Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Elk Lake Drinking Water System

2023 Annual/Summary Report

Prepared by the Ontario Clean Water Agency
on behalf of the Township of James

Elk Lake Drinking Water System

Section 11

2023 Annual Report

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INTRODUCTION

Municipalities throughout Ontario have been required to comply with Ontario Regulation 170/03 made under the *Safe Drinking Water Act* (SDWA) since June 2003. The Act was enacted following recommendations made by Commissioner O'Conner after the Walkerton Inquiry. The Act's purpose is to protect human health through the control and regulation of drinking water systems. O. Reg. 170/03 regulates drinking water testing, use of licensed laboratories, treatment requirements and reporting requirements.

Section 11 of Regulation 170/03 requires the owner to produce an Annual Report. This report must include the following:

1. Description of system & chemical(s) used
2. Summary of any adverse water quality reports and corrective actions
3. Summary of all required testing
4. Description of any major expenses incurred to install, repair or replace equipment

This annual report must be completed by February 28th of each year.

Schedule 22 of the regulation also requires a Summary Report which must be presented & accepted by Council by March 31st of each year for the preceding calendar year.

The report must list the requirements of the Act, its regulations, the system's Drinking Water Works Permit (DWWP), Municipal Drinking Water Licence (MDWL), Certificate of Approval (if applicable), and any regulatory requirements the system failed to meet during the reporting period. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

The *Safe Drinking Water Act* (2002) and the drinking water regulations can be viewed at the following website: http://www.e-laws.gov.on.ca.

To enable the Owner to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.

1. A summary of the quantities and flow rates of water supplied during the reporting period, including the monthly average and the maximum daily flows,

2. A comparison of the summary to the rated capacity and flow rates approved in the systems approval, drinking water works permit or municipal drinking water licence or a written agreement if the system is receiving all its water from another system under an agreement.

The reports have been prepared by the Ontario Clean Water Agency (OCWA) on behalf of the Owner and presented to council as the 2023 Annual/Summary Report.

Section 11 - ANNUAL REPORT

1.0 INTRODUCTION

Drinking-Water System Name:	**Elk Lake Drinking Water System**
Drinking-Water System No.:	220007329
Drinking-Water System Owner:	The Corporation of the Township of James
Drinking-Water System Category:	Large Municipal, Residential System
Period being reported:	January 1 to December 31, 2023

Does your Drinking Water System serve more than 10,000 people? No

Is your annual report available to the public at no charge on a web site on the Internet? Yes at http://www.elklake.ca/

Location where the report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Elk Lake Municipal Office
33 Third Street
Elk Lake, Ontario P0J 1G0

Drinking Water Systems that receive drinking water from the Elk Lake Drinking Water System

The Elk Lake Drinking Water System provides all drinking water to the community of Elk Lake.

The Annual Report was not provided to any other Drinking Water System Owners.

The Ontario Clean Water Agency prepared the 2023 Annual/Summary Report for the Elk Lake Drinking Water System and provided a copy to the system owner; the Township of James. The Elk Lake Drinking Water System is a stand-alone system that does not receive water from or send water to another system.

Notification to system users that the Annual Report is available for viewing is accomplished through:

- Notice via the local newspaper and Facebook

2.0 ELK LAKE DRINKING WATER SYSTEM (DWS No. 220007329)

The Elk Lake Drinking Water System is owned by the Corporation of the Township of James and consists of a Class 1 water treatment subsystem and a Class 1 water distribution subsystem. The system is a communal ground water well supply that services the Town of Elk Lake. The Ontario Clean Water Agency is the accredited operating authority and is designated as the Overall Responsible Operator for both the water treatment and water distribution facilities.

Raw Water Supply

The water treatment facility is located on Lot 83 First Street in the Township of James and is supplied by one 65 m deep, double steel casing production well. The well is located in water treatment plant and is equipped with a vertical turbine pump, rated at 63 L/s with a 250 mm diameter magnetic flow meter installed on the discharge line. The well includes pump-to-waste capabilities from the pump discharge line.

