

# 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> to December 31<sup>st</sup> 2019

Issued: February 13, 2020

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 residents. The annual reports are available to residents free of charge at the City of Kawartha Lakes – Public Works Administration Office located at 12 Peel Street in Lindsay, Ontario. The reports are also available online at the [City of Kawartha Lakes website](http://www.kawarthalakes.ca). (www.kawarthalakes.ca)

## 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, 2019 - December 31, 2019

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	July 19, 2019	Unannounced-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:**

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag
Polyalumunium Chloride	Flocculation	FloChem
Polymer	Flocculation	Basf
Sodium hydroxide	pH adjustment	Not required in 2019

**Summary of Non-Compliance****Adverse Water Quality Incidents:**

There were no adverse water quality incidents for this reporting period.

**Non-Compliance:**

There were no non-compliances identified for this reporting period.

**Non-Compliance Identified in a Ministry Inspection:**

There were no non-compliances identified for this reporting period.

**Flows**

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

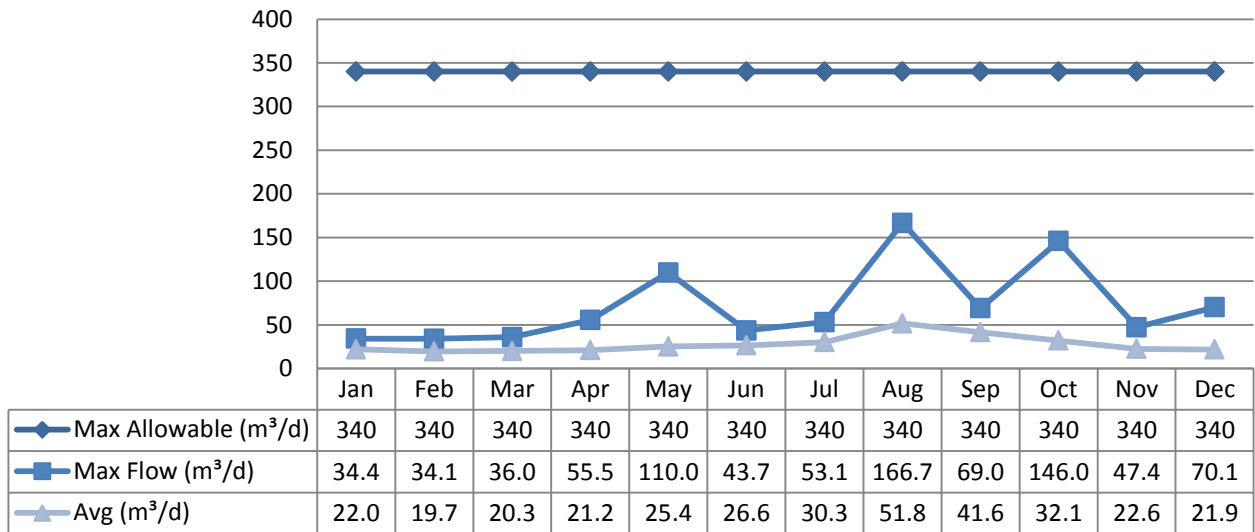
**Raw Water Flows**

The Raw Water takings are regulated by the Permit to Take Water (PTTW). 2019 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.

