Annual and Summary Report

For the Period of Jan. 1, 2021 to Dec. 31, 2021

For Arthur and Mount Forest Drinking Water Systems

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Table of Contents

List of Tables

Introduction

Purpose

The purpose of this report is to provide information to several stakeholders and to satisfy the regulatory requirements of the Safe Drinking Water Act (SDWA), reporting required under Ontario Regulation 170/03 (Section 11 and Schedule 22). The report is a compilation of information that helps to demonstrate the ongoing provision of safe, consistent supply of high-quality drinking water to customers located within the Township of Wellington North (Arthur and Mount Forest).

Scope

This Annual and Summary report includes information from both Mount Forest and Arthur Drinking Water Systems for the period of January 1st to December 31st, 2021 (unless otherwise noted). The report is a collection of information that was previously found in two separate reports (Annual Report and Summary 22 Report to Council). The information is required to be reported to the following:

-the Drinking Water System Owners (Township of Wellington North Council);
-the public and customers

This report satisfies the requirements of both the Safe Drinking Water Act (SDWA) and Ontario Regulation 170/03:

-Section 11, Annual Reports which includes:

- a brief description of the drinking water systems;
- a list of water treatment chemicals used;
- a summary of the most recent water tests results required under O. Reg.170/03 or an approval, Municipal Drinking Water License (MDWL) or order;
- a summary of adverse test results and other issues reported to the Ministry including corrective action taken;
- a description of major expenses incurred to install, repair or replace required equipment;
- the location where this report is available for inspection/review.

And;

-Schedule 22, Summary Report which includes:

- list the requirements of the Safe Drinking Water Act, the Regulations, Drinking Water Works Permits (DWWP), Municipal Drinking Water License (MDWL), and any orders applicable to the system that were not met at any time during the period covered by the report;
- for each requirement that was not met, the duration of the failure and measures that were taken to correct the failure;
- a summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows; and

- a comparison of this information to the rated capacity and flow rates approved in the system's approval, DWWP and/or MDWL.

This report satisfies applicable requirements for both the Arthur and Mount Forest Drinking Water Systems.

A copy of this report is available for viewing online at www.wellington-north.com

Inquiries can be made by emailing smcdougall@wellington-north.com or by calling 519-848-3620 x 4006

Notice

Please note that every reasonable effort is made to ensure the accuracy of this report. This report is published with the best available information at the time of the publication. In the events that errors or omissions occur, the online report will be updated. Please refer to the online version of the report for the most current version.

Systems Overview

The role of the water department is to provide customers and the community with safe, consistent supply of high-quality drinking water while meeting, exceeding, and continually improving on legal, operational, and quality management system requirements.

The Arthur and Mount Forest drinking water systems are Class II Water and Distribution Supply Subsystems, composed of groundwater wells and water distribution system. From January 1st to December 31st, 2021, certified staff of three Operators, one Lead Hand, one Manager and one Process Compliance Analyst operated and maintained the systems.

The water department received full scope reaccreditation to the Drinking Water Quality Management Standard after a successful off-site audit on July 9th, 2021 conducted by a third-party accreditation body. This full accreditation satisfies part of the requirements under the Municipal Drinking Water Licensing Program.

Arthur Drinking Water System

Arthur's municipal drinking water system provides water for a permanent population of approximately 2,333, comprised of approximately 997 residential connections and 110 Industrial/Commercial/Institutional (ICI). ICI customers are fully metered and residential units are on a flat rate system. Arthur has approximately 19.5 km of water main.

The Arthur water system is comprised of three drilled wells, two pump houses, two elevated storage tanks and a water distribution system. The township uses 12% sodium hypochlorite for disinfection. Sodium silicate is used for iron sequestering at Well #7 and Waterworx is used at Well #8 for manganese sequestering. Each well is equipped with one well pump, discharge piping, and disinfection equipment. Well #8 is equipped with a back-up diesel generator. The system's supply for fire protection, peak

demands and emergencies, is stored within two elevated storage tanks, one with a capacity of 1137 m^3 and one with a capacity of 227m^3.

The well pumps and associated metering pumps are started and stopped based on the water level in elevated tank number one. Once the low water level in the tank has been reached, the pump stations are called upon to supply the distribution system with the excess filling the elevated storage tanks to the normal top water level. This system is a demand/storage system. When the level drops below the lead pump start level, the lead well pump will start. If the level continues to drop, the next duty pump in sequence will start. All pumps stop at the normal top water level until the water level drops in elevated tank number one and the pumps are required again. Whenever all pumps have stopped; the pump sequence changes. Pumps removed from service are automatically skipped.

From January 1st to December 31st, 2021, a total of 365,993.37 cubic meters of water was treated and pumped to the system. The average daily water demand was 1,002.32 cubic meters. The highest daily use of water occurred on June 17, 2021 when 1,541.74 cubic meters of water was pumped.

Mount Forest Drinking Water System

Mount Forest's municipal drinking water system provides water for a permanent population of approximately 4,643, comprised of approximately 2,155 residential connections and 241 ICI connections. ICI customers are fully metered and residential units are on a flat rate system. Mount Forest distribution system is approximately 37 km of water main.

The Mount Forest water system is comprised of four groundwater wells, four pump houses, a standpipe, and a water distribution system. The township uses 12% sodium hypochlorite for disinfection. Each well is equipped with one well pump, discharge piping, and disinfection equipment. Well #3 is equipped with a back-up diesel generator and a booster pump. The system's supply for fire protection, peak demands and emergencies, is stored within a 2083 m^3 standpipe.

The well pumps and sodium hypochlorite metering pumps are started and stopped based on the standpipe water level. Once the low water level in the tank has been reached, the pump stations are called upon to supply the distribution system with the excess filling the standpipe to the normal top water level. This system is a demand/storage system. When the level drops below the lead pump start level, the lead well pump will start. If the level continues to drop, the first, second and third lag well pumps will be started, respectively. All pumps stop at the normal top water level until the water levels drops in the standpipe and the pumps are required again. Whenever all pumps have stopped; the pump sequence changes. Pumps removed from service are automatically skipped.

From January 1st to December 31st, 2021, a total of 522,761.17 cubic meters of water was treated and pumped to the system. The average daily water demand was 1,431.65 cubic meters. The highest daily use of water occurred on June 13, 2021 when 2,870.10 cubic meters of water was pumped.

Sampling and Testing

The Township of Wellington North's certified operators regularly test the water within the overall system including the raw water at the well source(s), after treatment, and within the distribution system. From January 1st to December 31st, 2021, all regulatory microbiological and chemical quality samples were taken by certified operators and tests performed by accredited, licensed laboratories on water samples collected throughout the drinking water system. These tests include regulatory testing, and those results are included in this report.

Arthur and Mount Forest drinking water systems are defined as large residential systems operated under the regulatory requirements of the Safe Drinking Water Act and the Ontario Water Resources Act (accessed at www.e-laws.gov.on.ca). The Arthur Drinking Water System is operated under Municipal Drinking Water License (MDWL) 113-101 and the Drinking Water Works Permit (DWWP) 113-201. The Mount Forest Drinking Water System is operated under MDWL 113-102 and DWWP 113-202.

The MDWL and the DWWP describe system-specific requirements that are supplementary to provincial regulations and act as a license for water supply and distribution operations. These documents outline specific conditions and requirements regarding operation, maintenance and upgrades that are required by the system and are considered regulatory in nature. These documents are available by request for viewing at 160 Preston Street, Arthur.

Summary Report

a) Incidents of Regulatory Non-Compliance

This section describes all incidents of non-compliance (excluding those defined as "Adverse Water Quality Incidents" (AWQI) reported in Section B of this report). AWQI's are required to be reported to the Ministry of Environment, Conservation & Parks (MECP) with respect to the following Acts and related regulations: Ontario Water Resources Act (OWRA), Safe Drinking Water Act (SDWA), the Environmental Protection Act (EPA), and Municipal Drinking Water Licenses (MDWL) and Drinking Water Works Permits (DWWP).

The most recent assessment of compliance for Arthur and Mount Forest Drinking Water Systems as determined by the MECP during the 2021 Annual Inspections resulted in a final inspection rating of 100% for each facility.

There was no non-compliance for either Arthur or Mount Forest Drinking Water Systems during the MECP inspections in 2021.

b) Adverse Water Quality Incidents

This section describes all "Adverse Water Quality Incidents" (AWQI). This term refers to any unusual test results from treated water that does not meet a provincial water quality standard, or situation where disinfection of the water may be compromised. An adverse water quality incident indicates that on at least one occasion, a water quality standard was not met.

