2011

WATER QUALITY

annual report

Dieppe

MONCTON

You deserve Riverview

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EXECUTIVE SUMMARY

This report summarizes the 2011 water quality monitoring and testing by the City of Moncton utility 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 100,000 tri-community residences. Our treatment standards meet or exceed all Provincial and Federal health related guidelines. Included in this report is a summary of more than 1700 test results, showing that all guidelines were met or surpassed indicating the high quality and safety of our drinking water.

In 2011, 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 17.88 million cubic metres of treated water to the tri-community; an average of 49,000 cubic metres per day. No water shortage was experienced in 2011, as the reservoir remained full through the summer and fall. Water consumption during the June to September period was about average, however, timely precipitation during July, August, and September helped maintain the supply above drought level.

The Mapleton Well Supply functioned very well in 2011 providing excellent quality water to the residents of Mapleton Place Sub-division. The well was off line from February 14 to March 11, 2011 to replace a failed well pump. During this time the sub-division was supplied water from the main Turtle Creek supply.

In order 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 to Operate from the Provincial Department of Environment. Each operator underwent a performance review in 2011 and found in general compliance with their respective certificates, with only minor deficiencies.

On the night of March 2, 2011 a failure on a major transmission line occurred just north of the city's Highfield Street Pumping Station. Due to the time of day, location and snow accumulation it took over 12 hours to isolate this major break which resulted in a major loss of pressure in the Moncton boosted zones. A precautionary boil water advisory was issued to approximately 30,000 city residents and businesses while the water quality was verified. Following repair the system quickly returned to normal and the boil water advisory was lifted on March 4, 2011.

The City of Moncton's infrastructure improvements continued in 2011 with the replacement/ rehabilitation of approximately 3.6 kilometres of watermain.

Work continued on the Tower Road Dam and Reservoir project to expand the tri-community water supply. Tenders were issues for the clearing and dam construction and a major contract was awarded in July 2011 for the dam construction. Construction commenced in September with project completion scheduled for December, 2013.

During 2011 Moncton conducted consultations on water fluoridation and on December 19, 2011 city council voted to remove fluoride from the water supply. Council also approved a cost sharing arrangement with Veolia for replacement of the stand-by power generator at the Turtle Creek Pumping Station.

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.

Figure 1: Aerial view of the Turtle Creek Reservoir and the Tower Road Dam Construction Site

Figure 2: Aerial view of Tower Road Dam Construction Site

ACRONYMS USED IN REPORT

E. coli – Escherichia coli

TC - Total Coliform

HPC – Heterotrophic Plate Count

THM – Tri-halomethane

AO – Aesthetic Objective

n/a – not applicable

MDL – Method Detection Limit

MAC – Maximum Acceptable Concentration

NTU – Nephelometric Turbidity Units

µS/cm – microsiemens per centimetre

mg/l – milligrams per litre

µg/l – micrograms per litre

TCU – True Color Units

ND – Not Detected

AWWA – American Water Wastewater Association

IWA – International Water Association

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, utilize the "multi-barrier approach" to achieve this goal. The multi-barrier approach includes safeguards and redundancy on all processes and practices from the source to the consumer's tap. Steps in the process include:

- Source water protection
- Excellent water treatment
- Transmission and distribution security.
- Good operation and maintenance practices including adequate disinfection.
- Continuous monitoring and testing
- A comprehensive backflow/cross-connection control program

All of these programs are aimed at protecting our drinking water for the health of our consumers.

1. WHERE DOES OUR WATER COME FROM?

The tri-communities' primary water supply comes from Turtle Creek, a surface water supply, located southwest of Moncton. Water from the Turtle Creek Reservoir is pumped to the Moncton Water Treatment Plant (WTP). Water then flows by gravity to the communities of Moncton, Riverview and Dieppe. Booster stations & storage tanks are required at several locations throughout the system to service higher elevations.