A second well located in the vicinity of the east end of the bridge across the Montreal River on Lot 5, Concession 5 in the Township of James acts as a monitoring/observation well. It is drilled to a depth of 79 meters and consists of a steel casing. This well is not equipped with a well pump and is not connected to the water treatment plant.

Water Treatment

The production well feeds the water treatment plant that has a maximum rated capacity of 2790 cubic meters per day (m^3/d).

The raw water is directed to an iron and manganese removal system (Filtronics brand) consisting of two reaction vessels fed with sodium hypochlorite, three pressure filters each having a rated capacity of 646 L/min, three flow meters dedicated to each filter and continuous monitoring of chlorine residual and filter operation. The filter backwash recycling system is equipped with a 40 m^3 underground holding tank, a submersible pump rated at 3.8 L/s with a discharge line that re-circulates the supernatant with raw water at the well pump header and a sludge pump for residual disposal to a tanker truck.

The disinfection system consists of a 450 L sodium hypochlorite solution tank equipped with spill containment and duplicate pace-to-flow chemical feed injection pumps (one duty and one standby). Chemical injection is accomplished at the raw water pipe header, prior to entering the reaction vessels.

Water Storage and Pumping Capabilities

The treated water discharges into twin cell storage clearwells, connected in series and having a total volume of 540 m^3. Curtain baffling was installed in Cell #2 of the clearwell to provide sufficient chlorine contact time.

Three vertical turbine pumps (one duty, one standby draw from clearwell #1, and one fire pump installed over clearwell #2) with variable frequency drives each rated at 37.5 L/s. A magnetic finished flow meter, chlorine residual analyzer, and a surge anticipator are installed on the discharge main prior to exiting the pump house and entering the distribution system. The water treatment process is controlled by a dedicated Program Logic Controller (PLC) and monitored through the SCADA computer system.

Control System

Control System Supervisory Control and Data Acquisition (SCADA) is the method of control implemented for the Elk Lake Water Treatment System. All analyzing, monitoring and control module equipment information is routed through the SCADA system for operator monitoring and control. Control of equipment can be accomplished locally using the SCADA computer located at the Elk Lake water treatment plant or remotely using operator computers and cell phones. Alarm capability and set point adjustment along with trend monitoring are also available through SCADA system controls.

Emergency Power

A 160 kW emergency stand-by power generator is available at the plant and is capable of supplying power to the entire facility during power failures.

Distribution System

The Elk Lake Drinking Water System is classified as a Large Municipal Residential Drinking Water System and provides water to a population of approximately 460 residents through an estimated 220 service connections. The distribution system was constructed in 1992 and consists of mainly of PVC constructed pipe. Approximately 60 fire hydrants are connected to the system to aid in fire protection. There are no off-site water storage facilities in the distribution system, as storage is incorporated within the treatment plant.

3.0 LIST OF WATER CHEMICALS USED OVER THE REPORTING PERIOD

The following chemicals were used in the treatment process at the Elk Lake Water Treatment Plant.

- Sodium hypochlorite – Oxidation and Disinfection

This treatment chemical meets AWWA and NSF/ANSI standards.

4.0 SIGNIFICANT EXPENSES INCURRED IN THE DRINKING WATER SYSTEM

OCWA is committed to maintaining the assets of the drinking water system and sustains a program of scheduled inspection and maintenance activities using a computerized Work Management System (WMS).

Significant expenses incurred in the drinking water system include:

- DWQMS third party audit
- Distribution system flushing – fall and spring
- fire exit signage
- fire extinguisher checks
- genset servicing
- HAA testing
- lifting device inspection
- Outpost UPS replacement
- PTTW
- reclaim pump for filter
- SCADA computer failure and troubleshooting
- sludge haulage from reclaim tank
- surge anticipation valve repair
- telephone charges