There were zero AWQI in Mount Forest and zero AWQI in Arthur in 2021.

c) Summaries of Flow Rates and Water Supply Capacities

The Safe Drinking Water Act (SDWA) and the Ontario Water Resources Act (OWRA) each require that operating authority's record and report water takings as governed by the Permits to Take Water (PTTW). The following tables list the quantities and flow rates of the water supplied during this reporting period, including monthly average and maximum daily flows, daily instantaneous peak flow rates and a comparison to the rated capacity and flow rates specified in the system approval:

Table 1: Arthur Well #7b Flows

Approved Volume (m3/day): 1961
Approved Flow Rate (L/sec): 22.7

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	308.93	15.8	644.85	32.9	19.94	87.8
February	307.89	15.7	774.77	39.5	19.53	86.0
March	284.85	14.5	542.81	27.7	20.30	89.4
April	267.40	13.6	622.39	31.7	19.68	86.7
May	399.28	20.4	974.69	49.7	20.09	88.5
June	396.69	20.2	819.64	41.8	19.94	87.8
July	349.80	17.8	756.80	38.6	20.26	89.3
August	379.75	19.4	770.10	39.3	19.79	87.2
September	350.58	17.9	620.23	31.6	20.34	89.6
October	387.10	19.7	836.63	42.7	19.90	87.7
November	336.33	17.2	628.93	32.1	19.64	86.5
December	338.86	17.3	850.35	43.4	19.98	88.0

Table 2: Arthur Well #8a Flows

Approved Volume (m3/day): 2255

Approved Flow Rate (L/sec): 26.1

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	289.93	12.9	456.26	20.2	22.27	85.3
February	301.57	13.4	510.28	22.6	22.20	85.1
March	332.27	14.7	582.91	25.8	22.23	85.2
April	366.30	16.2	697.85	30.9	22.12	84.8
May	341.57	15.1	687.08	30.5	22.51	86.2
June	403.84	17.9	693.81	30.8	22.48	86.1
July	351.42	15.6	708.47	31.4	22.87	87.6
August	379.08	16.8	785.25	34.8	22.09	84.6
September	355.75	15.8	550.19	24.4	21.78	83.4
October	314.41	13.9	684.42	30.4	21.88	83.8
November	295.69	13.1	551.13	24.4	22.65	86.8
December	268.36	11.9	491.24	21.8	21.90	83.9

Table 3: Arthur Well #8b Flows

Approved Volume (m3/day): 2255

Approved Flow Rate (L/sec): 26.1

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	280.28	12.4	375.06	16.6	21.52	82.8
February	309.08	13.7	561.56	24.9	21.31	81.6
March	345.16	15.3	647.79	28.7	21.13	81.0
April	302.08	13.4	550.67	24.4	22.02	84.4
May	343.36	15.2	635.82	28.2	22.01	84.4
June	386.45	17.1	617.47	27.4	21.58	82.7
July	363.96	16.1	776.58	34.4	21.28	81.5
August	348.34	15.4	616.97	27.4	21.13	81.0
September	325.88	14.5	512.09	22.7	21.23	81.3
October	282.97	12.5	622.71	27.6	21.34	81.8
November	326.32	14.5	492.32	21.8	21.99	84.3
December	306.31	13.6	517.68	23.0	21.53	82.5

There was 365,993.37 m^3 of water processed in Arthur for 2021 (Jan. 01 to Dec. 31). This represents 2.9 % decrease compared to the same time period in 2020 and 7.2 % decrease from 2019.

Table 4: Mount Forest Well #3 Flows

Approved Volume (m3/day): 1637

Approved Flow Rate (L/sec):22.7

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	284.72	17.4	512.06	31.3	18.40	81.1
February	289.19	17.7	498.81	30.5	18.28	80.5
March	282.36	17.2	504.57	30.8	20.67	91.1
April	274.31	16.8	504.33	30.8	18.67	82.2
May	291.19	17.8	598.55	36.6	18.86	83.1
June	313.21	19.1	539.39	32.9	18.61	82.0
July	268.12	16.4	492.95	30.1	18.64	82.1
August	346.43	21.2	673.90	41.2	19.08	84.1
September	277.80	17.0	489.34	29.9	18.55	81.7
October	268.67	16.4	508.89	31.1	19.15	84.4
November	247.34	15.1	515.82	31.5	19.01	83.7
December	284.55	17.4	487.35	29.8	18.48	81.4

Table 5: Mount Forest Well #4 Flows

Approved Volume (m3/day): 1964

Approved Flow Rate (L/sec): 22.7

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	342.81	17.5	654.05	33.3	19.28	84.9
February	386.06	19.7	734.15	37.4	19.50	85.9
March	333.44	17.0	659.95	33.6	19.44	85.6
April	331.67	16.9	645.64	32.9	19.52	86.0
May	276.08	14.1	469.64	23.9	19.68	86.7
June	364.56	18.6	797.98	40.6	19.25	85.9
July	344.78	17.6	718.34	36.6	19.35	85.2
August	376.28	19.2	628.71	32.0	19.55	86.1
September	439.20	22.4	924.61	47.1	19.09	84.1
October	309.06	15.7	633.68	32.3	19.48	85.8
November	314.93	16.0	558.24	28.4	19.49	85.9
December	319.57	16.3	634.57	32.3	19.44	85.6

Table 6: Mount Forest Well #5 Flows

Approved Volume (m3/day): 3928

Approved Flow Rate (L/sec): 45.5

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	272.29	6.9	539.96	13.7	35.28	77.5
February	304.63	7.8	621.12	15.8	34.62	76.1
March	386.52	9.8	815.53	20.8	34.90	76.7
April	336.31	8.6	520.28	13.2	35.67	78.4
May	509.00	13.0	1033.79	26.3	36.17	79.5
June	602.96	15.4	921.87	23.5	36.00	79.1
July	410.39	10.4	778.83	19.8	35.78	78.6
August	365.28	9.3	1016.95	25.9	36.42	80.0
September	156.92	4.0	540.14	13.8	38.57	84.8
October	383.24	9.8	685.02	17.4	42.54	93.5
November	364.33	9.3	698.62	17.8	38.14	83.8
December	287.18	7.3	583.89	14.9	35.65	78.4

Table 7: Mount Forest Well #6 Flows

Approved Volume (m3/day): 3928

Approved Flow Rate (L/sec): 45.5

	Avg Daily Volume (m^3)	% of Approved Volume	Max Daily Volume (m^3)	% of Approved Volume	Peak Flow Rate (L/sec)	% of Approved Flow Rate
January	423.79	10.8	796.12	20.3	31.75	69.8
February	334.25	8.5	719.20	18.3	32.93	72.4
March	340.86	8.7	699.50	17.8	32.77	72.0
April	375.52	9.6	622.94	15.9	32.95	72.4
May	427.24	10.9	900.13	22.9	33.41	73.4
June	525.69	13.4	920.02	23.4	34.03	74.8
July	535.50	13.6	966.70	24.6	33.61	73.9
August	507.28	12.9	949.62	24.2	33.85	74.4
September	518.16	13.2	839.86	21.4	31.78	69.8
October	388.31	9.9	720.05	18.3	33.79	74.3
November	426.30	10.9	872.68	22.2	33.70	74.1
December	431.51	11.0	912.64	23.2	33.38	73.4

There was 522,761.17 m^3 of water processed in Mount Forest for 2021 (Jan. 01 to Dec. 31). This represents 3.7% increase compared to the same time period in 2020 and 0.85% increase from 2019.

d) Raw and Treated Water Quality

This section describes the water quality monitoring, both regulatory and operational, that has been completed in 2021.

Water Quality Review

Under the SDWA, municipalities are required to monitor both the raw and treated quality of the source water supplied. This monitoring is performed for both regulatory compliance and due diligence and is expected to identify any changes within the treated water as well as in raw source waters.

Table 8: O. Regulation 170/03 Schedule 7-2, Distribution Manual Free Chlorine Residual Summary

Parameter	ODWQS	Total Analyzed	Total Outside ODWQS Criteria	Range	Units
Arthur Free Chlorine Residual	0.05 - 4.0	365	0	0.67 to 1.98	mg/L
Mount Forest Free Chlorine Residual	0.05 - 4.0	365	0	0.70 to 1.92	mg/L

Table 9: O. Regulation 170/03 Schedule 10-4- Raw Bacteriological Sampling Summary

Parameter	ODWQS	Total Analyzed	Total Outside ODWQS Criteria	Range	Units
Arthur Raw - T.coli	n/a	156	n/a	0	cfu/100mL
Arthur Raw - E.coli	n/a	156	n/a	0	cfu/100mL
Mount Forest Raw - T.coli	n/a	208	n/a	0	cfu/100mL
Mount Forest Raw - E.coli	n/a	208	n/a	0	cfu/100mL

Table 10: O. Regulation 170/03 Schedule 10-3, Treated Bacteriological Sampling Summary

Parameter	ODWQS	Total Analyzed	Total Outside ODWQS Criteria	Range	Units
Arthur Treated - T.coli	0	104	0	0	cfu/100mL
Arthur Treated - E.coli	0	104	0	0	cfu/100mL
Mount Forest Treated - T.coli	0	208	0	0	cfu/100mL
Mount Forest Treated - E.coli	0	208	0	0	cfu/100mL

Table 11: O. Regulation 170/03 Schedule 10-2, Distribution Samples Summary

Parameter	ODWQS	Total Analyzed	Total Outside ODWQS Criteria	Range	Units
Arthur Distribution - T.coli	0	156	0	0	cfu/100mL
Arthur Distribution - E.coli	0	156	0	0	cfu/100mL
Arthur Distribution - HPC	n/a	156	n/a	<10 – 40	cfu/mL
Mount Forest Distribution - T.coli	0	208	0	0	cfu/100mL
Mount Forest Distribution - E.coli	0	208	0	0	cfu/100mL
Mount Forest Distribution - HPC	n/a	208	n/a	<10 – 800	cfu/mL

Treated Water Quality- O. Regulation 170/03 Schedule 13-6, 13-6.1 and 13-7, "Three Month" Sampling Results Summary

In 2021, all operational Treated sources were sampled and analyzed for Schedule 13-6, 13-6.1 and 13-7 parameters as per O.Reg. 170-03.

