

TOWN OF
Parry Sound



Drinking
Water
Systems
Annual
Report

2023

2023 Annual Drinking Water System Report

GENERAL INFORMATION

The Town of Parry Sound owns and operates the [Tony Agnello Water Treatment Plant](#). Each year the Town completes the Annual Report as required by the [Safe Drinking Water Act, 2002, Ontario Regulation 170/03](#).

This report details the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred during the previous year. They are available for review by the end of March on the Town of Parry Sound's website at www.parrysound.ca/inside-town-hall/publication-and-reports/water-and-wastewater-reports/ or by contacting the Public Works Department. This report has been provided to all drinking water system owners that are connected to the Parry Sound drinking water system and to whom we provide all drinking water.

We have made all efforts to ensure the information in this report is accurate. If you have any questions or comments, please contact the Town office at the address and phone number below, or email or publicworks@parrysound.ca

Drinking Water System Name: Parry Sound Drinking Water Treatment Plant

Drinking Water System Number: 220000585

Reporting Period: 2023: January 1, 2023 to December 31, 2023

Drinking Water System Category: Large Municipal Residential

Drinking Water System Owner and Contact Information:

The Corporation of the Town of Parry Sound
52 Seguin St
Parry Sound, ON P2A 1B4

Telephone: 705-746-2101

Email: publicworks@parrysound.ca

SYSTEM DESCRIPTION

The Town of Parry Sound's Water Treatment System, which is classified under the Safe Drinking Water Act (SDWA) and Ontario Reg, 170/03 — Drinking Water Systems regulation, is categorized as a Large Municipal Residential Drinking Water System serving less than 10,000 people. The detailed description of the system is provided in Ministry of Environment, Conservation and Parks, Municipal Drinking Water Licence No 144-101 issued on July 26, 2021. In general, the Parry Sound Large Municipal Residential Drinking Water System (LMRDWS) can be described as follows:

- Gravity fed water intake piping in the Big Sound of Georgian Bay that includes an intake diffuser structure and screens.
 - The treatment plant is a vacuum driven hollow tube ultrafiltration membrane system, which consists of the following major components:
 - a low lift pumping station
 - twin raw water feed tanks containing 240 membrane elements packaged into 12 cassettes, (six in each of two trains)
 - membrane filtration facilities consisting of the membranes themselves as well as air ejectors, backpulse tanks and associated valves and controls
 - a membrane integrity testing system (MIT)
 - a membrane cleaning system
 - chemical feed systems including: sodium hypochlorite (chlorination), sodium thiosulphate (dechlorination), poly-aluminum chloride (coagulant), polymer feed system (related to the waste side rather than the drinking water side)
 - chlorine contact tank
 - clearwater reservoir
 - high lift pumps
 - generator room (providing backup power in the event of a hydro outage)
 - Distribution system serving the Town of Parry Sound consists of approximately 45 km of pipe with diameters ranging from 25mm to 400mm in size and pipe material consisting of cast iron, ductile iron, asbestos cement, copper, polyethylene, PVC, and HDPE.
 - Storage facilities at North Sector, Parry Sound Drive (McDougall Township) and Bowes Street which both have rechlorination capabilities.
 - Booster pumping facilities at one location within the distribution system.
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The process at the treatment plant employs membrane ultra filtration, augmented by colour removal capabilities for periods when the raw water demonstrates a colour removal requirement (usually in conjunction with spring runoff from the Seguin River and/or Georgian Bay thermal flips), followed by primary and secondary chlorine disinfection prior to delivery to the municipal distribution system.

The Parry Sound LMRDWS provides treated water to the McDougall - Nobel distribution system, Drinking Water System Number 260079131. The system connects at a point at the base of the North Sector Water Tower, which commenced in December 2006.



MAJOR EXPENSES

Major expenses were incurred to install, maintain and repair required equipment:

Description of Expense	Total Expense
Water Treatment Plant SCADA upgrades.	\$427,946.49
Water meter installations.	\$56,419.58
Water Treatment Plant pump inspections and maintenance.	\$58,406.81

MICROBIOLOGICAL TESTING

Microbiological testing is performed under Schedule 10 of Regulation 170/03, during the period covered by this Annual Report, from January 1, 2023 to December 31, 2023.

Bacteriological tests for E. coli and total coliforms are required weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any E. coli or total coliform results above 0 in treated water sample must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH).

Heterotrophic Plate Count (HPC) analyses are required from the treated and distributed water. The tests are required to be taken and tested weekly for treated water and for 25% of the required distribution system bacteriological samples.