The City of Moncton also operates a small well water system using UV (ultraviolet) disinfection as a treatment process. This small system supplies quality drinking water to the Mapleton Sub-division.

During 2011, the Turtle Creek Reservoir supplied an average of 49,000 cubic metres (10.8 million imperial gallons) of water per day to the tri-community.

Figure 3: 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 17,000 hectares (42,500 acres or 170 km^2) watershed is outside municipal boundaries; therefore, the Provincial Department of Environment 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 reservoir caretaker and a forestry manager whose jobs include the protection of the watersheds. These employees manage activities within the watersheds, including filing reports of any violations of the *Clean Water Act* with the Department of Environment for enforcement.

The **Turtle Creek Watershed Residents Committee**, consisting of local residents, was established to open the lines of communication with the city and the province thus enabling discussion on issues of mutual concern, including preservation of water quality.

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) a day. The peak 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 and color, iron and manganese and is then adjusted chemically so as to be less corrosive to metallic pipes.

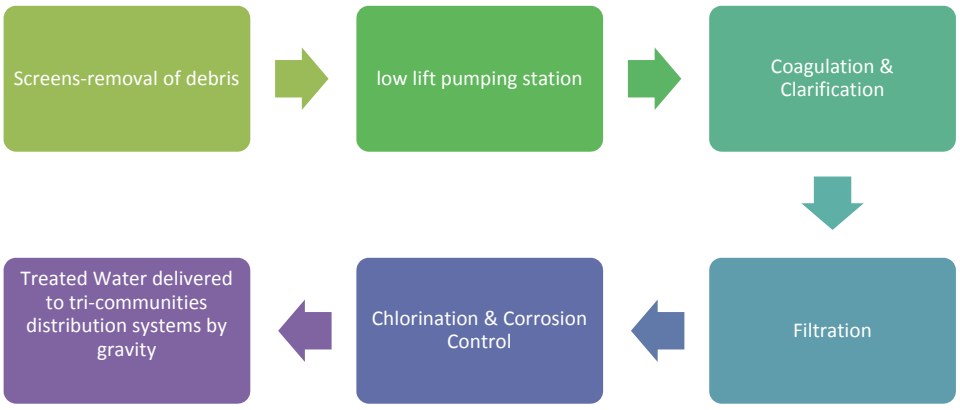

Figure 4: Moncton's Water Treatment Plant process

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

3.1 COAGULATION & CLARIFICATION

Before the raw water enters the plant, it flows through screens to remove any debris. The first 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* which are easier to remove from the water through filtration. Once the floc is formed, a polymer is added to strengthen the floc before removal in the clarifiers and filters.

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 from the water, so they can be physically removed by clarifiers and filters. This also oxidizes organics that can cause taste and odour.

The water is then gravity fed to the one of the four clarifiers, where it flows up through four feet of small plastic beads, where 90-95% of the floc is removed.

3.2 FILTRATION

The remaining floc is removed by filtration through gravity mixed media filters. The mixed media filters consist of three granular materials of different size and specific density, 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 SOLID HANDLING FACILITIES

All the backwash water from washing the clarifiers and the filters is sent to the solids handling facilities, 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 out to Turtle Creek. The solids accumulate in the lagoon for a period of 4 to 5 years, before removal and final disposal at the sanitary landfill.

3.4 DISINFECTION AND CORROSION CONTROL

The clarified and filtered water now enters the clear well where the final stage of the treatment process takes place before the water is sent through the distribution system. Even with a very low turbidity, the water still needs to be disinfected against water borne pathogens or infection and disease causing micro-organisms.

As the water leaves the filters, chlorine is then added. Chlorine is a disinfectant that is used to kill viruses and bacteria, which cause human illnesses. Enough chlorine is being added to maintain a chlorine residual of 0.20 part per million (ppm) at the extremities of the distribution system.

