

VILLE DE
TOWN OF **HAWKESBURY**
USINE D'EAU POTABLE
WATER TREATMENT PLANT

L'ÉDIFICE JEAN-CLAUDE DROUIN BUILDING



HAWKESBURY

Drinking Water System

2022

Annual Report

Prepared by the Environmental Service
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Introduction

This Annual Drinking Water Report has been prepared to satisfy Section 11 of O. Reg. 170/03 Drinking Water Systems Regulation, under *the Safe Drinking Water Act, 2002*. It describes the Hawkesbury Drinking Water System, details the water quality testing results, any non-compliances findings and adverse conditions that may have occurred from January 1 to December 31, 2022.

The Corporation of the Town of Hawkesbury is engaged to provide safe and clean drinking water to all its citizens and customers, to remain compliant with all regulatory requirements and to maintain and continually improve its drinking water quality management system. All efforts have been made to ensure the information presented is accurate.

Drinking Water System Description

The Hawkesbury Drinking Water System provides drinking water to the citizens of the Town of Hawkesbury and to three stand-alone systems owned by the Township of Champlain.

The key elements of Hawkesbury's Drinking Water System are:

- A raw water pumping station,
- A drinking water treatment plant,
- A water distribution system for the Town of Hawkesbury,
- A remote standpipe water storage in the Town of Hawkesbury completed with booster pumping system and secondary disinfection system,
- A pipeline connection to the Town of Vankleek Hill, with booster pumping system and secondary disinfection system,
- A pipeline connection to supply the village of L'Orignal, completed with a metering chamber, and
- A pipeline connection to the Laurentian Park completed with a metering chamber.

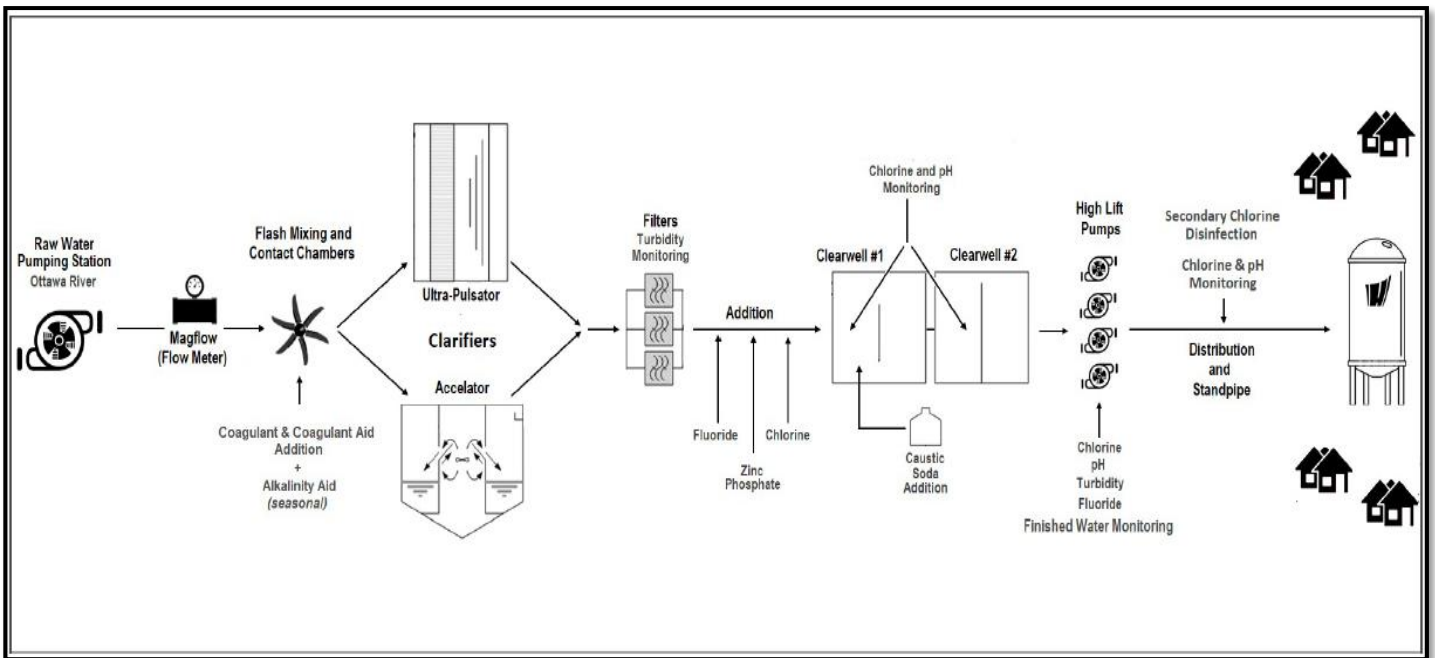
Hawkesbury Drinking Water System Profile Description	
Drinking Water System Number	220002832
Drinking Water System Name	Hawkesbury Drinking Water System
Drinking Water System Owner & Operating Authority	The Corporation of the Town of Hawkesbury
Municipal Drinking Water Licence	177-101
Drinking Water Works Permit	177-201
Permit to Take Water	6624-9KBRAJ
Drinking Water System Category	Large Municipal Residential System
Water Source	Ottawa River
Population Served	>10,000