Regulation 170/03, Schedule 13-6 requires a minimum of one distribution sample taken from the Distribution System where THM's (trihalomethanes) are most likely to develop (locations with high retention times). The Maximum Allowable Concentration (MAC) for THM's is 100 ug/L. However, for this parameter the MAC uses a running annual average of quarterly samples.

The results of the running average value for THM's for all related Distribution System samples in 2021 are below the ½ MAC (half of the maximum allowable concentration). Mount Forest had an annual running average of 21.5 ug/L of Total THM's and Arthur had an annual running average of 21 ug/L of Total THM's.

Regulation 170/03, Schedule 13-6.1 requires a minimum of one distribution sample taken from the Distribution System where HAA's (haloacetic acids) are most likely to develop. On January 1, 2020, the Maximum Allowable Concentration (MAC) for HAA's of 80 ug/L came into effect. For this parameter, the MAC uses a running annual average of quarterly samples.

The results of HAA's for all related Distribution System samples in 2021 are below the ½ MAC (half of the maximum allowable concentration). Mount Forest had an annual running average of <5.3 ug/L of HAA's and Arthur had an annual running average of <5.3 ug/L of HAA's.

All operational Treated Sources were sampled and analyzed for Nitrates and Nitrites as per Regulation 170/03, Schedule 13-7. There was no instance of any adverse results in 2021.

Table 12: O. Regulation 170/03 Schedule 13-7, Nitrite and Nitrate Sampling Results Summary

Arthur	Date	ODWQS MAC	Well #7b	Well #8a/b
Nitrite (mg/L)	Feb 2021	1	0.007	0.003<MDL
	May 2021	1	0.004	0.003<MDL
	Aug 2021	1	0.003<MDL	0.003<MDL
	Nov 2021	1	0.003<MDL	0.003<MDL
Nitrate (mg/L)	Feb 2021	10	0.007	0.006<MDL
	May 2021	10	0.008	0.006<MDL
	Aug 2021	10	0.007	0.006<MDL
	Nov 2021	10	0.006<MDL	0.006<MDL

*MDL- method detection limit

Mount Forest	Date	ODWQS MAC	Well #3	Well #4	Well #5	Well #6
Nitrite (mg/L)	Feb 2021	1	0.003<MDL	0.003<MDL	0.003<MDL	0.003<MDL
	May 2021	1	0.007	0.003<MDL	0.004	0.003<MDL
	Aug 2021	1	0.003<MDL	0.003<MDL	0.003<MDL	0.003<MDL
	Nov 2021	1	0.003<MDL	0.003<MDL	0.003<MDL	0.003<MDL
Nitrate (mg/L)	Feb 2021	10	0.084	0.006<MDL	2.25	0.006<MDL
	May 2021	10	0.074	0.006<MDL	2.27	0.006<MDL
	Aug 2021	10	0.075	0.006<MDL	2.36	0.006<MDL
	Nov 2021	10	0.072	0.006<MDL	2.08	0.006<MDL

*MDL- method detection limit

Treated Water Quality Statistics- O. Regulation 170/03 Schedule 23 Results Summary

If sampling for a particular schedule's parameters (e.g., Schedule 23 or 24) did not occur within the calendar year of the report, then the most recent values are required to be included in the report for reference.

Table 13: O. Regulation 170/03 Schedule 23 Results Arthur Well #7b

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Antimony	Aug. 23/21	0.9<MDL	**6**	ug/L	No
Arsenic	Aug. 23/21	3	**10**	ug/L	No
Barium	Aug. 23/21	56.4	**1000**	ug/L	No
Boron	Aug. 23/21	84	**5000**	ug/L	No
Cadmium	Aug. 23/21	0.006	**5**	ug/L	No
Chromium	Aug. 23/21	0.18	**50**	ug/L	No
Mercury	Aug. 23/21	0.01<MDL	**1**	ug/L	No
Selenium	Aug. 23/21	0.04<MDL	**50**	ug/L	No
Uranium	Aug. 23/21	0.229	**20**	ug/L	No

Table 14: O. Regulation 170/03 Schedule 23 Results Arthur Well #8

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Antimony	Aug. 23/21	0.9<MDL	**6**	ug/L	No
Arsenic	Aug. 23/21	0.2<MDL	**10**	ug/L	No
Barium	Aug. 23/21	59.2	**1000**	ug/L	No
Boron	Aug. 23/21	60	**5000**	ug/L	No
Cadmium	Aug. 23/21	0.004	**5**	ug/L	No
Chromium	Aug. 23/21	0.25	**50**	ug/L	No
Mercury	Aug. 23/21	0.01<MDL	**1**	ug/L	No
Selenium	Aug. 23/21	0.04<MDL	**50**	ug/L	No
Uranium	Aug. 23/21	0.43	**20**	ug/L	No

Table 15: O. Regulation 170/03 Schedule 23 Results Mount Forest Well #3

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Antimony	Jan. 14/19	0.06	**6**	ug/L	No
Arsenic	Jan. 14/19	1.2	**10**	ug/L	No
Barium	Jan. 14/19	117	**1000**	ug/L	No
Boron	Jan. 14/19	32	**5000**	ug/L	No
Cadmium	Jan. 14/19	0.003<MDL	**5**	ug/L	No
Chromium	Jan. 14/19	0.11	**50**	ug/L	No
Mercury	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Selenium	Jan. 14/19	0.04<MDL	**50**	ug/L	No
Uranium	Jan. 14/19	0.287	**20**	ug/L	No

Table 16: O. Regulation 170/03 Schedule 23 Results Mount Forest Well #4

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Antimony	Jan. 14/19	0.04	**6**	ug/L	No
Arsenic	Jan. 14/19	0.9	**10**	ug/L	No
Barium	Jan. 14/19	179	**1000**	ug/L	No
Boron	Jan. 14/19	32	**5000**	ug/L	No
Cadmium	Jan. 14/19	0.003<MDL	**5**	ug/L	No
Chromium	Jan. 14/19	0.12	**50**	ug/L	No
Mercury	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Selenium	Jan. 14/19	0.04<MDL	**50**	ug/L	No
Uranium	Jan. 14/19	0.191	**20**	ug/L	No

Table 17: O. Regulation 170/03 Schedule 23 Results Mount Forest Well #5

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Antimony	Jan. 14/19	0.06	**6**	ug/L	No
Arsenic	Jan. 14/19	0.2 <MDL	**10**	ug/L	No
Barium	Jan. 14/19	142	**1000**	ug/L	No
Boron	Jan. 14/19	32	**5000**	ug/L	No
Cadmium	Jan. 14/19	0.009	**5**	ug/L	No
Chromium	Jan. 14/19	0.14	**50**	ug/L	No
Mercury	Jan. 14/19	0.01 <MDL	**1**	ug/L	No
Selenium	Jan. 14/19	0.57	**50**	ug/L	No
Uranium	Jan. 14/19	0.66	**20**	ug/L	No

Table 18: O. Regulation 170/03 Schedule 23 Results Mount Forest Well #6

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Antimony	Jan. 14/19	0.09	**6**	ug/L	No
Arsenic	Jan. 14/19	0.6	**10**	ug/L	No
Barium	Jan. 14/19	124	**1000**	ug/L	No
Boron	Jan. 14/19	30	**5000**	ug/L	No
Cadmium	Jan. 14/19	0.003<MDL	**5**	ug/L	No
Chromium	Jan. 14/19	0.09	**50**	ug/L	No
Mercury	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Selenium	Jan. 14/19	0.04<MDL	**50**	ug/L	No
Uranium	Jan. 14/19	0.276	**20**	ug/L	No

Treated Water Quality Statistics- O. Regulation 170/03 Schedule 24 Results Summary

If sampling for a particular schedule's parameters (e.g., Schedule 23 or 24) did not occur within the calendar year of the report, then the most recent values are required to be included in the report for reference.

Table 19: O. Regulation 170/03 Schedule 24 Results for Arthur Well #7b

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Alachlor	Aug. 23/21	0.02<MDL	**5**	ug/L	No
Atrazine + N-dealkylated metabolites	Aug. 23/21	0.01<MDL	**5**	ug/L	No
Azinphos-methyl	Aug. 23/21	0.05<MDL	**20**	ug/L	No

