

# King's Bay Drinking Water System 2025 Annual Water Report

Drinking Water System Number: 260002954

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:** 260002954

**Drinking Water System Name:** King’s Bay 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 12 08	Unannounced Detailed Drinking Water Inspection – Final Inspection Rating of 100%
<b>Adverse Water Quality Incidents (AWQIs)</b>	0		
<b>Non-Compliances</b>	1	2025 06 30	Monthly nitrate sample not collected
<b>Boil Water Advisories</b>	0		
<b>Health and Safety</b>	0		

## Drinking Water System Description

The King’s Bay drinking water system is a large municipal residential drinking water system serving the King’s Bay subdivision located in Seagrave, Ontario, within the City of Kawartha Lakes. The drinking water system is classified as a Class II Water Distribution and Supply subsystem in accordance with O. Reg. 128/04.

### Source Water

The water supply for the system is obtained from three groundwater wells identified as Well #2, Well #3, and Well #4. These wells are designated as non-GUDI, meaning they are not considered groundwater under the direct influence of surface water.

### Water Treatment Facility

The King’s Bay treatment facility consists of a chlorination system utilizing sodium hypochlorite for primary disinfection. The chlorination system includes three metering pumps and one solution tank. Treated water flows to two interconnected in-ground concrete reservoir cells, which provide the required chlorine contact time. From the reservoirs, three submersible high lift pumps deliver treated water to the distribution system.

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

### Distribution System

The distribution system has approximately 1.6 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.

Two in-ground storage tanks are connected to the distribution system and controlled by valves. These tanks are protected by an air gap and are maintained full to allow pumper trucks to draw water firefighting purposes.

**Table 2. Treatment Chemicals Used**

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies

## Summary of Non-Compliance

### Adverse Water Quality Incidents

There were no adverse water quality incidents reported during the reporting period.

### Non-Compliance

**Table 3. Non-Compliance Identified by Operating Authority**

Legislation	Requirement(s) System Failed to Meet	Duration of Failure (Dates)	Corrective Action	Status
Municipal Drinking Water Licence 141-119	Monthly nitrate sample	June 2025	Review facility sample calendar with Operations staff	Completed

