

# Norland Drinking Water System

## 2025 Annual Water Report

Drinking Water System Number: 250001910

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

Drinking Water System Category: Small 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:** 250001910  
**Drinking Water System Name:** Norland Drinking Water System  
**Drinking Water System Owner:** City of Kawartha Lakes  
**Drinking Water System Category:** Small 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 06 19	2025/2026 Unannounced Detailed Drinking Water Inspection – Final Inspection Rating of 100%
<b>Adverse Water Quality Incidents (AWQIs)</b>	1	2025 03 30	Low System Pressure due to backup generator fault during a power outage
<b>Non-Compliances</b>	0		
<b>Boil Water Advisories</b>	1	2025 03 30	Issued for AWQI noted above
<b>Health and Safety</b>	0		

# Drinking Water System Description

The Norland drinking water system is a small municipal residential drinking water system serving the Village of Norland, 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 for the system is obtained from the Gull River, which is classified as a surface water source.

## Water Treatment Facility

The Norland water treatment facility consists of a dual-train conventional filtration package system. Each treatment train includes a two-stage variable speed flocculator, a tube settler clarifier, and one dual media rapid gravity filter. Sodium hypochlorite is utilized for both primary and secondary disinfection.

Chlorine contact time is achieved through a twin-cell clearwell. Treated water is pumped directly to the distribution system using four high lift vertical turbine pumps.

The backwash wastewater system includes a concrete settling tank that receives filter backwash wastewater and clarifier desludging waste. A composite sampler monitors the quality of the supernatant prior to discharge to ensure regulatory compliance.

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 3.1 kilometres of PVC watermain and is not rated for fire protection. There are no treated water storage facilities, chlorine boosting stations, secondary disinfection processes, or pressure boosting capabilities within the control of the distribution system.

**Table 2. Treatment Chemicals Used**

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technology
Polyaluminum Chloride	Flocculation	Univar Solutions
Polymer	Flocculation	Basf
Sodium Hydroxide	pH Adjustment	Not required in 2025

## Summary of Non-Compliance

### Adverse Water Quality Incidents

**Table 3. Adverse Water Quality Incidents**

Date (yyy/mm/dd)	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
2025 03 30	167687	Distribution	Low system pressure	Due to backup generator fault during a power outage	O. Reg. 170/03	Boil Water Order issued by MOH, BWA delivered to residents. Once power restored flushed, 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.