5.0 DETAILS ON NOTICES OF ADVERSE TEST RESULTS AND OTHER PROBLEMS REPORTED TO & SUBMITTED TO THE SPILLS ACTION CENTER

Date	*AWQI No.*	*Details*
Sept 17	163488	Northern Telephone is having issues with their equipment - landlines are down. This means that an alarm condition would not result in a call an operator. Northern Telephone was contacted and said that they are aware of the issue but did not have an estimated resolution time. Plants could still be monitored remotely via SCADA/Wonderware and were monitored periodically until the landline issue was resolved. Northern Telephone had restored service to landlines by approximately 23:30 thus resolving the incident

6.0 MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD

Summary of Microbiological Data

Sample Type	# of Samples	Range of *E. coli* Results *(min to max)*	Range of Total Coliform Results *(min to max)*	# of HPC Samples	Range of HPC Results *(min to max)*
Raw (Production Well)	52	0 to 2	0 to 2	0	N/A
Treated	52	0 to 0	0 to 0	52	< 10 to 60
Distribution	104	0 to 0	0 to 0	52	< 10 to >2000

Maximum Allowable Concentration (MAC) for *E. coli* = 0 Counts/100 mL
MAC for Total Coliforms = 0 Counts/100 mL
"<" denotes less than the laboratory's method detection limit
">" denotes greater than the laboratory's method detection limit.

Notes:

1. One microbiological sample is collected and tested each week from the raw and treated water supply. A total of two microbiological samples are collected and tested each week from the Elk Lake distribution system. At least 25% of the distribution samples must be tested for HPC bacteria.

7.0 OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD

Summary of Raw Water Turbidity Data

Parameter	# of Samples	Range of Results *(min to max)*	Unit of Measure
Turbidity (Well)	28	0.21 to 2.25	NTU

Note: Turbidity samples are required once every month.

Continuous Monitoring in the Treatment Process

Parameter	# of Samples	Range of Results *(min to max)*	Unit of Measure	Standard
Free Chlorine Residual	8760	0.34 to 1.53	mg/L	CT

Notes:

1. For continuous monitors 8760 is used as the number of samples for one year.

2. CT is the concentration of chlorine in the water times the time of contact that the chlorine has with the water. It is used to demonstrate the level of disinfection treatment in the water. CT calculations are performed for the Elk Lake water plant if the free chlorine residual level drops below 0.330 mg/L to ensure primary disinfection is achieved.

Summary of Chlorine Residual Data in the Distribution System

Parameter	No. of Samples	Range of Results *(min to max)*	Unit of Measure	Standard
Free Chlorine Residual	364	0.49 to 1.89	mg/L	≥ 0.05

Note: A total of seven operational checks for chlorine residual in the distribution system are collected each week. Four (4) samples are tested one day and three (3) on a second day. The sample sets are collected at least 48-hours apart and samples collected on the same day are from different locations.

Summary of Nitrate & Nitrite Data *(sampled at the water treatment plant every quarter)*

Date of Sample	Nitrate Result	Nitrite Result	Unit of Measure	Exceedance
January 9	< 0.1	< 0.01	mg/L	No
April 11	< 0.1	< 0.01	mg/L	No
July 10	< 0.1	< 0.01	mg/L	No
October 10	< 0.1	0.02	mg/L	No

Maximum Allowable Concentration (MAC) for Nitrate = 10 mg/L
MAC for Nitrite = 1 mg/L

Summary of Total Trihalomethane Data *(sampled in the distribution system every quarter)*

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 9	29.6	ug/L	26.1	No
April 11	24.7	ug/L		
July 10	19.0	ug/L		
October 10	31.2	ug/L		

Maximum Allowable Concentration (MAC) for Total Trihalomethanes = 100 ug/L (Four Quarter Running Average)

Summary of Total Haloacetic Acid Data *(sampled in the distribution system every quarter)*

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 9	23	ug/L	21.5	No
April 11	23	ug/L		
July 10	22	ug/L		
October 10	18	ug/L		

Maximum Allowable Concentration (MAC) for Total Haloacetic Acids = 80 ug/L (Four Quarter Running Average)