As part of the on-going Corrosion Control Program started in 1998, a product called “Aquamag” is added to the water. Aquamag is a food grade ortho/polyphosphate that acts as a corrosion inhibitor in the distribution system. Also as part of corrosion control, sodium hydroxide is added to increase the naturally low pH of the water.

Figure 5: Moncton Water Treatment Plant

4. HOW DO WE KNOW OUR WATER IS SAFE?

Employees of the water department **monitor approximately 60 sites** throughout the distribution systems 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 and its quality can deteriorate. Routine flushing of these watermains keeps the water fresh at these locations.

More than **1,600 water samples** are tested every year to monitor water quality, and 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 in an accredited laboratory weekly. These tests monitor the presence and concentration of chlorine residual, turbidity, total coliform (bacteria), E-Coli bacteria and heterotrophic plate count bacteria (HPC) in the water system. Also, employees of the Moncton Water Department carry out inorganic and organic testing twice a year and quarterly respectively.

The following sub-sections summarize the 2011 results of these many water quality tests.

4.1 BACTERIOLOGICAL TESTING

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

HPC is a count of all heterotrophic micro-organisms and is considered an indicator because it is used to measure treatment plant efficiency as well as to monitor the effectiveness of disinfection or bacteria re-growth through the distribution system. Although not regulated, the city of Moncton considers HPC counts greater than 500 cfu/ml to be excessive, warranting re-sampling and an investigation into possible causes.

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 of total coliform bacteria allowed in water leaving a treatment plant is 0 cfu/100ml (coliform forming units). **Water utility staffs follow stringent procedures in the event that bacteria are detected.**

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. No E-coli should be present in any sample.

		Total Coliform Bacteria	E. coli Bacteria	Heterotrophic Plate Count Bacteria		
	# of Samples	**Positive TC Tests**	**Positive E. Coli Tests**	**# of Samples**	**Positive HPC Tests >10 cfu/ml**	**Samples with HPC >500**
January	132	0	0	132	28	2
February	132	0	0			
March	165	0	0			
April	132	0	0	132	18	0
May	165	0	0			
June	132	0	0			
July	132	0	0	132	39	0
August	165	0	0			
September	132	0	0			
October	132	0	0	132	19	0
November	165	0	0			
December	132	0	0			
Total	**1716**	**0**	**0**	**528**	**104**	**2**
Detection %		**0.00%**	**0.00%**		**19.70%**	**0.38%**

Table 1: Bacteria Test Results

4.2 CHEMICAL AND PHYSICAL TESTING (INORGANIC)

Chemical and Physical Testing of the tri-community water is done twice each year. Table 2 shows the makeup of our water based on test results from April and October 2011. These are average results from nine 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 taste 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 the disinfection processes and the maintenance of chlorine residual.

The only method to reduce or eliminate turbidity is to filter the raw water. This is a primary role of the Moncton Water Treatment Plant. The finished water coming out of the water treatment plant and entering the distribution system has a turbidity of less than 0.05 NTU, 6 times less than the present maximum turbidity of 0.3 NTU. Besides improving water clarity and removing color, the filtration provides the added benefits of improved taste and odour while reducing chlorine requirements and tri-halomethane formation (organic compound described below).

During 2011, turbidity levels were monitored weekly at 33 designated locations in the distribution systems. The average of over 1700 tests at the consumer’s tap was 0.22 NTU. This very low turbidity indicates that high quality water is reaching the consumer’s tap in all three communities.