The three stand-alone systems owned by the Township of Champlain are as follows and are all operated under the Ontario Clean Water Agency (OCWA).

Drinking Water System Receivers	
Township of Champlain (L'Original)	260037102
Township of Champlain (Vankleek Hill)	260002395
Township of Champlain (Park Laurentien)	260090012

Drinking Water System Process

The water is drawn from the Ottawa River through the intake pipe from the low lift pumping station and flows into the drinking water treatment plant where it undergoes a treatment process based on coagulation and flocculation followed by clarification and filtration. Treated water then travels through over 45 km of water distribution piping system and is stored in a 5,450 m³ standpipe water storage.



Water Treatment Chemicals Used

Every chemical used in the operations and treatment processes of Hawkesbury Drinking Water System satisfies the NSF International (NSF) and American National Standards Institute (ANSI) in contact with drinking water applicable standards.

Treatment Chemical Name	Role
Aluminium Sulfate (<i>Alum</i>)	Coagulant for treatment process in summer
Poly Hydroxy Aluminum Sulfate (<i>PAS-8</i>)	Coagulant for treatment process in winter
Sodium Silicate	To form activated silica, a coagulant aid
Sodium Aluminate	To form activated silica, a coagulant aid
Liquid Chlorine (<i>compressed gas</i>)	Primary disinfection
Hydrofluosilicic Acid	Help prevent tooth decay
Zinc Orthophosphate	Corrosion control in the distribution system
Caustic Soda	pH adjustment
Sodium Hypochlorite	Secondary disinfection of the distribution system

Major Expenses

The details of major expenses incurred for the maintenance and operations of the drinking water treatment system are as follows:

- Gas chlorine storage room health and safety optimization
- Raw water intake shoreline restoration
- Raw water intake crib inspection
- Electric motor replacement for highlift pump #1
- Ongoing Clarifier and Filter #3 project upgrades

Annual Water Quality Summary

In-plant samples are collected and tested on site throughout the day by certified operators, while on-line systems continuously monitor chlorine residuals, turbidity and other quality-related parameters. Additionally, samples are collected for bacteriological, inorganic, organic and other chemical parameters, as required by O. Reg. 170/03. These sample testings are performed by Caduceon Environmental Laboratories, accredited by the Canadian Association for laboratory Accreditation and licenced by the Ministry of the Environment, Conservation and Parks (MECP).

The following tables describe the water quality monitoring, both regulatory and operational, that has been performed during this reporting period.