### Non-Compliance Identified in a Ministry Inspection

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

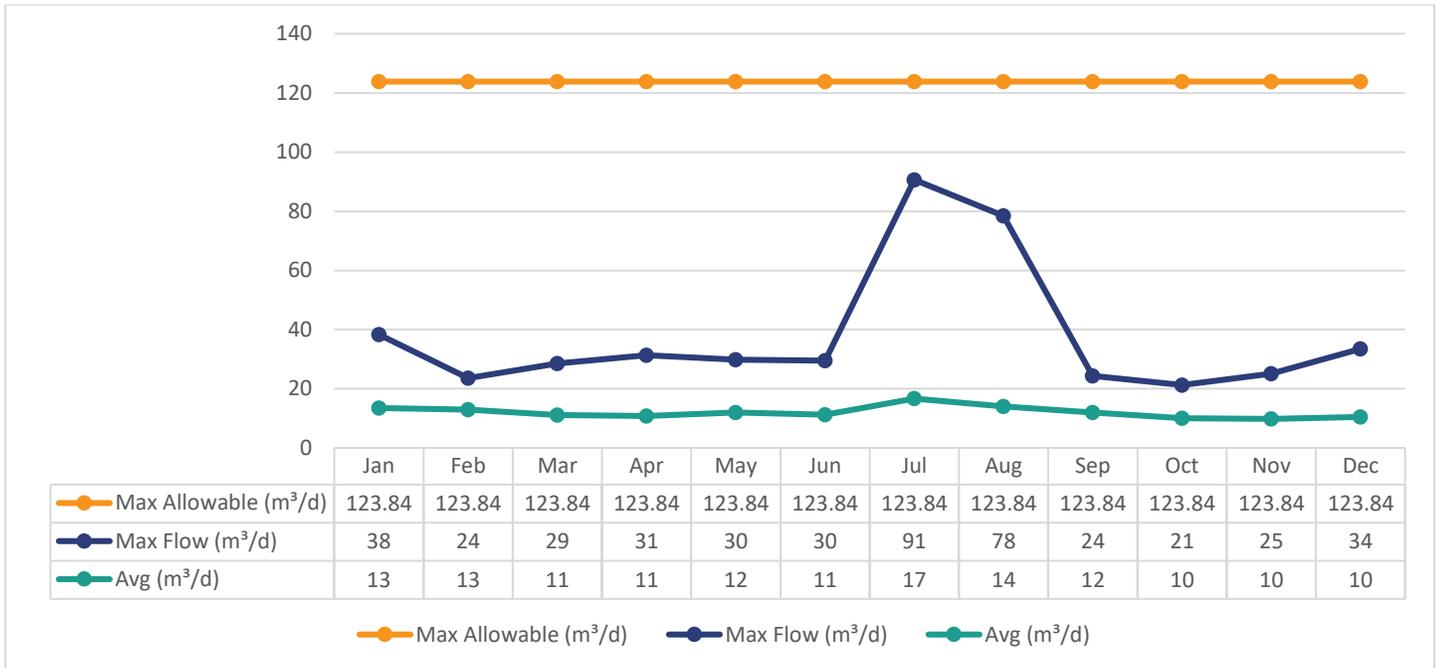
## Flows

The King's Bay Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 409 m<sup>3</sup>/day.

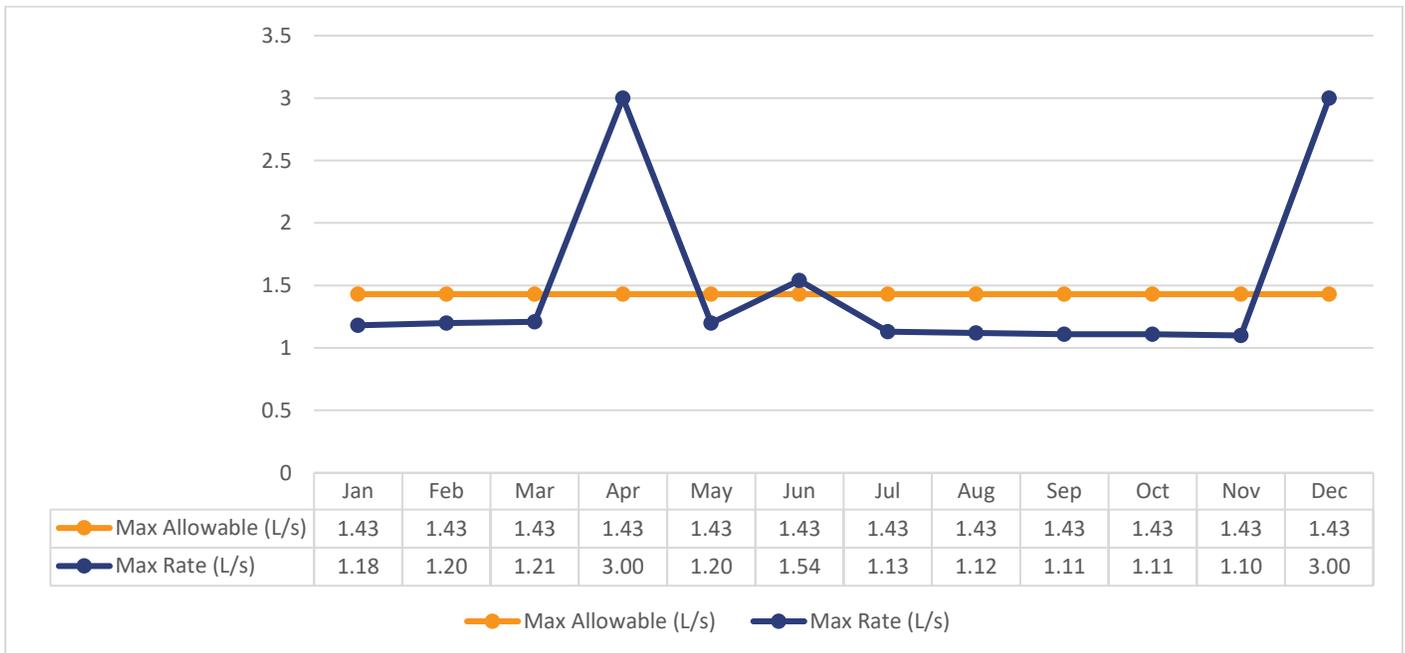
### Raw Water Flows

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 #1087-AYSGRN. The confirmation of the data that was submitted is attached in Appendix A. The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording.