Chemical and Physical Test Parameters						
Substance	**Aesthetic Objectives**	**MDL**	**MAC**	**Units**	**Turtle Creek Results Apr/Oct 2010 (Average of 9 sites)**	**Mapleton Results Apr/Oct 2010 (Average of 2 sites)**
Metals & Metalloids						
Aluminum	<100	1.0		ug/l	14	2
Antimony		0.1	6	ug/l	<MDL	<MDL
Arsenic		1.0	10	ug/l	<MDL	1
Barium		1.0	1000	ug/l	13	212
Cadmium		0.1	5	ug/l	<MDL	<MDL
Chromium		1.0	50	ug/l	<MDL	<MDL
Copper	≤1000	1.0		ug/l	25	20
Iron	≤300	20		ug/l	30	<MDL
Lead		0.1	10	ug/l	<MDL	0.7
Magnesium		10		ug/l	410	3000
Manganese	≤50	1.0		ug/l	10	55
Mercury		0.25	1	ug/l	<MDL	<MDL
Selenium		1.0	10	ug/l	<MDL	<MDL
Thallium		1.0		ug/l	<MDL	<MDL
Uranium		0.1	20	ug/l	<MDL	0.7
Zinc	≤5000	1.0		ug/l	3	3
Chemicals						
Fluoride		.05	1.5	mg/l	0.75	0.24
Nitrite		.05	1.0	mg/l	<MDL	<MDL
Minerals						
Boron		0.001	5.0	mg/l	0.003	0.013
Calcium		0.050		mg/l	4.35	26.4
Potassium		0.020		mg/l	0..330	1.360
Sodium	≤200	0.050		mg/l	4.57	25.50
Sulfate	≤500	1		mg/l	10.00	11.00
Physical Properties						
Alkalinity	<500	2		mg/l	7.2	120
Conductivity		1		uS/cm	55	260
Hardness	≤500	0.20		mg/l	12.5	78.3
PH	6.5 – 8.5			pH	7.02	8.05
Turbidity	≤5	0.1	1	NTU	0.19	0.25

MDL – Method Detection Limit MAC- Maximum Acceptable Concentration

Table 2: Inorganic Test Results

4.3 ORGANIC TESTING

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

Total Tri-halomethanes (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 2011 the quarterly running average for 10 test locations was 0.028 mg/l which is less than half of the MAC.

The WTP has had a positive effect on THM formation by removing the 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, Public Health authorities insist that water disinfection must never be compromised.

Figure 6: Water Quality Control

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 1.0 ppm (part per million). The chlorine concentration reduces as the water travels through the distribution system to the customers tap.

A 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. A minimum chlorine residual is therefore essential in all parts of the distribution system to prevent bacteria from growing.

When chlorine residuals are low (which occurs when chlorine is used by residues or sediments in the pipes or when the water sits in the system for longer than normal), a certain molecule that smells like household bleach can form. The objective of the water utility is to meet or exceed the Health Act requirement of 0.1 parts per million (ppm). On the other hand, an excess of chlorine residual may also lead to water with chlorinous taste and odour, affecting the aesthetic of the water. Employees of the Moncton Water Department monitor the amount of chlorine residual at various parts of the system in order that the water is safe and meets the aesthetic objectives.

5. HOW WILL WATER QUALITY BE MAINTAINED IN THE FUTURE?

Moncton continues to monitor activities in the watershed in order to protect the source water. Several properties were purchased and cleaned up over the past year. Fine-tuning of water treatment at the Moncton Water Treatment Plant has resulted in consistent delivery of high quality drinking water to the tri-community. As an example, manganese removal efficiency was improved by relocating the potassium permanganate feed system from the water treatment plant to the low lift pumping station. The increased contact time has resulted in improved manganese removal.

In the distribution system, a number of other significant efforts to improve water quality delivered to the consumer were initiated, enhanced or completed during 2011. They included:

⇒**Unidirectional flushing** to clean and scour water lines
⇒ **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 watermains. On-going testing & monitoring verifies that that corrosion has been reduced significantly.

