HALIFAX
REGIONAL MUNICIPALITY

P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 3
Halifax Regional Council
December 11, 2012

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original signed
Carl D. Yates, M.A.Sc., P.Eng – General Manager, Halifax Water

DATE: December 3, 2012

SUBJECT: Halifax Regional Water Commission 2011/12 Annual Report

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INFORMATION REPORT

ORIGIN

Ongoing operational requirement.

BACKGROUND/ DISCUSSION

The Board and staff of Halifax Water are pleased to present the attached Sixteenth Annual Report for the fiscal year ended March 31, 2012. The theme of the 2011/2012 Annual Report is "Synergy" highlighting the many projects requiring, cooperation, dedication, and innovation from staff and departments across the utility.

The 2011/12 fiscal year saw work get underway on three key strategic projects; an Integrated Resource Plan to guide infrastructure investments over the next 30 years; a Debt Strategy to ensure financing of these investments is made in the most efficient manner; and a Cost of Service/Rate Design Manual to ensure fair and equitable rates across all customer classes.

These cross-departmental projects help set the path for the utility as we guide our way through the large investments required to comply with new federal wastewater regulations, and address the wastewater/stormwater infrastructure deficit.

To that end, many capital projects were commenced during the fiscal year including upgrade and expansion of the Eastern Passage wastewater treatment facility, construction of a new tertiary plant in Wellington, and a solution for the treatment capacity within the Beechville/Lakeside/Timberlea sewershed.

Significant efforts were focused on reducing electricity usage at a number of our wastewater treatment facilities. These efforts saw a 12.6 % decline in consumption over the previous year. These efforts will continue to ensure we operate as efficiently as possible.

On the water side, progress was made to ensure we are constantly improving our systems. Phase two of the Pockwock transmission main rehabilitation project was tendered last year with construction during 2012. This second phase along Dunbrack St. once again utilized trenchless technology to minimize costs and disruption to the public. Halifax Water also improved on leakage control in the water distribution system during 2011/12 with a new benchmark established [the Infrastructure Leakage Index stood at 2.5 as of March 31/12 placing the utility amongst the best in the world].

Working together, we will continue to harness the dedication and talent of staff across Halifax Water as we address the many challenges and opportunities facing our utility.

We appreciate the support of Regional Council and our customers as we continue to demonstrate value for money and realize the synergy inherent in an integrated utility working to deliver high quality, affordable water, wastewater and stormwater services.

BUDGET IMPLICATIONS

N/A

FINANCIAL MANAGEMENT POLICIES/BUSINESS PLAN

N/A

COMMUNITY ENGAGEMENT

ATTACHMENTS

Halifax Regional Water Commission 2011/12 Annual Report

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: James Campbell-Communications & Public Relations Coordinator-Halifax Water, 490-4604

Report Approved by: Carl Yates-General Manager-Halifax Water, 490-4840

Halifax Water

Sixteenth Annual Report
March 31, 2012

Cover image:
Concrete box culvert underneath
water transmission mains

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Our Mission

To provide world-class services for our customers and our environment.

Our Vision

- *We will provide our customers with high quality water, wastewater, and stormwater services.*

- *Through the adoption of best practices, we will place the highest value on public health, customer service, fiscal responsibility, workplace safety and security, asset management, regulatory compliance, and stewardship of the environment.*

- *We will fully engage employees through teamwork, innovation, and professional development.*

Halifax Water

Letter from the Chair

November 9, 2012

Mayor Mike Savage and Members of Council

Re: 2011/12 Annual Report

On behalf of the Halifax Water Board, I am pleased to present the Annual Report for the 2011/12 fiscal year which marks five years since HRM transferred the wastewater and stormwater assets to Halifax Water. With respect to 2011/12, the utility showed significant financial improvements over the previous year, with a loss of $1.0 million compared to $6.2 million the previous year. The better financial result, which incorporated the payment of a $3.9 million dividend to HRM, is a direct result of efficiency gains and favourable weather conditions during the past winter that culminated in lower operating expenditures.

Halifax Water went through a successful rate application process before the Nova Scotia Utility and Review Board with a public hearing at the end of March, 2012. The main drivers for the rate increase were:

• Debt servicing and depreciation expense for recently completed wastewater capital projects

• Increased investment to renew aging wastewater infrastructure

• Increasing environmental compliance and regulatory costs

• Increasing energy costs

New rates for Urban Core customers came in to effect on June 25, 2012, with an overall increase of 10% in revenue.

In keeping with the spirit of the Transfer Agreement executed between HRM and Halifax Water in 2007, the past year saw a concerted effort to place the water, wastewater and stormwater systems on a sustainable path. To that end, Halifax Water recently completed an Integrated Resource Plan to cover capital expenditures for all three systems over the next 30 years, developed a Debt Strategy to support these investments and compiled a Cost of Service/Rate Design Manual to ensure fair and equitable charges for its entire customer base. While many of these initiatives set the tone for synergy in the long term, Halifax Water continues to make steady progress with near term capital improvements.

In addition to a $62 million upgrade and expansion of the Eastern Passage Wastewater Treatment Facility (WWTF), the utility is pursuing an upgrade/expansion of the Aerotech WWTF and construction of a pipeline to convey sewage from the Beechville, Lakeside, Timberlea sewershed to the Halifax Wastewater Treatment Facility.

As expected, the new regulations for management of municipal wastewater effluent through the Federal Fisheries Act came into effect in 2012. Halifax Water will continue to work with HRM,

Provincial officials, and the Federation of Canadian Municipalities to establish a funding program with the Federal Government related to compliance with these stringent regulations for enhanced protection of the environment.

Halifax Water is also keen to pursue improvements in stormwater management and has been working with HRM to formulate policy on the installation of deep storm sewers in areas of need. The primary focus is in communities which have piped water and sanitary sewer, but no piped storm sewer.

Although much attention has been paid to improvements in wastewater and stormwater service delivery, the provision of safe drinking water remains foremost on our minds. Safe drinking water is also on our customers' minds and they continue to respond very favourably to our annual Satisfaction Survey in terms of water quality and safety.

In 2012, Halifax Water was successful in renewing its Natural Science and Engineering Research Council funding, for another five years through its partnership with Dalhousie University. Although Halifax Water has shown continued applied research in water loss control, 2011/12 results were the best ever since the program began in 1999 when the Infrastructure Leakage Index (ILI) was 9.0. The utility established a new benchmark with an ILI at 2.5, as of March 31, 2012, placing the utility amongst the best in the world, in step with our mission statement.

These accomplishments over the last five years are a reflection of dedicated staff and the support received from HRM Council, utility stakeholders, and the customers we serve.

Respectfully submitted,

Colleen Purcell, CA
Chair of the Board

Synergy

The completion of the 2011/12 fiscal year marks almost five years of operation for Halifax Water as a combined water, wastewater and stormwater utility which came about in August 1, 2007 when HRM transferred its wastewater and stormwater assets and operations to Halifax Water. Although there were a few challenges along the way including the recovery of the Halifax Wastewater treatment facility in 2009 and 2010, the utility has found its stride and is realizing the benefits of an integrated utility. This was especially evident in 2011/12 when staff commenced work on three key strategic projects; an Integrated Resource Plan to guide infrastructure investments over the next 30 years; a Debt Strategy to ensure financing of these investments is made in the most efficient manner; a Cost of Service/Rate Design Manual to ensure a fair and equitable rate structure. All three projects were carried out simultaneously and all are on track for completion by October 31/12. Such is the benefit of a dedicated and motivated staff that live synergy day in and day out.

Notwithstanding a long term plan to address the inherited wastewater and stormwater infrastructure deficit and comply with new federal wastewater regulations, the utility also turned its attention to immediate priorities to improve system performance. On the water side, the utility continued investment in infrastructure with the rehabilitation of the Pockwock transmission main along Dunbrack Street utilizing trenchless technology. Halifax Water also improved on leakage control in the water distribution system during 2011/12 with a new benchmark established. On the wastewater side, many capital projects were commenced or completed to achieve higher environmental standards, including the upgrade of the Eastern Passage wastewater facility to secondary treatment, the construction of a new tertiary plant in Wellington, and the capacity solution for the Beechville/Lakeside/Timberlea sewershed. In conjunction with HRM's Regional Plan Review a Regional Wastewater Functional Plan was completed to identify infrastructure investment to support growth. In accordance with Halifax Water policy and conformance to the Public Utilities Act, investments through growth are cost neutral to the rate base. The benefits of the utility's cost contribution policy, originally developed in 1998, continues to ensure funding for growth is based on sound cost causation principles.

Attention was also turned to optimization of wastewater treatment facilities to realize better environmental compliance at reduced cost. In particular, efforts focused on the reduction of electricity saw a 12.6 % decline over the previous year. These efforts will continue to ensure we demonstrate value for money to our customers and realize the synergy inherent in an integrated utility.

Yours in service,

Carl D. Yates, M.A.Sc., P.Eng.
General Manager

Board Of Commissioners

March 31, 2012

Colleen Purcell, CA
Chair

Councillor Russell Walker
Vice Chair

Councillor Jerry Blumenthal
Commissioner

Councillor Debbie Hum
Commissioner

Mayor Peter Kelly, MBA
Commissioner

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Tony Charles, Ph.D.
Commissioner

Rick Paynter, B.Eng., DPA
Commissioner

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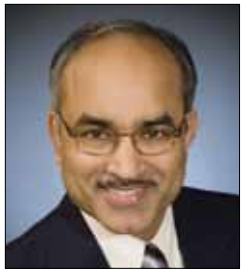
C. Yates, M.A.Sc., P.Eng.
General Manager

Cathie O'Toole, BA, CGA., MBA
Director, Finance and Customer Service

J. Hannam, MBA, P.Eng.
Director, Engineering and Information Services

J. Sheppard, P.Eng.
Director, Environmental Services



S. Arora, M.A.Sc., P.Eng.
Director, Wastewater Services

R. Campbell, M. Eng., P.Eng.
Director, Water Services

V. Veinot, MPA
Director, Human Resources

Contents

How to reach us:

For more information about Halifax Water and its services, visit our website at www.halifaxwater.ca, contact Customer Service at (902) 490-4820, e-mail us at Cust_Inq@halifaxwater.ca, fax us at (902) 490-4749, or write us at P.O. Box 8388 RPO CSC, Halifax, N.S., B3K 5M1. You can also reach us via Twitter at @HalifaxWater.

General Information of Utility

Year Ended March 31, 2012

Water

Precipitation

Measured at Pockwock	
Rainfall	1 515.8 mm
Snowfall	117.2 cm
Measured at Lake Major	
Rainfall	1 685.5 mm
Snowfall	88.4 cm

Sources of Supply and Watershed Areas

Pockwock Lake	5 661 ha
Safe Yield	145 500 m^3/day
Chain Lake	206 ha
Safe Yield	4 500 m^3/day
Lake Major	6 944 ha
Safe Yield	65 900 m^3/day
Lake Lamont/Topsail	346 ha
Safe Yield	4 500 m^3/day
Bennery Lake	644 ha
Safe Yield	2 300 m^3/day

Water Supply Production (Cubic Metres)

Pockwock Lake	30 289 331
Lake Major	14 673 900
Bennery Lake	359 330
Small Systems	67 406
Total	**45 389 967**

Storage Reservoirs (Elevation Above Sea Level)

Lake Major	(60 m)	9 092 m^3
Pockwock	(170 m)	13 600 m^3
Geizer 158	(158 m)	36 400 m^3
Geizer 123	(123 m)	31 800 m^3
Cowie	(113 m)	11 400 m^3
Robie	(82 m)	15 900 m^3
Lakeside /Timberlea	(119 m)	5 455 m^3
Mount Edward 1	(119 m)	22 728 m^3
Mount Edward 2	(119 m)	22 728 m^3
Akerley Blvd.	(119 m)	37 727 m^3
North Preston	(125 m)	1 659 m^3
Meadowbrook	(95 m)	9 091 m^3
Sampson	(123 m)	12 273 m^3
Stokil	(123 m)	23 636 m^3
Waverley	(86 m)	1 364 m^3
Middle Musquodoboit	(81m)	275 m^3
Aerotech	(174 m)	4 085 m^3
Beaver Bank	(156 m)	6 937 m^3
Total Storage Capacity		**259 213 m^3**

Transmission and Distribution System

Size of mains	19 mm - 1 200 mm
Total water mains	1 514 km
Main valves	14 794
Fire hydrants	8 042
Distribution Pumping Stations	21
Pressure Control/Flow Meter Chambers	125

Services and Meters

WATER	
Sprinkler services (25 mm - 300 mm)	1 996
Supply services (10 mm - 400 mm)	83 254
Meters (15 mm - 250 mm)	81 160
Wastewater services	78 287

Treatment Processes

J. Douglas Kline Water Supply Plant

Source	- Pockwock Lake
Process	- Dual media direct filtration - Iron and manganese removal
8 filters	143 m^2/each
Max. flow rate	0.137 m^3/m^2/min
Design capacity	227 000 m^3/day
Average production	91 872 m^3/day

Lake Major Water Supply Plant

Source	- Lake Major
Process	- Upflow clarification and trimedia filtration - Iron and manganese removal
4 filters	85 m^2/each
Max. flow rate	0.192 m^3/m^2/min
Design capacity	94 000 m^3/day
Average production	43 742 m^3/day

Small Systems

Bennery Lake

Source	- Bennery Lake
Process	- Manganese removal, sedimentation, dual media filtration
2 filters	26.65 m^2/each
Max. flow capacity	0.10/m^3/m^2/min
Design capacity	7 950 m^3/day
Average production	3 400 m^3/day

Collins Park

Source - Lake Fletcher
Process - Ultra Filtration / Nano Filtration
Average production 64 m^3/day

Middle Musquodoboit

Source- Musquodoboit River
Process- Raw water infiltration gallery
- Ultra Filtration / Nano Filtration
Average production 61 m^3/day

Five Island Lake

Source - 1 well
Process - Ultraviolet disinfection
Average production 8 m^3/day

Silver Sands

Source - 2 wells
Process - Green sand pressure filters
-Iron and manganese removal
Average production 27 m^3/day

Miller Lake

Source - 3 wells
Process - Arsenic removal with G2 Media
Average Production 24 m^3/day

ha - hectare
m - metre
m^2 - square metre
m^3 - cubic metre
mm - millimetre
km - kilometre
cm - centimetre

Population Served

Halifax Regional Municipality	
Estimated population served	350 000
Consumption per capita	308 litres/day