**Graph 1. Total Monthly Flows (m<sup>3</sup>/d) – Well #2 (Max Allowable PTTW)**



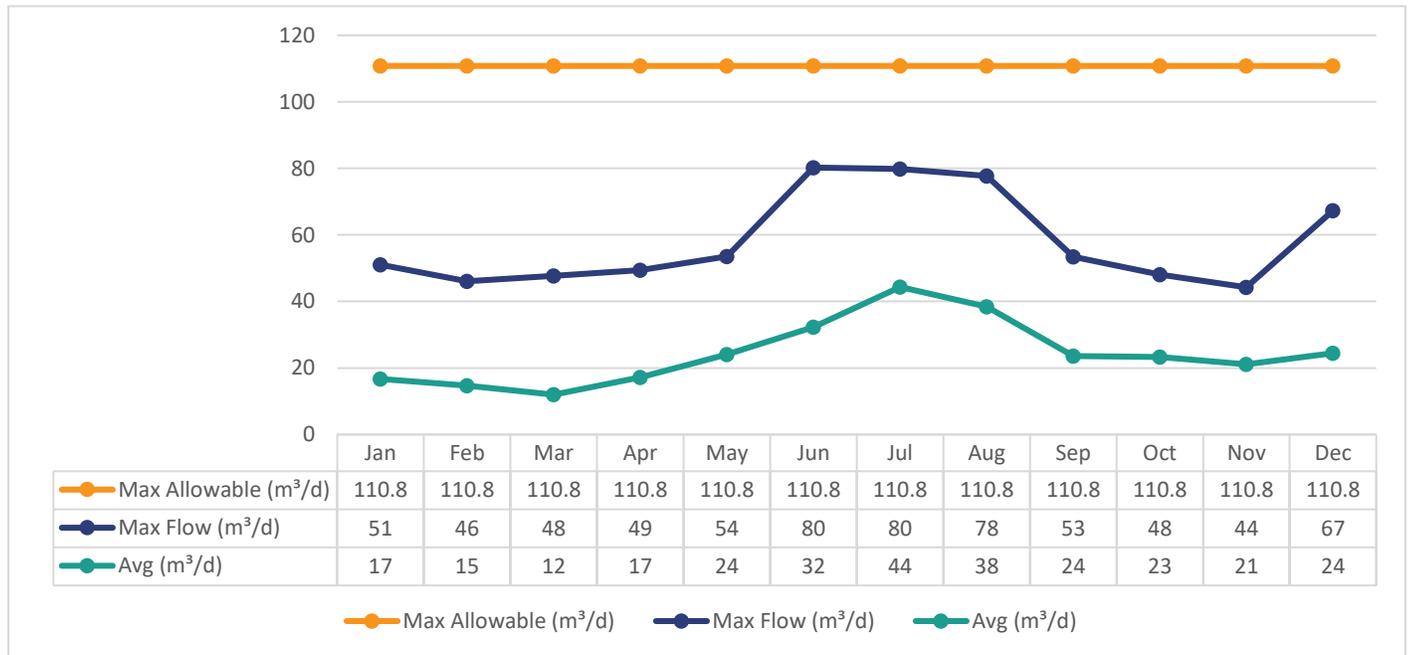
**Graph 2. Monthly Rated Flows (L/s) – Well #2 (Max Allowable Rate PTTW)**