Summary of Most Recent Lead Data under Schedule 15.1

(applicable to the following drinking water systems; large municipal residential systems, small, municipal residential systems, and non-municipal year-round residential systems)

The Elk Lake Drinking Water System was eligible to follow the "Exemption from Plumbing Sampling" as described in section 15.1-5(9) and 15.1-5(10) of Schedule 15.1 of Ontario Regulation 170/03. The exemption applies to a drinking water system if, in two consecutive periods at reduced sampling, not more than 10% of all samples from plumbing exceed the maximum allowable concentration (MAC) of 10 ug/L for lead. As such, the system was required to test for total alkalinity and pH in one distribution sample collected during the periods of December 15 to April 15 (winter period) and June 15 to October 15 (summer period). This testing is required in every 12-month period with lead testing in every third 12-month period.

Two rounds of alkalinity and pH testing were carried out on March 14th and October 10th of 2023. Results are summarized in the table below.

Summary of Lead Data *(sampled in the distribution system)*

Date of Sample	# of Samples	Field pH	Field Temperature (°C)	Alkalinity (mg/L)	Lead (ug/L)
March 14	1	7.48	6.1	219	0.1
October 10	1	7.10	10.1	249	0.1

Note: Next lead sampling scheduled for 2023

Most Recent Schedule 23 Inorganic Data Tested at the Water Treatment Plant

Parameter	Result Value	Unit of Measure	MAC	MAC Exceedance	½ MAC Exceedance
Antimony	< 0.5	ug/L	6	No	No
Arsenic	1.0	ug/L	10	No	No
Barium	457	ug/L	1000	No	No
Boron	7.0	ug/L	5000	No	No
Cadmium	< 0.1	ug/L	5	No	No
Chromium	< 1.0	ug/L	50	No	No
Mercury	< 0.1	ug/L	1	No	No
Selenium	0.4	ug/L	50	No	No
Uranium	< 1.0	ug/L	20	No	No

Note: Sample required every 36 months (sample date = *October 10, 2023).* Next sampling scheduled for October 2026

Most Recent Schedule 24 Organic Data Tested at the Water Treatment Plant

Parameter	Result Value (ug/L)	MAC	MAC Exceedance	½ MAC Exceedance
Alachlor	< 0.267	5	No	No
Atrazine + N-dealkylated metobolites	< 0.5	5	No	No
Azinphos-methyl	< 0.2	20	No	No
Benzene	< 0.1	1	No	No
Benzo(a)pyrene	< 0.01	0.01	No	No
Bromoxynil	< 0.093	5	No	No
Carbaryl	< 3.0	90	No	No
Carbofuran	< 4.0	90	No	No
Carbon Tetrachloride	< 0.2	2	No	No
Chlorpyrifos	< 0.2	90	No	No
Diazinon	< 0.2	20	No	No
Dicamba	< 0.082	120	No	No
1,2-Dichlorobenzene	< 0.2	200	No	No
1,4-Dichlorobenzene	< 0.3	5	No	No
1,2-Dichloroethane	< 0.2	5	No	No
1,1-Dichloroethylene (vinylidene chloride)	< 0.3	14	No	No
Dichloromethane	< 1.0	50	No	No
2-4 Dichlorophenol	< 0.2	900	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	< 0.35	100	No	No
Diclofop-methyl	< 0.117	9	No	No
Dimethoate	< 0.2	20	No	No
Diquat	< 0.2	70	No	No
Diuron	< 10.0	150	No	No
Glyphosate	< 20.0	280	No	No
Malathion	< 0.2	190	No	No
Metolachlor	< 0.134	50	No	No