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Benzene	Aug. 23/21	0.32<MDL	**1**	ug/L	No
Benzo(a)pyrene	Aug. 23/21	0.004<MDL	**0.01**	ug/L	No
Bromoxynil	Aug. 23/21	0.33<MDL	**5**	ug/L	No
Carbaryl	Aug. 23/21	0.05<MDL	**90**	ug/L	No
Carbofuran	Aug. 23/21	0.01<MDL	**90**	ug/L	No
Carbon Tetrachloride	Aug. 23/21	0.17<MDL	**2**	ug/L	No
Chlorpyrifos	Aug. 23/21	0.02<MDL	**90**	ug/L	No
Diazinon	Aug. 23/21	0.02<MDL	**20**	ug/L	No
Dicamba	Aug. 23/21	0.20<MDL	**120**	ug/L	No
1,2-Dichlorobenzene	Aug. 23/21	0.41<MDL	**200**	ug/L	No
1,4-Dichlorobenzene	Aug. 23/21	0.36<MDL	**5**	ug/L	No
1,2-Dichloroethane	Aug. 23/21	0.35<MDL	**5**	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Aug. 23/21	0.33<MDL	**14**	ug/L	No No
Dichloromethane	Aug. 23/21	0.35<MDL	**50**	ug/L	No
2-4 Dichlorophenol	Aug. 23/21	0.15<MDL	**900**	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug. 23/21	0.19<MDL	**100**	ug/L	No
Diclofop-methyl	Aug. 23/21	0.40<MDL	**9**	ug/L	No
Dimethoate	Aug. 23/21	0.06<MDL	**20**	ug/L	No
Diquat	Aug. 23/21	1.0<MDL	**70**	ug/L	No
Diuron	Aug. 23/21	0.03<MDL	**150**	ug/L	No
Glyphosate	Aug. 23/21	1.0<MDL	**280**	ug/L	No
Malathion	Aug. 23/21	0.02<MDL	**190**	ug/L	No
MCPA	Aug. 23/21	0.00012<MDL	**0.1**	mg/L	No
Metolachlor	Aug. 23/21	0.01<MDL	**50**	ug/L	No
Metribuzin	Aug. 23/21	0.02<MDL	**80**	ug/L	No
Monochlorobenzene	Aug. 23/21	0.3<MDL	**80**	ug/L	No
Paraquat	Aug. 23/21	1.0<MDL	**10**	ug/L	No
Pentachlorophenol	Aug. 23/21	0.15<MDL	**60**	ug/L	No
Phorate	Aug. 23/21	0.01<MDL	**2**	ug/L	No
Picloram	Aug. 23/21	1.0<MDL	**190**	ug/L	No
Polychlorinated Biphenyls(PCB)	Aug. 23/21	0.04<MDL	**3**	ug/L	No
Prometryne	Aug. 23/21	0.03<MDL	**1**	ug/L	No
Simazine	Aug. 23/21	0.01<MDL	**10**	ug/L	No
Terbufos	Aug. 23/21	0.01<MDL	**1**	ug/L	No
Tetrachloroethylene	Aug. 23/21	0.35<MDL	**10**	ug/L	No
2,3,4,6-Tetrachlorophenol	Aug. 23/21	0.20<MDL	**100**	ug/L	No
Triallate	Aug. 23/21	0.01<MDL	**230**	ug/L	No
Trichloroethylene	Aug. 23/21	0.44<MDL	**5**	ug/L	No
2,4,6-Trichlorophenol	Aug. 23/21	0.25<MDL	**5**	ug/L	No
Trifluralin	Aug. 23/21	0.02<MDL	**45**	ug/L	No
Vinyl Chloride	Aug. 23/21	0.17<MDL	**1**	ug/L	No

Table 20: O. Regulation 170/03 Schedule 24 Results for Arthur Well #8

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Alachlor	Aug. 23/21	0.02<MDL	**5**	ug/L	No
Atrazine + N-dealkylated metabolites	Aug. 23/21	0.01<MDL	**5**	ug/L	No
Azinphos-methyl	Aug. 23/21	0.05<MDL	**20**	ug/L	No
Benzene	Aug. 23/21	0.32<MDL	**1**	ug/L	No
Benzo(a)pyrene	Aug. 23/21	0.004<MDL	**0.01**	ug/L	No
Bromoxynil	Aug. 23/21	0.33<MDL	**5**	ug/L	No
Carbaryl	Aug. 23/21	0.05<MDL	**90**	ug/L	No
Carbofuran	Aug. 23/21	0.01<MDL	**90**	ug/L	No
Carbon Tetrachloride	Aug. 23/21	0.17<MDL	**2**	ug/L	No
Chlorpyrifos	Aug. 23/21	0.02<MDL	**90**	ug/L	No
Diazinon	Aug. 23/21	0.02<MDL	**20**	ug/L	No
Dicamba	Aug. 23/21	0.20<MDL	**120**	ug/L	No
1,2-Dichlorobenzene	Aug. 23/21	0.41<MDL	**200**	ug/L	No
1,4-Dichlorobenzene	Aug. 23/21	0.36<MDL	**5**	ug/L	No
1,2-Dichloroethane	Aug. 23/21	0.35<MDL	**5**	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Aug. 23/21	0.33<MDL	**14**	ug/L	No No
Dichloromethane	Aug. 23/21	0.35<MDL	**50**	ug/L	No
2-4 Dichlorophenol	Aug. 23/21	0.15<MDL	**900**	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug. 23/21	0.19<MDL	**100**	ug/L	No
Diclofop-methyl	Aug. 23/21	0.40<MDL	**9**	ug/L	No
Dimethoate	Aug. 23/21	0.06<MDL	**20**	ug/L	No
Diquat	Aug. 23/21	1.0<MDL	**70**	ug/L	No
Diuron	Aug. 23/21	0.03<MDL	**150**	ug/L	No
Glyphosate	Aug. 23/21	1.0<MDL	**280**	ug/L	No
Malathion	Aug. 23/21	0.02<MDL	**190**	ug/L	No
MCPA	Aug. 23/21	0.00012<MDL	**0.1**	mg/L	No
Metolachlor	Aug. 23/21	0.01<MDL	**50**	ug/L	No
Metribuzin	Aug. 23/21	0.02<MDL	**80**	ug/L	No
Monochlorobenzene	Aug. 23/21	0.3<MDL	**80**	ug/L	No
Paraquat	Aug. 23/21	1.0<MDL	**10**	ug/L	No
Pentachlorophenol	Aug. 23/21	0.15<MDL	**60**	ug/L	No
Phorate	Aug. 23/21	0.01<MDL	**2**	ug/L	No
Picloram	Aug. 23/21	1.0<MDL	**190**	ug/L	No
Polychlorinated Biphenyls(PCB)	Aug. 23/21	0.04<MDL	**3**	ug/L	No
Prometryne	Aug. 23/21	0.03<MDL	**1**	ug/L	No
Simazine	Aug. 23/21	0.01<MDL	**10**	ug/L	No
Terbufos	Aug. 23/21	0.01<MDL	**1**	ug/L	No
Tetrachloroethylene	Aug. 23/21	0.35<MDL	**10**	ug/L	No

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
2,3,4,6-Tetrachlorophenol	Aug. 23/21	0.20<MDL	**100**	ug/L	No
Triallate	Aug. 23/21	0.01<MDL	**230**	ug/L	No
Trichloroethylene	Aug. 23/21	0.44<MDL	**5**	ug/L	No
2,4,6-Trichlorophenol	Aug. 23/21	0.25<MDL	**5**	ug/L	No
Trifluralin	Aug. 23/21	0.02<MDL	**45**	ug/L	No
Vinyl Chloride	Aug. 23/21	0.17<MDL	**1**	ug/L	No

Table 21: O. Regulation 170/03 Schedule 24 Results for Mount Forest Well #3

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Alachlor	Jan. 14/19	0.02<MDL	**5**	ug/L	No
Atrazine + N-dealkylated metabolites	Jan. 14/19	0.01<MDL	**5**	ug/L	No
Azinphos-methyl	Jan. 14/19	0.05<MDL	**20**	ug/L	No
Benzene	Jan. 14/19	0.32<MDL	**1**	ug/L	No
Benzo(a)pyrene	Jan. 14/19	0.004<MDL	**0.01**	ug/L	No
Bromoxynil	Jan. 14/19	0.33<MDL	**5**	ug/L	No
Carbaryl	Jan. 14/19	0.05<MDL	**90**	ug/L	No
Carbofuran	Jan. 14/19	0.01<MDL	**90**	ug/L	No
Carbon Tetrachloride	Jan. 14/19	0.16<MDL	**2**	ug/L	No
Chlorpyrifos	Jan. 14/19	0.02<MDL	**90**	ug/L	No
Diazinon	Jan. 14/19	0.02<MDL	**20**	ug/L	No
Dicamba	Jan. 14/19	0.20<MDL	**120**	ug/L	No
1,2-Dichlorobenzene	Jan. 14/19	0.41<MDL	**200**	ug/L	No
1,4-Dichlorobenzene	Jan. 14/19	0.36<MDL	**5**	ug/L	No
1,2-Dichloroethane	Jan. 14/19	0.35<MDL	**5**	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan. 14/19	0.33<MDL	**14**	ug/L	No
Dichloromethane	Jan. 14/19	0.35<MDL	**50**	ug/L	No
2-4 Dichlorophenol	Jan. 14/19	0.15<MDL	**900**	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 14/19	0.19<MDL	**100**	ug/L	No
Diclofop-methyl	Jan. 14/19	0.40<MDL	**9**	ug/L	No
Dimethoate	Jan. 14/19	0.06<MDL	**20**	ug/L	No
Diquat	Jan. 14/19	1.0<MDL	**70**	ug/L	No
Diuron	Jan. 14/19	0.03<MDL	**150**	ug/L	No
Glyphosate	Jan. 14/19	1<MDL	**280**	ug/L	No
Malathion	Jan. 14/19	0.02<MDL	**190**	ug/L	No
MCPA	Jan. 14/19	0.00012<MDL	**0.1**	mg/L	No
Metolachlor	Jan. 14/19	0.01<MDL	**50**	ug/L	No
Metribuzin	Jan. 14/19	0.02<MDL	**80**	ug/L	No
Monochlorobenzene	Jan. 14/19	0.3<MDL	**80**	ug/L	No
Paraquat	Jan. 14/19	1<MDL	**10**	ug/L	No

