

# 2012 Annual Report

## Water & Wastewater Treatment Branch



# 2012 Water & Wastewater Treatment Branch Annual Report

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The Water Treatment Plant is responsible for the operation and maintenance of the City's Water Treatment Plant, Raw Water Intake and three potable water storage reservoirs. Infrastructure Services, Public Works Branch, is responsible for the operation and maintenance of the water distribution system.



*Aerial view of Water Treatment Plant and Meter Shop – Avenue H*

The Water and Wastewater Treatment Branch and the Public Works Branch work in unison to supply all consumers with safe and reliable, high quality, potable water at an acceptable pressure.



*Aerial view of Wastewater Treatment Plant – Whiteswan Drive*

The Wastewater Treatment Plant is responsible for the operation and maintenance of the City's Wastewater Treatment Plant, 27 remote pumping facilities and the Biosolids Facility where solids, resulting from the treatment process, are handled and disposed. Infrastructure Services, Public Works

Branch, is responsible for the operation and maintenance of the wastewater collection system. Wastewater is delivered to the plant by an extensive network of pump stations and underground pipes, treated to produce a high quality effluent and returned back to the South Saskatchewan River.

The Water and Wastewater Treatment Plants are designated Level 4 facilities, the highest level of certification in Canada. The treatment of water and wastewater is regulated by rigid provincial and national standards outlined in the Permit to Operate by the Saskatchewan Water Security Agency (formerly known as Ministry of Environment).

## 2012 Water & Wastewater Treatment Branch Annual Report

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The Meter Shop is responsible for the purchase, installation, testing, repair and replacement of water meters, as well as the installation and termination of water services. The Meter Shop is also responsible for the Cross Connection Control program initiated in 2003. This program exists to ensure that proper backflow prevention devices are installed on institutional, commercial and industrial service connections and tested annually to protect the potable water in the City's distribution system from becoming contaminated by the private systems.

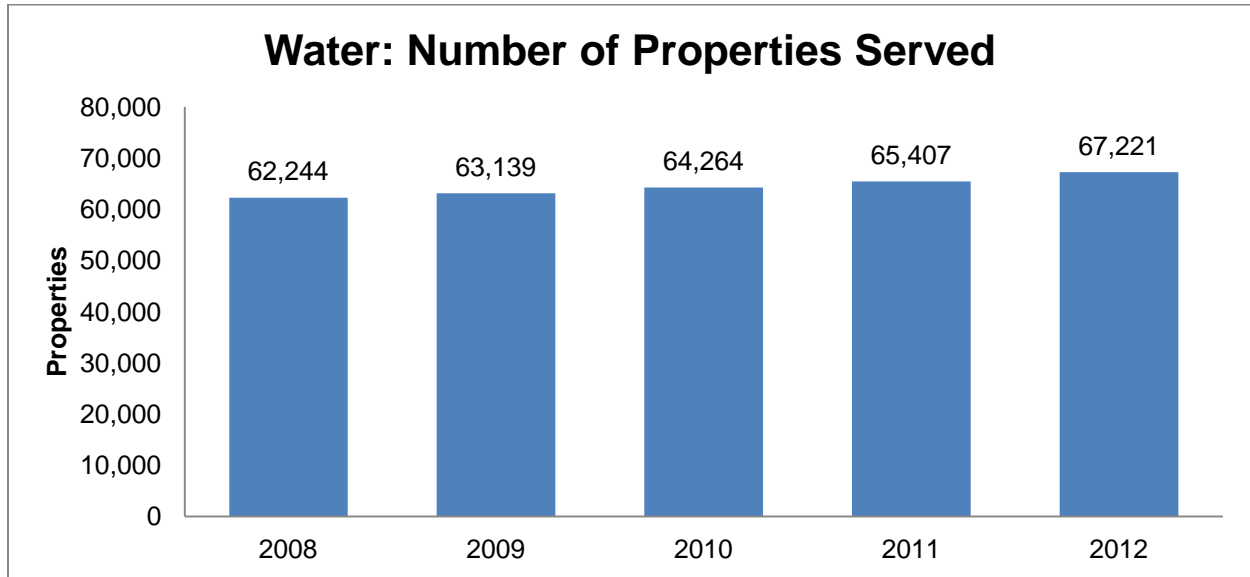
All customer billing, meter reading, and collections services are the responsibility of the Corporate Services Department.

