2023 WATER QUALITY ANNUAL REPORT

Dieppe

MONCTON

Riverview

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EXECUTIVE SUMMARY

This report summarizes the 2023 water quality monitoring and testing by the City of Moncton water and wastewater staff for the Moncton/Riverview/Dieppe service area and outlines various initiatives designed for long term sustainability of the water supply and delivery system.

The City of Moncton is dedicated to delivering high quality tap water to over 110,000 tri-community residents. Our treatment standards meet or exceed all Provincial and Federal **health-related guidelines**. Included in this report is a summary of more than 13,500 test results, showing that all guidelines were met or surpassed indicating the high quality and safety of our drinking water.

In 2023, all water samples complied with the Guidelines for Canadian Drinking Water Quality.

This past year, the Turtle Creek Reservoir and Moncton Water Treatment Plant supplied 16,700 million cubic metres (an average of 45,753 cubic metres per day) of treated water to the tri-community. This represents an increase of about 1.7% from 2022 production. No water shortages were experienced in 2023. The Turtle Creek reservoir was maintained at a near full condition throughout the year by the upstream Tower Road reservoir. Tower Road reservoir itself also remained at capacity throughout the year, due to precipitation events of sufficient volumes and frequencies.

To provide the tri-community residents with the best water quality possible, Moncton, Riverview, Dieppe, and the Water Treatment Plant are required to meet performance standards in the areas of system reliability, water quality and safety. All communities must operate under Certificates of Approval to Operate from the Provincial Department of Environment and Local Government.

Of 34 water main breaks in 2023, there were 4 large diameter pipe failures.

The City of Moncton's infrastructure improvements continued in 2023 with the replacement/ rehabilitation of approximately 3.25 kilometres of water mains.

On September 12, 2017 a bloom of cyanobacteria (blue-green algae) was detected in the Tower Road Reservoir at Turtle Creek. This historically was the first such bloom on the Turtle Creek system and is a cause for concern as cyanobacteria can release harmful toxins into the water that create challenges at the downstream water treatment plant. Algae were present in both the Tower Road and Turtle Creek reservoirs in subsequent years, and in 2022 visible blooms formed again in the upper tributaries of the Tower Road. There was no bloom in 2023.

Phase 1 upgrades to the water treatment facility to mitigate against cyanobacteria are complete. The goal of Phase 1 was to address the hydraulic capacity of plant in the event of an algal bloom. This involved the replacement of the four upflow adsorption clarifiers with ballasted sand clarifiers. The goal of Phase 2 is to address potential cyanotoxins that cyanobacteria may produce. Research is underway, and detailed design will follow with various systems expected to be commissioned to be completed between 2024 and 2026.

The Tri-community Water Action Committee continues to meet semi-annually to discuss issues of mutual concern, initiate “best management practices” and exchange information with the provincial regulators.

ACRONYMS USED IN REPORT

AO – Aesthetic Objective

AWWA – American Water Wastewater Association

cfu – colony forming units

E. coli – Escherichia coli

HPC – Heterotrophic Plate Count

IWA – International Water Association

MAC – Maximum Acceptable Concentration

MDL – Method Detection Limit

mg/L – milligrams per litre

n/a – not applicable

ND – Not Detected

NTU – Nephelometric Turbidity Units

TC - Total Coliform

TCU – True Color Units

THM – Trihalomethane

µS/cm – microSiemens per centimeter

µg/L – micrograms per litre

INTRODUCTION

The City of Moncton is committed to providing clean, safe drinking water for the tri-community.

The City in partnership with Dieppe, Riverview, and the Moncton Water Treatment plant, utilizes the "multi-barrier approach" to achieve this goal. The multi-barrier approach is an integrated system of procedures, processes and tools that collectively prevent or reduce the contamination of drinking water from source to tap to reduce risks to public health.

In his report on the Walkerton Tragedy, Justice Dennis O'Connor discusses five elements of the multi-barrier approach:

1. Source water protection
   Taking action to minimize adverse impacts on source waters reduces the risk from pathogens and chemical pollutants in that water, and can also reduce the degree of treatment required.

2. Robust water treatment
   Having treatment trains with more than one step provides redundancy against treatment failure.

3. A secure water supply network
   Providing a disinfectant residual to the extreme points of the distribution system protects against water quality degradation and microbial intrusion.

4. Monitoring programs
   Monitoring water quality at each of the above points (source, treatment plant, and tap) allows the treatment process to be adjusted to deal with fluctuations in water quality and ensures that the drinking water is safe at the point of human consumption.