5.2 BACKFLOW PREVENTION

Backflow 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 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. The following is an updated report on backflow devices installed:

Moncton Backflow Prevention Devices	
Type of Device installed	**Percentage or # units installed in the City of Moncton**
Anti-Siphon Ball Cock	90% (of all toilets)
Atmospheric Vacuum Breaker	(Most Dishwashers)
Double Check Valve	1949
Flush Valve Vacuum Breaker	92% (commercial toilets & urinals)
Hose-Bibb Vacuum Breaker	78%
Other Devices (Dual Check)	85% (pop machines, etc.)
Pressure Vacuum Breaker	557 units
Pressure Vacuum Breaker-Spill-proof	673 units
Reduced Pressure Backflow	1772 units
Total Installed Devices	4401

Table 3: Backflow Prevention Devices

5.3 REHABILITATION 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 watermains.

In 2011, the City of Moncton renewed approx. 3.6 km of existing watermain, including mains on Killam Drive, Lewisville Road, Milner Road, Royal Road, Ellerdale Avenue, West Lane and Rockland Drive.

Figure 7: Watermain Tee Connection

5.4 WATER LOSS CONTROL/WATER CONSERVATION

Despite population growth, the tri-community has been able to keep water consumptions from increasing due to various water conservation programs.

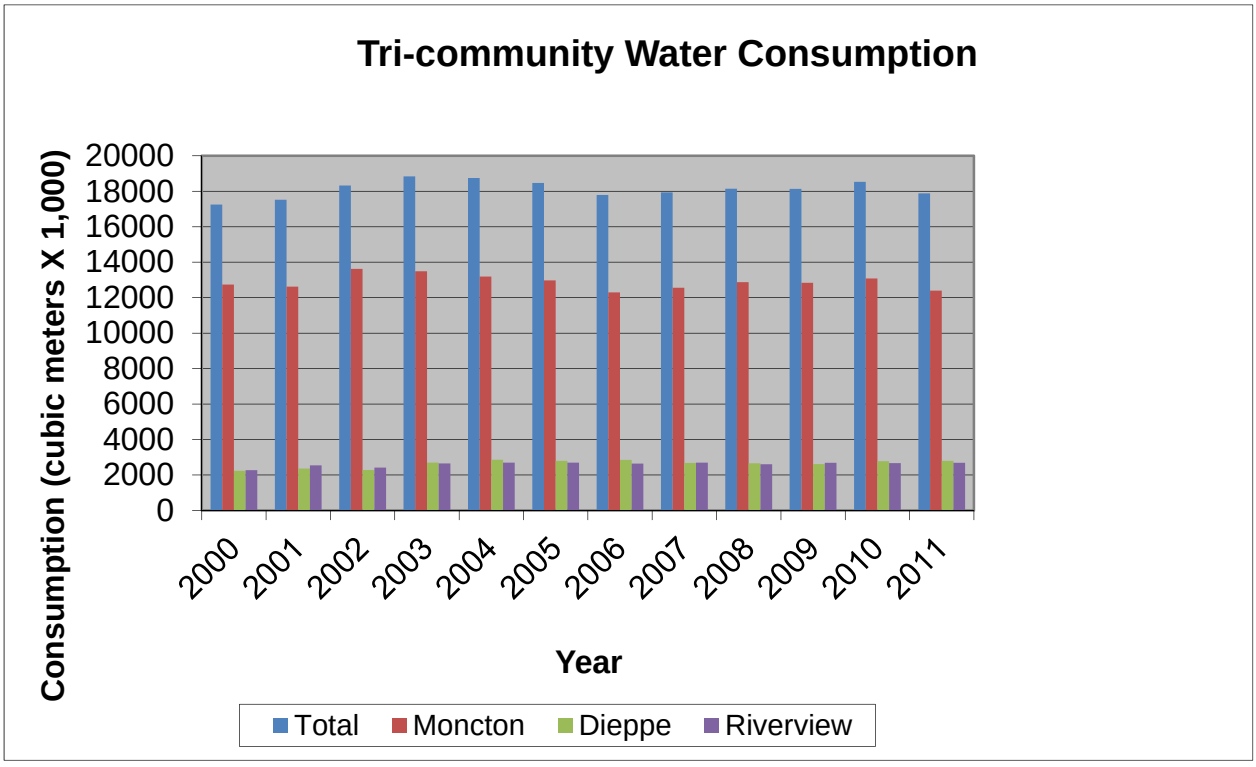

Figure 8: Tri-Community Water Consumption

Over the past number of years, Moncton has accelerated its watermain replacement program by replacing “high break frequency” mains. 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.