### **OUR CUSTOMER**

#### **Customers Served**

Customers include residential households, commercial and industrial businesses, and institutions within the city. The City of Saskatoon also sells potable water to SaskWater. They receive this water at seven supply points around the perimeter of the city and re-distribute to 27,298 consumers outside of Saskatoon.

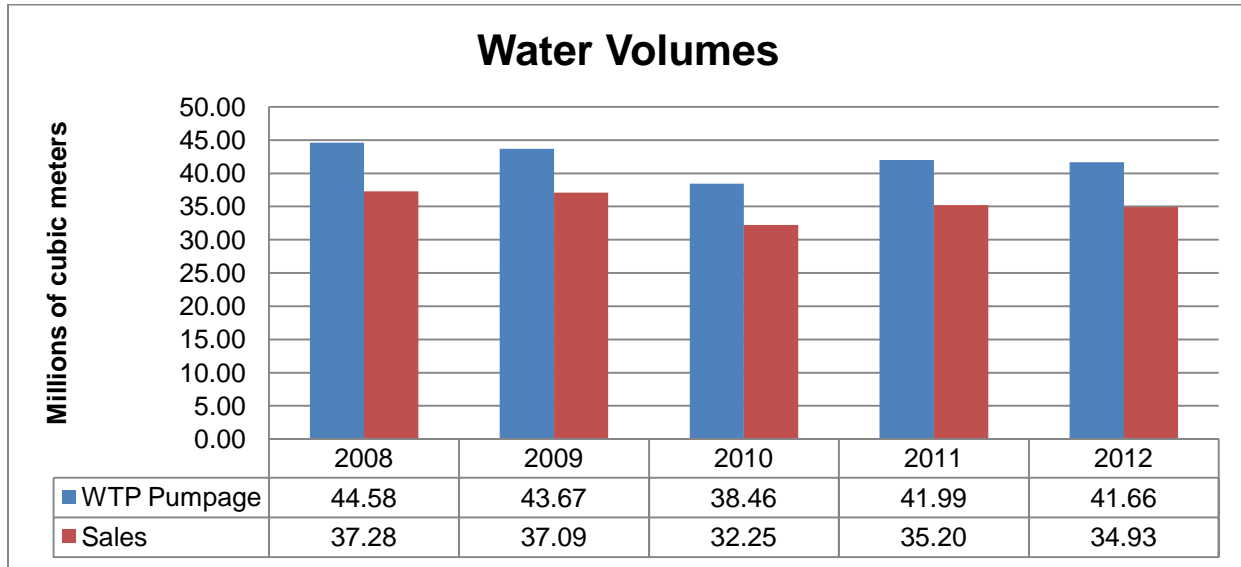
The number of water meters in service is an accurate representation of the number of properties served as 100% of customers are metered. The approximate number of properties served in 2012 was 67,221, consisting of 61,882 residential households and 5,339 multi-unit dwellings (greater than 4 units), industrial, commercial, and institutional properties. This represents an increase of 8.0% in the last five years. Water treatment and distribution and wastewater collection and treatment are provided to all 236,600 citizens of Saskatoon.