General Information of Utility

Year Ended March 31, 2012

Wastewater/Stormwater

Wastewater Treatment

Facilities	Process	Design Capacity	Area Served	Receiving Water
Halifax	Enhanced Primary - U.V.	139 900 m^3/d	Halifax	Halifax Harbour
Dartmouth	Enhanced Primary - U.V.	83 800 m^3/d	Dartmouth	Halifax Harbour
Herring Cove	Enhanced Primary - U.V.	28 500 m^3/d	Halifax-Herring Cove	Halifax Harbour (Outer)
Mill Cove	Secondary - U.V. / Pure oxygen activated sludge	28 400 m^3/d	Bedford-Sackville	Bedford Basin
Eastern Passage	Primary - Chlorine	17 700 m^3/d	Cole Hbr-East Passage	Halifax Harbour
Timberlea	Enhanced Primary - Chlorine / RBC	4 540 m^3/d	Beechville-Lakeside-Timberlea	Nine Mile River
Aerotech	Tertiary - U.V. /SBR	1 360 m^3/d	Aerotech Park-Airport	Johnson River
Springfield Lake	Secondary - Chlorine / Activated sludge	543 m^3/d	Springfield Lake	Fenerty Lake
Fall River	Tertiary - U.V. / Activated sludge and post filtration	454.5 m^3/d	Lockview-McPherson Road	Lake Fletcher
North Preston	Tertiary - U.V. / SBR and engineered wetland	345 m^3/d	North Preston	Winder Lake
Middle Musquodoboit	Secondary - U.V. / RBC	114 m^3/d	Midd Musquodoboit	Musquodoboit River
Uplands Park	Tertiary - U.V. / Trickling filter and wetland	91 m^3/d	Uplands Park	Sandy Lake
Wellington	Secondary - Chlorine / Activated sludge	68 m^3/d	Wellington Station	Grand Lake
Frame SD	Secondary - Chlorine / Activated sludge	80 m^3/d	Frame Sub-Division	Lake William
Belmont SD	Secondary - Sodium Hypochlorate Extended Aeration	114 m^3/d	Belmont Sub-Division	Halifax Harbour

RBC = Rotating Biological Contactor;
SBR = Sequencing Batch reactor;
U.V. = Ultra Violet

Wastewater & Stormwater Collection System

Size of pipes	200 mm - 4 450 mm
Total sewer length	2 106 km
Total manholes	33 567
Total Pumping Stations	172

Stormwater Control Structures

	Stormwater	Capacity (m^3)
C	Meadowbrook Retention Pond	190
C	Chandler Drive Holding Tank	263
W	Oceanview Drive Retention Pond	3,700
W	Transom Drive Retention Pond	9,900
W	Glenbourne Estates Retention Pond	430
W	Parkland Avenue Retention Pond	36,000
W	Glen Forest Weir / Retention Pond	12
W	Lacewood Retention Pond	5,300
W	Susie Lake Control Structure	35,600
W	Volvo West Retention Pond	55,600
W	Old Sambro Road Retention Pond	20
W	Tamarack Drive Retention Pond	270
W	Roaches Pond Holding Tank	6,120
E	Heritage Hills Retention Pond	13,800
E	Clement Street Retention Pond	244,000
E	Maynard Lake Dam	172,000
E	Shubie Drive Retention Pond	19,500

	Stormwater	Capacity (m^3)
E	Countryview Drive Retention Pond	3,200
E	Commodore Drive Retention Pond	9,400
E	Lemlair Row Retention Pond	15,300
E	Forest Hills Retention Pond	5,000
E	Cole Harbour Commons	2,000
E	Guysborough Retention Pond	9,000
E	John Stewart Dr Retention Pond A&B	550
E	Stewart Harris Drive Retention Ponds	160
E	Cranberry Lake Retention Pond	108
E	Gregory Drive Retention Pond	80
E	Main Street Retention Pond	130
E	Kuhn Marsh Dam	60,000
E	Bissett Lake Holding Tank	4,546
E	Ellenvale Holding Tank	780
E	Valleyford Holding Tank	1,650
E	Sullivan's Pond Culvert	44,000

C = Central; W = West; E = East

Financial Overview

Abbreviated Financial Information
March 31, 2012
(In thousands)

ASSETS			
Fixed			
Utility Plant in Service at Cost			$ 1,145,993
Provision for Depreciation			($ 245,608)
Depreciated Cost of Utility Plant			$ 900,385
Plant Under Construction			$ 23,951
Other			$ 4,319
Current			$ 40,214
TOTAL ASSETS			**$ 968,869**
LIABILITIES			
Long Term Debt			$ 133,063
Other Than Long Term Debt			$ 39,375
TOTAL LIABILITIES			**$ 172,438**
EQUITY			
Special Purpose Reserves			$ 19,627
Contributed Capital Surplus			$ 761,180
Operating Surplus used to Fund Capital, Cumulative			$ 12,380
			$ 793,187
Operating Surplus April 1, 2011			$ 8,043
2011/2012 OPERATIONS			
Operating Revenue		$ 98,827	
Financial Revenue		$ 2,595	
Revenue From all Sources		$ 101,422	
Expenditures			
Operating Expenses	$ 65,894		
Depreciation	$ 11,347		
Grant in lieu of taxes HRM	$ 3,944		
Financial	$ 21,230	$ 102,415	
Excess of Expenditures over Revenue			($ 993)
Operating Surplus used to Fund Capital, Current Year			($ 3,720)
Refund of Airport Aerotech Stormwater Revenue			($ 86)
Stewardship Contributions			($ 0)
Accumulated Operating Surplus March 31, 2012			**$ 3,244**
TOTAL EQUITY			**$ 796,431**
TOTAL LIABILITIES & EQUITY			**$ 968,869**

Synergy

Synergy. What does it really mean? The Oxford dictionary defines synergy as, "The interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect greater than the sum of their separate effects."

So what does synergy mean to Halifax Water, and how can it benefit our customers and the environment?

In August, 2007 Halifax Water became the first regulated water, wastewater, and stormwater utility in Canada. Since then, Halifax Water has been working to realize the benefits of having these three critical assets under one roof.

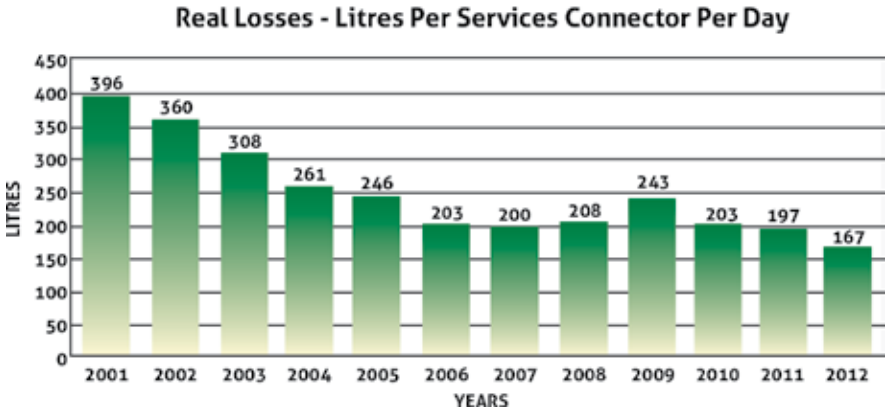
As an example, our Energy Efficiency Engineer has been working across the organization to realize significant energy improvements in a number of our existing water and wastewater treatment facilities, as well as being in on the ground floor for the design of new infrastructure. The various equipment and infrastructure upgrades completed have resulted in over 1,000,000 kWhe in annual energy savings. This translates into significant cost savings on a sustainable basis.

Water and wastewater departments routinely work to best utilize assets and personnel for daily operational needs, as well as emergency situations such as watermain breaks, sewer line breaks, or major weather events.

Working to a common goal means working together across the organization. So while synergy may at times seem like a hard to define term, to everyone at Halifax Water it means finding new and innovative ways to provide world class services for our customers and our environment.

High Quality Water

Halifax Water has a steadfast reputation for delivering high quality water and a commitment not to let it go to waste. In 2011-12 Halifax Water set a new benchmark for leakage reduction through its water loss control program. Our current annual real losses were 167 litres/service connection/day. This was down from 197 litres/service connection/day for 2010/2011. This represents a reduction in losses of 2.4 million litres per day compared to 2010-11.



The Lake Lamont, Chain Lake and Tomahawk watersheds were certified by the Federation of Nova Scotia Woodlot Owners for conformance with the CSA Standard CSA Z804-08, Sustainable Forest Management for Woodlots and Other Small Area Forests. This is an internationally recognized standard for sustainable management of forests and woodlots . This program is subject to audit verification and requires the adoption of environmentally sustainable best management practices. Achievement of this prestigious standard is a sign of Halifax Water's commitment to environmental stewardship in the management of its water sources.

Plans are in place to add other co-managed water sources to the certification.

Forest education at the source

Halifax Water renewed its commitment to water quality by renewing its water quality master plan and research contract with Dalhousie University. Dr. Graham Gagnon at Dalhousie University was successful in renewing the Halifax Water–NSERC Industrial Research Chair in Water Quality and Treatment. This will ensure that Halifax Water stays at the forefront of water quality research in Canada and will see the federal government directing $1 million to water quality research at Halifax Water over the next 5 years.

Halifax Water voluntarily adopted the Health Canada guideline on Corrosion Control in Water Distribution systems. This guideline, aimed at reducing lead content in drinking water requires a rigorous sampling program that measures water quality for lead at the taps in customer homes. As part of this effort, Halifax Water developed a focused communication program to make customers, in older homes where lead services were used, aware of the dangers of lead. We also developed internal research programs to track the occurrence of lead after full and partial replacement of lead service lines. This has allowed us to work closely with customers with lead service lines to ensure that they can manage the existence and removal of their lead service line with minimal risk to the residents of their home. Halifax Water undertook a pilot project using advanced technology for leak detection. Halifax Water has a number of critical transmission mains where leak detection by traditional acoustic methods is difficult.

In 2011 Halifax Water began a pilot project to evaluate advanced technology to meet Halifax Water's needs. Last year saw utilization of the Smart Ball tool which is a small computerized ball that is inserted into pipelines and travels with the flow of water. It listens for leaks and communicates with above ground sensors to track its position. It is then retrieved from the pipe on the downstream end. The project was successful in locating a number of leaks and Halifax Water learned some valuable lessons that will be applied to its water loss control program.

Water service staff were recognized by the water supply industry at large for their technical contributions. In September 2011, Reid Campbell, Director of Water Services, and Graham MacDonald, Superintendent of Technical Services, were each invited to give papers at a special session on

Replacement of a lead service line with copper

water loss control held at the American Water Works Association Distribution System Symposium (AWWA). Halifax Water was included in a group of 10 leaders to present papers at this session aimed at educating the water supply community on water loss control.

Reid Campbell and Graham MacDonald were also co-authors in the December Issue of AWWA Opflow. This magazine, which is targeted at system operators, is distributed to AWWA's 50,000 members across North America. The article described unique technology developed by Halifax Water to reduce water losses through advanced pressure management.

In November 2011, research undertaken at the J. Douglas Kline Water Supply plant was featured in Journal AWWA. This is the foremost technical publication in the water supply field. The article described computerized modelling techniques employed by Dr. Graham Gagnon and graduate student Yamuna Vadusakkurai to identify process improvement opportunities in the flocculation basins at the Kline plant.

Crew with smart ball for pipeline condition assessment

Halifax Water recognized for exceptional research. Left to right: Reid Campbell, Director of Water Services; Dr. Graham Gagnon of Dalhousie; Yamuna Vadusakkurai, Ph.D student and; Colleen Purcell, Chair of Halifax Water Board

Service Excellence

The Commission ended the year with 81,160 water customer connections and 78,287 wastewater/stormwater customer connections. These included the Urban Core, Satellite and Airport/ Aerotech systems.

Customer service staff answered 63,721 telephone enquiries during the year, 5,256 more than the previous year. The average call wait time to answer was 78 seconds, just over the benchmark of 70 seconds.

Halifax Water offers a variety of payment options to customers, and processed 415,520 payments in 2011/12, 17% manually, and 83% electronically.

The conversion of meters 20 mm (3/4") diameter and above to mobile radio frequency (RF) read continued throughout the year. With the installation of the RF system in 2009/10, new meters are switched to monthly reading and billing. The program to install RF meters for all new 15 mm accounts, as well as routine replacements, continued through the year. The meter conversion program will enable more frequent reading and billing without incurring significant operational cost. By March 31, 2011 100% of large meters, 75mm and above, had been converted. By March 31, 2012, 68% of the mid-sized meters (20 to 50 mm), and 23% of the small meters (15 mm) had been converted.

Emphasis on collections resulted in write off of uncollectable accounts of 0.2% of metered sales for the year, an excellent result.

During this year, the *Help to Others* (H2O) program was implemented in partnership with the Salvation Army. The program is funded by Halifax Water and its employees, and administered by The Salvation Army. In November 2010, the Halifax Water Board voted to fund the program in the amount of $25,000 annually. The Board also agreed to match employee contribution for additional funding to a maximum of $25,000 annually. H2O is intended to assist low income households in an emergency, especially those with no other resources available. The H2O Fund assists with the cost of residential water and waste water.

Two issues of *Water Talk* were distributed to all customers as bill inserts. Both issues covered topics relevant to our customers such as the 2011 rate application, cost of service study, lead service line replacement, and sewer backups etc...

Canoe in North West Arm during Dingle Days

Responsible Financial Management

Halifax Water's financial statements are presented in accordance with the Accounting and Reporting Handbook (Handbook) for Water Utilities as issued by the NSUARB. The primary difference from other accounting standards such as GAAP(Generally Accepted Accounting Principles), is that the operating results include the total cost of debt servicing. The utility received a clean audit opinion from Grant Thornton for the fiscal year ended March 31, 2012.

Operating results for the 2011/12 fiscal year were better than anticipated, with a loss of $1 million compared to a budgeted loss of $6.3 million and a prior year loss of $6.2 million. There were several factors that contributed to the improvement in operating results. The winter weather had mild temperatures and snow-free months. In addition to lowering costs throughout the day, the good weather also helped with lower than budgeted overtime costs. Water main breaks were also down significantly this year, due to the mild winter. Additionally, there were significant operating expense savings with respect to energy management, especially in the area of wastewater treatment.

Operating revenue was $98.8 million compared to $89.7 million last year, a $9.1 million increase, reflecting the changed rate structure. Rates for the Urban Core & Satellite System were increased January 1, 2011 and 2011/12 was the first full fiscal year under the new rates.

Operating expenses of $77.2 million were approximately 6% above the prior year, or $4.4 million, but were $4.3 million or 5.3% less than the 11/12 budget. Financial revenue was $2.6 million, which was slightly behind budget, mostly due to lower than expected investment income. Financial expenses of $25.2 million were on par with budget and last year.