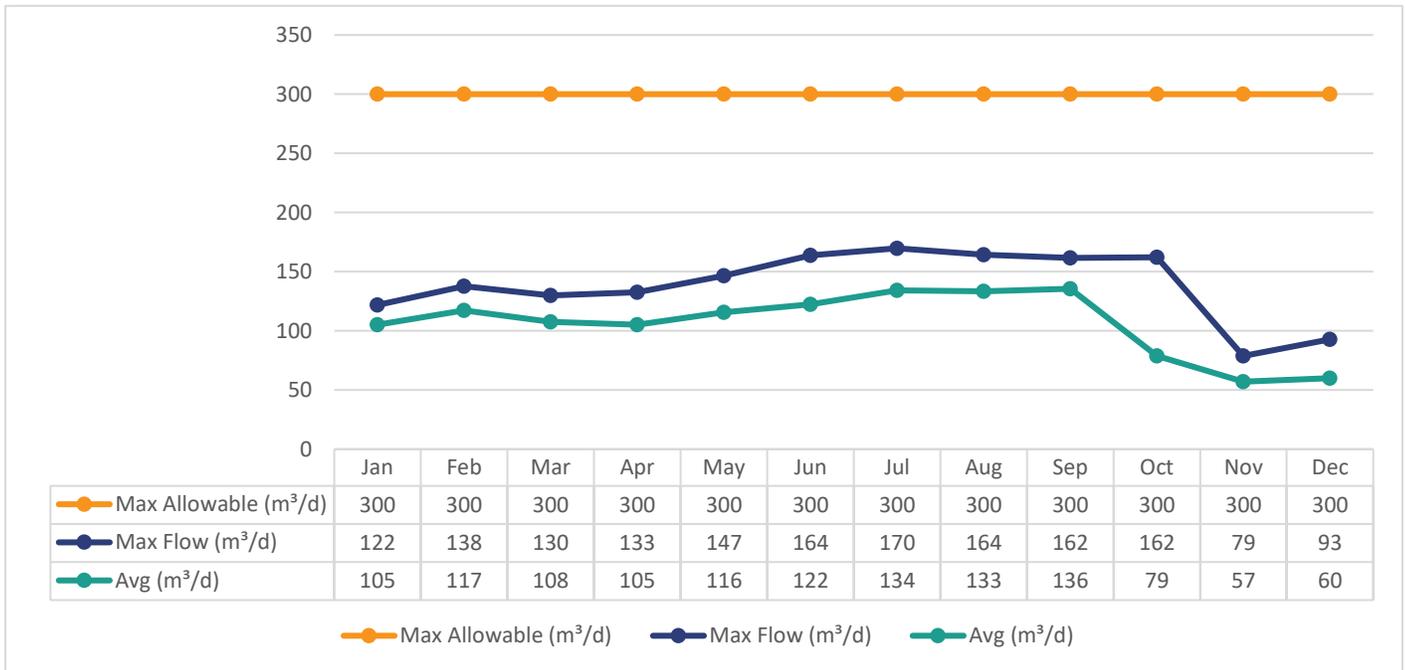
## Flows

The Norland Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 264 m<sup>3</sup>/day.

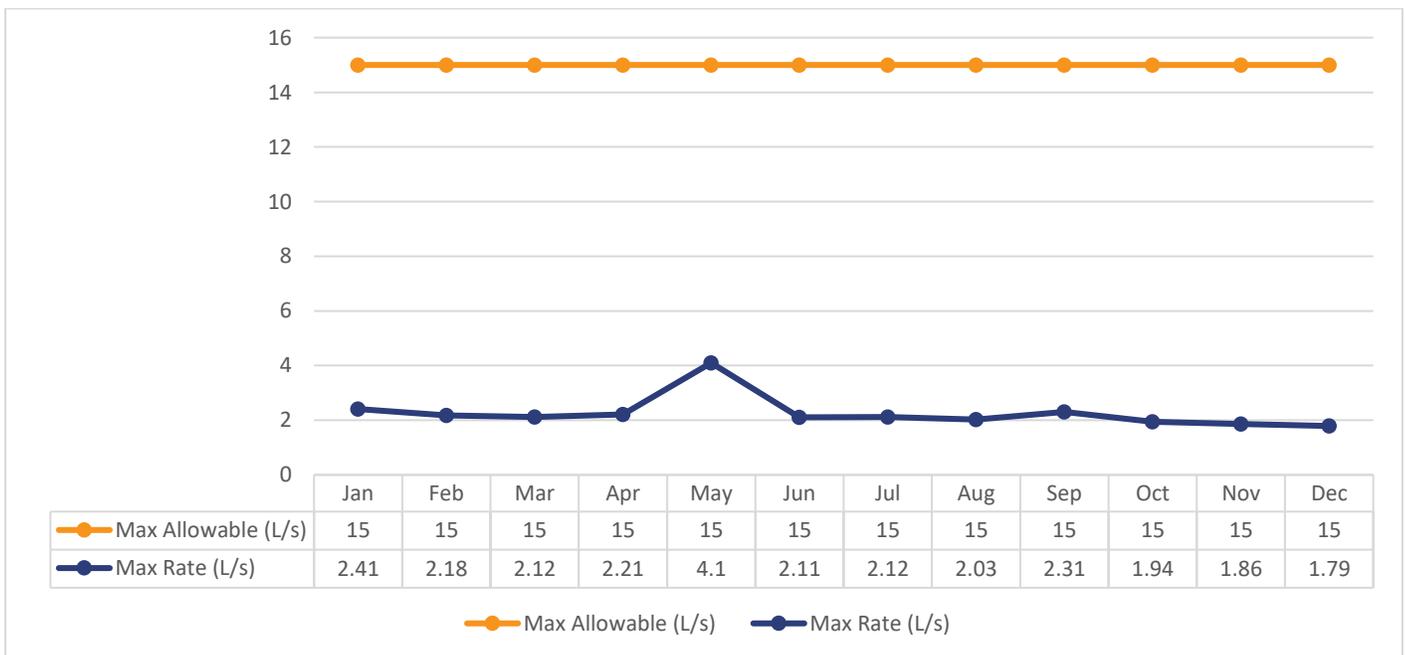
### Raw Water Flows

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 #6033-AQ5HFW. The confirmation of the data that was submitted is attached in Appendix A.