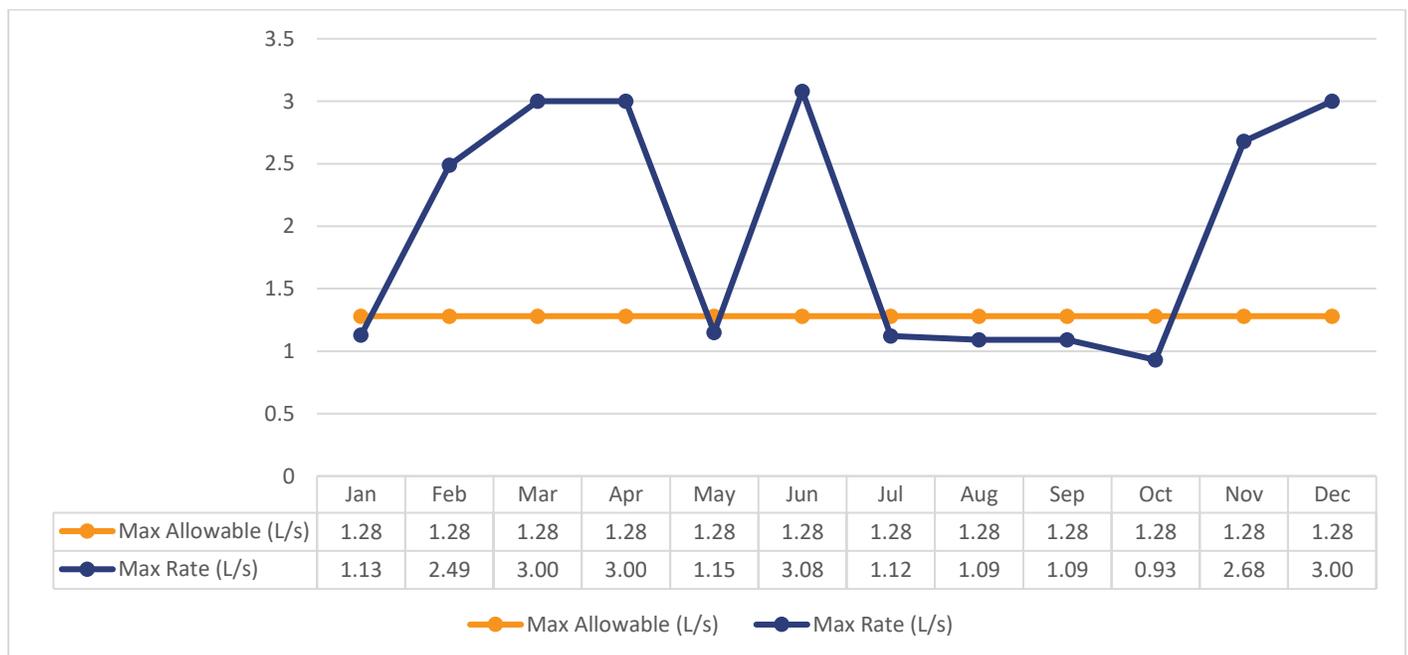
**Note:** Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In April 2025, the allowable rate was momentarily surpassed as a result of pump start-up after power outage and did not indicate a true exceedance. In June 2025, the allowable rate was momentarily surpassed as a result of annual calibration of the flow meter and did not

indicate a true exceedance. In December 2025, the allowable rate was momentarily surpassed as a result of pump start-up after power outage and did not indicate a true exceedance. All spikes are reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented within this report.