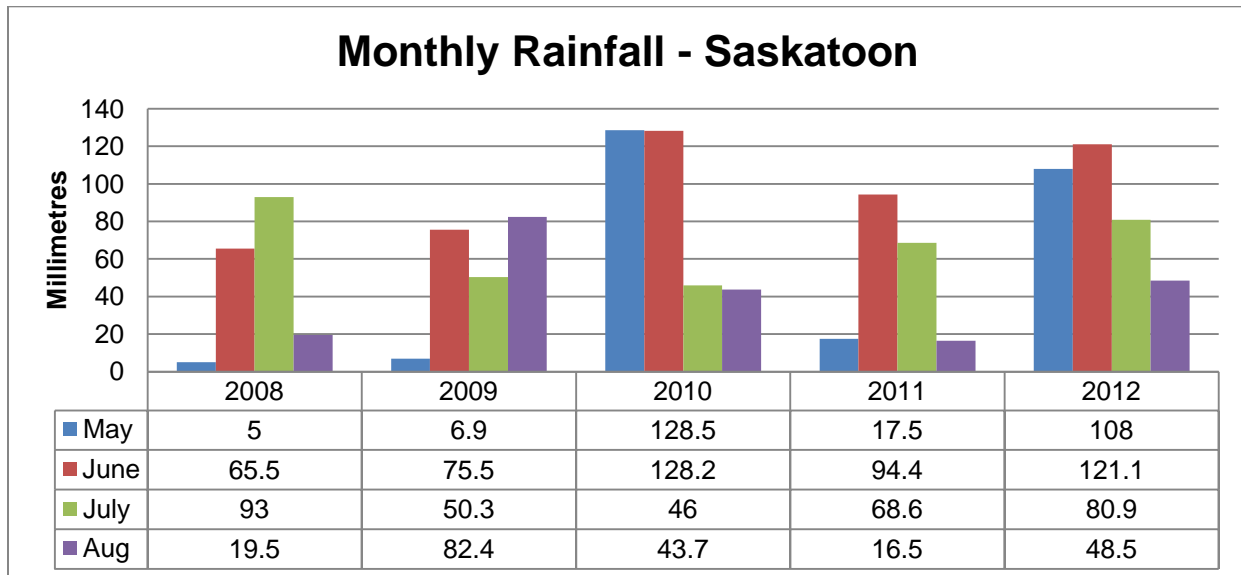
Based on customer meter readings, the volume of water sold to all customers in 2012 was 34.9 million cubic metres. This is a 3.1% drop in volume from the previous five-year average volume of 36.0 million cubic metres. The decline in 2012 water volumes is mostly due to higher than normal rainfall in June and July which resulted in a reduction in residential and commercial irrigation.

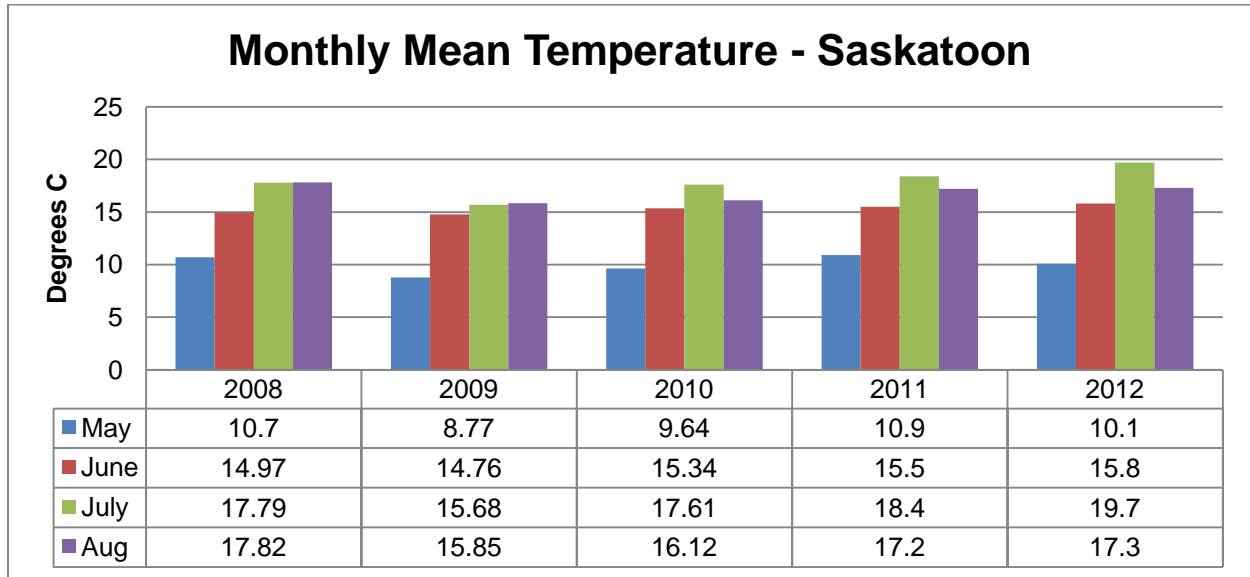
The following chart shows both water volume sales and water treatment pumpage. Water Treatment Plant (WTP) pumpage measures the volume of treated water pumped from the WTP into the distribution system. The difference in values is due to water loss (e.g. leaking water main joints), unmetered use (e.g. flushing water mains, fire flow), and estimated consumption and year end unbilled volumes.