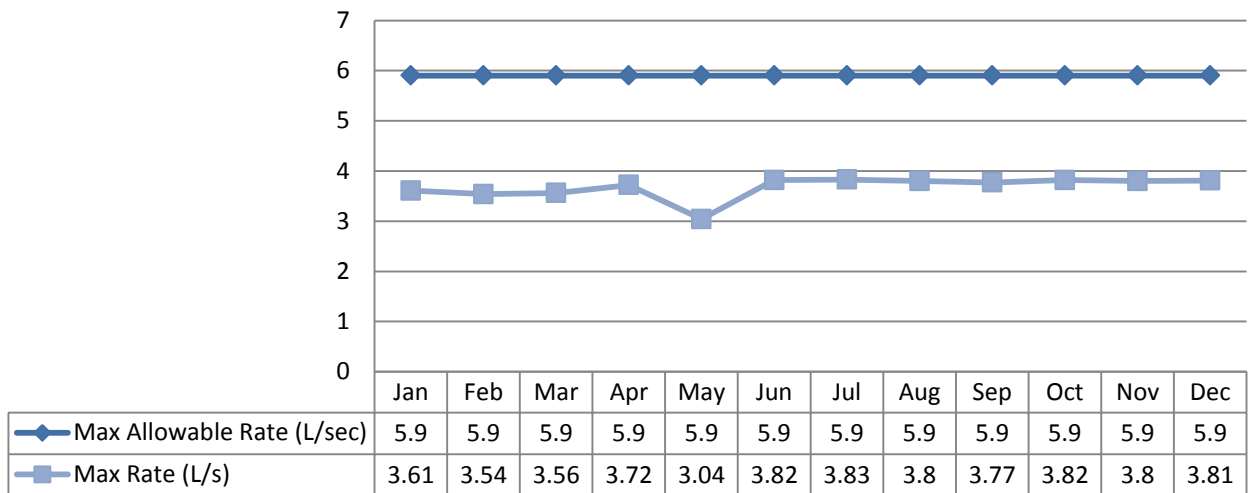
Issued: February 13, 2020

Total Monthly Flows (m<sup>3</sup>/d)

## Max Allowable PTTW- Raw

Monthly Rated Flows (L/s)