5. Prepared responses to adverse conditions
   Having response plans (for example, issuing a boil-water advisory) in place provides a final barrier to protect the public if harmful contaminants should make it through the other barriers.

1. WHERE DOES OUR WATER COME FROM?

The primary water supply for the tri-community comes from the Turtle Creek watershed, a surface water supply, located southwest of Moncton. There are two large reservoirs in the watershed: the upper Tower Road Reservoir flows into the lower Turtle Creek Reservoir. Water from the Turtle Creek Reservoir is pumped from the reservoir to the Moncton Water Treatment Plant (WTP). Following treatment, water then flows by gravity to the communities of Moncton, Riverview, and Dieppe. Booster stations and storage tanks are required at several locations throughout the system to service higher elevations.

During 2023, the Turtle Creek Reservoir supplied an average of 45,753 cubic metres of water per day (10.1 million Imperial gallons of water per day) to the tri-community.

Due to the additional of a second dam in 2014 (Tower Road), as well as sufficient precipitation, no water shortages were experienced during 2023. Both the Tower Road and the Turtle Creek reservoirs were maintained at a near full condition throughout the year.

Figure 1: Aerial View of the Turtle Creek Reservoir

2. HOW DO WE PROTECT OUR SOURCE WATER?

The Turtle Creek Reservoir is a designated watershed and protected under the *N.B. Clean Water Act*. The approximately 17,000-hectare (42,500 acres or 170 km^2) watershed is outside municipal boundaries; therefore, the Provincial Department of Environment and Local Government has the primary responsibility for its protection and to control activities within the watershed. The Greater Moncton District Planning Commission administers land use planning within the watershed.

The City of Moncton has a watershed protection coordinator and a labourer whose responsibilities include the protection of the watersheds. These employees manage activities within the watersheds, including the reporting of any violations of the *Clean Water Act* with the Department of Environment and Local Government for enforcement.

3. HOW DO WE TREAT OUR WATER?

The Moncton Water Treatment Plant is a Class IV surface water treatment facility designed to provide an average daily flow of 68,200 cubic metres (15 million Imperial gallons) per day. The design capacity of the plant is 75,000 cubic metres (16.5 million Imperial gallons), and the peak (short-term) capacity of the plant is 113,670 cubic metres (25 million Imperial gallons).

Water from the Turtle Creek Reservoir passes through the plant removing turbidity, colour, iron, and manganese, and is then disinfected and adjusted chemically to protect against corrosion of metallic pipes.

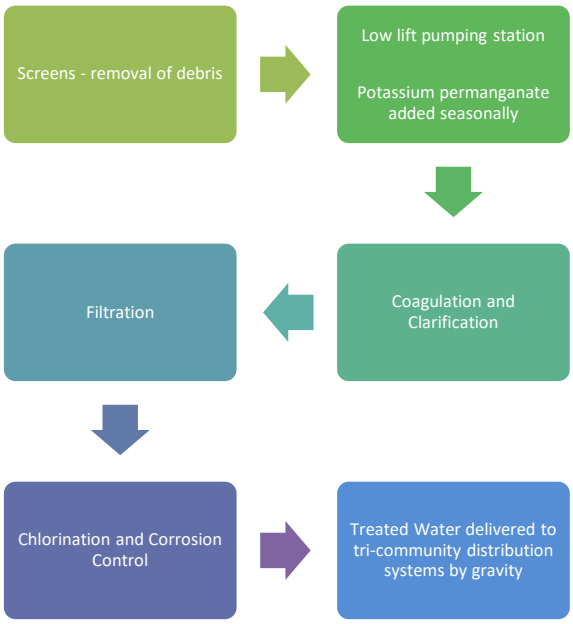

Figure 2: Moncton's Water Treatment Plant Process

The Multi-stage treatment process is described in more detail in the following sub-sections.

3.1 COAGULATION AND CLARIFICATION

Before the raw water is pumped to the treatment plant, it flows through screens to remove any debris.

During the warmest months of the year, when the manganese and iron are at their highest, the raw water coming from the Turtle Creek Reservoir is first dosed with potassium permanganate. Potassium permanganate oxidizes iron and manganese, so they can be physically removed by the clarifiers and filters. Potassium permanganate also oxidizes organics that can cause taste and odour.

The next stage of the process is to add lime and alum to the raw water to help with particle removal. This process is called Coagulation. Just like a magnet attracts iron, alum draws particles together to form larger particles called *floc*. A polymer and microsand are also added to strengthen the floc and make it heavier before removal in the clarifiers and filters. As of the end of 2022, all four upflow adsorption clarifiers had been replaced with ballasted sand clarifiers.