Parameter	Result Value (ug/L)	MAC	MAC Exceedance	½ MAC Exceedance
Metribuzin	< 0.134	80	No	No
Monochlorobenzene	< 0.5	80	No	No
Paraquat	< 0.2	10	No	No
Polychlorinated Biphenyls (PCBs)	< 0.07	3.0	No	No
Pentachlorophenol	< 0.3	60	No	No
Phorate	< 0.134	2	No	No
Picloram	< 0.082	190	No	No
Prometryne	< 0.067	1	No	No
Simazine	< 0.2	10	No	No
Terbufos	< 0.134	1	No	No
Tetrachloroethylene	< 0.3	10	No	No
2,3,4,6-Tetrachlorophenol	< 0.3	100	No	No
Triallate	< 0.134	230	No	No
Trichloroethylene	< 0.2	5	No	No
2,4,6-Trichlorophenol	< 0.2	5	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA)	< 5.83	100	No	No
Trifluralin	< 0.134	45	No	No
Vinyl Chloride	< 0.1	1	No	No

Note: Sample required every 36 months (sample date = *October 10, 2023).* Next sampling scheduled for October 2026

Inorganic or Organic Test Results that Exceeded Half the Standard Prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

No inorganic or organic parameter(s) listed in Schedule 23 and 24 of Ontario Regulation 170/03 exceeded half the standard found in Schedule 2 of the Ontario Drinking Water Standard (O. Reg. 169/03) during the reporting period.

Most Recent Sodium Data Sampled at the Water Treatment Plant

Date of Sample	# of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 6, 2020	1	7.18	mg/L	20	No

Note: Sample required every 60 months. Next sampling scheduled for October 2025

Most Recent Fluoride Data Sampled at the Water Treatment Plant

Date of Sample	# of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 6, 2020	1	0.09	mg/L	1.5	No

Note: Sample required every 60 months. Next sampling scheduled for October 2025

Additional Testing Performed in Accordance with an Approval, Order or Legal Instrument

No additional regulatory sampling and testing was required for the Elk Lake Drinking Water System during the 2023 reporting period.

Elk Lake Drinking Water System

Schedule 22

2023 SUMMARY REPORT

FOR MUNICIPALITIES

Schedule 22 - SUMMARY REPORTS FOR MUNICIPALITIES

1.0 INTRODUCTION

Drinking-Water System Name:	**Elk Lake Drinking Water System**
Municipal Drinking Water Licence (MDWL) No.:	274-101-4 (issued February 16, 2021)
Drinking Water Work Permit (DWWP) No.:	274-201-3 (issued February 16, 2021)
Permit to Take Water (PTTW) No.:	6352-972Q3Y (issued April 24, 2013)
Period being reported:	January 1 to December 31, 2023

2.0 REQUIREMENTS THE SYSTEM FAILED TO MEET

According to information kept on record by OCWA, the Elk Lake Drinking Water System failed to meet the following requirements during the 2023 reporting period:

Drinking Water Legislation	Requirement(s) the System Failed to Meet	Corrective Action(s)
O. Reg. 170/03, 6-5, (1)1-4; (1)5-10; (1.1);	Where required continuous monitoring equipment, used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person did not respond in a timely manner and/or did not take appropriate actions	On September 17, 2023, the landlines were discovered to be down at 12:30pm, which prevented the alarms to call-out. The operators remotely monitored the system until the lines were restored on September 17, 2023 at 11:30pm. Reported as AWQI 163487

3.0 SUMMARY OF FLOWS AND COMPARISON TO REGULATORY LIMITS

Flow Monitoring

MDWL No. 274-101 requires the owner to install a sufficient number of flow measuring devices to permit the continuous measurement and recording of:

- the flow rate and daily volume of treated water that flows from the treatment subsystem the distribution system, and
- the flow rate and daily volume of water that flows into the treatment subsystem.

The flow monitoring equipment identified in the MDWL is present and operating as required. These flow meters are calibrated on an annual basis as specified in the manufacturers' instructions.

Water Usage

The following water usage tables summarize the quantities and flow rates of water taken and produced during the 2023 reporting period, including total monthly volumes, average monthly volumes, maximum monthly volumes, and maximum flow rates.