The Balance Sheet continued to be sound, and the financial position was very close to the prior year, however Halifax Water has less capacity to mitigate operating risk as accumulated operating surplus has declined from $8 million to $3.2 million as at March 31, 2012.

Chair Colleen Purcell at sod turning for Eastern Passage WWTF

Halifax Water had $969 million in assets as at March 31, 2012 with the majority being Utility Plant in Service of $900 million. Most balance sheet accounts in the asset section were at levels similar to last year, with the exception of Utility Plant under Construction which increased from $13.5 million to $23.9 million reflecting an increased level of activity.

Receivables from the Halifax Regional Municipality (HRM) and payables to HRM are down significantly from last year. Staff of both organizations worked diligently to reduce the amounts outstanding. Cost sharing and invoices for CSIF(Canada Strategic Infrastructure Fund) and Gas Tax funding have been settled and older outstanding capital project invoices have been resolved.

Long term debt outstanding at March 31, 2012 was $133 million, which is $13 million less than the prior year.

The accrued pension liability increased from $3.9 million last year to $4.3 million this year. An actuarial valuation was conducted at January 1, 2011 and the results were received May 2011. The actuarial valuation showed that the Halifax Water Employees' Pension plan on a Solvency Basis had an excess of $3.3 million, however has a Going Concern Unfunded Liability of $14.4 million. As a result, Halifax Water has to make additional payments of $1.5 million over the next 15 years starting in 2011/12. Also, the employee and employer contribution rate was increased effective July 1, 2011 to 10.47%, from 9.5%.

In response to direction from the NSUARB, there was a small presentation change in the equity section of the balance sheet to show operating surplus which has been used to fund capital. This change improves the usefulness of the financial statement presentation. Additionally, information has been added in Schedule F of the financial statements to show operating results from unregulated activities.

International Financial Reporting Standards

There continues to be uncertainty around future financial reporting requirements for rate regulated Utilities. Halifax Water is a fully regulated government business enterprise, falling under the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). The NSUARB requires that Halifax Water file Financial Statements and rate applications with the Board based on the "Handbook". Although the Handbook generally follows Canadian GAAP there are a couple of significant differences centered around the recording of principal debt payments and the treatment of the disposal of fixed assets that result in reporting differences between the NSUARB Handbook and GAAP. Canadian GAAP for Government Business Enterprises is now International Financial Reporting Standards, or IFRS.

Halifax Water qualifies for a deferral to become compliant with IFRS on the basis that it: A) has activities subject to rate regulation as defined in Generally Accepted Accounting Principles, Section 1100 in Part V of the Handbook; and, B) in accordance with Accounting Guideline AcG-19, Disclosures by Entities Subject to Rate Regulation, also in Part V of the Handbook, discloses that it has accounted for a transaction or event differently than it would have in the absence of rate regulation (i.e., has recognized regulatory assets and regulatory liabilities).

The deferral means that Halifax Water must be compliant for fiscal years beginning on or after January 1, 2013. The first financial statements produced in IFRS will be for the 13/14 fiscal year, however the 12/13 fiscal year will have to be re-stated for comparative purposes.

It is Halifax Water's intention to become compliant with IFRS within the prescribed period; however it creates additional administrative effort. Halifax Water will be required to produce two sets of financial statements – one for regulatory purposes, and one for audit and consolidation with the statements of the Halifax Regional Municipality.

The NSUARB as regulator mandates continued use of the Handbook. The regulator is the main user of Halifax Water financial statements in that it must approve rates, capital spending, long term borrowing and rules and regulations. The NSUARB ensures that the costs are allocated in a fair and equitable manner.

Regulatory Activity

In December 2010, the NSUARB ordered that a separate cost of service and rate design hearing be held prior to the next rate application, a debt study be completed, and an integrated resource plan be undertaken. Work on all three of these initiatives was well underway by the end of the fiscal year.

Cost of Service Study

With the help of an external consulting team, a Cost of Service/Rate Design Submission to the NSUARB was made on May 20, 2011 recommending adoption of American Water Works Association/Water Environment Federation best practice frameworks. The AWWA/WEF Framework achieves substantial improvements over the existing rate structure in terms of the fairness, defensibility, and relationship to costs. Additionally, because cost allocations are tailored to reflect system characteristics, the approach is adaptable to changing circumstances. This model is more complex than the current rate design in place for Halifax Water, however it is appropriate given the fact that the utility's operations are increasingly complex and require a cost of service and rate design that can adapt in response to change, and allocate costs in a fair and equitable manner.

When this framework is implemented a slightly higher percentage of Halifax Water's revenues will come from volumetric(based on water consumed) charges versus base charges. This sends a pricing signal promoting conservation of water, and operational efficiency, but places increased

Burnside water main repair

pressure on the utility and the NSUARB to recognize and respond to trends in declining consumption.

A public hearing was held on November 21, 2011. At the request of the NSUARB, Board Counsel convened a meeting of the expert witnesses prior to the hearing to determine whether any of the issues in the proceeding could be resolved in advance of the hearing. The meeting resulted in a Settlement Agreement. The NSUARB released a Decision on January 16, 2012 approving the Settlement Agreement and ordering preparation of a Cost of Service Manual, in collaboration with the interveners, for ultimate Board approval. Additionally, within the Decision it was noted that with respect to unmetered customers, the use of averaging in the absence of meters is an accepted ratemaking practice.

The Cost of Service Manual development is underway including stakeholder consultation, and the Manual will be submitted to the NSUARB by October 31, 2012.

Debt Study

During 2011/12 Halifax Water engaged Dr. Mark Gilbert, to assist the utility to develop the most efficient funding structure for capital investments and document common benchmarks and utility practices. Preliminary findings reveal that there are significant differences between investor owned, versus publicly owned utility objectives. Investor owned utilities tend to have higher debt to equity ratios(due to tax advantages and higher risk tolerance). Rate affordability and stability are more important to government owned utilities. Debt to equity ratio it not as meaningful and not as commonly

Black Rock Beach, Point Pleasant Park

used for public utilities. Debt Service Ratio(DSR) and Total Outstanding Debt to Annual Revenues are the most common financial criteria to evaluate capital structure and debt limits for municipalities and municipal enterprises. In the Canadian context, DSR limits range from 25 – 35%. At March 31, 2012 Halifax Water had $133 M in outstanding debt and a DSR of 22%.

Halifax Water's Debt Study will be finalized and filed with the NSUARB in conjunction with the Integrated Resource Plan (IRP) modeling the recommended financing for the 30 year period covered by the IRP.

Rate Application Urban Core and Satellite Systems

On December 5, 2011 Halifax Water filed an application with the NSUARB for an increase in water, wastewater and stormwater rates. A hearing on the application was held March 26 & 27, 2012.

The range of rate increase requested was 7.4% to 13.1%, depending on meter size.

The primary challenges faced by Halifax Water which prompted the Rate Application were:

- Debt servicing and depreciation expense for new wastewater capital projects
- Declining consumption
- Increasing environmental compliance and regulatory costs
- Aging infrastructure required increased investment
- Increasing energy costs

Halifax Water growth in operating expenditures excluding depreciation is less than Consumer Price Index (CPI). Growth in operating expenses from the 2011/12 budget to the 2012/13 budget is 1.6%. The CPI for Halifax for 2011 was 3.5%, and for Canada was 2.9%.

The NSUARB Rate Decision for the Urban Core and Satellite Systems was subsequently received on June 25th and was very favourable with the range of increases granted being 6.7% to 13.2%. Residential customers will see a 7.9% increase, compared to the 11.7% increase requested. This is largely due to the fact that the Public Fire Protection Charge is increasing from $9,502,000 to $10,084,873. The cost of Water, Wastewater/Stormwater service per day is $1.74... about the same as a cup of coffee.

Rate Application Aerotech/Airport System

On March 7, 2012 Halifax Water submitted a two year Rate Application to increase rates for Water and

Wastewater Services effective August 1, 2012 and April 1, 2013. The primary drivers for the rate application were:

• **Increasing Expenses** – related to operating costs and depreciation charges.

• **Rate Stability**

• **Debt Servicing** – to finance required capital projects.

As part of the Rate Application, Halifax Water identified concerns regarding the accumulated operating deficits of the Aerotech/Airport System and subsidization of this system by the Urban Core, through the provision of cash flow/financing.

The Rate Hearing and resulting Decision occurred subsequent to March 31, 2012, with the hearing scheduled for June 6, 2012. A postponement to June 7th was requested, which enabled Halifax Water and the Interveners to the Application time to discuss and resolve disputed issues. On June 6th Halifax Water and the Interveners reached a Settlement Agreement. On June 7th the Rate Hearing reconvened and the Settlement Agreement was approved by the NSUARB, with its Order subsequently issued June 11th.

Notable outcomes resulting from the Order included a revised timetable of October 31, 2012 with respect to the filing of Cost of Service Manual, the Integrated Resource Plan and Debt Study; and Halifax Water was directed to file a Rate Application on or before January 31, 2013, with consideration given to consolidating both the Urban Core and Aerotech/Airport Systems into one rate structure.

As a result of the Settlement Agreement, base charges, the consumption rate and fire protection charge for Water Services increase by constant percentage each year; and increases are 15.5% and 17.9% for 2012/13 and 2013/14 respectively. Similarly for Wastewater, base charges and the discharge rate increase by constant percentages each year; these are 14.6% and 24.9% for 2012/13 and 2013/14 respectively.

Other Financial Initiatives during 2011/12

During 2011/12 Halifax Water participated with the Halifax Regional Municipality in an Request for Proposal (RFP) process for Banking Services, which resulted in the award of banking services to a new provider. The banking conversion occurred early in April 2012, however during the 3rd and 4th quarter of 2011/12, staff were heavily involved in documenting, reviewing, and updating business processes involving financial transactions as a result of the banking conversion.

In May 2011 the Nova Scotia Public Procurement Act was proclaimed, to take effect June 1, 2012. Halifax Water is one of the entities which must comply with this Act. During 2011/12 Halifax Water reviewed its existing Procurement Policy and business processes around procurement, and posted for an additional staff resource to help implement procurement changes in conformance with the Nova Scotia Public Procurement Act.

Workers maintain wastewater system along Lower Water Street, Halifax

Effective Asset Management

New stormwater box culvert installed under existing water transmission mains at Coronet Ave. , Halifax

Wastewater/Stormwater Capital Projects

In 2011, the wooden box culvert on Coronet Avenue culvert was replaced with a new pre-cast concrete structure. This new structure was designed to convey the storm water flow from Chain Lake to Chocolate Lake and accommodate the existing water transmission mains sharing this same corridor.

Halifax Water is responsible for a satellite wastewater collection and treatment facility servicing approximately 50 residences in the **Frame subdivision** in Waverley. In 2012 a new wastewater collection system was installed and the pre-existing wastewater collection system was converted to a clearwater storm sewer. This project will result in a significant reduction of inflow/infiltration into the wastewater system improving treatment effectiveness, reducing future WWTF upgrade costs, increasing system capacity, and improving environmental compliance.

The **Wellington Wastewater Treatment Facility** services approximately 30 properties and discharges effluent to a stream that flows into Grand Lake. The original wastewater treatment facility was approximately 35 years old and required replacement. Construction of the new facility commenced in the fall of 2011 and is expected to be in service by late 2012. The design of the new facility is consistent with the direction of impending regulations tied to the Canadian Council of Ministers of the Environment (CCME) Strategy for the treatment of wastewater.

Construction is well underway for the **Eastern Passage Wastewater Treatment Facility (EPWWTF) Expansion and Upgrade Project**. Contractor for the Project is Maple Reinders/Maxim Joint Venture with subconsultants for engineering and operations, namely Dillon Consulting and Aquatech. Currently the project is on schedule for completion by

New Wellington WWTF being constructed to improve effluent quality

$62M Eastern Passage WWTF Upgrade and Expansion project begins construction phase in December, 2011

December 2013. The EPWWTF project, budgeted at $61,769,000, will see an expansion in capacity to accommodate projected population growth in the serviceable boundary over the next 25 years, as well as an upgrade in treatment level from primary to secondary, consistent with national performance standards.

Water Capital Projects

The Engineering & IS Water Infrastructure team expanded upon the **Critical Valve Replacement Program** that involves the replacement of large diameter transmission main valves which in many cases are over 100 years old. The replacement of these old valves facilitates the management and control of the transmission main system in the oldest section of the distribution system.

Two major projects were completed in 2011/2012 included the replacement of three large diameter valves in the Kaye Street - Gottingen Street area of Halifax, and the installation of four new valves along the existing 15" dia. transmission main on Quinpool Road to improve operational control.

Engineering & IS staff worked with HRM to extend a new 400mm watermain and service to the recently constructed **Africville Church Interpretive Centre** near Seaview Park.

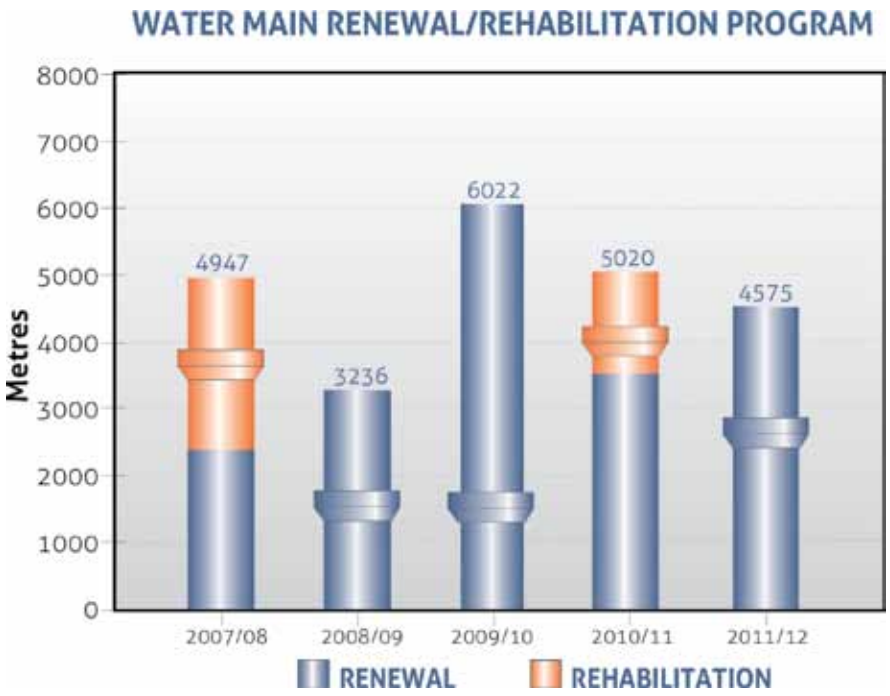
Halifax Water's **annual watermain renewal program** worked cooperatively with HRM to renew 4575 m of watermains in conjunction with planned Street renewal activity.