3.2 FILTRATION

The remaining floc is removed by filtration through gravity multi-media filters. The multi-media filters consist of three granular materials of different sizes and specific densities, layered in such a way to produce a filter that is coarse near the top of the bed and becomes progressively finer towards the bottom.

3.3 SOLIDS HANDLING FACILITIES

All the backwash water from the filters is sent to the solids handling facility, which consists of two large storage lagoons. Each lagoon has a detention time of one month. During that period, the solids in the water settle to the bottom and the clarified water eventually flows back into Turtle Creek. The solids accumulate in the lagoon for a period of several years before removal and final disposal at the sanitary landfill.

3.4 DISINFECTION AND CORROSION CONTROL

Following clarification and filtration, the water then enters the clearwell where the final stage of the treatment process takes place before the water is directed to the distribution system. Even with a very low turbidity, the water still needs to be disinfected against waterborne pathogens or infection- and disease-causing microorganisms.

Chlorine is added as a disinfectant to address viruses and bacteria, which can cause human illnesses. Sufficient chlorine is added to maintain a chlorine residual of 0.20 mg/L at the extremities of the distribution system.

As part of the on-going Corrosion Control Program that began in 1998, a corrosion inhibitor is added to the water. It is a food-grade ortho/polyphosphate blend that acts as a corrosion inhibitor in the distribution system. Also, as part of corrosion control, sodium hydroxide is added to neutralize the pH of the water.

Figure 3: Moncton Water Treatment Plant

4. HOW DO WE KNOW OUR WATER IS SAFE?

Employees of the water and wastewater department monitor approximately 60 sites throughout the distribution system to ensure chlorine levels meet the minimum requirement. Special attention is given to sites that have traditionally experienced low water flow or are in dead-end locations in the water network. At these sites, water can sit for long periods of time, and its quality can deteriorate. Routine flushing of these watermains keeps the water fresh at these particular locations.

More than 13,000 samples results are obtained throughout every year to monitor water quality and to make corrections and adjustments where required. Thirty-seven designated sites throughout Riverview, Moncton, and Dieppe are chosen to be representative of the various pressure zones.

Samples from these sites are subjected to bacteriological testing at an accredited laboratory on a weekly basis. These tests monitor the presence and concentration of total coliform bacteria, Escherichia coli (E. coli) bacteria, and heterotrophic plate count bacteria (HPC) in the water system.

Chlorine residual and turbidity are also measured on a weekly basis.

In addition, samples are collected for inorganic and organic testing at an accredited laboratory two and four times per year, respectively.

The following sub-sections summarize the 2023 results of these many water quality tests.

4.1 BACTERIOLOGICAL TESTING

The City of Moncton's bacteriological sampling plan conducted weekly includes testing for total coliform, E. coli, and HPC. Total coliform and HPC are indicator tests that report specific groups of bacteriological activity in a sample. Table 1 summarizes the microbiological results for 2023.

Total Coliform Bacteria (TC)

Testing for bacteria after disinfection confirms the effectiveness of the disinfection process. Total coliform bacteria, without E. coli, serve as indicators of an environment that may be susceptible to contamination. The source of bacteria, after initial disinfection, can be re-growth of bacteria from suspended materials in the water pipes or intrusion into the distribution system from a watermain break or backflow event.

The MAC (Maximum Allowable Concentration) of total coliform bacteria allowed in water leaving a treatment plant is 0 cfu/100mL (coliform forming units). Water utility personnel follow stringent procedures in the event that bacteria are detected.

Escherichia coli (E. coli)

The presence of E-coli bacteria indicates that the water may be contaminated with human or animal waste. Slight amounts of these contaminants can cause diarrhea, cramps, nausea, headaches, or fatigue. Certain strains of E. coli in larger amounts can be fatal for sensitive sub-populations. The maximum acceptable concentration is 0 cfu/100mL. E. coli should never be present in any sample.

Heterotrophic Plate Count (HPC)

HPC is a count of all heterotrophic micro-organisms and is a measure of bacterial re-growth throughout the distribution system. This is a good monitor of disinfection efficiency and treatment plant performance. Although this parameter is not regulated, the City of Moncton considers HPC counts that are greater than 500 cfu/mL to be excessive and warranting re-sampling and investigation into possible causes.