Raw Water

Table A **- Raw Water Usage**

2023 - Monthly Summary of Water Takings from the Source (Well No. 1)
Regulated by by Permit to Take Water (PTTW) #6352-972Q37 issued April 24, 2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
Total Volume (m^3)	3,165	3,796	3,524	3,198	4,315	4,283	4,601	4,600	3,767	4,232	3,227	3,355	46,063
Average Volume (m^3/d)	102	136	114	107	139	143	148	148	126	137	108	108	126
Maximum Volume (m^3/d)	160	262	160	157	602	317	356	283	231	527	162	196	602
PTTW - Maximum Allowable Volume (m^3/day)	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162	2,162
Maximum Flow Rate (L/min)	3,480	3,480	3,480	3,600	3,600	3,540	3,540	3,540	3,540	3,540	3,600	3,540	3,600
PTTW - Maximum Allowable Flow Rate (L/min)	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840

The system's Permit to Take Water #6352-972Q3Y, allows the Township to withdraw water at the following rates:

Well No. 1 (Production Well):	2,162 m^3/day	3,840 L/minute
Well No. 2 (Observation Well):	217 m^3/day	227 L/minute
Total Combined Daily Volume:	2,489 m^3/day	

A review of the raw water flow data indicates that the system did not exceed the maximum allowable volume or maximum flow rate during the reporting period.

Well No. 2 is a stand-alone observation well that is not equipped with a well pump. No water was taken from this well in 2023.

Treated Water

Table B **- Treated Water Usage**

2023 - Monthly Summary of Treated Water Supplied to the Distribution System
Regulated Municipal Drinking Water Licence (MDWL) #274-101 (issue 4), issued February 16, 2021

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
Total Volume (m^3)	2,648	3,332	2,989	2,657	3,716	4,036	4,190	4,092	3,404	3,657	2,709	2,646	40,076
Average Volume (m^3/d)	85	119	96	89	120	135	135	132	113	118	90	85	110
Maximum Volume (m^3/d)	122	148	136	121	591	203	271	196	157	521	114	117	591
MDWL/C of A - Rated Capacity (m^3/day)	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790

Schedule C, Section 1.0 (1.1) of MDWL No. 274-101 states that the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed 2790 m^3/day. The Elk Lake DWS complied with this limit having a recorded maximum volume of 591 m^3/day, which represents 21.2% of the rated capacity.

Table C and Figure 1 compare the average and maximum flow rates into the distribution system to the rated capacity of the system identified in the MDWL.

Table C: 2023 - Comparison of Treated Water Flows to the Rated Capacity

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Flow (m^3/day)	85	119	96	89	120	135	135	132	113	118	90	85
Maximum Flow (m^3/day)	122	148	136	121	591	203	271	196	157	521	114	117
MDWL - Rated Capacity	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790
% Rated Capacity	4.4	5.3	4.9	4.3	21.2	7.3	9.7	7.0	5.6	18.7	4.1	4.2