Microbiological testing performed under Schedule 10 of Reg. 170/03

Sample Type	Parameter	Total Analysis	Range Results	Units	# Analysis Exceeding Standard
Raw	E. coli	52	0 – 70	CFU/100 mL	n/a
	Total coliforms	52	4 - 1500	CFU/100 mL	n/a
Treated	E. coli	52	0 - 0	CFU/100 mL	0
	Total coliforms	52	0 - 0	CFU/100 mL	0
	HPC	52	2 - 6	CFU/mL	n/a
Distribution	E. coli	394	0 - 0	CFU/100 mL	0
	Total coliforms	394	0 - 0	CFU/100 mL	0
	HPC	156	2 - 30	CFU/mL	n/a

Operational testing performed under Schedule 6 & 7 of Reg. 170/03

Sample Type	Parameter	# of Grab Samples	Range Results	Units
Raw	Turbidity	Continuous monitoring	1.47 - 44.10	NTU
Treated	Turbidity	Continuous monitoring	0.03 - 0.15	NTU
Treated	Free Chlorine Residual	Continuous monitoring	0.74 - 1.31	mg/L
Distribution	Free Chlorine Residual	394	0.12 - 1.28	mg/L
Treated	Fluoride*	365	0.00 - 0.67	mg/L

Note for Continuous Monitoring (zero days offline):

Number of Grab Samples = 24 samples/day x 365 days/year (or 366 days/leap year) = 8760 (or 8784)

*Fluoride Grab Sample numbers and range of results are reported using data from days when fluoridation was in service

**Residual Management testing performed under Schedule C
of the Municipal Drinking Water Licence**

Legal Instrument Issue Date	Parameter	Total Analysis	Annual Average	Units	Maximum Annual Allowed Concentration
April 25, 2005	Total Suspended Solids	12	4	mg/L	25

**Harmful Algal Blooms Monitoring performed under Schedule C
of the Municipal Drinking Water Licence**

The Hawkesbury Drinking Water System monitored for harmful algal blooms (HAB), as per its approved HAB monitoring plan, between June 1 and October 31, at the raw water source intake. During that period, no blooms were observed or reported.

**Summary of Inorganic parameters identified under Schedule 23, performed
per Schedule 13**

Parameter	Date Sampled	Result	Units	Exceeded the Standard	Exceeded Half the Standard
Antimony	2022-09-12	< 0.0001	mg/L	No	No
Arsenic	2022-09-12	0.0003	mg/L	No	No
Barium	2022-09-12	0.010	mg/L	No	No
Boron	2022-09-12	< 0.005	mg/L	No	No
Cadmium	2022-09-12	< 0.000010	mg/L	No	No
Chromium	2022-09-12	< 0.002	mg/L	No	No
Mercury	2022-09-12	<0.00002	mg/L	No	No
Selenium	2022-09-12	< 0.001	mg/L	No	No
Uranium	2022-09-12	< 0.00005	mg/L	No	No

**Summary of Organic parameters identified under Schedule 24, performed
per Schedule 13**

Parameter	Date Sampled	Result	Units	Exceeded the Standard	Exceeded Half The Standard
Alachlor	2022-09-12	< 0.3	µg /L	No	No
Atrazine + N-dealkylated metabolites	2022-09-12	<0.5	µg /L	No	No
Azinphos-methyl	2022-09-12	<1	µg /L	No	No
Benzene	2022-09-12	<0.5	µg /L	No	No
Benzo(a)pyrene	2022-09-12	<0.006	µg /L	No	No
Bromoxynil	2022-09-12	<0.5	µg /L	No	No
Carbaryl	2022-09-12	<3	µg /L	No	No
Carbofuran	2022-09-12	<1	µg /L	No	No
Carbon Tetrachloride	2022-09-12	<0.2	µg /L	No	No
Chlorpyrifos	2022-09-12	<0.5	µg /L	No	No
Diazinon	2022-09-12	<1	µg /L	No	No
Dicamba	2022-09-12	<1	µg /L	No	No
1,2-Dichlorobenzene	2022-09-12	<0.5	µg /L	No	No
1,4-Dichlorobenzene	2022-09-12	<0.5	µg /L	No	No
1,2-Dichloroethane	2022-09-12	<0.5	µg /L	No	No
1,1-Dichloroethylene (vinylidene chloride)	2022-09-12	<0.5	µg /L	No	No
Dichloromethane	2022-09-12	<5	µg /L	No	No
2-4 Dichlorophenol	2022-09-12	<0.2	µg /L	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022-09-12	<1	µg /L	No	No
Diclofop-methyl	2022-09-12	<0.9	µg /L	No	No
Dimethoate	2022-09-12	<1	µg /L	No	No
Diquat	2022-09-12	<5	µg /L	No	No
Diuron	2022-09-12	<5	µg /L	No	No
Glyphosate	2022-09-12	<25	µg /L	No	No
Malathion	2022-09-12	<5	µg /L	No	No
MCPA	2022-09-12	<10	µg /L	No	No
Metolachlor	2022-09-12	<3	µg /L	No	No
Metribuzin	2022-09-12	<3	µg /L	No	No
Monochlorobenzene	2022-09-12	<0.5	µg /L	No	No
Paraquat	2022-09-12	<1	µg /L	No	No
Pentachlorophenol	2022-09-12	<0.2	µg /L	No	No
Phorate	2022-09-12	<0.3	µg /L	No	No
Picloram	2022-09-12	<5	µg /L	No	No
Polychlorinated Biphenyls (PCB)	2022-09-12	<0.05	µg /L	No	No
Prometryne	2022-09-12	<0.1	µg /L	No	No
Simazine	2022-09-12	<0.5	µg /L	No	No