	Total Coliform and E. coli Bacteria			Heterotrophic Plate Count Bacteria		
	# of Samples	Positive TC Tests	Positive E. Coli Tests	# of Samples	Positive Tests >10 cfu/mL	Positive Tests >500 cfu/mL
January	158	0	0	35	14	0
February	123	0	0	36	4	0
March	175	0	0	37	4	0
April	140	0	0	35	0	0
May	175	0	0	70	1	0
June	141	0	0	71	7	0
July	143	0	0	72	4	0
August	177	0	0	71	1	0
September	141	0	0	35	0	0
October	174	0	0	35	1	0
November	140	0	0	35	0	0
December	140	0	0	35	1	0
Total	1827	0	0	567	37	0
Detection %		0.0%	0.0%		6.5%	0.0%

Table 1: 2023 Bacteria Test Results

4.2 INORGANIC TESTING

Inorganic (chemical and physical) testing of the tri-community water is required twice each year. Table 2 shows the makeup of City water based on test results from the spring and fall of 2023. These are average results from 14 test sites.

Turbidity: Turbidity levels in the reservoir at Turtle Creek are monitored regularly as the substances causing turbidity can shield bacteria from effective disinfection. Suspended matter such as clay, silt, finely divided organic and inorganic matter; soluble coloured organic compounds, plankton and other microscopic organisms cause turbidity in water. It is measured in NTU (Nephelometric Turbidity Units), which is a measure that relates to the optical property of water that causes light to be scattered and be absorbed rather than transmitted in straight lines through the sample. The maximum acceptable turbidity for water entering the distribution system is 0.3 NTU in at least 95% of measurements with no measurements exceeding 1.0 NTU.

Control of turbidity in public drinking water supplies is important for both health and aesthetic reasons. Aesthetically, excessive turbidity detracts from the appearance of municipal water and has often been associated with unacceptable tastes and odours. From the public health aspect, these substances can serve as a source of nutrients for waterborne bacteria, viruses, and protozoa. Turbidity can interfere with disinfection processes and the maintenance of chlorine residual within the distribution system.

The Moncton Water Treatment Plant uses filtration to reduce turbidity. The finished water coming out of the water treatment plant and entering the distribution system usually has a turbidity of less than 0.1 NTU, well below the maximum allowable turbidity of 0.3 NTU. Besides improving water clarity and removing colour, filtration provides the added benefits of improved taste and odour while reducing chlorine requirements and trihalomethane formation (organic compound described below).

During 2023, turbidity levels were monitored weekly at 34 designated locations in the distribution systems, as well as the raw and treated water at the treatment facility. The average treated water turbidity, from about 1800 tests was 0.24 NTU. This very low turbidity indicates that high quality water is reaching consumers' taps in all three communities.

Figure 4: Water Quality Control

Analytes	Units	RL	MAC	AO	Turtle Creek (average of 14 sites)
Aluminum	µg/L	1	-	-	29
Antimony	µg/L	0.1	6	-	<0.1
Arsenic	µg/L	1	10	-	< 1
Barium	µg/L	1	1000	-	17
Beryllium	µg/L	0.1	-	-	< 0.1
Bismuth	µg/L	1	-	-	< 1
Boron	µg/L	1	5000	-	3
Cadmium	µg/L	0.01	5	-	< 0.01
Calcium	µg/L	50	-	-	7830
Chromium	µg/L	1	50	-	< 1
Cobalt	µg/L	0.1	-	-	< 0.1
Copper	µg/L	1	2000	1000	12
Iron	µg/L	20	-	300	<20
Lead	µg/L	0.1	5	-	< 0.1
Lithium	µg/L	0.1	-	-	0.5
Magnesium	µg/L	10	-	-	622
Manganese	µg/L	1	120	20	5
Mercury	µg/L	0.025	1	-	< 0.025
Molybdenum	µg/L	0.1	-	-	< 0.1
Nickel	µg/L	1	-	-	< 1
Potassium	µg/L	20	-	-	565
Rubidium	µg/L	0.1	-	-	0.7
Selenium	µg/L	1	50	-	< 1
Silver	µg/L	0.1	-	-	< 0.1
Sodium	µg/L	50	-	200000	5710
Strontium	µg/L	1	7000	-	21
Tellurium	µg/L	0.1	-	-	< 0.1
Thallium	µg/L	0.1	-	-	< 0.1
Tin	µg/L	0.1	-	-	< 0.1
Uranium	µg/L	0.1	20	-	< 0.1
Vanadium	µg/L	1	-	-	< 1
Zinc	µg/L	1	-	5000	4
Ammonia (as N)	mg/L	0.05	-	-	< 0.05
pH	units	-	-	7.0 - 10.5	7.3
Alkalinity (as $CaCO_3$)	mg/L	2	-	-	14
Chloride	mg/L	0.5	-	250	4.4
Fluoride	mg/L	0.05	1.5	-	0.09
Sulfate	mg/L	1	-	500	16
Nitrate + Nitrite (as N)	mg/L	0.05	-	-	< 0.05
Nitrate (as N)	mg/L	0.05	10	-	< 0.05
Nitrite (as N)	mg/L	0.05	1	-	< 0.05
o-Phosphate (as P)	mg/L	0.01	-	-	0.18
r-Silica (as SiO_2)	mg/L	0.1	-	-	5.4
Carbon - Total Organic	mg/L	0.5	-	-	2.5
Turbidity	NTU	0.1	-	-	0.11
Conductivity	µS/cm	1	-	-	79
Calculated Parameters					
Hardness (as $CaCO_3$)	mg/L	0.2	-	-	22.1
Langelier Index (5°C)	-	-	-	-	-2.27