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Pentachlorophenol	Jan. 14/19	**0.15<MDL**	**60**	**ug/L**	**No**
Phorate	Jan. 14/19	0.01<MDL	**2**	ug/L	No
Picloram	Jan. 14/19	1<MDL	**190**	ug/L	No
Polychlorinated Biphenyls(PCB)	Jan. 14/19	0.04<MDL	**3**	ug/L	No
Prometryne	Jan. 14/19	0.03<MDL	**1**	ug/L	No
Simazine	Jan. 14/19	0.01<MDL	**10**	ug/L	No
Terbufos	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Tetrachloroethylene	Jan. 14/19	0.35<MDL	**10**	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan. 14/19	0.20<MDL	**100**	ug/L	No
Triallate	Jan. 14/19	0.01<MDL	**230**	ug/L	No
Trichloroethylene	Jan. 14/19	0.44<MDL	**5**	ug/L	No
2,4,6-Trichlorophenol	Jan. 14/19	0.25<MDL	**5**	ug/L	No
Trifluralin	Jan. 14/19	0.02<MDL	**45**	ug/L	No
Vinyl Chloride	Jan. 14/19	0.17<MDL	**1**	ug/L	No

Table 22: O. Regulation 170/03 Schedule 24 Results for Mount Forest Well #4

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Alachlor	Jan. 14/19	0.02<MDL	**5**	ug/L	No
Atrazine + N-dealkylated metabolites	Jan. 14/19	0.01<MDL	**5**	ug/L	No
Azinphos-methyl	Jan. 14/19	0.05<MDL	**20**	ug/L	No
Benzene	Jan. 14/19	0.32<MDL	**1**	ug/L	No
Benzo(a)pyrene	Jan. 14/19	0.004<MDL	**0.01**	ug/L	No
Bromoxynil	Jan. 14/19	0.33<MDL	**5**	ug/L	No
Carbaryl	Jan. 14/19	0.05<MDL	**90**	ug/L	No
Carbofuran	Jan. 14/19	0.01<MDL	**90**	ug/L	No
Carbon Tetrachloride	Jan. 14/19	0.16<MDL	**2**	ug/L	No
Chlorpyrifos	Jan. 14/19	0.02<MDL	**90**	ug/L	No
Diazinon	Jan. 14/19	0.02<MDL	**20**	ug/L	No
Dicamba	Jan. 14/19	0.20<MDL	**120**	ug/L	No
1,2-Dichlorobenzene	Jan. 14/19	0.41<MDL	**200**	ug/L	No
1,4-Dichlorobenzene	Jan. 14/19	0.36<MDL	**5**	ug/L	No
1,2-Dichloroethane	Jan. 14/19	0.35<MDL	**5**	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan. 14/19	0.33<MDL	**14**	ug/L	No
Dichloromethane	Jan. 14/19	0.35<MDL	**50**	ug/L	No
2-4 Dichlorophenol	Jan. 14/19	0.15<MDL	**900**	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 14/19	0.19<MDL	**100**	ug/L	No
Diclofop-methyl	Jan. 14/19	0.40<MDL	**9**	ug/L	No
Dimethoate	Jan. 14/19	0.06<MDL	**20**	ug/L	No

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Diquat	Jan. 14/19	1.0<MDL	**70**	ug/L	No
Diuron	Jan. 14/19	0.03<MDL	**150**	ug/L	No
Glyphosate	Jan. 14/19	1<MDL	**280**	ug/L	No
Malathion	Jan. 14/19	0.02<MDL	**190**	ug/L	No
MCPA	Jan. 14/19	0.00012<MDL	**0.1**	mg/L	No
Metolachlor	Jan. 14/19	0.01<MDL	**50**	ug/L	No
Metribuzin	Jan. 14/19	0.02<MDL	**80**	ug/L	No
Monochlorobenzene	Jan. 14/19	0.3<MDL	**80**	ug/L	No
Paraquat	Jan. 14/19	1<MDL	**10**	ug/L	No
Pentachlorophenol	Jan. 14/19	0.15<MDL	**60**	ug/L	No
Phorate	Jan. 14/19	0.01<MDL	**2**	ug/L	No
Picloram	Jan. 14/19	1<MDL	**190**	ug/L	No
Polychlorinated Biphenyls(PCB)	Jan. 14/19	0.04<MDL	**3**	ug/L	No
Prometryne	Jan. 14/19	0.03<MDL	**1**	ug/L	No
Simazine	Jan. 14/19	0.01<MDL	**10**	ug/L	No
Terbufos	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Tetrachloroethylene	Jan. 14/19	0.35<MDL	**10**	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan. 14/19	0.20<MDL	**100**	ug/L	No
Triallate	Jan. 14/19	0.01<MDL	**230**	ug/L	No
Trichloroethylene	Jan. 14/19	0.44<MDL	**5**	ug/L	No
2,4,6-Trichlorophenol	Jan. 14/19	0.25<MDL	**5**	ug/L	No
Trifluralin	Jan. 14/19	0.02<MDL	**45**	ug/L	No
Vinyl Chloride	Jan. 14/19	0.17<MDL	**1**	ug/L	No

Table 23: O. Regulation 170/03 Schedule 24 Results for Mount Forest Well #5

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Alachlor	Jan. 14/19	0.02<MDL	**5**	ug/L	No
Atrazine + N-dealkylated metabolites	Jan. 14/19	0.01<MDL	**5**	ug/L	No
Azinphos-methyl	Jan. 14/19	0.05<MDL	**20**	ug/L	No
Benzene	Jan. 14/19	0.32<MDL	**1**	ug/L	No
Benzo(a)pyrene	Jan. 14/19	0.004<MDL	**0.01**	ug/L	No
Bromoxynil	Jan. 14/19	0.33<MDL	**5**	ug/L	No
Carbaryl	Jan. 14/19	0.05<MDL	**90**	ug/L	No
Carbofuran	Jan. 14/19	0.01<MDL	**90**	ug/L	No
Carbon Tetrachloride	Jan. 14/19	0.16<MDL	**2**	ug/L	No
Chlorpyrifos	Jan. 14/19	0.02<MDL	**90**	ug/L	No
Diazinon	Jan. 14/19	0.02<MDL	**20**	ug/L	No
Dicamba	Jan. 14/19	0.20<MDL	**120**	ug/L	No
1,2-Dichlorobenzene	Jan. 14/19	0.41<MDL	**200**	ug/L	No
1,4-Dichlorobenzene	Jan. 14/19	0.36<MDL	**5**	ug/L	No
1,2-Dichloroethane	Jan. 14/19	0.35<MDL	**5**	ug/L	No

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)	Jan. 14/19	0.33<MDL	**14**	ug/L	No
Dichloromethane	Jan. 14/19	0.35<MDL	**50**	ug/L	No
2-4 Dichlorophenol	Jan. 14/19	0.15<MDL	**900**	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 14/19	0.19<MDL	**100**	ug/L	No
Diclofop-methyl	Jan. 14/19	0.40<MDL	**9**	ug/L	No
Dimethoate	Jan. 14/19	0.06<MDL	**20**	ug/L	No
Diquat	Jan. 14/19	1.0<MDL	**70**	ug/L	No
Diuron	Jan. 14/19	0.03<MDL	**150**	ug/L	No
Glyphosate	Jan. 14/19	1<MDL	**280**	ug/L	No
Malathion	Jan. 14/19	0.02<MDL	**190**	ug/L	No
MCPA	Jan. 14/19	0.00012<MDL	**0.1**	mg/L	No
Metolachlor	Jan. 14/19	0.01<MDL	**50**	ug/L	No
Metribuzin	Jan. 14/19	0.02<MDL	**80**	ug/L	No
Monochlorobenzene	Jan. 14/19	0.3<MDL	**80**	ug/L	No
Paraquat	Jan. 14/19	1<MDL	**10**	ug/L	No
Pentachlorophenol	Jan. 14/19	0.15<MDL	**60**	ug/L	No
Phorate	Jan. 14/19	0.01<MDL	**2**	ug/L	No
Picloram	Jan. 14/19	1<MDL	**190**	ug/L	No
Polychlorinated Biphenyls(PCB)	Jan. 14/19	0.04<MDL	**3**	ug/L	No
Prometryne	Jan. 14/19	0.03<MDL	**1**	ug/L	No
Simazine	Jan. 14/19	0.01<MDL	**10**	ug/L	No
Terbufos	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Tetrachloroethylene	Jan. 14/19	0.65	**10**	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan. 14/19	0.20<MDL	**100**	ug/L	No
Triallate	Jan. 14/19	0.01<MDL	**230**	ug/L	No
Trichloroethylene	Jan. 14/19	0.44<MDL	**5**	ug/L	No
2,4,6-Trichlorophenol	Jan. 14/19	0.25<MDL	**5**	ug/L	No
Trifluralin	Jan. 14/19	0.02<MDL	**45**	ug/L	No
Vinyl Chloride	Jan. 14/19	0.17<MDL	**1**	ug/L	No

Table 24: O. Regulation 170/03 Schedule 24 Results for Mount Forest Well #6

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Alachlor	Jan. 14/19	0.02<MDL	**5**	ug/L	No
Atrazine + N-dealkylated metabolites	Jan. 14/19	0.01<MDL	**5**	ug/L	No
Azinphos-methyl	Jan. 14/19	0.05<MDL	**20**	ug/L	No
Benzene	Jan. 14/19	0.32<MDL	**1**	ug/L	No
Benzo(a)pyrene	Jan. 14/19	0.004<MDL	**0.01**	ug/L	No
Bromoxynil	Jan. 14/19	0.33<MDL	**5**	ug/L	No
Carbaryl	Jan. 14/19	0.05<MDL	**90**	ug/L	No