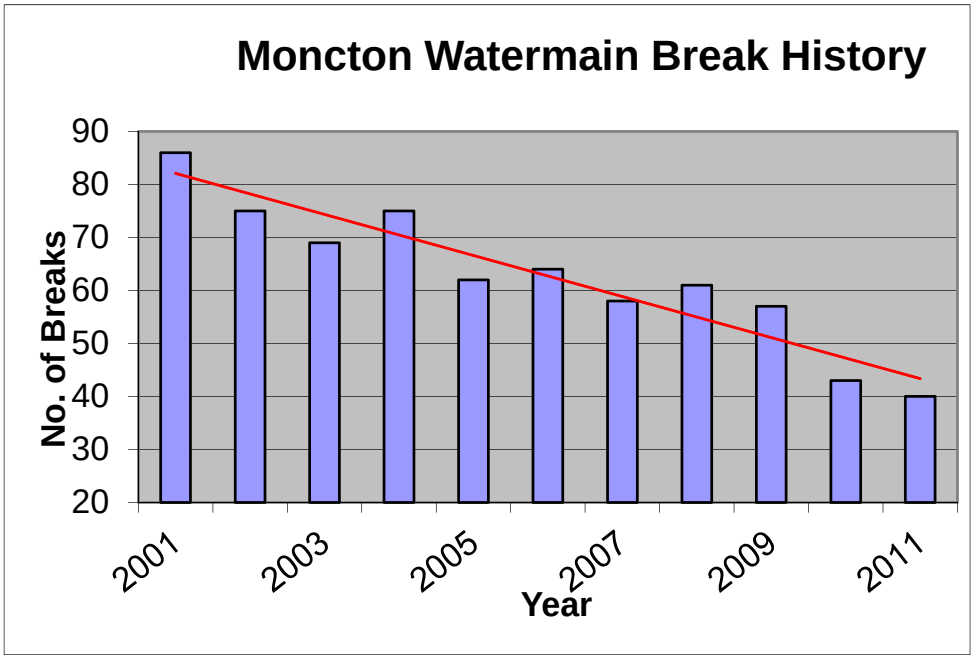

Figure 9: Watermain Break History

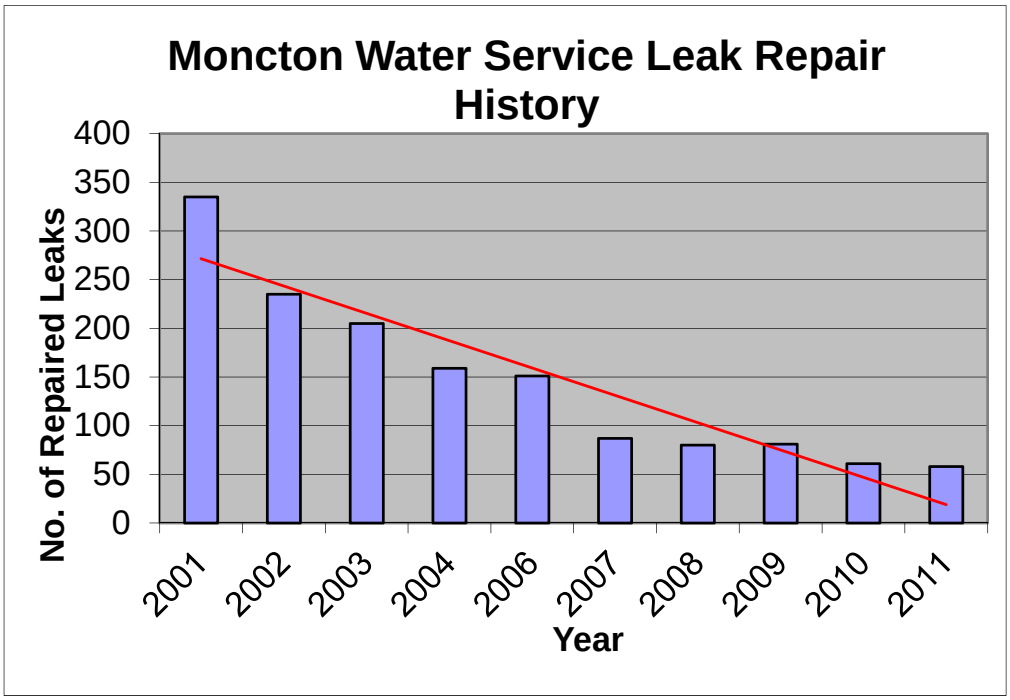

Figure 10: Water Service Leak History

In 2007, Moncton completed the AWWA/IWA Water Audit and Balance. This is an industry best practice, which helped to identify water losses both authorized and unauthorized. The completed study provided recommendations on how the city can control water losses into the future. Some of these recommendations have already been put in place and the city will continue with the implementation in 2012.

Replacing aging infrastructure not only reduces water leakage but improves reliability and service to our customers. By conserving water, we are also reducing 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 your dishwasher and other appliances
- turning off water when brushing teeth etc…

Visit us at www.moncton.ca for more tips on how to reduce your water consumption and therefore reduce your water bill.

SUMMARY

In summary, the former non-compliance areas of turbidity, bacteria, pH and tri-halomethanes are now being addressed at the water treatment plant. Treatment has resulted in excellent quality 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 2012, the City of Moncton has budgeted $3.0 million to make improvements to its water distribution system.