RL = Reporting Limit; MAC = Maximum Acceptable Concentration; AO = Aesthetic Objective

Guidelines are from Guidelines for Canadian Drinking Water Quality (June 2019).

Table 2: 2023 Inorganic Test Results

4.3 ORGANIC TESTING

Organic testing of the tri-community water is undertaken quarterly each year.

Total Trihalomethanes (THMs): THMs are organic compounds formed in drinking water as a result of chlorination of organic matter present naturally in surface water supplies. The more organic matter, the more chlorine is needed to disinfect the water and the higher the likelihood of chlorination by-products, like THMs. To limit the development of THMs, the disinfection process is carefully controlled so that disinfection is effective, while keeping the levels of disinfection by-products as low as possible.

The THM level is determined by using an annual running average based on quarterly samples. The MAC for THM's is 0.1 milligrams per litre (mg/L). In 2023 the quarterly running average for 14 test locations was well below the maximum allowable level at 0.040 mg/L

The construction of the Water Treatment Plant has had a positive effect on THM formation by removing organic matter from the water and reducing the chlorine application rate.

Regardless of the need to control the level of chlorination by-products such as THMs, disinfection of water must never be compromised.

4.4 CHLORINE RESIDUAL

After filtration, chlorine is added at the Water Treatment Plant to kill any remaining harmful bacteria. Treated water leaving the plant has a chlorine concentration of approximately 1.2 mg/L. The chlorine concentration dissipates as the water travels through the distribution system to customers' taps.

Free chlorine residual, as it is called, protects the water from pathogenic bacteria which may find their way in the distribution system via leaks, water breaks, cross-connections, reservoirs, and during construction and maintenance. Minimum chlorine residuals are therefore essential in all parts of the distribution system to prevent bacteria from growing.

The objective of the water utility is to meet or exceed the City's Certificate of Approval to Operate Water Distribution Facilities requirement of a minimum chlorine residual of 0.1 mg/L leaving the treatment facility, and a minimum of 0.04 mg/L everywhere in the distribution system. Water that is too low in chlorine increases the risk of bacterial regrowth, while an excess of chlorine residual may lead to water with a high taste and odour, affecting the aesthetic quality of the water. Employees monitor the amount of chlorine residual at various parts of the system to ensure that the water is safe and meets the aesthetic objectives. This includes verifying chlorine residuals while collecting microbiological samples, as well as at various fire hydrants across the city.

During 2023, the average chlorine residual throughout the tri-community was 0.82 mg/L, with a maximum of 1.40 mg/L and a minimum of 0.09 mg/L.

5. HOW IS WATER QUALITY MAINTAINED IN THE SYSTEM?

Moncton continues to monitor activities in the watershed to protect the source water. Several properties are purchased and cleaned up each year. The Moncton Water Treatment Plant has continued to provide consistent delivery of high-quality drinking water to the tri-community.

During 2023, work continued with the upgrades to the water treatment facility. Phase 1 addressed the hydraulic capacity of plant in the event of an algal bloom. This involved the replacement of the four upflow adsorption clarifiers with ballasted sand clarifiers. The goal of Phase 2 is to address potential cyanotoxins that cyanobacteria may produce. Research is underway, and detailed design will follow with commissioning expected to be completed by 2026.