Engineering & Operations staff conducted innovative leak detection work on sections of the transmission mains serving peninsular Halifax utilizing "in the pipe" Smart Ball technology. The investigation identified a number of leaks that had not been identified using conventional above ground acoustic leak detection techniques.

During the fall of 2011, the original horizontal carbon dioxide tank at the **J.D. Kline Water Supply Plant,** was replaced with a new vertical tank. The new tank had to be placed in the same location as the existing tank and the supply of carbon dioxide could not be interrupted for an extended period of time. As a result, a temporary supply of carbon dioxide had to be established before the existing tank could be removed. Once the temporary supply was established the existing tank was removed, a new concrete pad was constructed and the new tank lifted into place.

Engineering Approvals

The Engineering Approvals section of the Engineering & IS Department reviewed and approved in excess of 300 Subdivisions, 800 Building



JD Kline Water Supply Plant receives a new Carbon Dioxide tank

Permits, and 100 Planning Applications related to water, wastewater and stormwater service expansion as HRM continues to experience significant residential and commercial growth.

A Land Management group was formally integrated within the Engineering Approvals group in 2011 to manage the corporate acquisition and disposal of real property and manage all records related to land ownership.

Energy Efficiency

Municipal water and wastewater/ stormwater treatment facilities and their respective distribution and collection systems typically consume over 30% of municipal energy usage and over 4% of the total national energy usage. With this in mind, Halifax Water has taken a number of important steps in improving its energy foot print.

• A new Energy Management Policy was implemented to create and ensure an ongoing focus on sustainability and energy efficiency throughout Halifax Water's operating areas, and to define the goals & objectives, accountability & structure for activities related to energy efficiency and sustainability.

• An annual Energy Management Program Plan has been developed identifying specific annual energy reduction targets and activities to be completed each fiscal year.

• Various equipment and infrastructure upgrades have been completed, resulting in over 1,000,000 kWhe in annual energy savings. These projects include lighting upgrades in four facilities, heating and ventilation system upgrades and power factor correction upgrades at a large pumping station, the installation of a new variable frequency drive at the Halifax wastewater treatment facility, and operating procedure improvements at a number of wastewater treatment facilities.

Outdoor site lighting upgrade at the JD Kline Water Supply Plant

Regulatory Compliance

Monitoring to help protect our environment

Drinking water and wastewater are regulated in Canada by the federal and provincial governments. Provincially, Nova Scotia Environment is the responsible regulator. Drinking water sources and treated drinking water in the distribution systems are sampled to ensure regulatory compliance. Treated wastewater (sewage) is also sampled to ensure compliance with discharge limits to protect both human health and the environment. All sampling is conducted in conformance with the requirements of Nova Scotia Environment. Halifax Water has a Regulatory Compliance group, part of the Environmental Services department, which conducts all of the compliance sampling, separate from the water and wastewater operational departments. All compliance samples are analysed by certified, independent laboratories. Halifax Water continually assesses the performance of each of our systems as part of our asset management responsibilities. Decisions are made on the need to expand, upgrade or replace equipment and facilities on a priority basis, with human health and environmental impact being the key factors. Allocations of funds are made in the annual capital and operating budgets to address the identified priorities and continually improve performance.

Total coliform bacteria provide an indication of the success of disinfection for drinking water. Of 3431 water samples collected between April 2011 and March 2012, 99.88% were entirely free of bacteria as compared to a target of 99.7%.

The positive total coliform bacteria results were isolated instances. In each case, results were negative on immediate re-testing, and on subsequent tests. Chlorine in drinking water provides for continued disinfection within the distribution system.

Drinking Water Compliance

Total Coliform Sample Results		
Systems	April 2011 to March 2012	
	% Absent	# of Samples
HFX/Pockwock	99.8%	1039
HFX/Pockwock Central	100.0%	518
Lake Major	99.9%	1197
Bennery	100.0%	156
Five Islands	100.0%	104
Silver Sands	100.0%	103
Middle Musquodoboit	99.1%	107
Collins Park	100.0%	103
Miller Lake	100.0%	104
Total		
Absent (A)		**3427**
Present (P)		**4**
		3431
All Sites - % Absent		**99.88%**

Disinfection

Nova Scotia Environment requires that a minimum level of chlorine residual be maintained throughout the drinking water distribution system. For the eight drinking water systems between April 2011 and March 2012, the percentage of samples compliant for chlorine residual were: Pockwock 94%, Lake Major 98%, Bennery 100%, Five Islands 100%, Silver Sands 99%, Middle Musquodoboit 100%, Collins Park 95%, and Miller Lake 96%. In total, of 3224 samples measured for residual chlorine in all systems, 3098 were compliant or 96%.

Cross-Connection Control

The Cross Connection Control Program is a key component of Halifax Water's "Multiple Barrier Approach" to public health. Halifax Water has authority, through regulations approved by the Nova Scotia Utility and Review Board, to require the installation of

Wastewater Treatment Facility Compliance Summary

Cumulative Performance - April 2011 to March 2012

Wastewater Treatment Facility	% of Samples Compliant with Nova Scotia Environment Discharge Requirements						
	CBOD5	Total Suspended Solids	Fecal Coliform	Phosphorus	Ammonia	pH	Dissolved Oxygen
AeroTech	86	42	91	99	10	95	N/A
Belmont	75	45	75	N/A	N/A	N/A	N/A
Dartmouth	88	86	73	N/A	N/A	N/A	N/A
Eastern Passage	29	80	78	N/A	N/A	N/A	N/A
Frame	80	60	50	N/A	N/A	N/A	N/A
Halifax	59	94	100	N/A	N/A	N/A	N/A
Herring Cove	99	96	93	N/A	N/A	N/A	N/A
Lakeside-Timberlea	95	24	94	100	39	N/A	100
Lockview-MacPherson	72	3	91	100	N/A	N/A	N/A
Middle Musquodoboit	94	79	92	N/A	N/A	N/A	N/A
Mill Cove	96	89	86	N/A	N/A	N/A	N/A
North Preston	100	79	98	98	90	52	N/A
Springfield	84	77	79	N/A	N/A	N/A	N/A
Uplands Park	100	86	86	N/A	N/A	N/A	N/A
Wellington (Steeves)	95	20	95	N/A	N/A	N/A	N/A
Total	81	69	88	99	32	85	100

LEGEND:

Compliance Achieved (>= 80%)

Compliance Not Achieved (<80%)

N/A – Not Applicable

Definitions:

CBOD5 – Carbonaceous Biochemical Oxygen Demand – a measure of the amount of organic material

Total Suspended Solids – a measure of the amount of particulate matter in the treated wastewater

Fecal Coliform – bacteria which are present in the treated wastewater

Phosphorus – a plant nutrient which can impact water bodies

Ammonia – a chemical compound containing nitrogen, another plant nutrient

pH – a measure of the acidity of water

Dissolved Oxygen – the amount of oxygen in the water, essential for fish and other aquatic organisms

Backflow Prevention Devices (BFP) on water service lines to all industrial, commercial, institutional properties and multi-unit residential buildings (greater than four units). The BFP devices are installed to minimize the risk of potential contaminants entering the public water distribution system through backflow from the customer's premises.

Nova Scotia Environment sets limits on wastewater discharges for various chemical parameters, specific to each wastewater treatment facility. The table above shows the percentage of treated wastewater effluent samples which met the Nova Scotia Environment limits between April 2011 and March 2012, for each parameter and treatment facility. To be considered compliant, Nova Scotia Environment requires that 80% of samples meet the defined limits (green boxes). Not all parameters apply to all treatment facilities. Most facilities were compliant for CBOD and Fecal Coliform, while 5 of 15 facilities were compliant for Total Suspended Solids for the year. All of the facilities regulated for phosphorus were compliant.

Halifax Water is currently working on various initiatives to upgrade wastewater treatment facilities in order to improve performance, and progress has been made since April 2011. The Wellington facility is being replaced. The Eastern Passage facility is being expanded and upgraded, and the Belmont facility will be decommissioned and connected to the upgraded Eastern Passage facility.

Options are under consideration as a result of Environmental Risk Assessments being conducted for the Lakeside-Timberlea, Frame, Fall River and Aerotech facilities. The Halifax and Dartmouth facilities continue to optimize their treatment processes to improve performance.

Federal Wastewater Regulations

The Canadian Council of Ministers of the Environment (CCME) approved the Canada-wide Strategy for the Management of Municipal Wastewater in 2009. The federal government is developing new regulations as a result of the CCME Strategy, which will implement new national standards for CBOD, TSS, chlorine, and ammonia (un-ionized form). All wastewater treatment facilities will be required to meet national standards within specified time frames. This will require upgrading the Halifax and Dartmouth Harbour Solutions facilities from advanced-primary to secondary level treatment, within a period of 20 years, and the Herring Cove facility within 30 years. In addition, the CCME Strategy requires that wet-weather Combined Sewer Overflows (CSOs) be reduced over time, and that Sanitary Sewer Overflows (SSOs) be eliminated eventually. The older parts of Halifax and Dartmouth contain combined sewer systems with CSOs, and some areas outside the downtown core have SSOs. Upgrading treatment plants and reducing overflows will require significant expenditures over time to meet the new national standards.

Regulatory Compliance Programs

Halifax Water's Pollution Prevention staff regulate the discharge of wastewater and other matter into storm and sanitary sewer systems, to ensure compliance with Rules and Regulations as approved by the Nova Scotia Utility and Review Board. Wastes such as hazardous chemicals, solvents, fuels, heavy metals and sediments, if discharged to our systems, may disrupt wastewater treatment processes, cause damage to the collection, pumping or treatment facilities, create hazardous conditions for both the public and staff, and result in pollution of our rivers, lakes and the harbour.

Combined Sewer Overflow (CSO) maintenance work

Recently, increased operational activity has been focused on the identification and correction of cross connections in which wastewater laterals from homes and buildings had been incorrectly connected to the stormwater system. Some of these conditions have existed for many years. The discharge of wastewater into a stormwater system poses a direct risk to public health and the environment. Pollution Prevention staff respond to environmental incidents, such as spills of materials that may enter Halifax Water's stormwater system, as well as conducting environmental investigations related to our stormwater and wastewater systems.

Environmental Engineering staff are responsible for administering the Stormwater Inflow Reduction (SIR) Program and the Private Outfall Elimination Program. The focus of the SIR program is to address the most serious operational and compliance issue facing Halifax Water, which is the discharge of stormwater into the wastewater system. These increased wet weather flows lead to wastewater overflows and impairment of the treatment process, which are a risk to public health and the environment, and cause Halifax Water to be out of compliance with Federal and Provincial Regulations.

The Private Outfall Elimination Program began in parallel with the Harbour Solutions Project in 2004. The objective of this program is to eliminate the direct discharge of wastewater into Halifax Harbour from old, privately-owned outfall pipes, by requiring property owners to connect to the wastewater system. The program has eliminated over 60 outfall pipes, which had been

Smoke testing to check for areas of inflow and infiltration

discharging about 2300 cubic metres of wastewater per day directly into Halifax Harbour (an equivalent of 7000 people).

Wastewater and Stormwater Services

This fiscal year saw the Wastewater and Stormwater Services department fully embrace the theme of synergy and implement various projects in all its divisions. The wastewater treatment division worked with several departments and made significant strides with process improvements.

The cleanout of process tanks at all three Harbour Solutions Project wastewater treatment facilities, and jet rodding of associated pipework, was done as a consolidated effort between Wastewater Treatment & Wastewater Collections staff. This is work that in the past has been contracted out. Bringing this work inside Halifax Water provides both an opportunity for crews to work together, realize cost savings, and enhance system knowledge.

Electrical warranty inspections werecompleted by Technical Services staff working alongside wastewater treatment plant staff at Dartmouth and Herring Cove Wastewater Treatment Facilities (WWTFs). Crews also provided assistance during the electrical warranty inspection at Herring Cove WWTF.

Tendering, procurement, and installation of a variable frequency drive on a raw water pump at the Halifax WWTF involved employees from procurement, technical services, wastewater treatment & energy management. The project was managed in house and delivered a quality product, under budget.

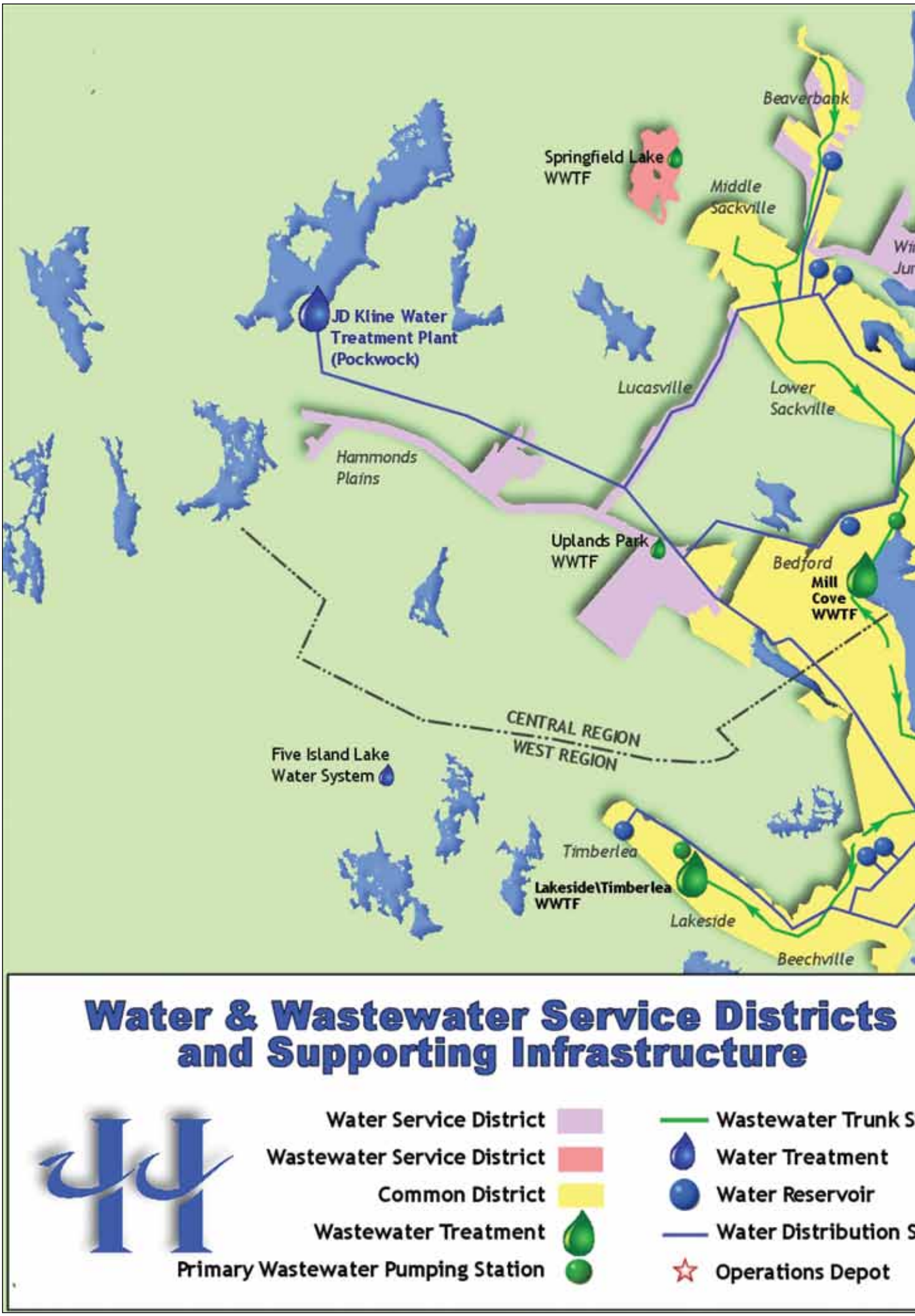
The wastewater treatment facilities and wastewater pump stations were integrated to control combined sewer overflows. A smart control system was installed with the help of Technical Services and external technology partners. The system operates the pumping stations to maximize capacity at the wastewater treatment facilities and help reduce the frequency and duration of combined sewer overflows during a wet weather event. This provides a significant environmental benefit.