# 2012 Water & Wastewater Treatment Branch Annual Report

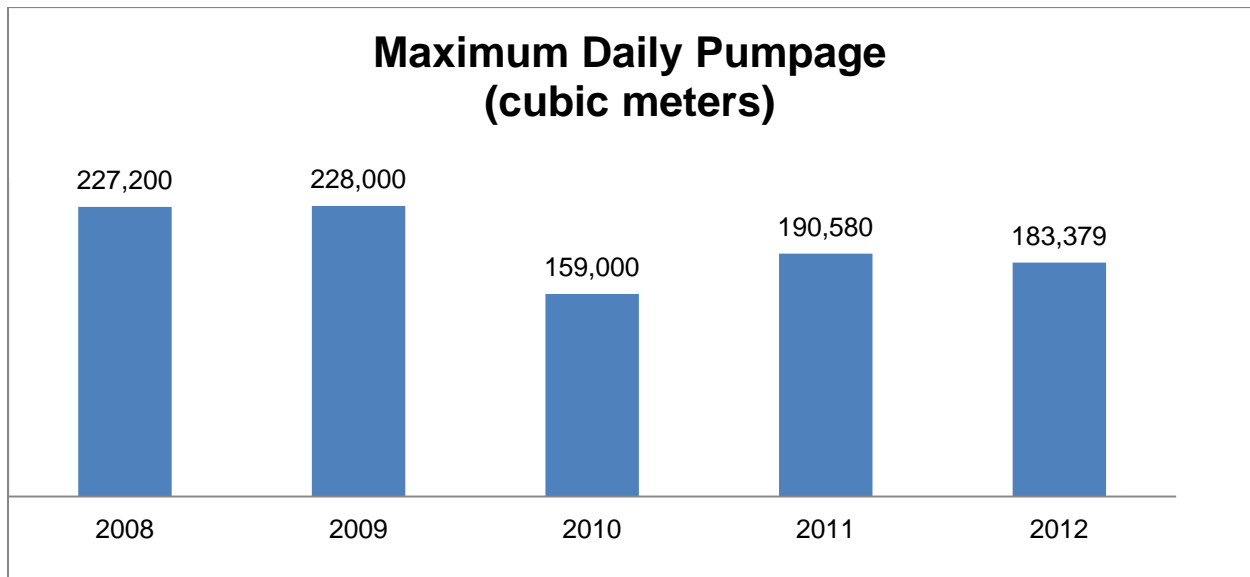


Variations in annual water sales correlate closely with summer rainfall and temperatures which show irrigation is a significant portion of total sales volume.





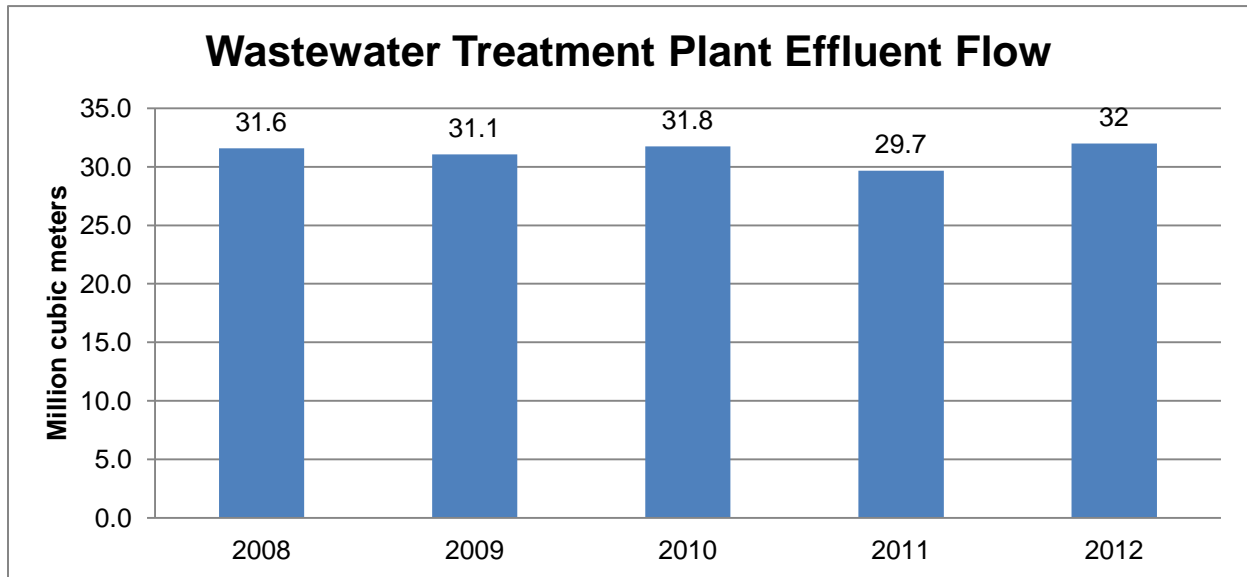
A maximum daily pumpage of 183,379 m<sup>3</sup> (183 million litres per day) occurred in July of 2012. The following chart shows that maximum daily pumpage in 2012 is 19% less than the 2008 to 2009 average maximum pumpage due to higher than average rainfall, cooler temperatures and conservation initiatives.