In the distribution system, a number of other significant efforts to improve water quality delivered to the consumer were initiated, enhanced or completed during 2023. They included:

→ **Unidirectional flushing** to clean and scour water lines in the entire water distribution system

→ **Enhanced programs to prevent pollutants from other sources**
- Backflow prevention and cross connection control program
- Standard operating procedures for watermain repairs

→ **Watermain renewals**

5.1 CORROSION CONTROL

Filtering and treating the water at the reservoir is critically important to obtaining clean, clear water. Just as important is the cleaning and maintenance of the water pipes that distribute the water to homes and businesses.

The corrosion control program reduces the contact water has with the interior lining of the pipes by producing a microscopically thin barrier on the inside of the pipes. It also neutralizes the acidic nature of the water, reducing its natural tendency to be corrosive.

The program reduces leaching of metallic copper and lead from service lines and household plumbing as well as the oxidation of unlined iron water mains. On-going testing and monitoring verify that corrosion has been reduced significantly.

5.2 BACKFLOW PREVENTION

A backflow event may occur when a pressure drop causes water to reverse in a service line to a customer. This reversed direction of water flow may allow contaminants to enter the drinking water system if cross-connections are present.

In order to protect our municipal water supply from possible contamination, the City of Moncton has implemented a cross-connection control program. Its purpose is to identify existing or potential connections between the potable water system and any source of pollution or contamination. Once identified, the property owners and/or tenants are required to install an approved and testable device to prevent backflow. Properties are assessed on a risk basis, which in turn determines the priority in which action is required. Another aspect of the program is keeping records of all installed testable backflow prevention devices to ensure that they are tested on a yearly basis.

The installation of backflow preventers on all known “severe” hazards has been completed. Moncton has now moved on to identifying moderate hazards. These include churches, apartment complexes, etc. Sprinkler systems in existing buildings are also being protected when renovations are undertaken.

5.3 RAHABILITATION AND RENEWAL OF THE DISTRIBUTION SYSTEM

The significant reduction of watermain breaks and service leaks that the City of Moncton has experienced in the last few years is attributed to the investment in replacing or repairing high-break-frequency water mains.

In 2023, the City of Moncton upgraded approximately 3.25 km of existing water mains, including mains on Germain Street, Renfrew Street, Bessborough Avenue, Humphrey Street, Lynch Street, Atlantic Baptist Avenue, Blakeny Street, Gurney Drive, Lorne Street, Everett Street, Danforth Street, Peter Street, Somerset Drive, Fielding Street and Foundry Street.

Figure 5: Water Main Valve Installation

5.4 WATER LOSS CONTROL / WATER CONSERVATION

Despite population growth, tri-community water consumption has generally been declining for a number of reasons. 2023 saw a modest 1.7% increase, reflecting the high precipitation levels experienced throughout the year. Water conservation initiatives, water saving appliances and fixtures, and smaller family sizes have all contributed to the reduction. In addition, Moncton has seen several large commercial users reduce consumption for various reasons.