Parameter	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Carbofuran	Jan. 14/19	0.01<MDL	**90**	ug/L	No
Carbon Tetrachloride	Jan. 14/19	0.16<MDL	**2**	ug/L	No
Chlorpyrifos	Jan. 14/19	0.02<MDL	**90**	ug/L	No
Diazinon	Jan. 14/19	0.02<MDL	**20**	ug/L	No
Dicamba	Jan. 14/19	0.20<MDL	**120**	ug/L	No
1,2-Dichlorobenzene	Jan. 14/19	0.41<MDL	**200**	ug/L	No
1,4-Dichlorobenzene	Jan. 14/19	0.36<MDL	**5**	ug/L	No
1,2-Dichloroethane	Jan. 14/19	0.35<MDL	**5**	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan. 14/19	0.33<MDL	**14**	ug/L	No
Dichloromethane	Jan. 14/19	0.35<MDL	**50**	ug/L	No
2-4 Dichlorophenol	Jan. 14/19	0.15<MDL	**900**	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 14/19	0.19<MDL	**100**	ug/L	No
Diclofop-methyl	Jan. 14/19	0.40<MDL	**9**	ug/L	No
Dimethoate	Jan. 14/19	0.06<MDL	**20**	ug/L	No
Diquat	Jan. 14/19	1.0<MDL	**70**	ug/L	No
Diuron	Jan. 14/19	0.03<MDL	**150**	ug/L	No
Glyphosate	Jan. 14/19	1<MDL	**280**	ug/L	No
Malathion	Jan. 14/19	0.02<MDL	**190**	ug/L	No
MCPA	Jan. 14/19	0.00012<MDL	**0.1**	mg/L	No
Metolachlor	Jan. 14/19	0.01<MDL	**50**	ug/L	No
Metribuzin	Jan. 14/19	0.02<MDL	**80**	ug/L	No
Monochlorobenzene	Jan. 14/19	0.3<MDL	**80**	ug/L	No
Paraquat	Jan. 14/19	1<MDL	**10**	ug/L	No
Pentachlorophenol	Jan. 14/19	0.15<MDL	**60**	ug/L	No
Phorate	Jan. 14/19	0.01<MDL	**2**	ug/L	No
Picloram	Jan. 14/19	1<MDL	**190**	ug/L	No
Polychlorinated Biphenyls(PCB)	Jan. 14/19	0.04<MDL	**3**	ug/L	No
Prometryne	Jan. 14/19	0.03<MDL	**1**	ug/L	No
Simazine	Jan. 14/19	0.01<MDL	**10**	ug/L	No
Terbufos	Jan. 14/19	0.01<MDL	**1**	ug/L	No
Tetrachloroethylene	Jan. 14/19	0.35<MDL	**10**	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan. 14/19	0.20<MDL	**100**	ug/L	No
Triallate	Jan. 14/19	0.01<MDL	**230**	ug/L	No
Trichloroethylene	Jan. 14/19	0.44<MDL	**5**	ug/L	No
2,4,6-Trichlorophenol	Jan. 14/19	0.25<MDL	**5**	ug/L	No
Trifluralin	Jan. 14/19	0.02<MDL	**45**	ug/L	No
Vinyl Chloride	Jan. 14/19	0.17<MDL	**1**	ug/L	No

Treated Water Quality Statistics- O. Regulations 170/03 Schedule 13-8 and 13-9, "60 Months" Sampling Results Summary

If sampling for a particular schedule's parameters (e.g., Schedule 23 or 24) did not occur within the calendar year of the report, then the most recent values are required to be included in the report for reference.

Fluoride and Sodium are sampled on the "60 Months" sampling schedule. Results for most recent tests can be found in Table 25.

Table 25: O. Regulation 170/03 Schedule 13-8 and 13-9, Fluoride and Sodium Results

Parameter/Location	Sample Date	Result Value	Unit of Measure	Exceedance
Sodium- Arthur Well #7b	Sep. 10/18	36.6	mg/L	Yes[1]
Sodium- Arthur Well #8	Nov. 16/20	22.4	mg/L	Yes[1]
Sodium- Mount Forest Well #3	Sep. 10/18	21.3	mg/L	Yes[1]
Sodium- Mount Forest Well #4	Sep. 10/18	12.3	mg/L	No
Sodium- Mount Forest Well #5	Sep. 10/18	61.2	mg/L	Yes[1]
Sodium- Mount Forest Well #6	Sep. 10/18	11.7	mg/L	No
Fluoride- Arthur Well #7b	Sep. 10/18	1.30	mg/L	No
Fluoride-Arthur Well #8	Nov. 16/20	0.35	mg/L	No
Fluoride-Mount Forest Well #3	Sep. 10/18	1.05	mg/L	No
Fluoride-Mount Forest Well #4	Sep. 10/18	0.80	mg/L	No
Fluoride-Mount Forest Well #5	Sep. 10/18	0.14	mg/L	No
Fluoride-Mount Forest Well #6	Sep. 10/18	1.34	mg/L	No

1 The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified 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.

Treated Water Quality Statistics- O. Regulations 170/03 Schedule 15.1 Sampling Results Summary

If sampling for a particular schedule's parameters (e.g., Schedule 23 or 24) did not occur within the calendar year of the report, then the most recent values are required to be included in the report for reference.

The Mount Forest and Arthur Drinking Water Systems are under reduced sampling under Schedule 15.1 which means we are not required to sample plumbing but are still required to sample in the distribution system. Results for most recent tests can be found in Table 26.

Table 26: O. Regulation 170/03 Schedule 15.1, Lead, Alkalinity and pH Results

Parameter/Location	Sample Date	Result Value	MAC	Unit of Measure	Exceedance
Lead – Hydrant # 125 James St.	Jan 11/21	0.04	10	ug/L	No
Lead – Hydrant # 32 Queen St. West	Jan 11/21	0.01<MDL	10	ug/L	No
Lead – Hydrant # 24 Elgin St. South	Jan 11/21	0.05	10	ug/L	No
Lead – Hydrant # 95 Francis St.	Jan 11/21	0.02	10	ug/L	No
Lead – Tucker/Eliza St. Blow Off	Jan 11/21	0.1	10	ug/L	No
Alkalinity – Hydrant # 125 James St.	Jan 11/21	244	30-500	mg/L	No
Alkalinity – Hydrant # 32 Queen St. West	Jan 11/21	241	30-500	mg/L	No
Alkalinity – Hydrant # 24 Elgin St. South	Jan 11/21	241	30-500	mg/L	No
Alkalinity – Hydrant # 95 Francis St.	Jan 11/21	200	30-500	mg/L	No
Alkalinity – Tucker/Eliza St. Blow Off	Jan 11/21	205	30-500	mg/L	No
Field pH – Hydrant # 125 James St.	Jan 11/21	7.34	-	-	No
Field pH – Hydrant # 32 Queen St West	Jan 11/21	7.10	-	-	No
Field pH – Hydrant # 24 Elgin St. South	Jan 11/21	7.41	-	-	No
Field pH – Hydrant # 95 Francis St.	Jan 11/21	8.1	-	-	No
Field pH – Tucker/Eliza St. Blow Off	Jan 11/21	8.08	-	-	No
Lead – Hydrant # 125 James St.	Jul 12/21	0.10	10	ug/L	No
Lead – Hydrant # 32 Queen St. West	Jul 12/21	5.13	10	ug/L	No
Lead – Hydrant # 24 Elgin St. South	Jul 12/21	0.16	10	ug/L	No
Lead – Hydrant # 95 Francis St	Jul 12/21	0.13	10	ug/L	No
Lead – Tucker/Eliza St. Blow Off	Jul 12/21	0.1	10	ug/L	No
Alkalinity – Hydrant # 125 James St.	Jul 12/21	261	30-500	mg/L	No
Alkalinity – Hydrant # 32 Queen St. West	Jul 12/21	253	30-500	mg/L	No
Alkalinity – Hydrant # 24 Elgin St. South	Jul 12/21	262	30-500	mg/L	No
Alkalinity – Hydrant # 95 Francis St.	Jul 12/21	206	30-500	mg/L	No
Alkalinity – Tucker/Eliza St. Blow Off	Jul 12/21	200	30-500	mg/L	No
Field pH – Hydrant # 125 James St.	Jul 12/21	7.16	-	-	No
Field pH – Hydrant # 32 Queen St. West	Jul 12/21	7.18	-	-	No
Field pH – Hydrant # 32 24 Elgin St. South	Jul 12/21	7.18	-	-	No
Field pH – Hydrant # 95 Francis St.	Jul 12/21	7.72	-	-	No
Field pH – Tucker/Eliza St. Blow Off	Jul 12/21	7.75	-	-	No

e) Significant Expenses Incurred

The table below outlines a brief description and breakdown for significant monetary expenses occurred in 2021.

