

# Kinmount Drinking Water System

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Waterworks # 260075231  
System Category – Small Municipal Residential

## Annual Water Report

Prepared For: The City of Kawartha Lakes  
Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup> 2020

Issued: February 4 2021

Revision: 0

Operating Authorities:



This report has been prepared to satisfy the annual reporting requirements in  
O. Reg. 170/03 Section 11 and Schedule 22

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## Report Availability

This system does not serve more than 10,000 residences. The annual reports are available to residents free of charge at the City of Kawartha Lakes – Public Works Administration Office located at 322 Kent Street West in Lindsay, Ontario. The reports are also available online at the [City of Kawartha Lakes website](#).

## Compliance Report Card

**Drinking Water System Number:** 260075231

**Drinking Water System Name:** Kinmount DWS

**Drinking Water System Owner:** City of Kawartha Lakes

**Drinking Water System Category:** Small Municipal Residential

**Period Being Reported:** January 1, 2020 - December 31, 2020

	# of Events	Date	Details
<b>Health &amp; Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	July 23, 2020	Announced-Focused Drinking Water Inspection - Final Inspection Rating of 100%
AWQI's	0		
Number of Non-Compliances	0		
Number of Boil Water Advisories	0		

## System Process Description

### Raw Source

The Kinmount Water Treatment Plant is supplied with surface water from the Burnt River.

### Treatment

The treatment system is a dual train conventional filtration package plant consisting of the following:

- In-line static mixer
- Coagulant feed system with SternPac addition upstream of static mixer
- Two stage variable speed flocculators located in flocculation tanks

- Coagulant aid feed system with polymer added to flocculation tanks
- Two upflow clarifier units equipped with tube settlers
- Two dual media rapid gravity filters
- Sodium hypochlorite feed system for primary disinfection
- Dual celled chlorine contact tanks located beneath the plant
- Two highlift pump chambers housing four highlift pumps
- Sodium hypochlorite feed system for post chlorination
- Online analyzers to monitor both free treated chlorine and filter effluent turbidity
- Wastewater treatment system that consists of two backwash pumps and a settling tank that receives backwash wastewater and clarifier sludge
- SCADA computer control system
- Standby power generator

**Treatment Chemicals used during the reporting year:**

<b>Chemical Name</b>	<b>Use</b>	<b>Supplier</b>
Sodium Hypochlorite	Disinfection	Brenntag
Polyaluminium Chloride	Flocculation	FloChem
Polymer	Flocculation	Basf
Sodium hydroxide	pH adjustment	Not required in 2020

**Summary of Non-Compliance**

**Adverse Water Quality Incidents**

There were no Adverse Water Quality Incidents reported during the reporting period.

**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 Kinmount Drinking Water System is operating on average under half the rated capacity.

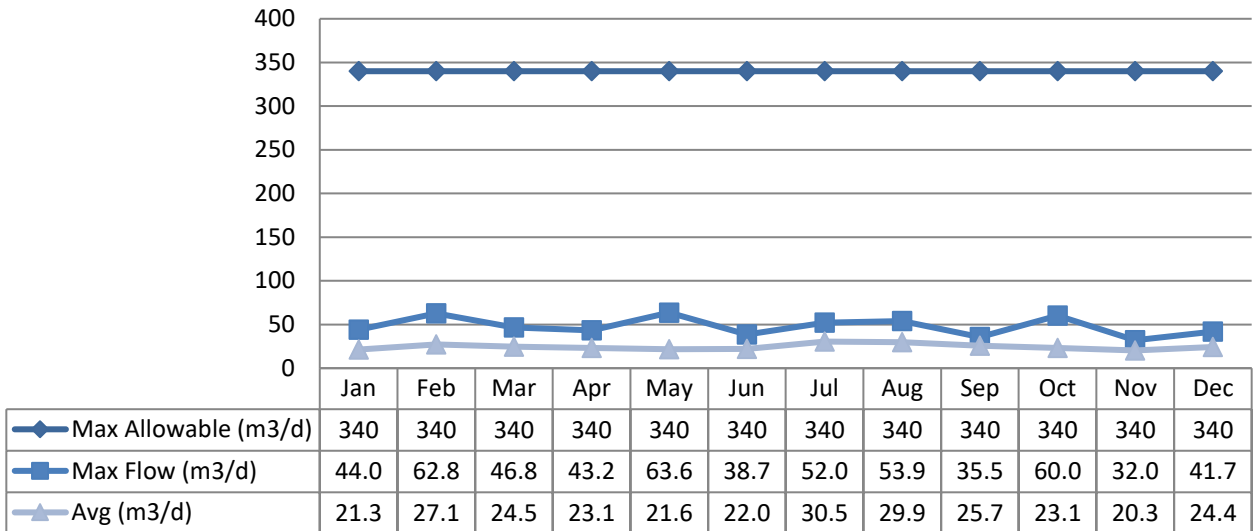
**Raw Water Flows**

The Raw Water takings are regulated by the Permit to Take Water (PTTW). 2020 Raw Flow Data was submitted to the Ministry electronically under permit #2447-AWDJEA.