**Graph 3. Total Monthly Flows (m<sup>3</sup>/d) – Well #3 (Max Allowable PTTW)**

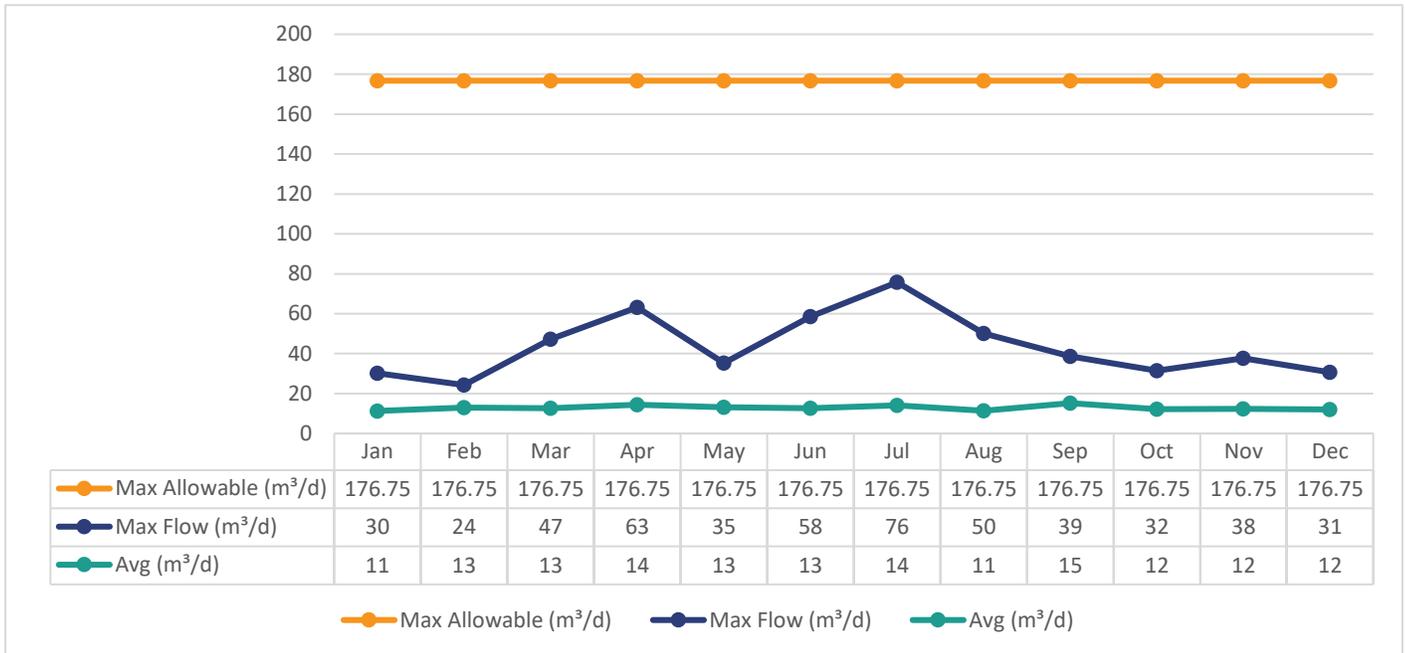


**Graph 4. Monthly Rated Flows (L/s) – Well #3 (Max Allowable Rate PTTW)**

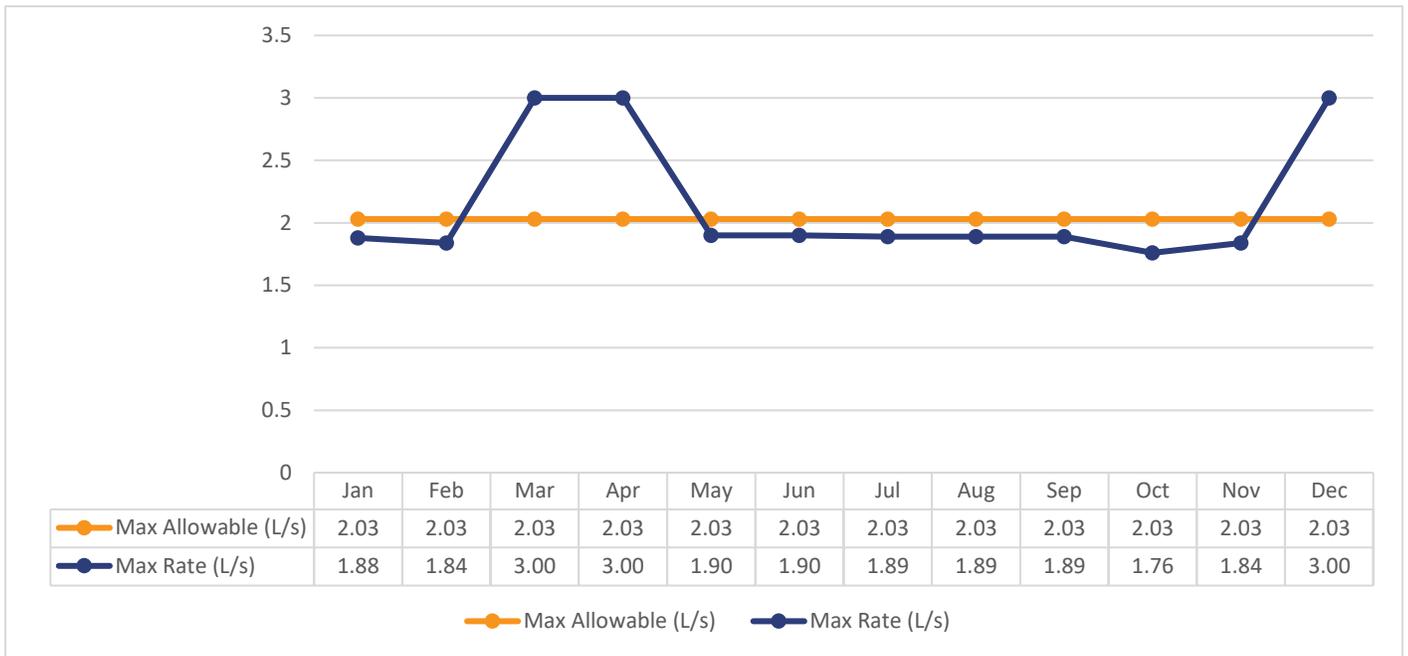


**Note:** Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In February, March, April, November, and December 2025, the allowable rate was momentarily surpassed as a result of pump start-up after power outages and did not indicate a true exceedance. The significant spike in June was due to scheduled flow meter calibration, and did not indicate a true exceedance. All spikes are reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented in this report.