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

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APPENDIX 1: 2011 WATER FLOW REPORT

2011 Flow Report											
Month	**Total Flow (X 1000 m^3)**	**Daily Avg. (X 1000 m^3)**	**Gravity (X 1000 m^3)**		**Boosted (X 1000 m^3)**		**Dieppe (X 1000 m^3)**		**Riverview (X 1000 m^3)**		**Mapleton (X 1000 m^3)**
January	1,517	48.9	38.83%	589	30.06%	456	15.69%	238	15.43%	234	1.00
February	1,396	49.9	39.04%	545	29.94%	418	15.76%	220	15.26%	213	0.45
March	1,604	51.7	41.33%	663	28.37%	455	14.59%	234	15.71%	252	0.76
April	1,481	49.4	38.62%	572	30.38%	450	15.06%	223	15.94%	236	1.08
May	1,588	51.2	39.42%	626	31.23%	496	14.92%	237	14.42%	229	1.26
June	1,538	51.3	37.65%	579	33.16%	510	15.41%	237	13.78%	212	1.18
July	1,532	49.4	35.90%	550	34.07%	522	15.80%	242	14.23%	218	1.17
August	1,526	49.2	35.12%	536	34.53%	527	15.73%	240	14.61%	223	1.14
September	1,486	49.5	37.15%	552	32.57%	484	15.61%	232	14.67%	218	1.12
October	1,469	47.4	33.90%	498	35.33%	519	15.72%	231	15.04%	221	1.19
November	1,372	45.7	30.83%	423	36.81%	505	16.33%	224	16.03%	220	1.05
December	1,372	44.3	29.30%	402	37.90%	520	17.35%	238	15.45%	212	1.13
Total	**17,881**		**36.42%**	**6,535**	**32.86%**	**5,862**	**15.66%**	**2,796**	**15.05%**	**2,688**	**12.53**
Daily Avg.		**49.001**		**17.8**		**16.1**		**7.7**		**7.4**	**0.034**