The confirmation for the data that was submitted is attached in Appendix A.

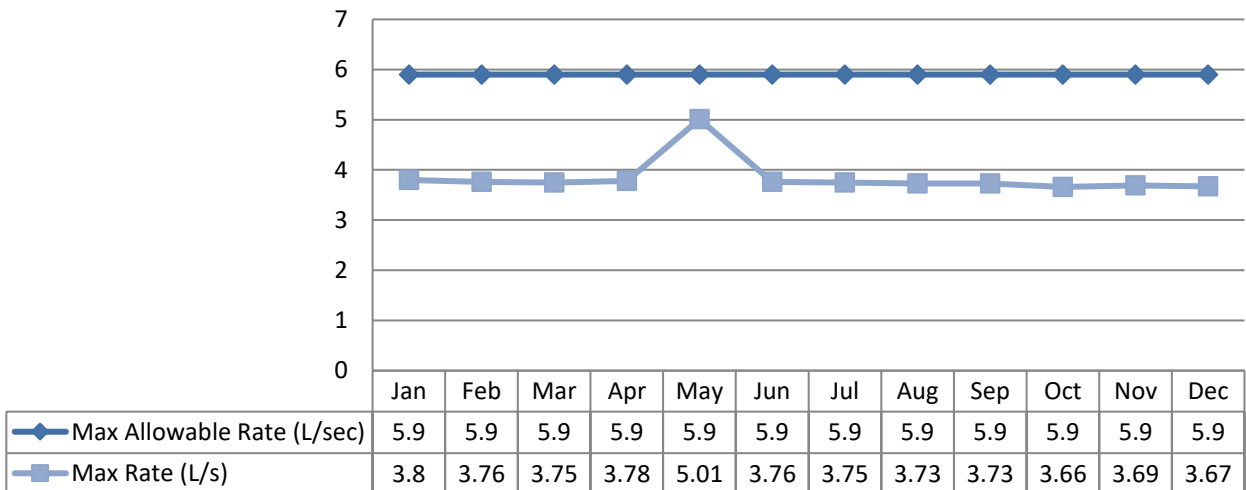
**Total Monthly Flows (m3/d)**

Max Allowable PTTW- Raw



**Monthly Rated Flows (L/s)**

Max allowable rate – PTTW- Raw

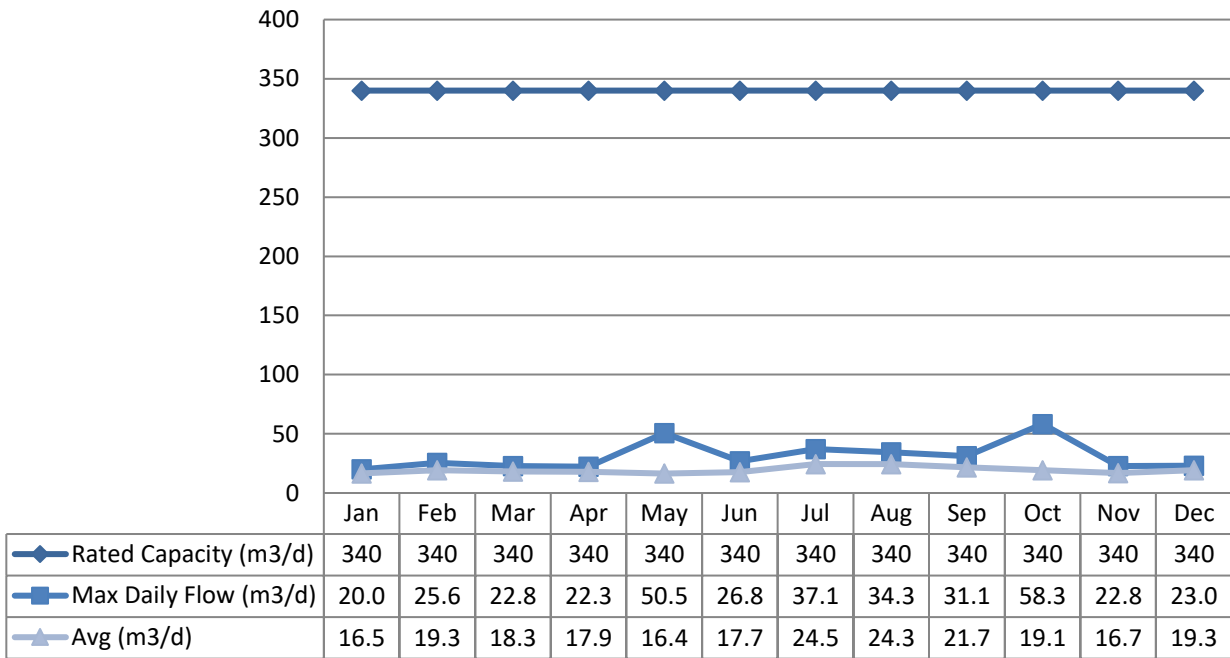


**Treated Water Flows**

The Treated Water flows are regulated under the Municipal Licence.

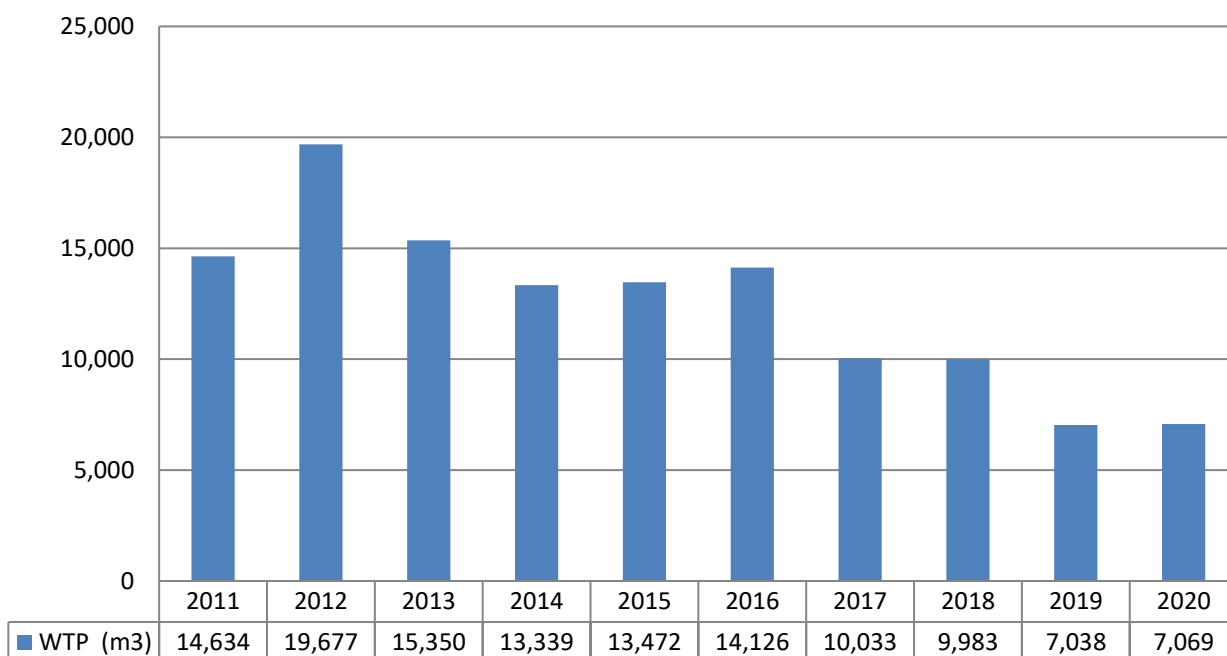
**Monthly Rated Flows**

Rated Capacity - MDWL



**Annual Total Flow Comparison**

Total Annual m3



## Regulatory Sample Results Summary

### Microbiological Testing

	No. 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
Raw	26		0	19	12	440	
Distribution	52	0	0	0	0	0	12

### Operational Testing

	No. of Samples Collected	Range of Results	Range of Results
		Minimum	Maximum
Turbidity Filter 1 (NTU)	8760	0.00	1.00
Turbidity Filter 2 (NTU)	8760	0.00	1.00
Chlorine	8760	0.00	3.22
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

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

**Note:** For continuous monitors 8760 is used as the number of samples. Spikes

recorded by on-line 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 170/03. Sodium, Fluoride and the metals are required to be tested every 5 years while Nitrate and Nitrite are tested quarterly. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- MDL = Method Detection Limit