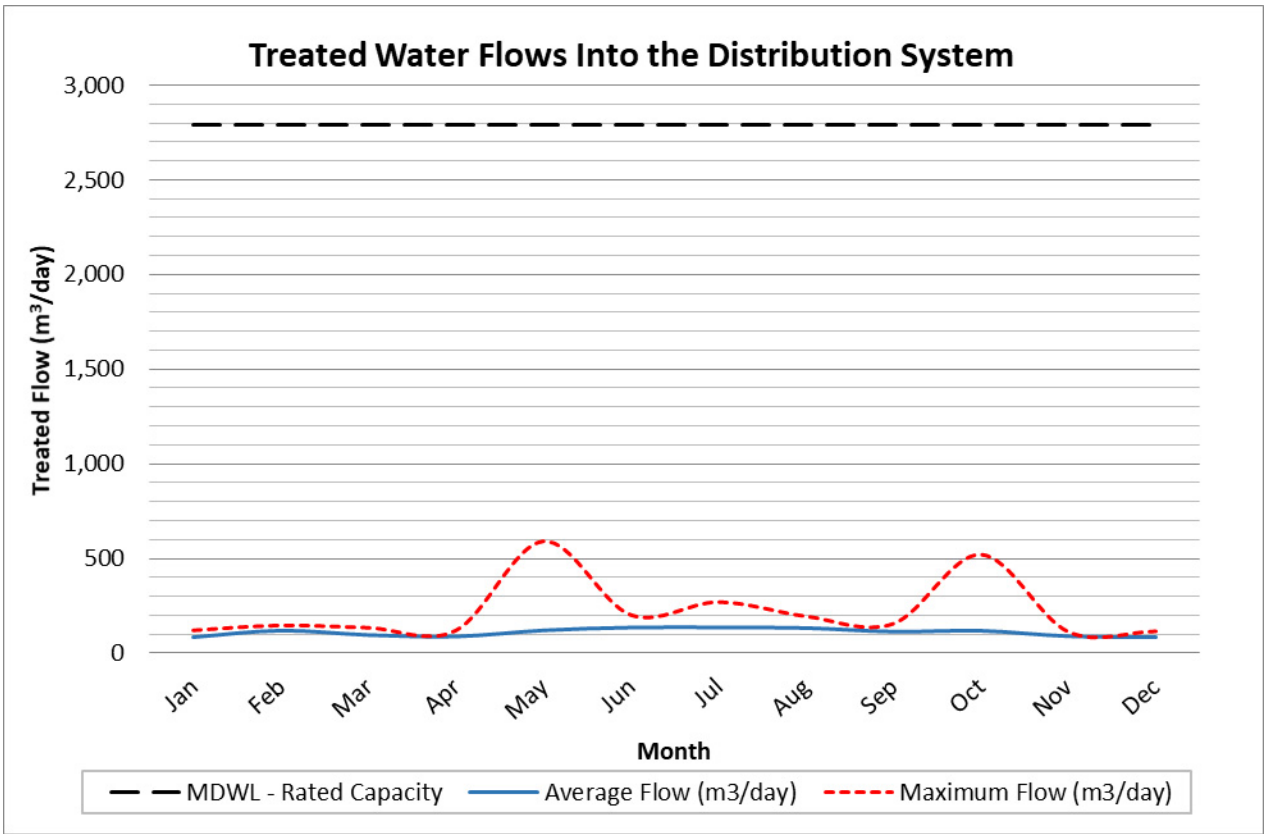

Figure 1: 2023 - Comparison of Treated Water Flows to the Rated Capacity

Summary of System Performance

The following information is provided to enable the Owner to assess the capability of the system to meet existing and future water usage needs.

Rated Capacity of the Plant (MDWL)	2,790 m^3/day	
Average Daily Flow for 2023	110 m^3/day	3.9 % of the rated capacity
Maximum Daily Flow for 2023	591 m^3/day	21.2 % of the rated capacity
Total Treated Water Produced in 2023	40,076 m^3	

Historical Flows

Elk Lake Water Treatment Plant – Historical Flow Comparison

Year	Maximum Treated Flow (m^3/d)	Average Daily Treated Flow (m^3/d)	Average Day % of Rated Capacity (2790 m^3/d)
2023	**591**	**110**	**3.9%**
2022	298	102	3.7%
2021	656	117	4.2%
2020	660	100	3.6%
2019	455	91	3.3%

Table D and Figure 2 compares the average treated water flows from 2019 to 2023.

Table D: Elk Lake Water Treatment System - Average Treated Water Flows from 2019 to 2023

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019 Average Flow (m^3/day)	74	73	77	74	87	113	129	122	95	100	78	76
2020 Average Flow (m^3/day)	71	73	83	81	94	147	123	116	113	103	106	88
2021 Average Flow (m^3/day)	86	90	94	99	118	178	143	146	134	114	106	95
2022 Average Flow (m^3/day)	95	99	97	88	100	122	116	127	100	107	89	89
2023 Average Flow (m^3/day)	85	119	96	89	120	135	135	132	113	118	90	85
MDWL - Rated Capacity (m^3/day)	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790	2,790