The various wastewater treatment facility laboratories worked together, as well as with Environmental Compliance staff, to reduce the wastewater sample travel times between facilities helping to preserve sample integrity.

Working with the Energy Efficiency group onreduction of power demand for the Harbour Solutions wastewater treatment facilities yielded excellent results with significant reductions in power demand for these facilities. Fleet Services completed a major enhancement to the utility Business Communications System. The legacy system was replaced by a Digital Trunked Two Way Radio System that now links all Operations, Treatment and Office Facilities together along with all mobile equipment and vehicles. The Trunked System is a leading edge, world class technology. It is the first system of its kind in North America that provides full multi-site digital trunking with seamless coverage throughout HRM. The system also provides worksite and in plant communications for all large treatment facilities. The project proved true to its title "Teamwork Provides World Class Communications System".

Wastewater and Stormwater Services have been working very closely with Water Services on several initiatives that share resources for efficient service delivery. Examples include increased coordination related to hardware adjustments in the HRM streets; utilization of heavy equipment to perform Water Services tasks; and the combining of administrative functions. This combining of expertise and experience, passion and productivity, and innovation and insight between operating departments has helped successfully deliver the service that our customers deserve and have come to rely on.

Combining forces to provide operational efficiencies


Beaverbank
Springfield Lake WWTF
Middle Sackville
JD Kline Water Treatment Plant (Pockwock)
Lucasville
Lower Sackville
Hammonds Plains
Uplands Park WWTF
Bedford
Mill Cove WWTF
CENTRAL REGION
WEST REGION
Five Island Lake Water System
Timberlea
Lakeside\Timberlea WWTF
Lakeside
Beechville
Water & Wastewater Service Districts and Supporting Infrastructure
Water Service District
Wastewater Service District
Common District
Wastewater Treatment
Primary Wastewater Pumping Station
Wastewater Trunk S
Water Treatment
Water Reservoir
Water Distribution S
Operations Depot


Fall River
(Lockview\MacPherson)
WWTF
Fall River
Miller Lake
Water System
Waverley
Frame Subdivision
WWTF
Lakeview
Central Water
Operations Depot
Central Wastewater
Operations Depot
CENTRAL REGION
EAST REGION
North Preston
WWTF
East
Preston
Lake Major Water
Treatment Plant
Cherrybrook
Burnside
Bedford
Basin
West
Wastewater
Operations
Depot
Dartmouth
Cole
Harbour
East Wastewater
Operations Depot
East
Water
Operations
Depot
Dartmouth
WWTF
Halifax
Halifax
WWTF
Belmont
WWTF
Cow Bay
Silversands
Water System
Eastern Passage
WWTF
West Water
Operations
Depot and
Administration
Office
Halifax
Harbour
Eastern
Passage
Spryfield
Fergusons
Cove
Herring Cove
WWTF
Herring
Cove
Atlantic
Ocean
Systems Outside Map Limits
- Collins Park Water System
- Middle Musquodoboit Water & Wastewater
- Wellington Subdivision Wastewater System
- Airport\Aerotech Water & Wastewater
- Bomont Water System

Workplace Safety and Security

Halifax Water and its employees are committed to providing a healthy and safe work environment to help prevent occupational illness and injury. This commitment is based upon our understanding that health and safety is a core business function and treated as a priority in our daily work activities. We continue to concentrate on our three major safety priorities, Confined Space Entry; Traffic Control; and Excavation.

This year has seen Halifax Water complete a review of all tasks performed in the streets. Understanding and utilization of the Nova Scotia Temporary Workplace Control manual is paramount to ensuring employee safety, as well as the safety of the motoring public and pedestrians. Halifax Water continues to refine procedures to perform these tasks and has started to develop Codes of Practice for specific tasks performed in the streets that afford for safer and more efficient work practices.

Traffic set up for a safe construction site

Trench safety by the book

Our training in Confined Space Entry and Excavation Safety continues to evolve to ensure that we are conforming to industry best practices. We have also been concentrating on developing procedures on Contractor Safety to ensure that those we hire are meeting the same requirements for safety that we require of our own staff.

Our emergency response and security program continues to grow. We regularly attend emergency exercises with our municipal, provincial and federal counterparts. The 2011/2012 fiscal year saw preparations to convert our existing Emergency Response Plan to the internationally recognized Incident Command System.

Motivated and Satisfied Employees

Signing of CUPE 227 collective agreement

As of March 31, 2012, Halifax Water had 414 employees. With a focus on maintaining strong partnerships between employees and management, new collective agreements were ratified providing a solid foundation for continued positive labour/management relations. The Labour-Management Committee continues to meet to resolve workplace issues.

Halifax Water continues to make the health and well-being of employees a priority by providing fitness incentive programs, flu vaccinations and annual hearing tests. At this year's NAOSH (North American Occupational Safety and Health) week held in early May, sessions were held on cancer awareness, food and nutrition, and healthy back. Employees were provided the opportunity to have a personal health assessment with services to screen for cholesterol, blood pressure and blood sugar. Employees were also engaged in an in-house walking challenge, a co-ed softball team, the annual golf tournament and events such as the Bluenose Marathon, the Lung Run and the 6th Annual Kiwanis Community Dragon Boat Festival.

The joint Occupational Health and Safety Committee continues to meet regularly. As part of Halifax Water's commitment to ensuring a safe and healthy workplace, members continue to work towards achieving certification.

There was significant focus put on core safety programs such as WHMIS, First Aid, Confined Space Entry, and Trench Safety.

Halifax Water understands the importance of recognizing employees who show initiative to improve customer service, reduce the organization's operational costs and increase health and safety of employees. A formal employee recognition program was developed and has completed its first full year in operation. We are pleased that numerous employees were recognized for their initiatives, innovation and continued dedication. This program helps employees appreciate the work undertaken on a daily basis and how each staff member plays an important role in making Halifax Water a world class utility.

Halifax Water employees recognize the importance of helping those in the community who are in need. This year staff contributed $4,592.10 to the United Way Campaign, $6,926.00 to the Water for People fund, which sponsors water supply projects in Third World Countries, and raised $1,060.00 towards the Salvation Army Angel Tree Program. The newest corporate donation is the H20 (Help to Others) Program, to which employees' contributed $844.00. The fund was established by Halifax Water to assist low income families in the payment of water/wastewater/stormwater bills.

During the year the following employees retired after dedicated service to the utility:

Neil MacDonald – Wastewater Maintainer – April 2011
William Slade – Building Process Maintenance – August 2011
Pauline Holmes – Administrative Assistant – September 2011
Blain Rooney – Director of Finance and Customer Service – October 2011
Gary Hall – Process Technician – February 2012
Albert MacMaster – Works Supervisor – February 2012
Cliff Doubleday – Works Supervisor – February 2012
Paul Isnor – Utility Operator – March 2012
Joel Lowe – LTD – March 2012

George Doane – Utility Worker – March 2012

Long Service Awards were presented to:

35 Years:
Linda Duggan
Peter Flinn

30 Years:
Cliff Doubleday
Dave Verge

25 Years:
Richard Brown
Lloyd Ferguson
Brian Gazeley
Rick Reid
Rory MacNeil
Martin Parsons
Sandy Hood
Dave Hiscock
Pat Foley
Robert Hood
James Murphy

20 Years:
Karen Gardiner
Laurie Sperry
Dave Dort
Tim Dewolfe
Raymond Doucette

10 Years:
Karen Ouellet
Melissa White
Dawn Riley
Tom Gorman
Melissa O'Grady
Myles Quigley
Michael Clements
Dino Amaral
Craig Campbell

Carolyn's Crusaders taking part in the 2011 Lung Run

TYPICAL ANALYSIS OF POCKWOCK/LAKE MAJOR WATER
2011 - 2012

(in milligrams per litre unless shown otherwise)
Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PARAMETERS	(Halifax) POCKWOCK		(Dartmouth) LAKE MAJOR		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as $CaCO_3$)	<1.0	19.5	<1.0	16.5	-	-
Aluminum	0.137	0.108	0.228	0.065	-	*0.20/0.10
Ammonia (N)	<0.05	<0.05	<0.05	<0.10	-	-
Arsenic	<0.001	<0.001	<0.001	<0.001	0.010	-
Calcium	1.14	4.3	1.1	8.3	-	-
Chloride	7.0	8.8	6.2	8.2	-	≤250
Chlorate	<0.1	<0.1	<0.1	<0.1	1.0	-
Chlorite	<0.1	<0.1	<0.1	<0.1	1.0	-
Colour (True Colour Units)	13.0	3.0	38.2	3.0	-	≤15.0
Conductivity (µmho/cm)	40.5	89.0	36.0	105.0	-	-
Copper (Total)	0.070	0.003	0.116	<0.002	-	≤1.0
Fluoride	<0.10	0.58	<0.10	0.60	1.5	0.7 - 0.8
Hardness (as $CaCO_3$)	5.0	13.0	5.0	22.5	-	-
Hardness (as $CaCO_3$) (Grains)	0.4	0.92	0.4	1.6	-	-
HAA5 (avg.)	-	0.070	-	0.062	0.080	-
Iron (Total)	<0.065	<0.050	0.110	<0.020	-	≤0.3
Langelier Index @ 5°C	-4.8	-2.4	-5.4	-2.1	-	-
Langelier Index @ 60°C	-4.4	-2.2	-4.4	-1.8	-	-
Lead (Total) (µg/l)	<0.50	<0.50	<0.50	<0.50	10.0	-
Magnesium	0.44	0.47	0.44	0.48	-	-
Manganese (Total)	0.055	0.008	0.079	0.023	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate (as N)	0.05	0.065	<0.05	0.06	10.0	-
Nitrite (as N)	<0.01	<0.010	<0.01	<0.010	3.2	-
pH (pH Units)	5.5	7.3	5.4	7.3	-	6.5 - 8.5
Potassium	0.30	0.42	0.44	0.40	-	-
Sodium	4.5	12.4	4.1	11.2	-	≤200
Solids (Total Dissolved)	19.5	51.0	23.0	60.5	-	≤500
Sulfate	4.0	9.0	3.0	17.0	-	≤500
Turbidity (NTU)	0.38	0.061	0.34	0.045	**0.2/0.5	≤5
Total Organic Carbon (TOC)	2.9	1.9	3.9	1.6	-	-
THM's (avg.)	-	0.072	-	0.087	0.100	-
Uranium (µg/l)	<0.10	<0.11	<0.10	<0.10	20.0	-
Zinc (Total)	0.005	0.090	0.006	0.091	-	≤5.0

* Aluminum objective is related to type of plant filtration; the aluminum objective for direct filtration (i.e. Pockwock) is <0.20 mg/l and conventional filtration (i.e. Lake Major) is 0.10 mg/l. **0.2/0.5 means the plant must produce water with turbidity of <0.2 NTU 90% of the time and <0.5 NTU 100% of the time, as is required by Provincial Permit. This is more stringent than the Canadian guideline of 0.3/1.0 NTU.

TYPICAL ANALYSIS - SMALL SYSTEMS
2011 - 2012

(in milligrams per litre unless shown otherwise)
Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PHOTO: CAN STOCK PHOTO INC. / DUTOURDUMONDE

PARAMETERS	BENNERY LAKE		FIVE ISLAND LAKE		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	*Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as $CaCO_3$)	<5.0	35.9	30.0	36.0	-	-
Aluminum	0.158	0.033	0.007	<0.008	-	0.20/0.10
Ammonia (N)	<0.05	<0.05	<0.05	<0.05	-	-
Arsenic	<0.001	<0.001	0.004	0.005	0.010	-
Calcium	2.25	12.4	9.1	8.8	-	-
Chloride	6.0	9.9	4.0	5.0	-	≤250
Chlorate	<0.1	0.3	<0.1	<0.1	1.0	-
Chlorite	<0.1	<0.1	<0.1	<0.1	1.0	-
Colour (True Colour Units)	38.0	<3.0	<5.0	<3.0	-	≤15.0
Conductivity (µmho/cm)	40.0	135.0	78.0	81.0	-	-
Copper (Total)	0.283	0.044	<0.002	0.006	-	≤1.0
Fluoride	<0.10	<0.10	0.40	0.40	1.5	0.8 - 1.0
Hardness (as $CaCO_3$)	8.0	33.5	27.0	26.5	-	-
Hardness (as $CaCO_3$) (Grains)	0.57	2.4	1.9	1.8	-	-
HAA5 (avg.)	-	0.072	-	<0.005	0.080	-
Iron (Total)	0.825	<0.050	<0.050	<0.050	-	≤0.3
Langelier Index @ 5°C	-2.8	-1.5	-1.8	-1.4	-	-
Langelier Index @ 60°C	-2.4	-1.2	-1.5	-1.1	-	-
Lead (Total) (µg/l)	0.68	<0.50	<0.50	<0.50	10.0	-
Magnesium	0.56	0.57	1.04	1.1	-	-
Manganese (Total)	0.341	0.043	<0.002	<0.002	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate and Nitrite (as N)	<0.06	0.08	<0.05	<0.05	10.0	-
pH (pH Units)	6.23	7.3	7.0	7.7	-	6.5 - 8.5
Potassium	0.22	0.37	0.57	0.47	-	-
Sodium	4.0	16.6	5.9	6.7	-	≤200
Solids (Total Dissolved)	28.7	91.2	55.0	62.0	-	≤500
Sulfate	3.3	22.8	2.0	2.0	-	≤500
Turbidity (NTU)	1.25	0.33	<0.12	<0.14	**0.2/0.5	≤5
Total Organic Carbon (TOC)	4.2	2.0	<0.5	<0.5	-	-
THM's (avg.)	-	0.076	-	<0.001	0.100	-
Uranium (µg/l)	<0.10	<0.10	10.6	10.5	20.0	-
Zinc (Total)	0.006	0.091	<0.005	<0.005	-	≤5.0
PCB (µg/l)	<0.05	<0.05	<0.05	<0.05	-	-
Gross Alpha / Gross Beta (Bq/L)	<0.02 // 0.06	<0.05/<0.04	0.15/0.28	0.20/0.09	0.5 / 1.0	-
Lead-210 (Bq/L)	-	-	-	<0.02	0.2	-

*Facility construction does not allow for raw water sampling. **0.2/0.5 means the plant must produce water with turbidity of <0.2 NTU 90% of the time and <0.5 NTU 100% of the time, as is required by Provincial Permit. This is more stringent than the Canadian guideline of 1.0 NTU.