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



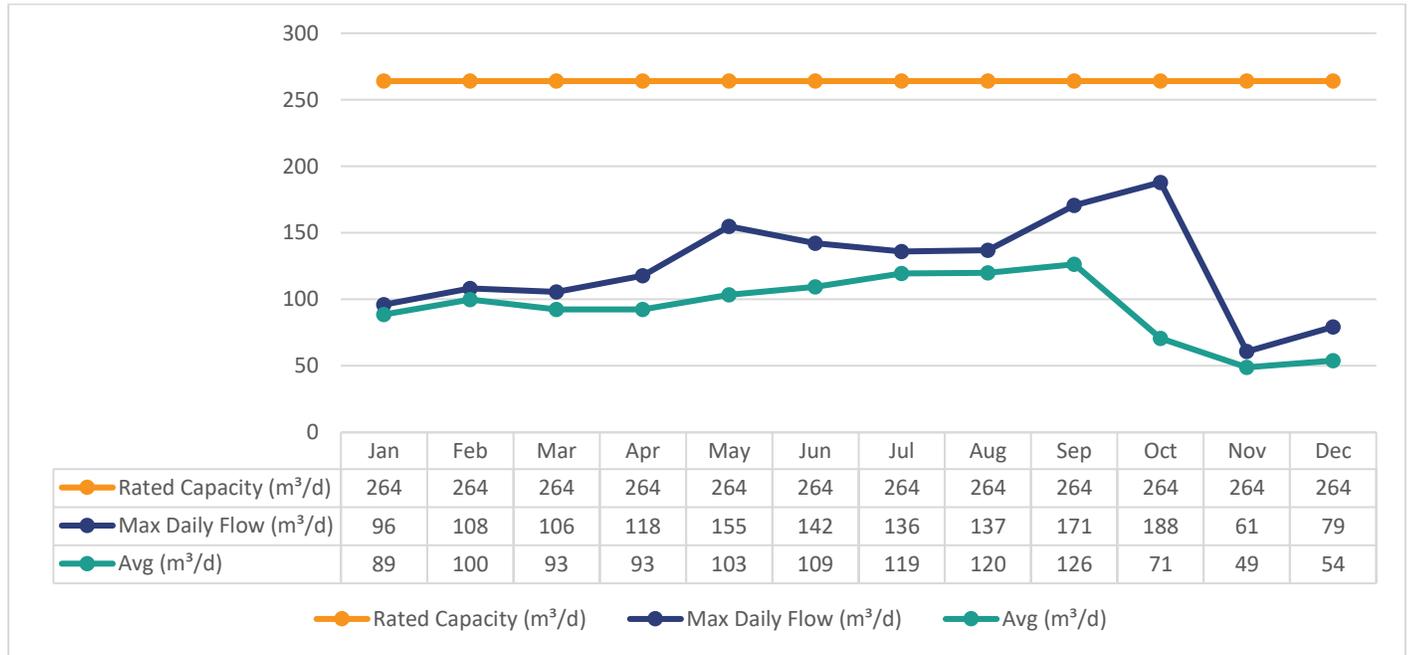
**Graph 2. Monthly Rated Flows (L/s) – Gull River (Max Allowable Rate PTTW)**