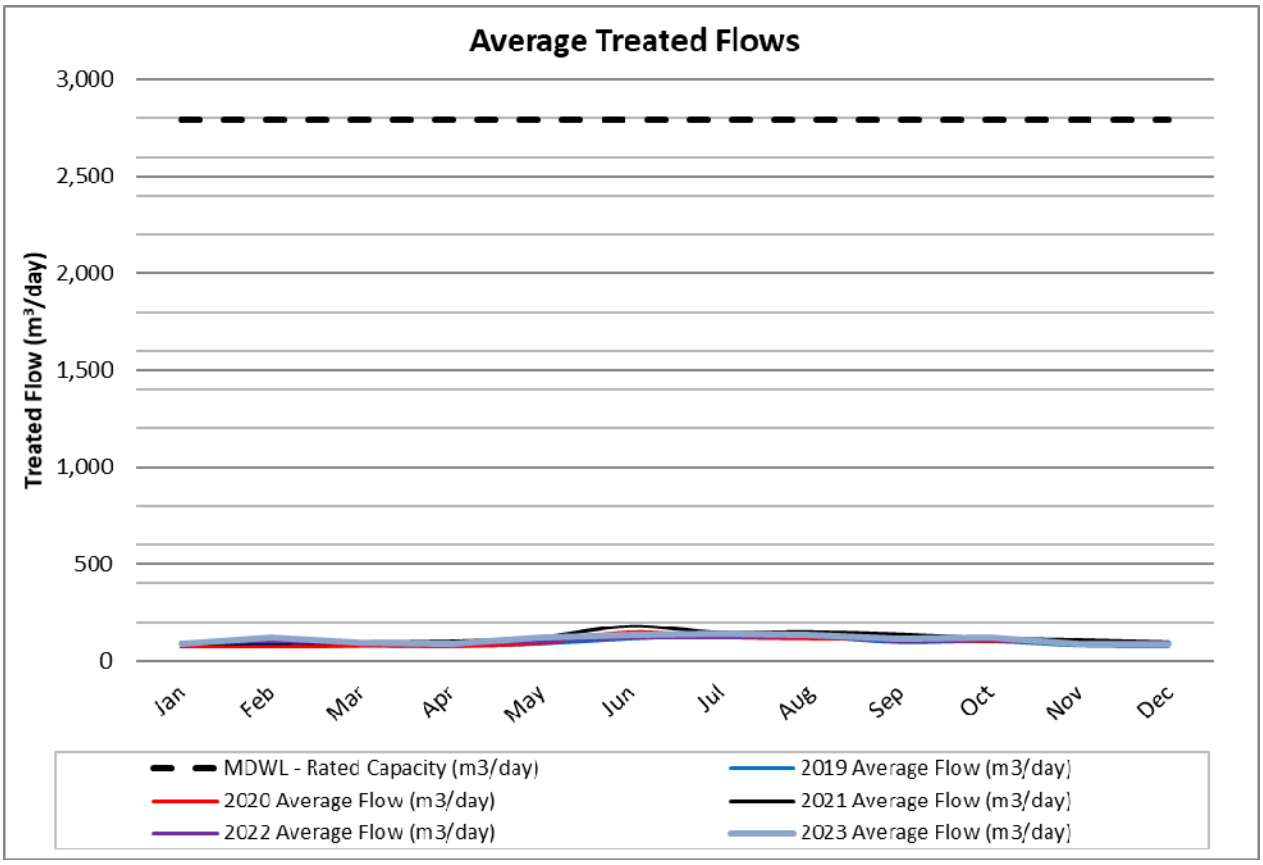

Figure 2: Elk Lake Water Treatment System - Average Treated Water Flows from 2019 to 2023

CONCLUSION

The water quality data collected in 2023 demonstrates that the Elk Lake drinking water system provided high quality drinking water to its users which met all the Ontario Drinking Water Standards having no incidents of non-compliance or adverse water quality incidents during the reporting period.

The system was able to operate in accordance with the terms and conditions of the Permit to Take Water and for most of the reporting period and in accordance with the rated capacity of the licence while meeting the community's demand for water use.