TYPICAL ANALYSIS - SMALL SYSTEMS
2011 - 2012

(in milligrams per litre unless shown otherwise)
Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PHOTO: CAN STOCK PHOTO INC. / DUTOURDUMONDE

PARAMETERS	MIDDLE MUSQUODOBOIT		COLLINS PARK		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as $CaCO_3$)	31.0	37.0	10.0	7.1	-	-
Aluminum	0.015	0.010	0.144	0.009	-	0.20/0.10
Ammonia (N)	<0.05	<0.05	<0.05	<0.05	-	-
Arsenic	<0.001	<0.001	0.003	<0.001	0.010	-
Calcium	14.5	1.3	6.7	0.28	-	-
Chloride	7.1	1.6	36.0	2.5	-	≤250
Chlorate	<0.1	<0.1	<0.1	0.1	1.0	-
Chlorite	<0.1	<0.1	<0.1	<0.1	1.0	-
Colour (True Colour Units)	<5.0	<5.0	27.0	<5.0	-	≤15.0
Conductivity (µmho/cm)	130.0	98.1	170.0	17.2	-	-
Copper (Total)	0.006	0.004	0.007	0.005	-	≤1.0
Fluoride	<0.1	<0.1	<0.10	<0.10	1.5	0.8 -1.0
Hardness (as $CaCO_3$)	50.0	2.3	21.0	<1.0	-	-
Hardness (as $CaCO_3$) (Grains)	3.5	0.2	1.5	0.1	-	-
HAA5 (avg.)	-	<0.005	-	<0.005	0.080	-
Iron (Total)	<0.050	<0.050	0.321	<0.050	-	≤0.3
Langelier Index @ 5°C	-2.2	-2.9	-2.6	-4.6	-	-
Langelier Index @ 60°C	-1.9	-2.7	-2.4	-4.8	-	-
Lead (Total) (µg/l)	<0.74	<0.5	<0.50	<0.5	10.0	-
Magnesium	4.5	0.32	1.0	<0.10	-	-
Manganese (Total)	<0.002	<0.002	0.064	<0.002	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate and Nitrite (as N)	3.8	0.59	0.12	<0.05	10.0	-
pH (pH Units)	6.7	7.2	6.9	6.9	-	6.5 - 8.5
Potassium	0.74	0.17	1.2	<0.13	-	-
Sodium	5.4	18.9	19.4	3.1	-	≤200
Solids (Total Dissolved)	72.0	62.1	90.0	13.2	-	≤500
Sulfate	10.5	<2.0	8.0	<2.0	-	≤500
Turbidity (NTU)	0.20	<0.10	1.0	<0.10	*0.2/0.5	≤5
Total Organic Carbon (TOC)	0.7	0.7	4.6	<0.5	-	-
THM's (avg.)	-	<0.001	-	0.004	0.100	-
Uranium (µg/l)	<0.10	<0.10	<0.10	<0.10	20.0	-
Zinc (Total)	0.011	0.308	0.023	0.108	-	≤5.0
PCB (µg/l)	<0.05	<0.10	<0.05	<0.05	-	-
Gross Alpha / Gross Beta (Bq/L)	<0.06 / 0.08	<0.05 / 0.03	<0.50 / 0.07	<0.02 / <0.02	0.5 / 1.0	-
Lead-210 (Bq/L)	-	-	-	-	0.2	-

*0.2/0.5 means the plant must produce water with turbidity of <0.2 NTU 90% of the time and <0.5 NTU 100% of the time, as is required by Provincial Permit. This is more stringent than the Canadian guideline of 1.0 NTU. **0.1 NTU for Membrane Plants.

TYPICAL ANALYSIS - SMALL SYSTEMS
2011 - 2012

(in milligrams per litre unless shown otherwise)
Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PHOTO: CAN STOCK PHOTO INC. / DUTOURDUMONDE

PARAMETERS	SILVER SANDS		MILLER LAKE		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as $CaCO_3$)	64.0	70.0	150.0	58.7	-	-
Aluminum	<0.006	0.010	0.010	0.079	-	0.20/0.10
Ammonia (N)	<0.05	<0.05	<0.05	<0.05	-	-
Arsenic	<0.002	<0.001	0.014	<0.003	0.010	-
Calcium	38.4	39.0	88.3	20.0	-	-
Chloride	66.5	65.2	120.0	32.5	-	≤250
Chlorate	<0.01	<0.01	<0.1	<0.1	1.0	-
Chlorite	<0.01	<0.01	<0.1	<0.1	1.0	-
Colour (True Colour Units)	<5.0	<5.0	<5.0	<5.0	-	≤15.0
Conductivity (µmho/cm)	380.0	376.0	710.0	213.0	-	-
Copper (Total)	<0.002	<0.002	<0.002	<0.002	-	≤1.0
Fluoride	0.20	0.20	0.30	0.50	1.5	0.8 -1.0
Hardness (as $CaCO_3$)	120.0	117.1	250.0	58.0	-	-
Hardness (as $CaCO_3$) (Grains)	8.5	8.2	17.6	4.1	-	-
HAA5 (avg.)	-	<0.005	-	0.066	0.080	-
Iron (Total)	0.898	<0.050	<0.50	<0.050	-	≤0.3
Langelier Index @ 5°C	-0.84	-0.51	+0.6	-0.99	-	-
Langelier Index @ 60°C	-0.59	-0.43	+0.8	-0.74	-	-
Lead (Total) (µg/l)	<0.50	<0.50	<0.50	<0.50	10.0	-
Magnesium	5.1	5.3	11.6	2.48	-	-
Manganese (Total)	0.922	0.040	<0.002	0.004	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate and Nitrite (as N)	<0.05	<0.05	0.08	0.06	10.0	-
pH (pH Units)	7.6	7.7	8.0	7.7	-	6.5 - 8.5
Potassium	0.87	1.0	1.5	0.56	-	-
Sodium	24.2	25.1	44.7	18.7	-	≤200
Solids (Total Dissolved)	207.5	206.2	405.0	116.6	-	≤500
Sulfate	19.5	18.5	19.0	12.0	-	≤500
Turbidity (NTU)	7.7	<0.27	0.15	<0.17	*0.2/0/.5**/0.1	≤5
Total Organic Carbon (TOC)	<0.5	<0.5	<0.5	1.4	-	-
THM's (avg.)	-	<0.001	-	0.087	0.100	-
Uranium (µg/l)	<0.10	<0.10	2.3	<0.10	20.0	-
Zinc (Total)	0.007	0.150	0.010	0.060	-	≤5.0
PCB (µg/l)	<0.05	<0.05	<0.05	<0.05	-	-
Gross Alpha / Gross Beta (Bq/L)	0.20 / <0.11	<0.13 / <0.08	1.1 / 0.60	0.09 / 0.09	0.5 / 1.0	-
Lead-210 (Bq/L)	-	-	-	-	0.2	-

*0.2/0.5 means the plant must produce water with turbidity of <0.2 NTU 90% of the time and <0.5 NTU 100% of the time, as is required by Provincial Permit. This is more stringent than the Canadian guideline of 1.0 NTU.

Financial Statements

(NSUARB Accounting and Reporting Handbook)

Halifax Regional Water Commission
March 31, 2012

Contents

Halifax Regional Water Commission
Statement of operations

Year ended March 31, 2012

(in thousands)

	2012		2011
	Budget	**Actual**	Actual
Operating revenues			
Water service	$ 30,393	**$ 30,562**	$ 30,719
Wastewater/stormwater services	53,760	**54,383**	45,532
Fire protection	9,502	**9,502**	9,502
Private fire protection services	369	**366**	362
Airport Aerotech system	1,361	**1,352**	1,323
Other operating revenue	2,455	**2,662**	2,242
	97,840	**98,827**	89,680
Operating expenditures			
Water supply and treatment	6,800	**6,598**	6,286
Water transmission and distribution	8,768	**7,834**	7,928
Wastewater/stormwater collection	15,307	**15,008**	13,562
Wastewater treatment	18,289	**16,380**	17,139
Engineering and information services	6,175	**5,813**	5,589
Environmental services	2,427	**2,290**	2,114
Customer service	3,551	**3,330**	3,329
Administration and pension	6,593	**7,121**	6,536
Airport Aerotech system	1,594	**1,520**	1,484
Depreciation	12,082	**11,347**	8,865
	81,586	**77,241**	72,832
Operating profit	16,254	**21,586**	16,848
Financial and other revenues			
Interest	480	**402**	545
Other	2,194	**2,193**	2,279
	2,674	**2,595**	2,824
	18,928	**24,181**	19,672
Financial and other expenditures			
Interest on long term debt	8,114	**8,100**	8,896
Repayment of long term debt	13,145	**13,066**	13,158
Amortization of debt discount	58	**64**	70
Grant in lieu of taxes (note 9)	3,882	**3,944**	3,749
	25,199	**25,174**	25,873
Excess of expenditures over revenues	$ (6,271)	**$ (993)**	$ (6,201)

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Balance sheet

Year ended March 31, 2012
(in thousands)

	2012	2011
Assets		
Current		
Cash and cash equivalents	**$ 16,403**	$ 15,730
Receivables		
Customer charges and contractual	**20,563**	21,655
Halifax Regional Municipality	**1,385**	20,398
Materials and supplies	**1,154**	1,143
Prepaids	**709**	653
	40,214	59,579
Receivable from Halifax Regional Municipality	**163**	176
Regulatory asset (note 5)	**4,156**	2,078
Plant under construction	**23,951**	13,527
Utility plant in service (schedule A)	**900,385**	893,633
	$ 968,869	$ 968,993
Liabilities		
Current		
Payables and accruals		
Trade	**$ 15,484**	$ 13,903
Halifax Regional Municipality	**1,235**	7,946
Interest on long term debt	**1,421**	1,548
Contractor and customer deposits	**177**	150
Current portion of long term debt (schedule B)	**13,109**	13,272
Unearned revenue	**119**	121
	31,545	36,940
Long term debt (schedule B)	**133,063**	146,118
Accrued pension liability (note 4)	**4,309**	3,945
Accrued post retirement benefits (note 4)	**741**	803
Accrued long term service awards (note 6)	**2,780**	2,600
	172,438	190,406
Equity		
Special purpose reserves (note 8)	**19,627**	17,973
Contributed capital surplus (page 5)	**761,180**	743,911
Operating surplus (page 5)	**3,244**	8,043
Operating surplus used to fund capital (page 5)	**12,380**	8,660
	796,431	778,587
	$ 968,869	$ 968,993

Contingent liabilities (note 3)
Commitment (note 9)
Subsequent event (note 15)

On behalf of the Board

Commissioner

Commissioner

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Statement of cash flows

Year ended March 31, 2012

(in thousands)

	2012	2011
Increase (decrease) in cash and cash equivalents		
Operating		
Excess of expenditures over revenues	**$ (993)**	$ (6,201)
Refund of Airport Aerotech stormwater revenue	**(86)**	-
Depreciation and amortization	**12,270**	9,727
Accrued pension liability	**364**	1,360
Decrease in accrued post retirement benefits	**(62)**	(69)
Repayment of long term debt	**13,066**	13,158
Increase in accrued long term service costs	**180**	153
	24,739	18,128
Change in non-cash operating working capital items (note 10)	**2,505**	1,994
	27,244	20,122
Financing		
Proceeds from issuance of long term debt	**-**	5,150
Decrease (increase) in receivable from/payable to Halifax Regional Municipality	**12,315**	(1,101)
Contributions to reserves	**3,158**	3,836
Debt issue costs	**(54)**	(32)
Principal repayment on Harbour Solutions long term debt	**(6,500)**	(6,500)
Principal repayments of long term debt	**(6,772)**	(8,461)
	2,147	(7,108)
Investing		
Capital cost contributions	**1,492**	2,662
Proceeds from sale of plant in service	**71**	1,702
Purchase of capital work in progress	**(14,199)**	(5,282)
Purchase of plant in service	**(16,082)**	(19,202)
	(28,718)	(20,120)
Increase (decrease) in cash and cash equivalents	**673**	(7,106)
Cash and cash equivalents, beginning of year	**15,730**	22,836
Cash and cash equivalents, end of year	**$ 16,403**	$ 15,730

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Statement of contributed capital surplus

Year ended March 31, 2012

(in thousands)

	2012	2011
Contributed capital surplus, beginning of year	$ 743,911	$ 525,916
Contributions to plant in service	15,203	40,573
Transfer from special purpose reserve (note 8)	1,504	6,220
Debt repayment	13,066	13,158
(Loss) gain on sale of land	(37)	1,600
Capital surplus transferred to Halifax Regional Municipality	-	(4,600)
Capital surplus transferred with Halifax Harbour Solutions	(52)	167,241
	773,595	750,108
Less: amortization (note 2(b))	12,415	6,197
Contributed capital surplus, end of year	$ 761,180	$ 743,911

Halifax Regional Water Commission
Statement of operating surplus

Year ended March 31, 2012

(in thousands)

	2012	2011
Operating surplus, beginning of year	$ 8,043	$ 14,681
Operating surplus used to fund capital	(3,720)	
Excess of expenditures over revenues	(993)	(6,201)
Refund of Airport Aerotech stormwater revenue	(86)	
Stewardship contributions charged to current surplus	-	(437)
Operating surplus, end of year	$ 3,244	$ 8,043

Halifax Regional Water Commission
Statement of operating surplus used to fund capital

Year ended March 31, 2012

(in thousands)

	2012	2011
Operating surplus used to fund capital, beginning of year	$ 8,660	$ 8,660
Additions to utility plant in service funded by operating surplus	3,720	-
Operating surplus used to fund capital, end of year	$ 12,380	$ 8,660

See accompanying notes to the financial statements.