**Graph 5. Total Monthly Flows (m<sup>3</sup>/d) – Well #4 (Max Allowable PTTW)**



**Graph 6. Monthly Rated Flows (L/s) – Well #4 (Max Allowable Rate PTTW)**

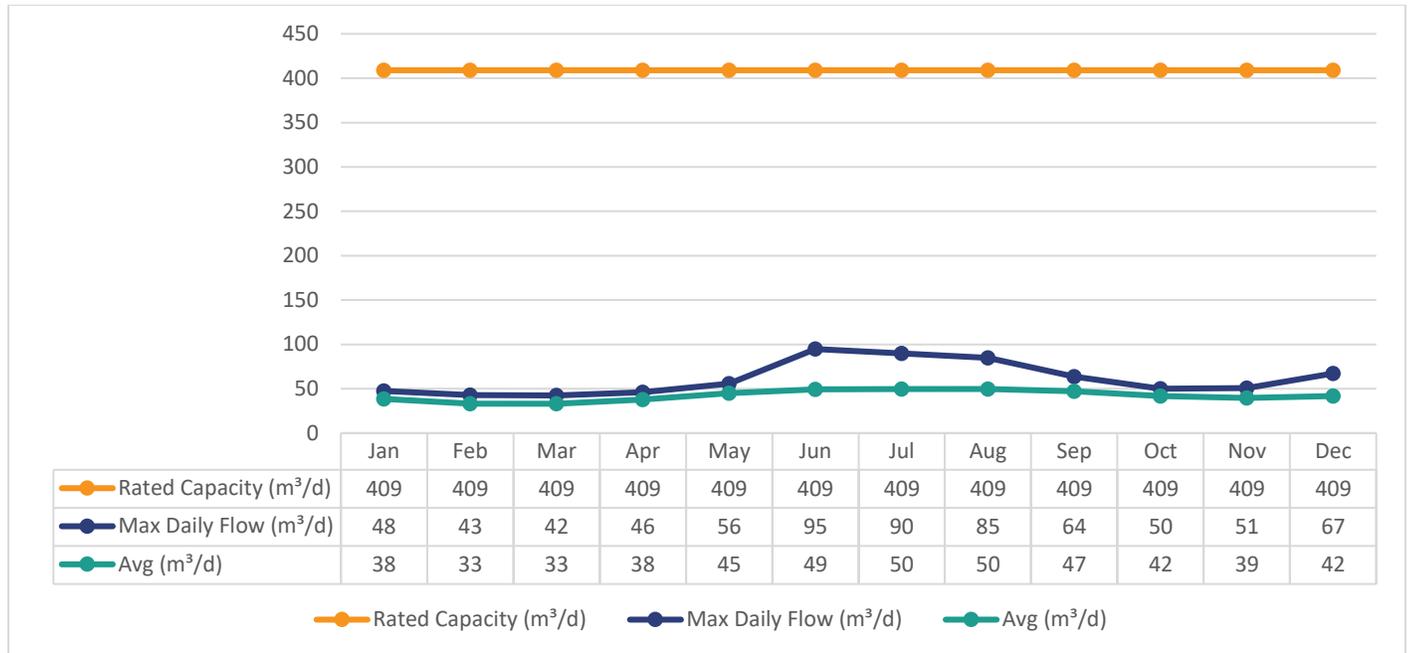


**Note:** Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In March, April, and December 2025, the allowable rate was momentarily surpassed as a result of pump start-up after power outage and did not indicate a true exceedance. All spikes are reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented in this report.