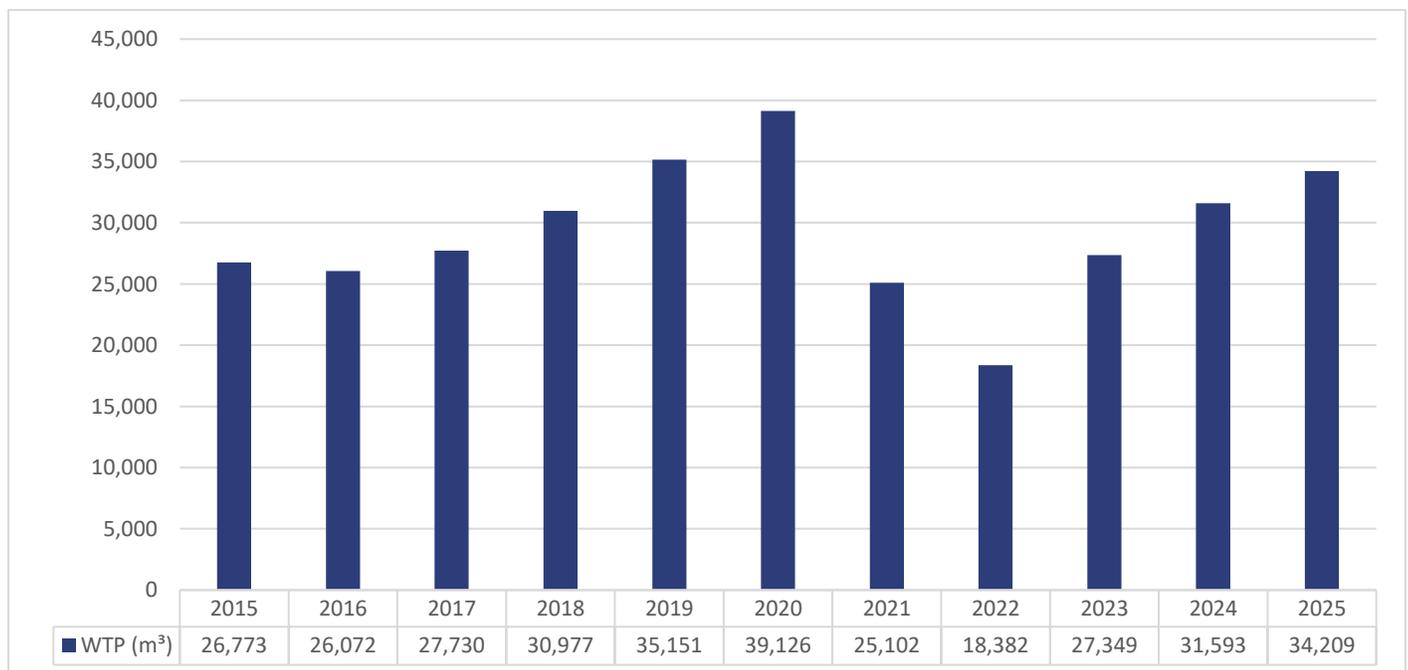
## Treated Water Flows

The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-103.

### 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 4. 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>	26	0	13	5	98	N/A	N/A
<b>Distribution</b>	53	0	0	0	0	0	6

OG = Overgrowth

HPC = Heterotrophic Plate Count

## Operational Testing

**Table 5. Operational Test Results**

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
<b>Turbidity Filter 1 (NTU)</b>	8760	0.00	2.00
<b>Turbidity Filter 2 (NTU)</b>	8760	0.00	2.00
<b>Chlorine</b>	8760	0.00	2.39
<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 Nitrate are tested quarterly and the metals are tested every five years 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 6. Inorganic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Antimony	2025 01 20	<MDL 0.6	µg/L	6.0	No
Arsenic	2025 01 20	<MDL 0.2	µg/L	10.0	No
Barium	2025 01 20	17.2	µg/L	1000.0	No
Boron	2025 01 20	6.0	µg/L	5000.0	No
Cadmium	2025 01 20	<MDL 0.003	µg/L	5.0	No
Chromium	2025 01 20	0.13	µg/L	50.0	No
Mercury	2025 01 20	<MDL 0.01	µg/L	1.0	No
Selenium	2025 01 20	<MDL 0.04	µg/L	50.0	No
Uranium	2025 01 20	0.065	µg/L	20.0	No
<b>Additional Inorganics</b>					
Fluoride	2025 01 27	<MDL 0.06	mg/L	1.5	No
Nitrite	2025 01 06	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 14	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 07 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 10 06	<MDL 0.003	mg/L	1.0	No
Nitrate	2025 01 06	0.097	mg/L	10.0	No
Nitrate	2025 04 14	0.125	mg/L	10.0	No
Nitrate	2025 07 07	0.025	mg/L	10.0	No
Nitrate	2025 10 06	0.011	mg/L	10.0	No
Sodium	2025 01 27	6.13	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 7. 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)	1	2	15	33	N/A	N/A
pH	1	2	6.81	7.35	N/A	N/A
Lead (µg/L)	N/A	N/A	N/A	N/A	10.0	