The results from the 2023 sampling program are shown on the table below.

	Number of Samples	Range of E. Coli or Fecal Results (min #)- (max #)	Range of Total Coliform Results (min #)- (max #)	Number of HPC Samples	Range of HPC Results (min#) – (max#)
Raw	45	0 – 5 or NDOGT	0 – 40 or NDOGT	50	3 - 400
Treated	51	0 – 0	0 – 0	51	0 – 1
Distribution	198	0 – 0	0 – 0	198	0 - 7

Note: NDOGT (No Data Overgrown with Target):

A NDOGT result indicates that the test has a large amount of bacteria present and Total Coliform, E.Coli, or Heterotrophic Plate Count (HPC) are visible to the analyst, but it can't be determined exactly how much is present.



OPERATIONAL TESTING

Operational testing is performed under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report, from January 1, 2023 to December 31, 2023.

Operational testing includes turbidity and chlorine residual. Turbidity is measured in nephelometric turbidity units (NTU).

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility and is measured in milligrams per litre (mg/L).

A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2023. A summary of the chlorine residual and turbidity readings is provided in the table below.

As of March 2016, the Town does not add fluoride to its water system.

	Number of Grab Samples	Range of Results	Unit of Measure
Turbidity	8760	0.014 – 0.097	NTU
Chlorine	8760	1.151 – 1.972	mg/L

NOTE: For continuous monitors use 8760 for the number of grab samples.

* High readings due to malfunctioning analyzer. This is not a reportable incident.

** High readings due to calibration of analyzer. This is not a reportable incident.

CHEMICALS USED FOR WATER TREATMENT

The following water treatment chemicals were used with respect to the Parry Sound Water Treatment Plant during the period of January 1, 2023, to December 31, 2023.

Chemical Name	Chemical Usage
Sodium Hypochlorite	Finished water disinfection and membrane cleaning
Sodium Thiosulphate	Dechlorination
Polyaluminum chloride	Coagulant for raw water colour removal
Citric acid	Membrane cleaning
Sodium Hydroxide	Membrane cleaning
Polymer	Polymer is used in the treatment of reject water and is NOT included in drinking water treatment. Polymer induces settling of reject water.

LEAD TESTING

As per O. Reg 170/03 Section 15.1 details the requirements for municipal lead testing.

Due to previous years of testing which yielded minimal to less than method detection limit lead test results, a reduced sampling program was granted which requires the distribution system to be tested annually for pH and alkalinity and every three years for lead from municipally located sample stations in the winter and summer period.

Location Type	Number of Samples	Range of Lead Results	Unit of Measure	Number of Exceedances
Plumbing	N/A		Ug/L	
Distribution	N/A		Ug/L	



ADDITIONAL TESTING

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order, or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result Value	Unit of Measure
Municipal Drinking Water Licence (MDWL).	Microcystin on raw and treated water.	June 1 – October 31	0.1 <MDL	Ug/L
Municipal Drinking Water Licence (MDWL).	Total suspended solids on effluent discharge water.	Monthly	Calculated as a running annual average based on previous 12 months. 12.5	mg/L
Municipal Drinking Water Licence (MDWL).	Total chlorine residual on effluent discharge water.	Monthly	Calculated as a running annual average based on previous 12 months. 0.0	mg/L

SUBMITTED NOTICES

Details on any notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre:

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
N/A					

INORGANICS TESTING

As per Schedule 23 of O. Reg 170/03, water must be tested for inorganic material. This involves collecting and analyzing water samples for the presence of inorganic substances such as metals, minerals, salts, and other compounds.

Inorganic material can affect the taste, odor, colour, and health effects of water. Some common sources of inorganic material in water are natural deposits, industrial activities, and agricultural runoff.

Water testing for inorganic material can help identify potential contaminants and determine the best water treatment options.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2023/06/05	0.6 <MDL	ug/L	No
Arsenic	2023/06/05	0.2 <MDL	ug/L	No
Barium	2023/06/05	9.66	ug/L	No
Boron	2023/06/05	7	ug/L	No
Cadmium	2023/06/05	0.004	ug/L	No
Chromium	2023/06/05	0.16	ug/L	No
*Lead	2023/06/05	N/A	ug/L	No
Mercury	2023/06/05	0.01 <MDL	ug/L	No
Selenium	2023/06/05	0.10	ug/L	No
Sodium	2023/06/05	7.23	ug/L	No
Uranium	2023/06/05	0.012	ug/L	No
Fluoride	2023/06/05	N/A	ug/L	No
Nitrate	2023/06/05	0.218	ug/L	No
Nitrite	2023/06/05	0.003 <MDL	ug/L	No

*Only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

ORGANICS TESTING

As per Schedule 24 of O. Reg 170/03, water must be tested for organic materials, which involves collecting and analyzing water samples for the presence of substances derived from organic materials. Organic materials can affect the taste, odor, colour, and health effects of water.