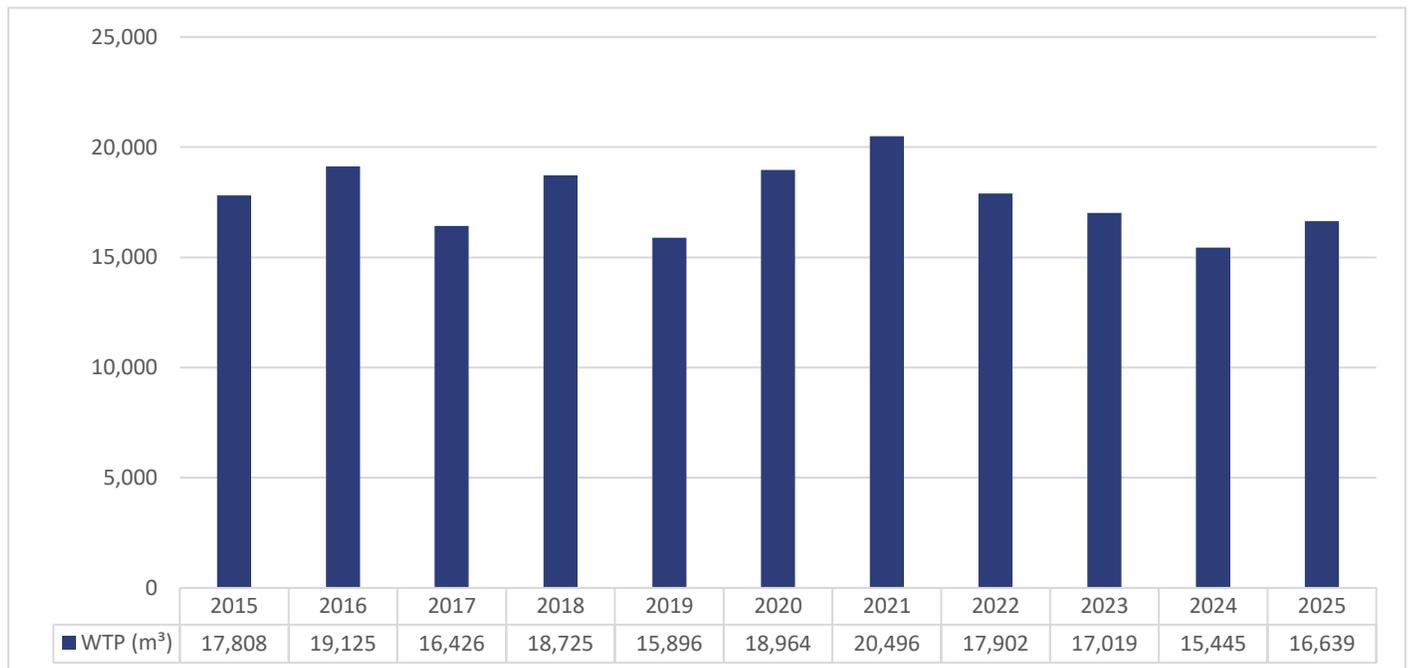
## Treated Water Flows

The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-119.

### Graph 7. Monthly Rated Flows (m<sup>3</sup>/d) – Rated Capacity - MDWL



### Graph 8. 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 Well 2</b>	52	0	0	0	0	N/A	N/A
<b>Raw Well 3</b>	52	0	0	0	0	N/A	N/A
<b>Raw Well 4</b>	52	0	0	0	0	N/A	N/A
<b>Treated</b>	52	0	0	0	0	0	30
<b>Distribution</b>	156	0	0	0	0	0	2

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 Well 2 (NTU)</b>	12	0.19	1.41
<b>Turbidity Well 3 (NTU)</b>	12	0.37	2.32
<b>Turbidity Well 4 (NTU)</b>	12	0.14	0.68
<b>Turbidity – TW (NTU)</b>	8760	0.00	2.01
<b>Chlorine</b>	8760	0.00	5.01
<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 three 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**