**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 8. Organic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Alachlor	2025 01 20	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2025 01 20	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2025 01 20	<MDL 0.05	µg/L	20.0	No
Benzene	2025 01 20	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2025 01 20	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2025 01 20	<MDL 0.33	µg/L	5.0	No
Carbaryl	2025 01 20	<MDL 0.05	µg/L	90.0	No
Carbofuran	2025 01 20	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2025 01 20	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2025 01 20	<MDL 0.02	µg/L	90.0	No
Diazinon	2025 01 20	<MDL 0.02	µg/L	20.0	No
Dicamba	2025 01 20	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2025 01 20	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2025 01 20	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2025 01 20	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2025 01 20	<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 20	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2025 01 20	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2025 01 20	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2025 01 20	<MDL 0.4	µg/L	9.0	No
Dimethoate	2025 01 20	<MDL 0.06	µg/L	20.0	No
Diquat	2025 01 20	<MDL 1.0	µg/L	70.0	No
Diuron	2025 01 20	<MDL 0.03	µg/L	150.0	No
Glyphosate	2025 01 20	<MDL 1.0	µg/L	280.0	No
Malathion	2025 01 20	<MDL 0.02	µg/L	190.0	No
2-Methyl-4- chlorophenoxyacetic Acid (MCPA)	2025 01 20	<MDL 0.12	µg/L	100.0	No
Metolachlor	2025 01 20	<MDL 0.01	µg/L	50.0	No
Metribuzin	2025 01 20	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2025 01 20	<MDL 0.3	µg/L	80.0	No
Paraquat	2025 01 20	<MDL 1.0	µg/L	10.0	No
PCB	2025 01 20	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2025 01 20	<MDL 0.15	µg/L	60.0	No
Phorate	2025 01 20	<MDL 0.01	µg/L	2.0	No
Picloram	2025 01 20	<MDL 1.0	µg/L	190.0	No
Prometryne	2025 01 20	<MDL 0.03	µg/L	1.0	No
Simazine	2025 01 20	<MDL 0.01	µg/L	10.0	No
Terbufos	2025 01 20	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2025 01 20	<MDL 0.35	µg/L	10.0	No
2,3,4,6- Tetrachlorophenol	2025 01 20	<MDL 0.2	µg/L	100.0	No
Triallate	2025 01 20	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2025 01 20	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2025 01 20	<MDL 0.25	µg/L	5.0	No
Trifluralin	2025 01 20	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2025 01 20	<MDL 0.17	µg/L	1.0	No
<b>Distribution Water</b>					
Trihalomethane Total Annual Average Q1	2025 01 06	30.83	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2025 04 14	31.28	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2025 07 07	29.70	µg/L	100.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Trihalomethane Total Annual Average Q4	2025 10 06	31.30	µg/L	100.0	No
HAA Total Annual Average Q1	2025 01 06	30.83	µg/L	80.0	No
HAA Total Annual Average Q2	2025 04 14	31.28	µg/L	80.0	No
HAA Total Annual Average Q3	2025 07 07	29.70	µg/L	80.0	No
HAA Total Annual Average Q4	2025 10 06	30.53	µg/L	80.0	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 9. 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 - <0.1	<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 10. Suspended Solids Sample Results**

Municipal Drinking Water Licence	Date Collected	Suspended Solids to Sanitary Sewer (mg/L)	Free Chlorine Residual (mg/L)
Settling Tank Discharge Point	January	2	0.02
	February	36	0.01
	March	5	0.00
	April	13	0.02
	May	39	0.03
	June	<2	0.02
	July	<2	0.00
	August	8	0.02
	September	52	0.04
	October	<2	0.02
	November	2	0.03
	December	3	0.04
	Average	13.83	

**Note:** The Suspended Solids 12 month running average limit is 25 mg/L.

## Minor Maintenance

- Tree Clean-up
- Move IT Equipment Out of PLC
- Haul Water for Distribution Leak
- HLP 4 Check Valve Replacement
- Plumbing Modification to Remove Analyzer Drain Water from Septic Tank
- Change Outdoor Plug at Front of Building to GFI

## 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 Upgrade
- HLP 3 Replacement
- Diagnose and Replace Transfer Switch

# APPENDIX A

## WTR Submission Confirmation



Ministry of the Environment,  
Conservation and Parks

| [WT DATA](#) | [USER PROFILE](#) | [CONTACT US](#) | [HELP](#) | [HOME](#) | [LOGOUT](#) |

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: 6033-AQ5HFW  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 17, 2026 8:51 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.

[Print Confirmation](#)   [Return to Main Page](#)

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