Summary of Organic parameters identified under Schedule 24, performed per Schedule 13 *continue*:

Parameter	Date Sampled	Result	Units	Exceeded the Standard	Exceeded Half The Standard
Terbufos	2022-09-12	<0.5	µg /L	No	No
Tetrachloroethylene	2022-09-12	<0.5	µg /L	No	No
2,3,4,6-Tetrachlorophenol	2022-09-12	<0.2	µg /L	No	No
Triallate	2022-09-12	<10	µg /L	No	No
Trichloroethylene	2022-09-12	<0.5	µg /L	No	No
2,4,6-Trichlorophenol	2022-09-12	<0.2	µg /L	No	No
Trifluralin	2022-09-12	<0.5	µg /L	No	No
Vinyl Chloride	2022-09-12	<0.2	µg /L	No	No

Summary of other parameters performed under Schedule 13

Sample Type	Parameter	Total Analysis	Range Results	Units	Exceeded the Standard
Treated	Nitrite	4	0.1 – 0.1	mg/L	None
Treated	Nitrate	4	0.2 – 0.2	mg/L	None
Distribution	Haloacetic acids <i>(running annual average)</i>	12	33.3	µg /L	No
Distribution	THM <i>(running annual average)</i>	12	54.5	µg /L	No
Treated	Sodium*	1	16.0	mg/L	No
Distribution	Sodium*	1	1.6	mg/L	No

Sodium: 2021 results. Is required to be tested once every 5 years. Next sampling will be performed in 2026.*

Summary of lead testing performed under Schedule 15.1

Sample Type	Total Analysis	Range Results	Units	Exceeded the Standard
Plumbing	12	0.00002 - 0.00080	mg/L	None
Distribution	8	0.00008 - 0.00038	mg/L	None

Non-Compliance Findings

The annual Ministry of the Environment, Conservation and Parks (MECP) inspection for this reporting period took place in November 2022. There were no non-compliance findings and the Inspection Report Rating was 100% for the Hawkesbury Drinking Water System.

No best practice recommendations were noted as well.

Adverse Test Results

During this review period, there were zero (0) adverse drinking water incidents reported.

Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

Availability of Report

This report is available at no charge at the following places:

- 1. Environmental Service**
Corporation of the Town of Hawkesbury
815 Main East
Hawkesbury (Ontario) K6A 1B5
(613) 678-9269
- 2. Hawkesbury Public Library**
550 Higginson Street
Hawkesbury, Ontario
K6A 1H1
- 3. Town's website www.hawkesbury.ca**

Additionally, this report is provided to the Township of Champlain and the Ministry of the Environment, Conservation and Parks.

If the format of this document is inadequate, the Clerk's office can be contacted at 613-632-0106 and the municipality can provide, to the best of its abilities, the required assistance.