	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>Unit of Measure</b>	<b>MAC</b>	<b>Exceedance</b>
<b>Treated Water</b>					
Antimony	2025 01 06	<MDL 0.6	µg/L	6.0	No
Arsenic	2025 01 06	<MDL 0.2	µg/L	10.0	No
Barium	2025 01 06	73.6	µg/L	1000.0	No
Boron	2025 01 06	7.0	µg/L	5000.0	No
Cadmium	2025 01 06	0.003	µg/L	5.0	No
Chromium	2025 01 06	0.49	µg/L	50.0	No
Mercury	2025 01 06	<MDL 0.01	µg/L	1.0	No
Selenium	2025 01 06	0.13	µg/L	50.0	No
Uranium	2025 01 06	0.948	µg/L	20.0	No
<b>Additional Organics</b>					
Fluoride	2025 01 06	0.10	mg/L	1.5	No
Nitrite	2025 01 06	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 07	<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	2.47	mg/L	10.0	No
Nitrate	2025 04 07	3.41	mg/L	10.0	No
Nitrate	2025 07 07	1.84	mg/L	10.0	No
Nitrate	2025 10 06	2.47	mg/L	10.0	No
Sodium	2025 01 06	6.91	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	293	311	N/A	N/A
pH	1	2	7.33	7.45	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 8. Organic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Alachlor	2025 01 06	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2025 01 06	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2025 01 06	<MDL 0.05	µg/L	20.0	No
Benzene	2025 01 06	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2025 01 06	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2025 01 06	<MDL 0.33	µg/L	5.0	No
Carbaryl	2025 01 06	<MDL 0.05	µg/L	90.0	No
Carbofuran	2025 01 06	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2025 01 06	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2025 01 06	<MDL 0.02	µg/L	90.0	No
Diazinon	2025 01 06	<MDL0.02	µg/L	20.0	No
Dicamba	2025 01 06	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2025 01 06	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2025 01 06	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2025 01 06	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2025 01 06	<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 06	<MDL0.35	µg/L	50.0	No
2,4-Dichlorophenol	2025 01 06	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2025 01 06	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2025 01 06	<MDL 0.4	µg/L	9.0	No
Dimethoate	2025 01 06	<MDL 0.06	µg/L	20.0	No
Diquat	2025 01 06	<MDL 1.0	µg/L	70.0	No
Diuron	2025 01 06	<MDL 0.03	µg/L	150.0	No
Glyphosate	2025 01 06	<MDL 1.0	µg/L	280.0	No
Malathion	2025 01 06	<MDL 0.02	µg/L	190.0	No
2-Methyl- 4chlorophenoxyacetic Acid (MCPA)	2025 01 06	<MDL 0.12	µg/L	100.0	No
Metolachlor	2025 01 06	<MDL 0.01	µg/L	50.0	No
Metribuzin	2025 01 06	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2025 01 06	<MDL 0.3	µg/L	80.0	No
Paraquat	2025 01 06	<MDL 1.0	µg/L	10.0	No
PCB	2025 01 06	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2025 01 06	<MDL 0.15	µg/L	60.0	No
Phorate	2025 01 06	<MDL 0.01	µg/L	2.0	No
Picloram	2025 01 06	<MDL 1.0	µg/L	190.0	No
Prometryne	2025 01 06	<MDL 0.03	µg/L	1.0	No
Simazine	2025 01 06	<MDL 0.01	µg/L	10.0	No
Terbufos	2025 01 06	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2025 01 06	<MDL 0.35	µg/L	10.0	No
2,3,4,6- Tetrachlorophenol	2025 01 06	<MDL 0.2	µg/L	100.0	No
Triallate	2025 01 06	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2025 01 06	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2025 01 06	<MDL0.25	µg/L	5.0	No
Trifluralin	2025 01 06	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2025 01 06	<MDL 0.17	µg/L	1.0	No
<b>Distribution Water</b>					
Trihalomethane Total Annual Average Q1	2025 01 06	8.80	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2025 04 07	7.20	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2025 07 07	8.00	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	56.00	µg/L	100.0	No
HAA Total Annual Average Q1	2025 01 06	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2025 04 07	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q3	2025 07 07	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2025 10 06	<MDL 5.3	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.

**Table 9. Monthly Nitrate Test Results**

Date Legal Instrument Issued	Parameter	Date Sampled (yyyy/mm/dd)	Result	Unit of Measure
Nov 10, 2021	Nitrate	2025 01 06	2.47	mg/L
Nov 10, 2021	Nitrate	2025 02 03	2.48	mg/L
Nov 10, 2021	Nitrate	2025 03 03	3.06	mg/L
Nov 10, 2021	Nitrate	2025 04 07	3.41	mg/L
Nov 10, 2021	Nitrate	2025 05 05	2.58	mg/L
Nov 10, 2021	Nitrate	2025 06 30	missed sample	mg/L
Nov 10, 2021	Nitrate	2025 07 07	1.84	mg/L
Nov 10, 2021	Nitrate	2025 08 02	2.39	mg/L
Nov 10, 2021	Nitrate	2025 09 02	3.09	mg/L
Nov 10, 2021	Nitrate	2025 10 06	2.47	mg/L
Nov 10, 2021	Nitrate	2025 11 03	2.66	mg/L
Nov 10, 2021	Nitrate	2025 12 01	2.49	mg/L

### Minor Maintenance

- Highlift pump VFD upgrade
- Bell phone line repair

- Highlift fault repair
- Well #3 flow meter replace
- Well head power failure
- Highlift pump 2 troubleshoot
- SCADA internet repair

## **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:

Nothing to report for the reporting period.

# 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: 1087-AYSGRN  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 4, 2026 2:26 PM

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](#)

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CITY OF KAWARTHA LAKES | 2026/02/04  
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