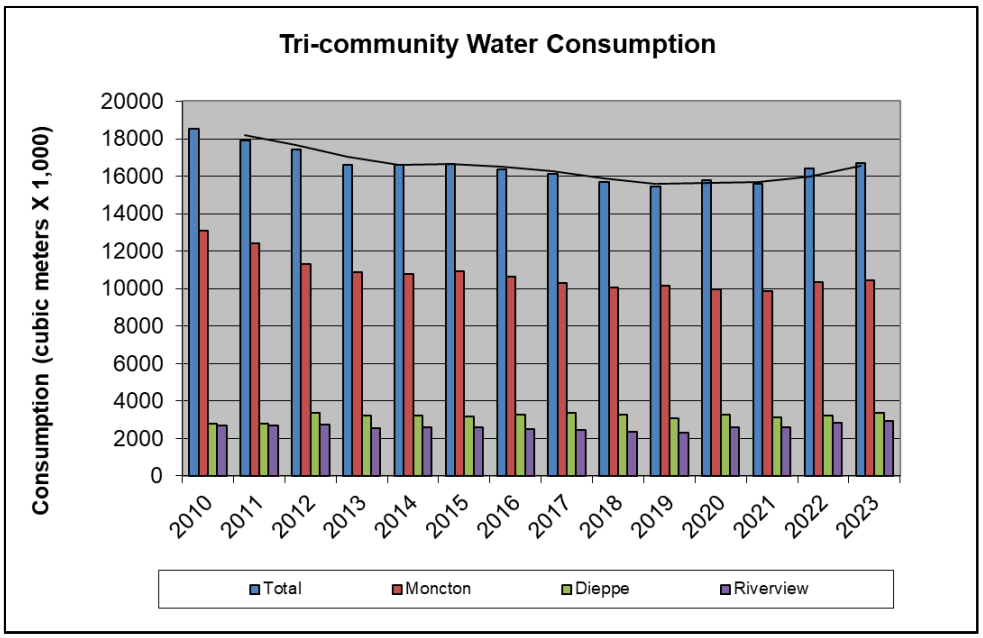

Figure 6: Tri-Community Water Consumption

Over the past number of years, Moncton has accelerated its watermain replacement program by replacing “high break frequency” mains as well as older pipes. The charts below show the history of annual number of watermain and water service breaks/leaks. These illustrate the effectiveness of the city’s watermain replacement/rehabilitation program.

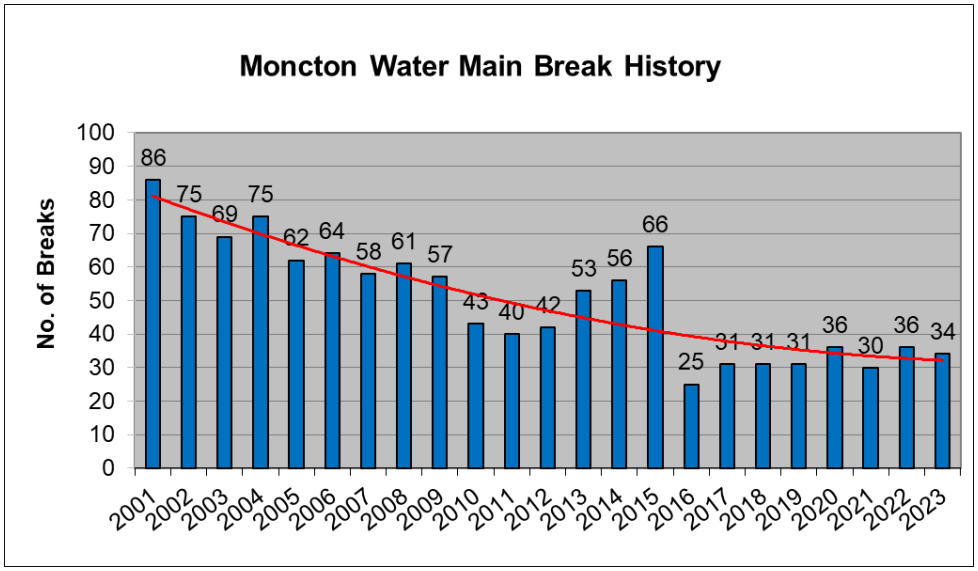

Figure 7: Water Main Break History

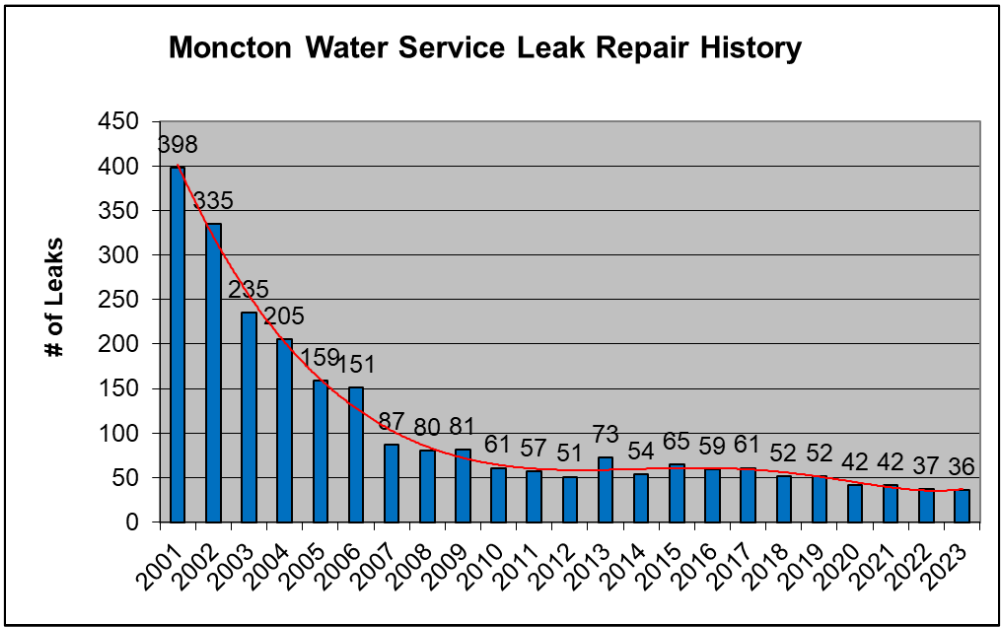

Figure 8: Water Service Leak History

In 2018, Moncton completed its third AWWA/IWA Water Audit and Balance which continues to show a reduction in water loss. This is an industry best practice, which helps to identify water losses, both authorized and unauthorized. The completed study provided recommendations on how the city can continue to control water losses into the future. Some of these recommendations have already been put in place and the city will continue with further implementation in future.