Parameter Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2020/01/06	<MDL 0.09	6.0	No	No
Arsenic: As (ug/L) - TW	2020/01/06	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2020/01/06	18.5	1000.0	No	No
Boron: B (ug/L) - TW	2020/01/06	5.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2020/01/06	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2020/01/06	0.28	50.0	No	No
Mercury: Hg (ug/L) - TW	2020/01/06	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2020/01/06	<MDL 0.04	50.0	No	No
Uranium: U (ug/L) - TW	2020/01/06	0.029	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2020/01/06	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2020/01/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/07/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/10/05	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2020/01/06	0.09	10.0	No	No
Nitrate (mg/L) - TW	2020/04/06	0.125	10.0	No	No
Nitrate (mg/L) - TW	2020/07/06	0.117	10.0	No	No
Nitrate (mg/L) - TW	2020/10/05	0.033	10.0	No	No
Sodium: Na (mg/L) - TW	2020/01/06	9.01	20*	No	No

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified mg/L when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium-restricted diets.



**Schedule 15 Sampling:**

The Schedule 15 Sampling is required under O. Reg. 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results	Range of Results	MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	2	2	27	30	N/A	N/A
pH	2	2	7.08	7.20	N/A	N/A
Lead (µg/l)	2	2	0.42	0.71	10	0

**Organic Parameters**

These parameters are tested every 5 years as a requirement under O. Reg.170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

Parameter Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2020/01/06	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2020/01/06	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2020/01/06	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2020/01/06	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2020/01/06	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2020/01/06	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2020/01/06	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2020/01/06	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2020/01/06	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2020/01/06	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2020/01/06	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2020/01/06	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2020/01/06	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2020/01/06	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2020/01/06	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2020/01/06	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) – TW	2020/01/06	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2020/01/06	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid	2020/01/06	<MDL 0.19	100.0	No	No

Parameter Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
(2,4-D) (ug/L) – TW					
Diclofop-methyl (ug/L) - TW	2020/01/06	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2020/01/06	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2020/01/06	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2020/01/06	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2020/01/06	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2020/01/06	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2020/01/06	<MDL 0.01	50.0	No	No
Metribuzin (ug/L) - TW	2020/01/06	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) – TW	2020/01/06	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2020/01/06	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2020/01/06	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2020/01/06	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2020/01/06	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2020/01/06	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2020/01/06	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2020/01/06	<MDL 0.01	10.0	No	No
Terbufos (ug/L) - TW	2020/01/06	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2020/01/06	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2020/01/06	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2020/01/06	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2020/01/06	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2020/01/06	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)	2020/01/06	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2020/01/06	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2020/01/06	<MDL 0.17	1.0	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2020	74.5	100	No	Yes
HAA Total (ug/L) Annual Average - DW	2020	66.25	80	No	Yes

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

MDL = Method Detection Limit

### **Additional Legislated Samples**

Municipal Drinking Water Licence	Month Collected	Suspended Solids (mg/L)	Free Chlorine Residual (mg/L)
Settling Tank Discharge Point	January	2	0.02
	February	2	0.02
	March	3	0.04
	April	2	0.04
	May	14	0.03
	June	2	0.02
	July	2	0.03
	August	2	0.03
	September	2	0.01
	October	64	0.02
	November	1680	0.02
	December	6	0.01
	Annual Average	148	

Note: The Suspended Solids annual average limit is 25 mg/L. There were issues with the milltronics for the backwash filter chamber that appears to have impacted the timing of the sampling by the composite sampler resulting in elevated results in October and November. Operations staff were troubleshooting to determine the cause of the increase in SS, which included reviewing the backwash settings in the PLC, until it was determined that the controller unit for the milltronics was not functioning properly and ultimately required replacing. Operations closely monitored the milltronics readings until the controller was replaced on January 6, 2021.


### Major Maintenance Summary incurred to install, repair or replace required equipment

WO #	Description
1339603	Lifting Device Chainfall Repairs
1536452	Replacement LowLift Pump 1
1536760	Lowlift Heater Repair
1751530	Filter Media Supply and Addition
1837265	Highlift Pump 2 Repair
1624673	Replace Leaking Backwash Check Valve
2038532	Backwash tank level meter replacement
1709268	Meter Level LIT 311 Failed

# Appendix A

## WTRS Data Submission Confirmation

1/27/2021 Water Taking Reporting System

 WTRS-WT-008

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

**Water Taking Data submitted successfully.**

**Confirmation:**

Thank you for submitting your water taking data online.


Permit Number: 2447-AWDJEA  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Jan 27, 2021 10:59 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.

[Return to Main Page](#)

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