## Max allowable rate – PTTW- Raw

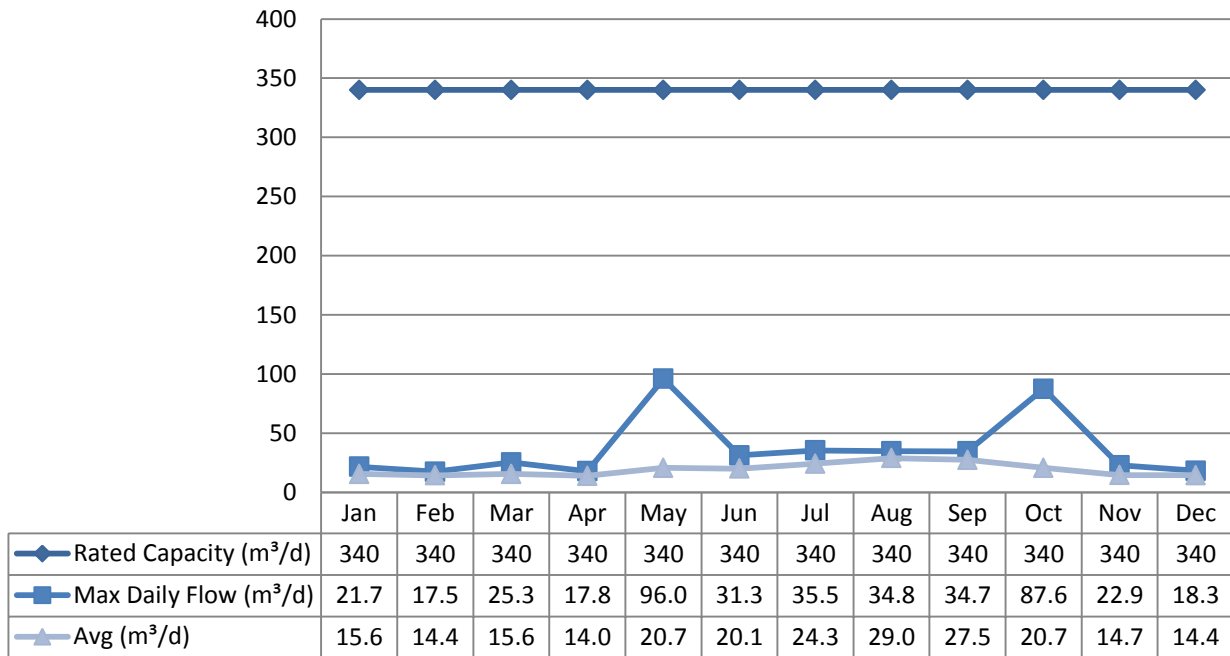


**Treated Water Flows**

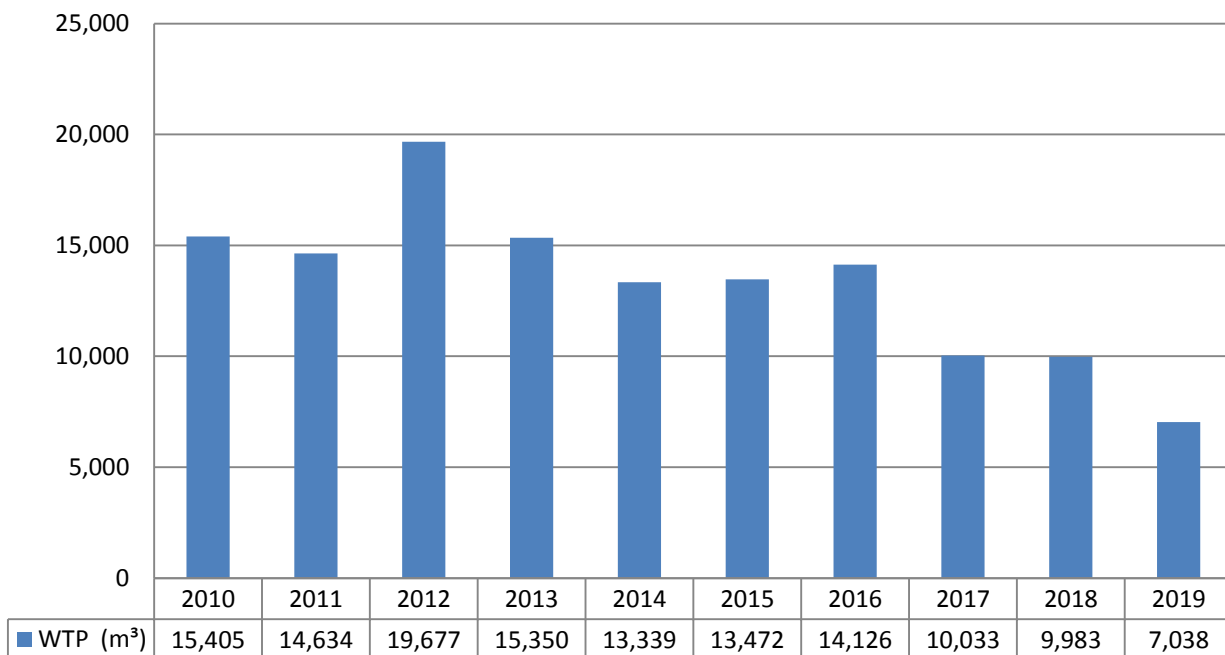
The Treated Water flows are regulated under the Municipal Licence.

**Monthly Rated Flows**

Rated Capacity - MDWL

**Annual Total Flow Comparison**

Total Annual m³



## **Regulatory Sample Results Summary**

### **Microbiological Testing**

Location	No. of Samples Collected	Range of E.coli Results (MIN)	Range of E.coli Results (MAX)	Range of Total Coliform (MIN)	Range of Total Coliform (MAX)	Range of HPC Results (MIN)	Range of HPC Results (MAX)
Raw	27	1	25	19	400		
Distribution	52	0	0	0	0	0	2

### **Operational Testing**

Parameters	No. of Samples	Range of Results (MIN)	Range of Results (MAX)
Turbidity Filter 1 (NTU)	8760	0.00	1.28
Turbidity Filter 2 (NTU)	8760	0.00	1.81
Chlorine	8760	0.00	4.93
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)	Date of Sampling	Sampling Result	MAC	No. of Exceedances MAC	No. of Exceedances 1/2 MAC
Antimony: Sb (ug/L) - TW	2015/01/15	0.05	6.0	No	No
Arsenic: As (ug/L) - TW	2015/01/15	< 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2015/01/15	17.3	1000.0	No	No
Boron: B (ug/L) - TW	2015/01/15	16.3	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2015/01/15	< 0.003	5.0	No	No

Parameter (Treated Water)	Date of Sampling	Sampling Result	MAC	No. of Exceedances MAC	No. of Exceedances 1/2 MAC
Chromium: Cr (ug/L) - TW	2015/01/15	0.38	50.0	No	No
Mercury: Hg (ug/L) - TW	2015/01/15	< 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2015/01/15	< 1.0	50.0	No	No
Uranium: U (ug/L) - TW	2015/01/15	0.018	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2015/01/15	< 0.06	1.5	No	No
Nitrite (mg/L) - TW	2019/01/08	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/04/01	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/07/12	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/10/09	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2019/01/08	0.090	10.0	No	No
Nitrate (mg/L) - TW	2019/04/01	0.157	10.0	No	No
Nitrate (mg/L) - TW	2019/07/12	0.066	10.0	No	No
Nitrate (mg/L) - TW	2019/10/09	0.025	10.0	No	No
Sodium: Na (mg/L) - TW	2020/01/10	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	No. of Sampling Points	No. of Samples	Range of Results (Min)	Range of Results (Max)	MAC	No. of Exceedances
Alkalinity (mg/L)	2	2	29	32	N/A	N/A
pH	2	2	7.00	7.65	N/A	N/A
Lead (ug/l)	N/A	N/A				