Replacing aging infrastructure not only reduces water leakage but improves reliability and service to our customers. Conserving water reduces the quantity of wastewater requiring treatment.

Customers play an important role in water efficiency by:

- repairing leaking fixtures
- replacing old appliances
- minimizing duration of lawn watering
- running full loads in dishwashers and other appliances
- turning off water when brushing teeth, etc.

Visit www.moncton.ca for more tips on how to reduce water consumption and subsequently reduce water bills.

6. SUMMARY

In summary, the former (pre-2000) non-compliance areas of turbidity, bacteria, pH and trihalomethanes are now being addressed at the water treatment plant. Treatment has resulted in an excellent quality of water entering the distribution system. More permanent and/or long-term strategies presently being initiated with respect to cleaning, rehabilitation and replacement of the distribution system will help to ensure that the same quality water entering the system will be delivered at the customer's tap.

Looking ahead to 2024, the City of Moncton has budgeted $3 million to make improvements to its water distribution system. An additional $22M was budgeted over 4 years for upgrades at the water treatment plant to deal with potential harmful algal blooms. The city will continue efforts to reduce water loss through district metering and leak detection on both the transmission and distribution systems.

Additional information on drinking water quality is available from the Health Canada web site: www.hc-sc.gc.ca.

For specific information on Moncton’s water, contact:

Nicole Taylor, M.Eng., P.Eng.
Director, Water Supply and Treatment
City of Moncton
Ph: 506-859-2638
Email: nicole.taylor@moncton.ca

Appendix 1: 2023 Flow Report

2023 Flow Report																		
Month	Total Flow	Daily Average	Moncton								Dieppe				Riverview			
			Gravity		Boosted Zones				Total		Connections				Connections			
	(ML)	(ML)	(ML)	%	HPS (ML)	Edin-burgh (ML)	Total (ML)	%	(ML)	%	Main (ML)	Harris-ville (ML)	Total (ML)	%	Cover-dale (ML)	Suffolk (ML)	Total (ML)	%
January	1,345	43.4	336	24.9	332	175	507	37.7	842	62.6	173	86	259	19.3	175	69	244	18.1
February	1,258	44.9	310	24.6	314	163	476	37.8	786	62.5	158	82	239	19.0	166	67	233	18.5
March	1,360	43.9	335	24.6	342	176	518	38.1	853	62.7	173	88	261	19.2	176	70	246	18.1
April	1,371	45.7	313	22.9	361	178	538	39.3	852	62.1	176	97	273	19.9	177	70	247	18.0
May	1,487	48.0	335	22.5	395	203	599	40.2	933	62.7	190	111	301	20.2	184	70	253	17.0
June	1,408	46.9	305	21.7	382	201	583	41.4	888	63.0	184	101	284	20.2	172	64	236	16.8
July	1,448	46.7	280	19.3	407	210	617	42.6	896	61.9	186	109	294	20.3	196	61	257	17.8
August	1,450	46.8	317	21.8	398	200	598	41.3	915	63.1	181	106	288	19.8	190	57	248	17.1
September	1,405	46.8	296	21.1	392	191	583	41.5	879	62.6	182	103	285	20.3	185	56	240	17.1
October	1,431	46.2	318	22.2	381	195	576	40.2	894	62.5	189	105	293	20.5	187	57	244	17.0
November	1,352	45.1	283	21.0	362	183	545	40.3	828	61.3	175	105	281	20.8	184	58	243	18.0
December	1,383	44.6	306	22.1	369	186	556	40.2	862	62.3	180	104	284	20.5	181	56	237	17.2
Total	**16,700**		**3734**	**22.4**	**4435**	**2261**	**6696**	**40.1**	**10,430**	**62.5**	**2146**	**1196**	**3342**	**20.0**	**2173**	**755**	**2928**	**17.5**
Daily Average		**45.8**	**10.2**				**18.3**		**28.6**				**9.2**				**8.0**	

1ML = 1000 m^3