## 2012 Water & Wastewater Treatment Branch Annual Report

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Wastewater Treatment Plant (WWTP) flows increase in wet weather conditions due to inflow (e.g. weeping tiles) and infiltration (e.g. leaky pipe joints and manholes) into the wastewater collection system. One primary sedimentation basin was taken out of service to provide additional surcharge capacity during high flow events and emergencies. Using the empty basin to store excess flow reduced the risk of unintentional untreated wastewater discharge into the river. Infrastructure Services have designed and installed various infrastructure to attenuate the inflow and infiltration into the collection system. Although summer peak flows have been higher in 2010, 2011 and 2012, the total effluent volumes discharged to the river have not increased proportionately partly due to lower residential indoor water consumption. The significantly higher rainfall in 2012 resulted in the increase in effluent flow compared to 2011.

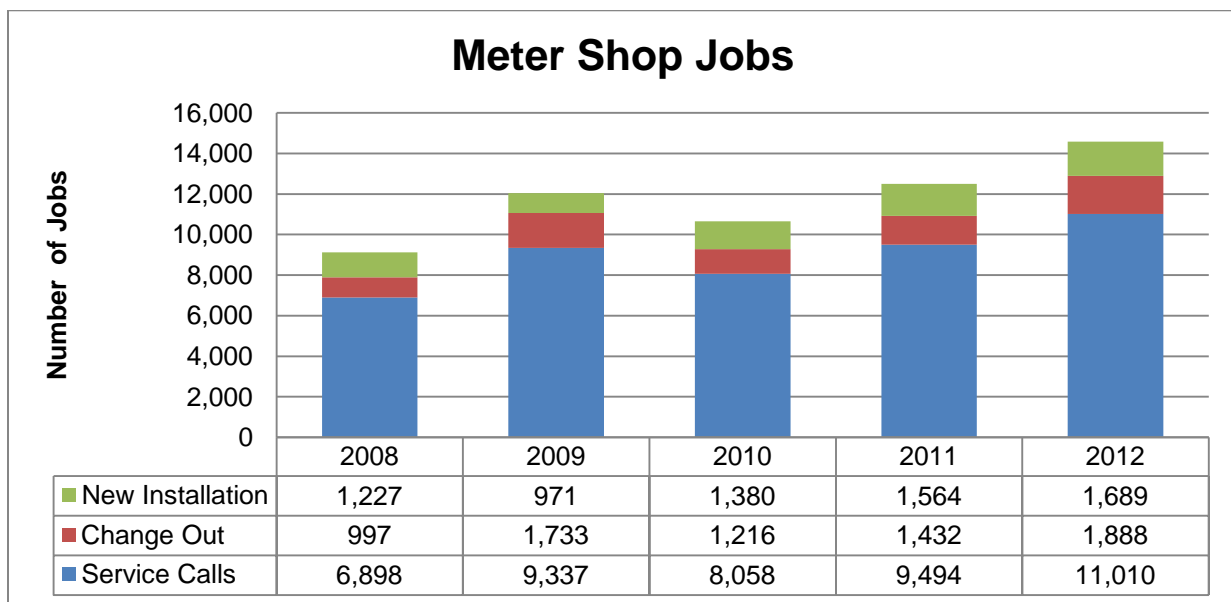


# 2012 Water & Wastewater Treatment Branch Annual Report



In 2012, the Meter Shop undertook 14,587 total jobs which included 1,689 new meter installations, 1,888 meter

replacements, and 11,010 service calls. Service calls result from work orders, generated by Corporate Services, to check malfunctioning meters, or if a cut-off/reconnect has been ordered.