**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.

<b>Treated Water</b>	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>MAC</b>	<b>No. of Exceedances MAC</b>	<b>No. of Exceedances ½ MAC</b>
Alachlor (ug/L) - TW	2015/01/15	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2015/01/15	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2015/01/15	<MDL 0.02	20.00	No	No
Benzene (ug/L) - TW	2015/01/15	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2015/01/15	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2015/01/15	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2015/01/15	<MDL 0.01	90.00	No	No
Carbofuran (ug/L) - TW	2015/01/15	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2015/01/15	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2015/01/15	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2015/01/15	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2015/01/15	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2015/01/15	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2015/01/15	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2015/01/15	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2015/01/15	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) – TW	2015/01/15	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2015/01/15	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) – TW	2015/01/15	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2015/01/15	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2015/01/15	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2015/01/15	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2015/01/15	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2015/01/15	<MDL 1.0	280.00	No	No

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances MAC	No. of Exceedances ½ MAC
Malathion (ug/L) - TW	2015/01/15	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2015/01/15	<MDL 0.01	80.00	No	No
Metribuzin (ug/L) - TW	2015/01/15	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) – TW	2015/01/15	<MDL 0.3	10.00	No	No
Paraquat (ug/L) - TW	2015/01/15	<MDL 1.0	3.00	No	No
PCB (ug/L) - TW	2015/01/15	<MDL 0.04	60.00	No	No
Pentachlorophenol (ug/L) - TW	2015/01/15	<MDL 0.15	2.00	No	No
Phorate (ug/L) - TW	2015/01/15	<MDL 0.01	190.00	No	No
Picloram (ug/L) - TW	2015/01/15	<MDL 1.0	1.00	No	No
Prometryne (ug/L) - TW	2015/01/15	<MDL 0.03	10.00	No	No
Simazine (ug/L) - TW	2015/01/15	<MDL 0.01	1.00	No	No
Terbufos (ug/L) - TW	2015/01/15	<MDL 0.01	10.00	No	No
Tetrachloroethylene (ug/L) - TW	2015/01/15	<MDL 0.35	100.00	No	No
2,3,4,6- Tetrachlorophenol (ug/L) - TW	2015/01/15	<MDL 0.2	230.00	No	No
Triallate (ug/L) - TW	2015/01/15	<MDL 0.01	5.00	No	No
Trichloroethylene (ug/L) - TW	2015/01/15	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2015/01/15	<MDL 0.25	100.00	No	No
Trifluralin (ug/L) - TW	2015/01/15	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2015/01/15	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2019	69	100	No	Yes
HAA Total (ug/L) Annual Average - DW	2019	70	N/A	N/A	N/A

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

MDL = Method Detection Limit

**Additional Legislated Samples**

<b>Municipal Drinking Water Licence</b>	<b>Date Collected</b>	<b>Suspended Solids (mg/L)</b>	<b>Free Chlorine Residual (mg/L)</b>
Settling Tank Discharge Point	January	12	0.05
	February	4	0.02
	March	<2	0.02
	April	2	0.02
	May	3	0.02
	June	2	0.02
	July	20	0.00
	August	2	0.04
	September	102	0.01
	October	8	0.04
	November	6	0.01
	December	2	0.01
	Annual Average	13.75	


Note: The Suspended Solids annual average limit is 25 mg/L.


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

<b>WO #</b>	<b>Description</b>
1018275	Replacement of filter PLC panel.
1054598	Replacement of clear well cell 1 level meter.
1101310	Heater Repair
1102140	Replace Filter Turbidity Analyzer Controller and Sensors
1102315	Replacement Lowlift Pump 02
1102317	Replacement Coagulant Feed Pumps
1126734	Replacement Panel-View Touchscreen
1137351	Update to SPack32 Outpost
1138256	Dehumidifier Repair
1257605	Rebuild Kits for Air Relief Valve
1421078	SCADA Reprogramming to fix Filter 2 Backwash Issues

# Appendix A

## WTRS Data 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: 2447-AWDJEA  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 6, 2020 2:23 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.