15	36.05	µg/L	80.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Haloacetic Acids Running Annual Average Q4	2025 10 14	31.85	µg/L	80.0	No
Trihalomethane Running Annual Average Q1	2025 01 07	42.25	µg/L	100.0	No
Trihalomethane Running Annual Average Q2	2025 04 14	41.25	µg/L	100.0	No
Trihalomethane Running Annual Average Q3	2025 07 15	42.75	µg/L	100.0	No
Trihalomethane Running Annual Average Q4	2025 10 14	40.00	µg/L	100.0	No

MAC = Maximum Allowable Concentration as O. Reg. 169/03

MDL = Method Detection Limit

### Additional Legislated Samples

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Harmful Algal Blooms monitoring is required as a condition within the Municipal Drinking Water Licence between June and October of each reporting year at a minimum. Treated and Raw samples are collected weekly during this time period and tested for Microcystin, which is an indicator for harmful algal blooms.

**Table 10. Microcystin Sample Results**

Municipal Drinking Water Licence	Collected Weekly June – Oct	Total Microcystin Raw Results Range (µg/L)	Total Microcystin Treated Water Results Range (µg/L)	Treated Water Total Microcystin Limit 1.5 µg/L Exceeded
Harmful Algal Blooms Monitoring	June	<0.1 - <0.1	<0.1 - <0.1	N
	July	<0.1 - 0.20	<0.1 - <0.1	N
	August	<0.1 - <0.1	<0.1 - <0.1	N
	September	<0.1 - <0.1	<0.1 - <0.1	N
	October	<0.1 - <0.1	<0.1 - <0.1	N

Method Detection Limit is 0.1 µg/L

**Table 11. Nitrosodimethylamine (NDMA) Sample Results**

Municipal Drinking Water Licence	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Nitrosodimethylamine (NDMA)	2025 01 07	0.0009	µg/L	0.009	No
	2025 04 14	0.0021	µg/L	0.009	No
	2025 07 15	0.0015	µg/L	0.009	No
	2025 10 14	0.0031	µg/L	0.009	No

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

## Minor Maintenance

- Isolation valve for singer valve, replace
- ESA Corrective Action: Install panel covers on MCC
- ESA Corrective Action: Install cover plates
- Admin office heater installation
- Chlorine room light exterior switch repair
- Alum pump 2, replace
- High lift pump 1 disconnect replacement
- Backwash tank 1 & 2 float replacements
- Tag Out/Repair/Remove failed lifting devices
- Lock repair/maintenance, chlorine room door
- Chlorine room exhaust failure, investigate/repair
- High lift pump 3 disconnect replacement
- Underdrain tank thickness inspection
- Floc mixer motor 1 noise, investigate/repair
- Replacement valve for draining tower
- Surge pit pump VFD install

## Major Maintenance Expense (above \$10,000)

Under Section 11 of O. Reg. 170/03, a description of any major expenses incurred during this reporting period to install, repair or replace required equipment must be included in the annual report. The details of the major expenses for this drinking water system are as follows:

- PLC failure due to water damage
- Roof access ladder replacement
- Rain water leader replacement
- Troubleshoot/Replace ammonium sulphate pumps
- Interior roof recoating

# APPENDIX A

## WTR Submission Confirmation



Ministry of the Environment,  
Conservation and Parks

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Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#)

WTRS-WT-008

**Water Taking Data submitted successfully.**

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 7640-AQJHCV  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Jan 27, 2026 8:16 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.