1. Nature of operations

The Commission is a public utility owned by the Halifax Regional Municipality (HRM). The Commission is responsible for the supply of municipal water, wastewater and stormwater services to the residents of the HRM.

2. Summary of significant accounting policies

(a) Regulation

In matters of administrative policy relating to rates, capital expenditures, depreciation rates and accounting matters, the Commission is subject to the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). Rates charged to and collected from customers are designed to recover costs of providing the regulated services. These statements have been prepared in accordance with the Accounting and Reporting Handbook for Water Utilities (Handbook) issued by the NSUARB. There are differences in the accounting treatment of certain transactions from Canadian generally accepted accounting principles in the areas of principal debt payments and gains and losses on the disposal of fixed assets.

Regulatory assets represent costs incurred that have been deferred as approved by the NSUARB and will be recovered through future rates collected from customers.

(b) Utility plant

Utility plant in service (Schedule A) is recorded at cost, including interest capitalized on the financing of projects during construction. Contributions for capital expenditures are credited to contributed capital surplus. Structures and land taken out of service are removed from utility plant in service and placed in plant not in service at cost less accumulated depreciation. Losses or gains related to assets retired, demolished or sold are charged or credited to contributed capital surplus for the period.

The Handbook permits the recording of contributed assets. The estimated value of contributed assets is credited to contributed capital surplus. Commencing in fiscal 2005, contributed assets are depreciated over their estimated remaining useful lives. The related contributed capital surplus is being amortized on the same basis as the contributed assets to which it relates.

The Commission has implemented a policy to account for infrastructure extensions into its water and wastewater/stormwater service districts, which for the most part will be recovered by capital contributions from developers in current and future periods. The objective is for these extensions to be cost neutral to the Commission with regard to current customers, unless there is a benefit to them. The related infrastructure extensions may include costs incurred by the Commission to provide additional capacity, not required at the present time, but undertaken to allow for future expansion. The estimated portion of these costs that do not benefit existing customers are recorded as contributed assets. The capital cost contribution is credited to contributed capital surplus when receivable and estimates adjusted, if required, when the development into the water service area is complete. The capital cost contributions are subject to approval by the NSUARB.

(c) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and balances with banks, net of bank indebtedness.

(d) Depreciation

Depreciation is provided using the straight-line method over the estimated useful lives of the assets.

The estimated useful lives for the major classifications of utility plant in service are as follows:

Structures and improvements 50 to 100 years
Pumping equipment 5 to 30 years
Purification equipment 20 to 50 years
Water and wastewater/stormwater mains 60 to 100 years
Services 50 to 60 years
Meters 20 to 25 years
Hydrants 50 to 80 years
Tools and work equipment 5 to 30 years
Office equipment and furniture and transportation equipment 3 to 10 years

(e) Depreciation fund

The Commission does not maintain a depreciation fund. The Commission has received NSUARB approval for exemption from setting up a depreciation fund as long as net depreciable additions to plant exceed the depreciation charged.

(f) Materials and supplies

Materials and supplies inventories are carried at the lower of cost and net realizable value with cost being determined on a moving average cost basis. The cost of materials and supplies recognized as an expense during the period was $277 (2011 - $286).

(g) Revenues and expenditures

All revenues and expenditures are recorded on an accrual basis with the exception of repayment of long term debt. Receivables include outstanding revenue billed by the Commission and estimated metered revenue not yet billed.

(h) Long term debt

Interest on long term debt is recorded on an accrual basis. Debt

issue costs are deferred and amortized over the term of the debt to which it relates.

(i) Reserves

Certain funds within the reserves can be used for capital expenditures only with the approval of the NSUARB. All reserve withdrawals in excess of $250,000 require approval from the NSUARB. System connection charges approved by the NSUARB are added to these reserves as collected. The reserves are to be used for capital expenditures on the wastewater/stormwater system (note 8).

(j) Measurement uncertainty

In preparing the Commission's financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenditures during the period. Significant estimates and assumptions are not limited to but include the following:

• Specifically, at year end, revenue from water and wastewater services have been earned but not yet billed due to the timing of the billing cycles. Management estimates the unbilled revenue accrual based on historic billing trends.

• Management assumptions are also used in the actuarial determination of the accrued pension liability, accrued post retirement benefit, and accrued long term service awards. These assumptions are outlined in notes 4 and 6 of the financial statements.

Actual results could differ from these estimates.

(k) Financial instruments

The Commission is required to initially recognize and measure its financial assets and liabilities at fair value. Loans and receivables, held to maturity financial assets and other financial liabilities are subsequently measured at cost or amortized cost.

The Commission classifies financial assets and liabilities according to their characteristics and management's choices and intentions related thereto for the purposes of ongoing measurements. Classification choices for financial assets include: a) held for trading - measured at fair value with changes in fair value recorded in net earnings; b) held to maturity - recorded at amortized cost with gains and losses recognized in net earnings in the period that the asset is derecognized or impaired; c) available for sale - measured at fair value with changes in fair value recognized in other comprehensive income for the current period until realized through disposal or impairment; and d) loans and receivables - recorded at amortized cost with gains and losses recognized in net earnings in the period that the asset is no longer recognized or impaired.
Classification choices for financial liabilities include: a) held for trading – measured at fair value with changes in fair value recorded in net earnings and b) other - measured at amortized cost with gains and losses recognized in net earnings in the period that the liability is no longer recognized. Any financial asset or liability can be classified as held for trading as long as its fair value is reliably determinable.

The Commission's financial assets and liabilities are classified and measured as follows:

Asset/Liability	Classification	Measurement
Cash	Held for trading	Fair value
Cash equivalents	Held for trading	Fair value
Receivables	Loans and receivables	Amortized cost
Receivable from HRM	Loans and receivables	Amortized cost
Payables and accruals	Other liabilities	Amortized cost
Long term debt	Other liabilities	Amortized cost

Unless otherwise noted, it is management's opinion that the Commission is not exposed to significant interest, currency or credit risks arising from financial instruments. The fair value of the Commission's financial instruments approximates their carrying values.

3. Contingent liabilities

As a condition of the sale of a property, the Commission indemnified the purchaser from claims or actions resulting from migration of halocarbons. The environmental risk is assessed to be low and the likelihood of any related liability is not determinable.

The Commission has been named along with the contractor for a flooding incident that occurred as a result of an overflow of wastewater at a pumping station associated with the Halifax Harbour Solutions (HHS) project. The claim is being defended by the Commission's insurer and the Commission believes its exposure in this regard is minimal.

The Commission has certain outstanding grievances for alleged violations of the collective agreements with its unions. The financial risk of these grievances is not considered material.

4. Pension plan and post retirement benefits

The Commission maintains a contributory defined benefit pension plan for all employees and offers post retirement health and insurance benefits to its employees. The pension plan provides pensions based upon length of service and best five years' earnings. The Commission follows the recommendations of Section 3461 "Employee Future Benefits" of the CICA Handbook.

This defined pension plan is funded by employer and employee

contributions. Prior to July1,2011, the employer and employee were each contributing 9.5% of regular earnings. As of July 1, 2011, the amount increased to 10.47%. The Commission is responsible for funding the employer share of the contributions to the HRM pension plan for certain employees that transferred from HRM as of August 1, 2007. During the year, the Commission funded $637 (2011 - $670) in contributions to the HRM plan.

Employees who retired prior to July 1, 1998 have extended health benefits coverage for life and drug coverage until age 65. Employees who retired after July 1, 1998 and before December 31, 2008 have coverage for drug, extended health, dental and life insurance until age 65 on a 50/50 cost shared basis. Extended health coverage for these retirees and their spouses after the age of 65 is available on an optional basis at 100% retiree cost.

Information about the Commission's plans, based on an actuarial extrapolation as at March 31, 2012, is as follows:

	2012	2011	**2012**	2011
	Pension Plan	Pension Plan	**Post Retirement Benefits**	Post Retirement Benefits
Accrued benefit obligation				
Balance, beginning of year	**$ 80,058**	$ 70,716	**$ 578**	$ 629
Current service cost	**4,096**	3,825	**-**	-
Interest cost	**4,347**	4,065	**24**	27
Actuarial loss	**14,897**	4,069	**-**	-
Benefit payments	**(3,217)**	(2,655)	**(76)**	(85)
Transfers in	**11**	38	**-**	-
Actuarial gain	**-**	-	**200**	7
Balance, end of year	**100,192**	80,058	**726**	578
Fair value of plan assets				
Balance, beginning of year	**55,443**	50,105	**-**	-
Actual return on plan assets	**2,689**	4,273	**-**	-
Transfers in	**11**	38	**-**	-
Benefit Payments	**(3,217)**	(2,655)	**-**	-
Contributions: Employee	**1,692**	1,516	-	**-**
Employer	**3,583**	2,166	**-**	-
Balance, end of year	**60,201**	55,443	**-**	-
Plan deficit	**39,991**	24,615	**726**	578
Unamortized transitional asset	**982**	1,179	**-**	-
Unamortized experience (loss) gain	**(35,932)**	(21,021)	**15**	225
Unamortized plan amendments	**(732)**	(828)	**-**	-
Accrued benefit liability	**$ 4,309**	$ 3,945	**$ 741**	$ 803
Accrued benefit liability, beginning of year	**$ 3,945**	$ 2,585	**$ 803**	$ 872
Expense	**3,947**	3,526	**14**	16
Employer contributions	**(3,583)**	(2,166)	**(76)**	(85)
Accrued benefit liability recognized	**$ 4,309**	$ 3,945	**$ 741**	$ 803

Administration and pension expense includes pension expense of $3,947 (2011 - $3,526). Included in the 2012 pension expense is a special payment of $1,793 (2011 - $580). This amount includes the amortization of experience gains and losses and plan improvements. Amortization is calculated on a straight-line basis over the estimated average remaining service life of the employee group, currently estimated at 19 years.

The following assumptions have been used in the actuarial extrapolation of the accrued benefit liability at March 31, 2012:

	Pension Plan 2012	Pension Plan 2011	**Post Retirement Benefits 2012**	Post Retirement Benefits 2011
Discount rate	4.50%	5.40%	4.50%	4.50%
Expected return on plan assets	6.00%	6.00%	N/A	N/A
Rate of compensation increase	3.75%	3.75%	N/A	N/A
Expenses for life benefits as a % of claims	N/A	N/A	5-10%	5-10%
Health benefit inflation per year	N/A	N/A	5-10%	5-10%
Dental benefit inflation per year	N/A	N/A	5%	5%

Funding for the pension plan is based on regular actuarial reviews. There was an actuarial valuation completed January 1, 2011 and the next review is scheduled for no later than January 1, 2014.

5. Regulatory asset

In June 2011, the NSUARB granted the Commission approval to defer depreciation charges on certain assets transferred in 2010 from HRM relating to the Halifax Harbour Solutions Project. As a result, the Commission has recognized a $4,156 (2011 - $2,078) regulatory asset. In May 2012, the NSUARB granted approval of the amortization of this asset over the remaining useful lives of the underlying assets, beginning in 2013-14. In absence of rate regulation, the Commission would have otherwise recorded $2,078 (2011 - $2,078) of additional depreciation in the determination of excess of expenditures over revenues for 2011-12 on the statement of operations.

6. Accrued long term service awards

The Commission has a non-funded long term service award that is accrued annually, but is payable on retirement, termination or death if the employee has at least 10 years of continuous service. The benefit is equal to three days' pay for each completed year of service, up to a maximum of six month's salary.

	2012	2011
Accrued long term service awards	**$ 2,780**	$ 2,600

The following assumptions have been used in the valuation of the Commission's accrued long term service awards at March 31, 2012:

Pre-retirement benefits	**2012**	2011
Discount rate	**4.50%**	5.40%
Rate of compensation increase	**3.75%**	3.75%

7. Return on rate base

	2012	**2011**
Rate of return on rate base for water service	2.87%	3.40%
Rate of return on rate base for wastewater/stormwater services	2.62%	1.16%
Rate of return on rate base for Airport Aerotech water service	(3.88)%	(7.46)%
Rate of return on rate base for Airport Aerotech wastewater service	(74.07)%	(55.79)%

8. Special purpose reserves

	Other Capital Reserves	Sewer Redevelopment Reserve	Wastewater Infrastructure Reserve	Wastewater & Stormwater Reserve	**2012 Total**	2011 Total
Reserve, beginning of year	$ 397	$ 2,848	$ 9,711	$ 5,017	**$ 17,973**	$ 20,357
Additions	-	-	-	-	**-**	207
Contributions and interest	-	1,315	1,843	-	**3,158**	3,629
Expenditures	-	(51)	(227)	(1,226)	**(1,504)**	(6,220)
Reserve, end of year	$ 397	$ 4,112	$ 11,327	$ 3,791	**$ 19,627**	$ 17,973

9. Commitment

An agreement with HRM for renewal of the dividend/grant in lieu of taxes for fiscal years 2011 to 2015 for water services was approved by the NSUARB as part of the January 1, 2011 rate decision. There was no dividend/grant in lieu of taxes approved for wastewater/ stormwater. The Commission is committed to a payment of $3,971 for the 2013 fiscal year.

10. Supplemental cash flow information

	2012	2011
Changes in non-cash operating working capital items		
Receivables	**$ 1,092**	$ 437
Materials and supplies	**(11)**	(70)
Prepaids	**(56)**	(105)
Payables and accruals, trade	**1,581**	1,812
Accrued interest on long term debt	**(127)**	(111)
Contractor and consumer deposits	**27**	5
Unearned revenue	**(1)**	26
	$ 2,505	$ 1,994

Interest paid during the year was $ 8,100 (2011 - $8,896).

11. Capital management

The Commission's objective when managing capital is to ensure sufficient liquidity to support its financial obligations and execute its operating and capital plans. The Commission monitors and makes adjustments to its capital structure through additional borrowings of long term debt which are then used to finance capital projects.

The Commission considers its total capitalization to include all long term debt and total equity. The calculation is set out in the following table:

	2012	2011
Long-term debt (current portion)	**$ 13,109**	$ 13,272
Long-term debt	**133,063**	146,118
Funded debt	**146,172**	159,390
Equity	**796,431**	778,587
Capital under management	**$ 942,603**	$ 937,977

The Commission is a regulated utility and is subject to the regulations of the NSUARB. As part of this regulation, the Commission must obtain approval by the NSUARB for all borrowings. The Commission has obtained regulatory approval for all borrowings during the fiscal year. The Commission is not subject to financial borrowing covenants.