Location	Maintenance Item	Cost
Arthur	Arthur Connecting Link water upgrades	$222,665.00
Mount Forest	Main Valve # 149 replacement, Church Street at Birmingham Street East	$7,632.00
Arthur	Hydrant # 8 Secondary Valve replacement	$7,981.57
Mount Forest	Main Valve # 145 replacement, Durham Street East at Church Street North	$7,632.00
Arthur/Mount Forest	New chemical feed pump	$3,232.79
Arthur	Replace hatch on Arthur Multi Leg Tower roof	$3,001.92
Arthur	Clean, Inspect and Report on Arthur Multi Leg Tower	$4,273.92
Mount Forest	Leak Detection, east side of Mount Forest	$3,358.08
Mount Forest	Chlorine pumps converted to flow paced at wells # 3, 4 and 5	$14,046.54
Arthur/Mount Forest	New Eaton Power UPS in wells # 7, 8, 3, 4, 5, 6 and spheroid tower	$3,939.06
Mount Forest	New flow meter in well # 5	$5,438.05
Mount Forest	Installation of digital pressure gauges SCADA hardware/software integration at wells # 4, 5 and 6	$9,103.45
Arthur	New SWAN chlorine analyzer in well # 7	$6,614.40
Mount Forest	New level transducer in well # 5	$2,078.96
Arthur	Arthur water supply study/well exploration	$64,812.30
Arthur/Mount Forest	Human machine interface installed in wells # 7, 8, 3, 4, 5 and 6	$27,770.30
Mount Forest	Analog output cards installed in Mount Forest wellhouse VFD's	$3,747.94
Mount Forest	Water upgrades on Durham/Church Street related to Jeffrey Way development	$21,211.37

f) Source Water Protection

For reporting purposes, the Township of Wellington North is subject to two Source Protection Plans (based on watershed or Conservation Authority boundaries): Grand River Plan and the Saugeen Valley, Grey Sauble, Northern Bruce Peninsula Plan (Saugeen Valley). Although the Ausable Bayfield Maitland Valley (ABMV – Maitland Valley) Plan also encompasses part of the municipality, there are no reporting requirements associated with that Plan for the Township. In 2021, all Source Protection Plans were in effect.

Under Section 81 of the Clean Water Act and Section 65 of O. Reg. 287/07, an annual report must be prepared by a Risk Management Official and submitted to the appropriate Source Protection Authority (Conservation Authority) by February 1st of each year. Under Section 45 of the *Clean Water Act*, a public body, including a municipality, must comply with monitoring and reporting policies designated by a Source Protection Plan. The Township of Wellington North 2021 Risk Management Official and Municipal Annual Reports were prepared and submitted to the appropriate authorities by February 1, 2022.

Summary of Key Aspects

The Wellington County municipalities continue to implement source protection under the Wellington Source Water Protection partnership, www.wellingtonwater.ca In 2021, progress continued in the implementation of source protection in the municipality.

A summary of key aspects of the Risk Management Official Report and Municipal Report are provided below.

In 2021, there were 13 development review notices issued per Section 59 of the Clean Water Act within the municipality. Additionally, Source Protection staff comments were provided on an additional 25 applications that did not require development review notices, for a total of 38 development applications (notices and comments) reviewed in the municipality. There were 62 Section 59 notices issued County wide and Source Protection staff comments on 328 additional development applications, County wide, for a total of 390 development applications (notices and comments) reviewed County wide in 2021. This represents an increase in the total number of development applications (notices and comments) reviewed County wide from 2020 (289) and an increase compared to the five year average of 256 development applications (notices and comments).

For the municipality, 2021 also represents an increase in the number of development notices issued and in comments from the previous five year average of 17 development applications (notices and comments). In addition to the notices and comments provided, other applications were screened out by building or planning staff following Risk Management Official Written Direction provided by Wellington Source Water Protection.

In 2021, the source protection staffing complement was 3.0 full time equivalents, two terms of co-op student support and with administrative support provided by the Township of Centre Wellington. All municipalities have, at a minimum, two staff members appointed as Risk Management Officials and Inspectors. These staff are well supported by the internal Wellington Source Protection Working Group which is comprised of other departmental staff from all eight Wellington municipalities including building officials, planners, water compliance staff and public works staff.

Analysis continued on the threat verification data collected in previous years on residential, agricultural, industrial, commercial and institutional activities identified as potential significant drinking water threats in the approved Assessment Reports. Staff complete a variety of tasks to remove or confirm and then mitigate activities identified as potential significant drinking water threats in the approved Assessment Reports. These threat activities are existing and the analysis can involve desk top interpretation of air photos or GIS data, phone calls, review of municipal records, windshield surveys, site inspections by Risk Management staff and if confirmed, then mitigation through septic inspection, prohibition and / or negotiation of risk management plans. As a result of this analysis, staff currently estimate approximately 7% of threat activities in the municipality still require action to either remove or confirm / mitigate the threat activities while 93% have been either removed or confirmed and mitigated. Note that the percentages are weighted equally between Source Protection Authorities to provide an overall municipal percentage.

To support this threats analysis and to determine compliance, 30 inspections were conducted in the Township in 2021 with 17 for compliance purposes (prohibition) with no contraventions found and 13 for threat verification or risk management plan negotiation purposes. County wide, 467 inspections were conducted in 2021 with 35% of inspections (164) being prohibition compliance inspections, 1% (3) being RMP compliance inspections and 64% (300) of inspections conducted for threat activity verification or risk management plan negotiation purposes. Due to the COVID-19 pandemic and associated restrictions, health and safety protocols were implemented to ensure the safety of our inspectors and the regulated community. These protocols included a focus on outside and contactless inspections in 2021. The majority of the inspections were to ensure compliance with manure application and storage prohibitions or to verify farming or winter maintenance activities and these types of inspections are well suited for contactless inspections. No virtual inspections were conducted in 2021. Due to the establishment of chloride issues contributing areas in Centre Wellington, threat verification inspections were focused for winter maintenance activities in that municipality. It is expected that more winter maintenance activity inspections will occur in other municipalities in the coming years.

Two Risk Management Plans were agreed to in 2021 and 20 are in the process of negotiation for the municipality. The 20 remaining Risk Management Plans represent the 7% of threat activities still requiring action to either remove or confirm / mitigate. Cumulatively, there are 6 Risk Management Plans complete in the Township and 42 Risk Management Plans complete County wide. In 2021, COVID-19 continues to be a major implementation challenge to the completion of RMPs due to restrictions on in-person negotiations and out of respect for the economic difficulties many businesses have faced since March 2020. As a result, a request to extend the deadline for RMPs was submitted to the Source Protection Authority and approved by the Province. The deadline for RMPs was July 1, 2021 and has been extended to December 31, 2022. Given the continued impacts from the COVID pandemic, it is likely that a further extension will need to be discussed with the Source Protection Authority and the Province. When the extension timeline of December 31, 2022 was established in 2021, it was prior to the Omicron variant and during a time when restrictions were lifting. Given the recent lockdowns and restrictions related to the Omicron variant including reductions for in person inspections, this has slowed our progress in negotiating the remaining 20 Risk Management Plans.

The following is a summary of the E and O results, County wide, for 2021. Four training sessions were run for municipal staff to provide a refresher and train new staff on what source protection is and how it relates to municipal planning and building processes. Three newspaper ads were run during the year on topics related to water conservation, salt and fertilizer use. Staff also attended 2 public meetings on Source Protection Plan updates related to proposed changes for the Grand River Source Protection Plan. Development reviews and inspections continued and include educational material being provided directly to the proponents generally regarding the threats present, the process (development review, RMP, prohibition etc.) and property specific mapping. In person inspections were limited in 2021 where educational material was provided directly to proponents as most inspections were completed contactless. Outreach to proponents related to negotiation of RMPs continued and comprised mostly of discussions and provision of outreach material via email. Wellington Source Water Protection continues to maintain and update a website (www.wellingtonwater.ca), ten fact sheets on specific topics and other print media (i.e. post cards to direct applicants to mapping). Throughout the year, social media posts on a variety of topics were either posted or re-shared by our municipalities' corporate channels. Often the content of these posts was from the Conservation Ontario social media calendar or in partnership with the local Conservation Authorities. Work restarted in 2021 on delivering the

communications products identified in the 2019 Wellington Source Water Protection communications plan, this work had been put on hold starting from March 2020 to October 2021 due to the COVID-19 pandemic. It is anticipated that new communications and education products will be ready for release in 2022. Staff participate and Wellington Source Water Protection / County of Wellington is a sponsor for the Waterloo-Wellington Children's Groundwater Festival. Following the Festival's cancellation in 2020, due to the COVID-19 pandemic, a virtual Festival was developed and successfully presented in May 2021 over four days. Links to the virtual Festival content are available here https://www.youtube.com/channel/UCBKl7pcifQr9Atf_Z3eDrwA/videos Participation during the 2021 Festival was 6,790 students and teachers from 178 schools with views of the videos continuing after the Festival. Staff continue to participate on the organizing committee, serving as co-chair and assisting with a number of operational, financial and human resource related matters.

In 2021 and as previously reported to Council, staff were involved in reviewing a proposed amendment to the Saugeen Valley Source Protection Plan including providing comments during the official pre-consultation period. The amendment has not yet been approved by the Province. Also affecting the municipality, updates to the Grand River Source Protection Plan – Wellington County took effect on February 3, 2021. Staff were also involved in reviewing and authoring another amendment for the Grand River Source Protection Plan related to the Centre Wellington water quantity (Tier 3) study. In 2021, the Tier 3 technical work was completed and it was determined that the Arthur system and the Township is outside of the wellhead protection area – quantity and therefore, no policy requirements will apply from this Tier 3 study.

In 2021, all five Source Protection Plans within the County were at different stages of amendments. Staff reviewed, provided comments and in some cases assisted Conservation Authority staff in authoring portions of the various amendments. Staff also provided comments on a regulatory proposal related to Ontario's water quantity framework, provided support the County's Official Plan Municipal Comprehensive Review, provided support to a number of water supply and / or water supply master plan projects related to water systems within or adjacent to the County, were involved in technical studies related to wellhead protection area updates and participated in a provincial working group on annual reporting metrics.