Presently, there are 5,365 active backflow prevention devices. In 2012, 827 new devices were installed and 96.1% of all devices were tested, which is an increase from the 95.6% of all devices tested in 2011. Of the 3.9% not tested, almost all of these water connections were inactive in 2012 due to construction.

## Comparisons

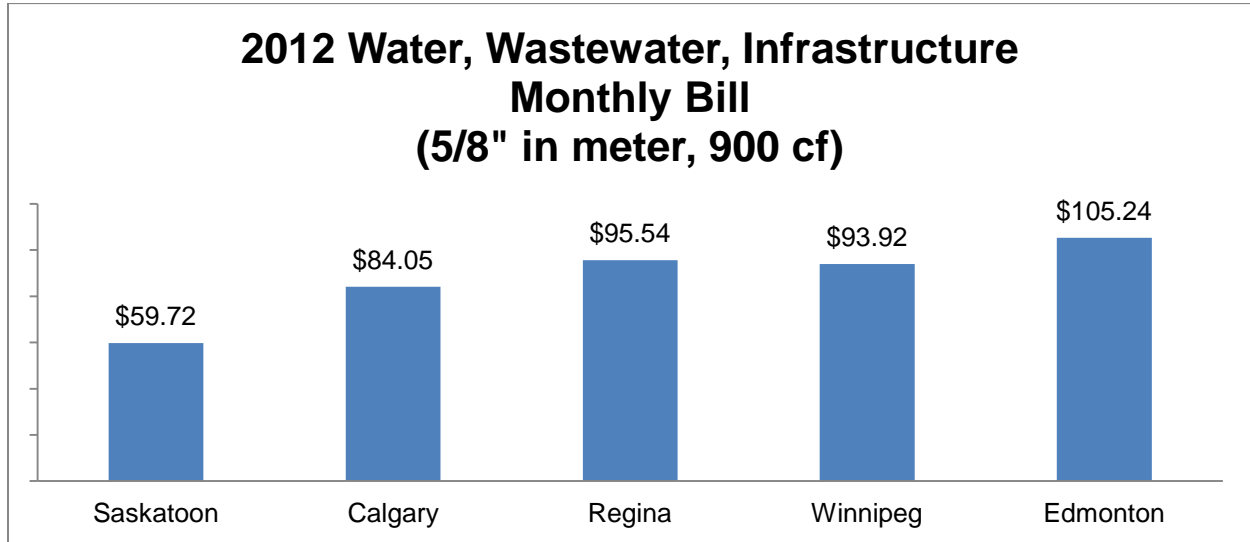
The following chart compares monthly water, wastewater, and infrastructure bills for residential customers. Saskatoon bills remain significantly less than other cities in Alberta, Manitoba and Saskatchewan. For example, assuming a 5/8" meter connection