12. Financial risk management

Credit risk
Credit risk arises from the possibility that the Commission's customers may experience financial difficulty and be unable to fulfill their obligations. The Commission's maximum exposure to credit risk corresponds to the customer charges and contractual accounts receivable. However, the Commission's customers are numerous and diverse, which reduces the concentration of credit risk. The Commission considers the credit quality of its accounts receivables that are neither past due or impaired to be collectible.

Interest risk
Interest risk arises from the possibility that change in interest rate will cause the Commission a potential loss. All of the Commission's long term debt is at varying fixed rates and has staggered maturity dates. The Commission therefore considers its exposure to interest rate fluctuations to be minimal.

Market risk
Market risk arises from the possibility that the value of an investment will fluctuate as a result of changes in market prices. These changes could affect the market value of the investments in the Commission's employees' pension plan and consequently the plan's deficit.

Liquidity risk
Liquidity risk arises from the possibility of the Commission not being able to meet its cash requirements in a timely and cost effective manner. The Commission manages this risk by closely monitoring the cash on hand in comparison to upcoming cash commitments.

13. Related party transactions

Transactions with HRM are recorded at carrying value in accordance with the CICA Handbook Section 3840 "Related Party Transactions".

The Commission is obligated to make payments on debt, held in the name of HRM, associated with assets which were transferred to the Commission in the 2007 merger, and subsequent years, associated with wastewater and stormwater assets.

Amounts receivable from and payable to HRM have normal credit terms.

14. Comparative figures

Certain of the comparative figures for 2011 have been reclassified to conform with the financial statement presentation adopted for 2012.

15. Subsequent event

Subsequent to year end the Commission received approval from the NSUARB for a general rate increase ranging from 6.7% to 13.2% depending on meter size which is anticipated to take effect on July 1, 2012.

Schedule A

Halifax Regional Water Commission
Schedule of utility plant in service

Year ended March 31, 2012
(in thousands)

	Cost	Accumulated Depreciation	**2012 Net Book Value**	2011 Net Book Value
Water				
Intangible plant	$ 546	$ 165	**$ 381**	$ 435
Land and land rights	15,906		**15,906**	15,909
Structures and improvements	76,585	22,307	**54,278**	54,271
Pumping equipment	8,151	5,039	**3,112**	3,219
Purification equipment	25,950	15,180	**10,770**	11,228
Transmission and distribution mains	291,295	60,955	**230,340**	225,255
Services	29,375	3,869	**25,506**	24,704
Meters	11,764	2,913	**8,851**	8,148
Hydrants	17,025	2,539	**14,486**	14,244
Tools and work equipment	2,518	1,632	**886**	767
Transportation equipment	4,952	2,686	**2,266**	2,324
Office equipment and furniture	8,667	6,156	**2,511**	2,818
Small systems	7,740	1,002	**6,738**	6,981
Airport Aerotech system	595	162	**433**	476
	501,069	124,605	**376,464**	370,779
Wastewater/stormwater				
Intangible plant	4,001	1,129	**2,872**	3,172
Land and land rights	9,547		**9,547**	8,573
Structures and improvements	153,706	37,803	**115,903**	117,847
Pumping and treatment equipment	132,261	9,739	**122,522**	124,725
Collection system	299,977	60,014	**239,963**	234,527
Manholes and catchbasins	6,227	4,315	**1,912**	4,153
Laterals	6,825	392	**6,433**	5,291
Outfalls	15,315	165	**15,150**	15,226
Tools and work equipment	784	296	**488**	610
Transportation equipment	6,288	5,564	**724**	321
Office equipment	904	376	**528**	422
Small systems	5,974	901	**5,073**	5,030
Airport Aerotech system	3,115	309	**2,806**	2,957
	644,924	121,003	**523,921**	522,854
Total	$ 1,145,993	$ 245,608	$ **900,385**	$ 893,633

During the year, the amount of $195 of interest was capitalized to Utility Plant in Service (2011 - $322).

Halifax Regional Water Commission
Schedule of long term debt

Schedule B

Year ended March 31, 2012

(in thousands)

	Interest Rate	Final Maturity	Balance Remaining 2012	2011
Payable to Municipal Finance Corporation				
Water				
Debenture 22 A 1	4.250% to 6.125%	2012	$ **2,310**	$ 2,620
Debenture 25 A 1	2.970% to 4.560%	2015	**3,500**	3,750
Debenture 96 A 1	5.500% to 8.000%	2016	**400**	480
Debenture 26 A 1	4.350% to 4.880%	2016	**3,000**	3,200
Debenture 27 A 1	4.650% to 5.010%	2017	**5,937**	6,776
Debenture 23 A 1	3.500% to 5.750%	2018	**1,200**	1,300
Debenture 28 A 1	3.750% to 5.088%	2018	**1,700**	1,800
Debenture 98 A 1	5.625% to 6.125%	2019	**21,610**	24,019
Debenture 99 A 1	6.500% to 6.750%	2019	**1,800**	2,025
Debenture 30 B 1	1.550% to 3.870%	2020	**1,575**	1,750
Debenture 31 A 1	1.630% to 4.221%	2021	**1,500**	1,901
Halifax Harbour Solutions				
Debenture 29 A 1	0.900% to 4.329%	2019	**11,700**	12,350
Wastewater/stormwater				
Debenture 30 A 1	1.510% to 4.500%	2020	**3,230**	3,400
Payable to Halifax Regional Municipality				
Municipal Finance Corporation – Wastewater/stormwater				
Debenture 21 A 1	8.000% to 8.000%	2011	**-**	85
Debenture 21 B 1	3.125% to 6.000%	2011	**-**	15
Debenture 22 A 1	3.375% to 6.125%	2012	**88**	176
Debenture 22 B 1	3.250% to 5.625%	2012	**44**	89
Debenture 23 A 1	3.500% to 5.375%	2013	**91**	136
Debenture 23 B 1	2.750% to 5.000%	2013	**9**	13
Debenture 24 A 1	2.550% to 5.450%	2014	**249**	333
Debenture 24 B 1	2.840% to 5.940%	2024	**71,604**	77,138
Debenture 24 C 1	7.000% to 7.000%	2015	**176**	235
Debenture 25 A 1	2.970% to 4.560%	2015	**696**	869
Debenture 25 B 1	3.630% to 4.830%	2020	**135**	169
Debenture 26 A 1	4.350% to 4.880%	2016	**628**	753
Debenture 26 B 1	4.265% to 4.410%	2016	**24**	29
Debenture 27 A 1	4.450% to 4.625%	2017	**394**	460
Federation of Canadian Municipalities – Wastewater/stormwater				
Debenture GMIF 1599	1.330% to 3.127%	2014	**13,000**	14,000
			146,600	159,871
Less: debt issue costs			**428**	481
			146,172	159,390
Less: amount payable within one year			**13,109**	13,272
			$ **133,063**	$ 146,118

The debentures are repayable in fixed annual or semi-annual principal instalments plus interest payable semi-annually. Principal instalments including Halifax Harbour Solutions debt repayment for the next five years are as follows:

2013	$ 13,109
2014	$ 13,186
2015	$ 13,349
2016	$ 13,398
2017	$ 13,428

Schedule C

Halifax Regional Water Commission
Schedule of operations for water service

Year ended March 31, 2012
(in thousands)

	2012		2011
	Budget	**Actual**	Actual
Operating revenues			
Water service	$ 30,393	**$ 30,562**	$ 30,719
Fire protection	9,502	**9,502**	9,502
Private fire protection services	369	**366**	362
Other operating revenue			
Bulk water stations	289	**264**	278
Customer late payment fees	129	**206**	146
Miscellaneous	114	**155**	183
	40,796	**41,055**	41,190
Operating expenditures			
Water supply and treatment	6,800	**6,598**	6,286
Water transmission and distribution	8,768	**7,834**	7,928
Engineering and information services	3,131	**2,958**	2,827
Environmental services	655	**628**	507
Customer service	1,809	**1,696**	1,696
Administration and pension	3,361	**3,628**	3,327
Depreciation	6,510	**6,458**	6,263
	31,034	**29,800**	28,834
Operating profit	9,762	**11,255**	12,356
Financial and other revenues			
Interest	240	**201**	273
Other	170	**106**	208
	410	**307**	481
Financial and other expenditures			
Interest on long term debt	2,527	**2,472**	2,806
Repayment of long term debt	5,132	**4,904**	4,925
Amortization of debt discount	55	**51**	58
Grant in lieu of taxes	3,882	**3,944**	3,749
	11,596	**11,371**	11,538
Excess of (expenditures over revenues) revenues over expenditures	$ (1,424)	**$ 191**	$ 1,299

Halifax Regional Water Commission
Schedule of operations for wastewater/stormwater services

Schedule D

Year ended March 31, 2012
(in thousands)

	2012 Budget	2012 Actual	2011 Actual
	(Unaudited)		
Operating revenues			
Wastewater/stormwater services	$ 53,760	**$ 54,383**	$ 45,532
Other operating revenue			
Leachate and other contract revenue	878	**807**	556
Septage tipping fees	400	**747**	552
Overstrength surcharge	240	**165**	232
Customer late payment fees	221	**141**	119
Miscellaneous	184	**177**	176
	55,683	**56,420**	47,167
Operating expenditures			
Wastewater/stormwater collection	15,307	**15,008**	13,562
Wastewater treatment	18,289	**16,380**	17,139
Engineering and information services	3,044	**2,855**	2,762
Environmental services	1,772	**1,662**	1,607
Customer service	1,742	**1,634**	1,633
Administration and pension	3,232	**3,493**	3,209
Depreciation	5,572	**4,889**	2,602
	48,958	**45,921**	42,514
Operating profit	6,725	**10,499**	4,653
Financial and other revenues			
Interest	240	**201**	272
Other	2,024	**2,087**	2,071
	2,264	**2,288**	2,343
Financial and other expenditures			
Interest on long term debt	5,587	**5,593**	6,056
Repayment of long term debt	8,013	**8,120**	8,193
Amortization of debt discount	3	**13**	12
	13,603	**13,726**	14,261
Excess of expenditures over revenues	$ (4,614)	**$ (939)**	$ (7,265)

Schedule E

Halifax Regional Water Commission
Airport aerotech system
Schedule of operations for water service

Year ended March 31, 2012
(in thousands)

	2012		2011
	Budget	**Actual**	Actual
	(Unaudited)		
Operating revenues			
Metered sales	$ 524	**$ 537**	$ 503
Fire protection	142	**142**	142
Customer late payment charges	-	**1**	1
Miscellaneous	5	**5**	5
	671	**685**	651
Operating expenditures			
Water supply and treatment	693	**563**	537
Water transmission and distribution	117	**94**	103
Depreciation	44	**42**	42
	854	**699**	682
Operating loss	(183)	**(14)**	(31)
Financial and other expenditures			
Interest on long term debt	-	**24**	23
Repayment of long term debt	-	**29**	27
	-	**53**	50
Excess of expenditures over revenues	$ (183)	**$ (67)**	$ (81)

Halifax Regional Water Commission
Airport aerotech system
Schedule of operations for wastewater service

Schedule E

Year ended March 31, 2012

(in thousands)

	2012 Budget (Unaudited)	2012 Actual	2011 Actual
Operating revenues			
Metered sales	$ 514	**$ 528**	$ 501
Dewatering	100	**98**	98
Airplane sewage	40	**40**	34
Area charges	35	**-**	38
Customer late payment charges	1	**1**	1
	690	**667**	672
Operating expenditures			
Wastewater treatment	641	**733**	696
Wastewater/stormwater collection	99	**62**	89
Depreciation	-	**26**	17
	740	**821**	802
Operating loss	(50)	**(154)**	(130)
Financial and other expenditures			
Interest on long term debt	-	**11**	11
Repayment of long term debt	-	**13**	13
	-	**24**	24
Excess of expenditures over revenues	$ (50)	**$ (178)**	$ (154)
Excess of expenditures over revenues for water and wastewater combined	$ (233)	**$ (245)**	$ (235)

The Commission no longer provides stormwater services for the Airport Aerotech system effective November 18, 2011.

Schedule F

Halifax Regional Water Commission
Schedule of regulated activities

Year ended March 31, 2012
(in thousands)

	2012 Budget (Unaudited)	2012 Actual	2011 Actual
Operating revenues			
Water service	$ 30,393	**$ 30,562**	$ 30,719
Wastewater/stormwater services	53,760	**54,383**	45,532
Public fire protection	9,502	**9,502**	9,502
Private fire protection services	369	**366**	362
Airport Aerotech system	1,221	**1,214**	1,191
Other operating revenue	1,177	**1,070**	1,114
	96,422	**97,097**	88,420
Operating expenditures			
Water supply and treatment	6,789	**6,584**	6,258
Water transmission and distribution	8,768	**7,834**	7,928
Wastewater/stormwater collection	15,307	**15,008**	13,562
Wastewater treatment	17,623	**15,716**	16,062
Environmental services	2,427	**2,290**	2,114
Engineering and information services	6,175	**5,813**	5,589
Customer service	3,551	**3,330**	3,329
Administration and pension	6,593	**7,121**	6,536
Airport Aerotech system	1,594	**1,520**	1,484
Depreciation	12,082	**11,347**	8,865
	80,909	**76,563**	71,727
Financial and other revenues			
Interest	480	**402**	545
Other	2,080	**2,044**	2,077
	2,560	**2,446**	2,622
Financial and other expenditures			
Interest on long term debt	8,114	**8,100**	8,896
Repayment of long term debt	13,145	**13,066**	13,158
Amortization of debt discount	58	**64**	70
Grant in lieu of taxes	3,882	**3,944**	3,749
	25,199	**25,174**	25,873
Excess of expenditures over revenues	$ (7,126)	**$ (2,194)**	$ (6,558)

Halifax Regional Water Commission
Schedule of unregulated activities

Schedule F

Year ended March 31, 2012

(in thousands)

	2012		2011
	Budget	**Actual**	Actual
	(Unaudited)		
Operating revenues			
Dewatering	$ 100	$ 98	$ 98
Airplane sewage	40	40	34
Leachate treatment & contract revenue	878	807	556
Septage tipping fees	400	747	552
Other operating revenue	-	38	20
	1,418	1,730	1,260
Operating expenditures			
Water supply and treatment	11	14	28
Wastewater treatment	666	664	1,077
	677	678	1,105
Financial and other revenues			
Other	114	149	202
Excess of revenues over expenditures	$ 855	$ 1,201	$ 357