The septic inspection program occurs on a five year cycle. The second round of inspections was scheduled to start in 2020, however, was postponed due to the COVID pandemic, therefore, all septic inspections are currently outstanding and must be completed by 2025. If a septic system is present within well head protection area with a vulnerability score of 10 or within an issues contributing area for nitrates, a septic inspection is required every 5 years. It is anticipated that a County wide septic inspection program RFP will be issued in 2022.

Attached for your reference is summary table of source protection implementation for all municipalities in Wellington County (the County and seven, local municipalities). For further information, please contact Kyle Davis, Risk Management Official, 519-846-9691 ext 362 or kdavis@centrewellington.ca

Note: The Source Water Protection information in this report was provided by Kyle Davis, Risk Management Official.

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Source Protection Annual Reporting Summary 2021 - Wellington County municipalities

Reportables		Centre Wellington	Guelph/Eramosa	Mapleton	Puslinch	Wellington North	Erin	Minto	County of Wellington	Total
Septic Inspection Program	Completed	0	0	N/A	0	0	0	0	N/A	0
	Outstanding	175	430	N/A	68	9	137	6	N/A	825
	Major Remedial Action	Note that the septic inspection program occurs on a five year cycle. The second round of inspections was scheduled to start in 2020, however, was postponed due to the COVID pandemic. Therefore, all septic inspections are currently outstanding and must be completed by 2025. Also please note that in 2021, the number of septic inspections in Puslinch, Centre Wellington and Guelph / Eramosa changed due to updates to wellhead protection areas.								
	Minor Remedial Action									
	Septic Socials									
S59 Notices Issued for Reporting Year		29	7	0	3	13	5	5	N/A	62
Comments on Development reviews (in addition to notices) for Reporting Year		62	43	42	91	25	34	31	N/A	328
Total Development Reviews and S59 Notices for the Reporting Year		91	50	42	94	38	39	36	N/A	390
Previous Five Year Average - Total Development Reviews and S59 Notices		45	41	29	45	17	30	49	N/A	256
Total Inspections for the Reporting Year (Section 62)		229	100	19	37	30	40	12	N/A	467
Inspections for Section 57 Prohibition for Reporting Year		34	56	19	0	17	32	9	N/A	167
Inspections for Section 58 Risk Management Plans for Reporting Year		195	44	0	37	13	8	3	N/A	300
Contraventions during Inspections for Reporting Year		0	0	0	0	0	0	0	N/A	0
Inspection Summary		County wide, 467 inspections were conducted in 2021 with 35% of inspections (164) being prohibition compliance inspections, 1% (3) being RMP compliance inspections and 64% (300) of inspections conducted for threat activity verification or risk management plan negotiation purposes. Due to the COVID-19 pandemic and associated restrictions, health and safety protocols were implemented to ensure the safety of our inspectors and the regulated community. These protocols included a focus on outside and contactless inspections in 2021. The majority of the inspections were to ensure compliance with manure application and storage prohibitions or to verify farming or winter maintenance activities and these types of inspections are well suited for contactless inspections. No virtual inspections were conducted in 2021. Due to the establishment of chloride issues contributing areas in Centre Wellington, threat verification inspections were focused for winter maintenance activities in that municipality. It is expected that more winter maintenance activity inspections will occur in other municipalities in the coming years.								
Transport Pathway Notices		3	1	0	0	1	0	0	N/A	5
% Threat Activities Removed or Managed since Source Protection Plan effective date		13%	64%	60%	85%	93%	95%	89%	N/A	71%
RMPs	Cumulative Completed since SPP Effective Date	19	4	0	0	6	2	11	N/A	42
	Completed in Reporting Year	11	0	0	0	2	1	3	N/A	17
	In Progress	20	18	5	1	20	12	9	N/A	85
DWT Report / Chemical Management Plan (Official Plan Section 4.9.5)	Cumulative Completed	5	5	1	0	2	1	1	N/A	15
	Completed in Reporting Year	5	1	0	0	1	0	0	N/A	7

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Source Protection Annual Reporting Summary 2021 - Wellington County municipalities

Reportables	Centre Wellington	Guelph/Eramosa	Mapleton	Puslinch	Wellington North	Erin	Minto	County of Wellington	Total
Comments on Prescribed Instruments (Provincial Approval such as Permits to Take Water) or Provincial Projects	1	2	0	5	1	2	0	N/A	11
Education and Outreach	The following is a summary of the E and O results, County wide, for 2021. Four training sessions were run for municipal staff to provide a refresher and train new staff on what source protection is and how it relates to municipal planning and building processes. Three newspaper ads were run during the year on topics related to water conservation, salt and fertilizer use. Staff also attended 2 public meetings on Source Protection Plan updates related to proposed changes for the Grand River Source Protection Plan. Development reviews and inspections continued and include educational material being provided directly to the proponents generally regarding the threats present, the process (development review, RMP, prohibition etc.) and property specific mapping. In person inspections were limited in 2021 where educational material was provided directly to proponents as most inspections were completed contactless. Outreach to proponents related to negotiation of RMPs continued and comprised mostly of discussions and provision of outreach material via email. Wellington Source Water Protection continues to maintain and update a website (www.wellingtonwater.ca), ten fact sheets on specific topics and other print media (i.e. post cards to direct applicants to mapping). Throughout the year, social media posts on a variety of topics were either posted or re-shared by our municipalities' corporate channels. Often the content of these posts was from the Conservation Ontario social media calendar or in partnership with the local Conservation Authorities. Work restarted in 2021 on delivering the communications products identified in the 2019 Wellington Source Water Protection communications plan, this work had been put on hold starting from March 2020 to October 2021 due to the COVID-19 pandemic. It is anticipated that new communications and education products will be ready for release in 2022. Staff participate and Wellington Source Water Protection / County of Wellington is a sponsor for the Waterloo-Wellington Children's Groundwater Festival. Following the Festival's cancellation in 2020, due to the COVID-19 pandemic, a virtual Festival was developed and successfully presented in May 2021 over four days. Links to the virtual Festival content are available here https://www.youtube.com/channel/UCBKl7pcifQr9Atf_Z3eDrwA/videos Participation during the 2021 Festival was 6,790 students and teachers from 178 schools with views of the videos continuing after the Festival. Staff continue to participate on the organizing committee, serving as co-chair and assisting with a number of operational, financial and human resource related matters.								
Road Signs (not including provincially installed signs)	0	0	0	0	11	0	15	N/A	26
Emergency Management Plan	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	1
Official Plan Update	County Complete, Local not required	Complete	Complete	Complete	Complete	County Complete, Local to be completed	Complete	Complete	1
Zoning By-law Update	Complete	Complete	Complete	Complete	Complete	Ongoing	Complete	N/A	6
Municipal By-laws Required (Sewer Use, Connection)	N/A	N/A	N/A	N/A	Complete	N/A	Complete	N/A	3

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Source Protection Annual Reporting Summary 2021 - Wellington County municipalities

Reportables	Centre Wellington	Guelph/Eramosa	Mapleton	Puslinch	Wellington North	Erin	Minto	County of Wellington	Total
Tier 3 - Water Quantity Studies	Centre Wellington Study: Public Consultation on required Assessment Report and Source Protection Plan Changes	GGET Study: Majority of the policy text drafted and presented to the Lake Erie Source Protection Committee. Discussion and collaboration with project team (including City of Guelph, Provincial Ministries, adjacent municipalities) on remaining draft policy text.	Centre Wellington Study: Public Consultation on required Assessment Report and Source Protection Plan Changes	GGET Study: Majority of the policy text drafted and presented to the Lake Erie Source Protection Committee. Discussion and collaboration with project team (including City of Guelph, Provincial Ministries, adjacent municipalities) on remaining draft policy text.	N/A	GGET Study: Majority of the policy text drafted and presented to the Lake Erie Source Protection Committee. Discussion and collaboration with project team (including City of Guelph, Provincial Ministries, adjacent municipalities) on remaining draft policy text.	N/A	See summaries for local municipalities.	2
Source Protection Plan Amendments, Technical Projects (not including Tier 3 projects), Regulatory Proposals and Working Groups	In 2021, all five Source Protection Plans within the County were at different stages of amendments. Staff reviewed, provided comments and in some cases assisted Conservation Authority staff in authoring portions of the various amendments. Staff also provided comments on a regulatory proposal related to Ontario's water quantity framework, provided support the County's Official Plan Municipal Comprehensive Review, provided support to a number of water supply and / or water supply master plan projects related to water systems within or adjacent to the County, were involved in technical studies related to wellhead protection area updates and participated in a provincial working group on annual reporting metrics.								
Source Protection Public Meetings in the Reporting Year	Total number provided County wide, public meetings included public consultation for Source Protection Plan changes							2	4
Provincial Reporting (Annual Reports)	2	2	2	4	4	4	4	5	27

Note:

a) Please note due to COVID-19 restrictions, RMP work was paused for a large part of 2021.

b) Section 34 and Section 36 of the Clean Water Act outline amendment processes for the Source Protection Plans. Section 34 updates, generally, are focused updates related to updated technical work (i.e. new WHPAs) or updates to policies where there have been implementation challenges. Section 36 updates, generally, are broader updates related to changed provincial guidance, policy updates, updated technical work not already covered by a Section 34 updates. Timelines for Section 36 updates vary, however, are generally every 5 years and are preceded by development of a work plan outlining the tasks. Section 34 updates are completed as required.

c) DWT Report means Drinking Water Threat Disclosure Report. RMP means Risk Management Plan