Water testing for organic materials is an important step in ensuring the safety and suitability of water sources and determine the best water treatment options.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2023/06/05	0.02 <MDL	ug/L	No
Atrazine + N-dealkylated metabolites	2023/06/05	0.01 <MDL	ug/L	No
Azinphos-methyl	2023/06/05	0.05 <MDL	ug/L	No
Benzene	2023/06/05	0.32 <MDL	ug/L	No
Benzo(a)pyrene	2023/06/05	0.004 <MDL	ug/L	No
Bromoxynil	2023/06/05	0.33 <MDL	ug/L	No
Carbaryl	2023/06/05	0.05 <MDL	ug/L	No
Carbofuran	2023/06/05	0.01 <MDL	ug/L	No
Carbon Tetrachloride	2023/06/05	0.17 <MDL	ug/L	No
Chlorpyrifos	2023/06/05	0.02 <MDL	ug/L	No
Diazinon	2023/06/05	0.02 <MDL	ug/L	No
Dicamba	2023/06/05	0.20 <MDL	ug/L	No
1,2-Dichlorobenzene	2023/06/05	0.41 <MDL	ug/L	No
1,4-Dichlorobenzene	2023/06/05	0.36 <MDL	ug/L	No
1,2-Dichloroethane	2023/06/05	0.35 <MDL	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	2023/06/05	0.33 <MDL	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Dichloromethane	2023/06/05	0.35 <MDL	ug/L	No
2-4 Dichlorophenol	2023/06/05	0.15 <MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2023/06/05	0.19 <MDL	ug/L	No
Diclofop-methyl	2023/06/05	0.40 <MDL	ug/L	No
Dimethoate	2023/06/05	0.06 <MDL	ug/L	No
Diquat	2023/06/05	1 <MDL	ug/L	No
Diuron	2023/06/05	0.03 <MDL	ug/L	No
Glyphosate	2023/06/05	1 <MDL	ug/L	No
HAAs (NOTE: show latest annual average)	2023/12/04	30.2	ug/L	No
Malathion	2023/06/05	0.02 <MDL	ug/L	No
Metolachlor	2023/06/05	0.01 <MDL	ug/L	No
Metribuzin	2023/06/05	0.02 <MDL	ug/L	No
Monochlorobenzene	2023/06/05	0.3 <MDL	ug/L	No
Paraquat	2023/06/05	1 <MDL	ug/L	No
Pentachlorophenol	2023/06/05	0.15 <MDL	ug/L	No
Phorate	2023/06/05	0.01 <MDL	ug/L	No
Picloram	2023/06/05	1 <MDL	ug/L	No
Polychlorinated Biphenyls (PCB)	2023/06/05	0.04 <MDL	ug/L	No
Prometryne	2023/06/05	0.03 <MDL	ug/L	No
Simazine	2023/06/05	0.01 <MDL	ug/L	No
Terbufos	2023/06/05	0.01 <MDL	ug/L	No
Tetrachloroethylene	2023/06/05	0.35 <MDL	ug/L	No
2,3,4,6-Tetrachlorophenol	2023/06/05	0.20 <MDL	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THMs (NOTE: show latest annual average)	2023/12/04	45	ug/L	No
Triallate	2023/06/05	0.01 <MDL	ug/L	No
Trichloroethylene	2023/06/05	0.44 <MDL	ug/L	No
2,4,6-Trichlorophenol	2023/06/05	0.25 <MDL	ug/L	No
Trifluralin	2023/06/05	0.02 <MDL	ug/L	No
Vinyl Chloride	2023/06/05	0.17 <MDL	ug/L	No

CHEMICAL TESTING

The Safe Drinking Water Act requires testing of the water for various chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under Schedule 2 of the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation.

Any Inorganic or organic parameters that exceeded half the standard prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards are listed in the table below:

Parameter	Result Value	Unit of Measure	Date of Sample
N/A			



Date Report completed: February 13, 2024.