## 2012 Water & Wastewater Treatment Branch Annual Report

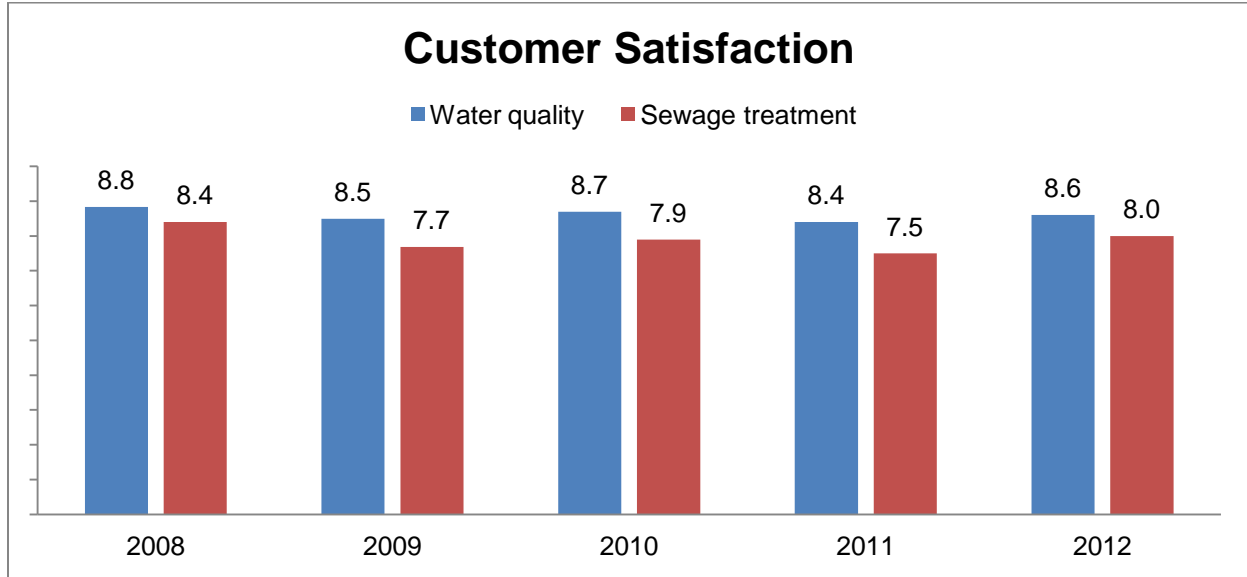
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and a monthly volume of 900 ft<sup>3</sup>, Calgary bills are 35% more and Regina bills are 56% more than Saskatoon.



### Customer Satisfaction

In the City of Saskatoon 2012 Civic Services Satisfaction Study, Saskatoon citizens ranked water treatment and wastewater treatment as two of the most important civic services. A score of 10 means “excellent” and 5 means “average”. In 2012, citizens indicated a satisfaction level of 8.6 for water quality and 8.0 for sewage treatment. Scores exceeding 7.5 are considered to be good. Water quality has consistently received the highest score and sewage treatment has consistently scored in the top four of all services provided by the City.



## OUR PEOPLE

### Employee Safety



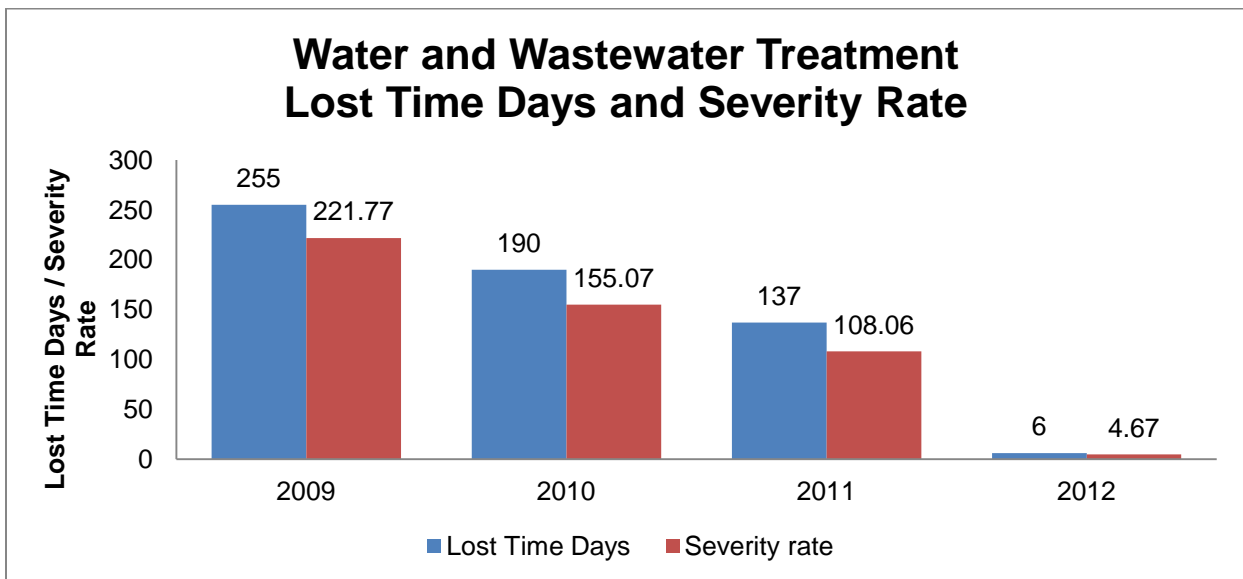
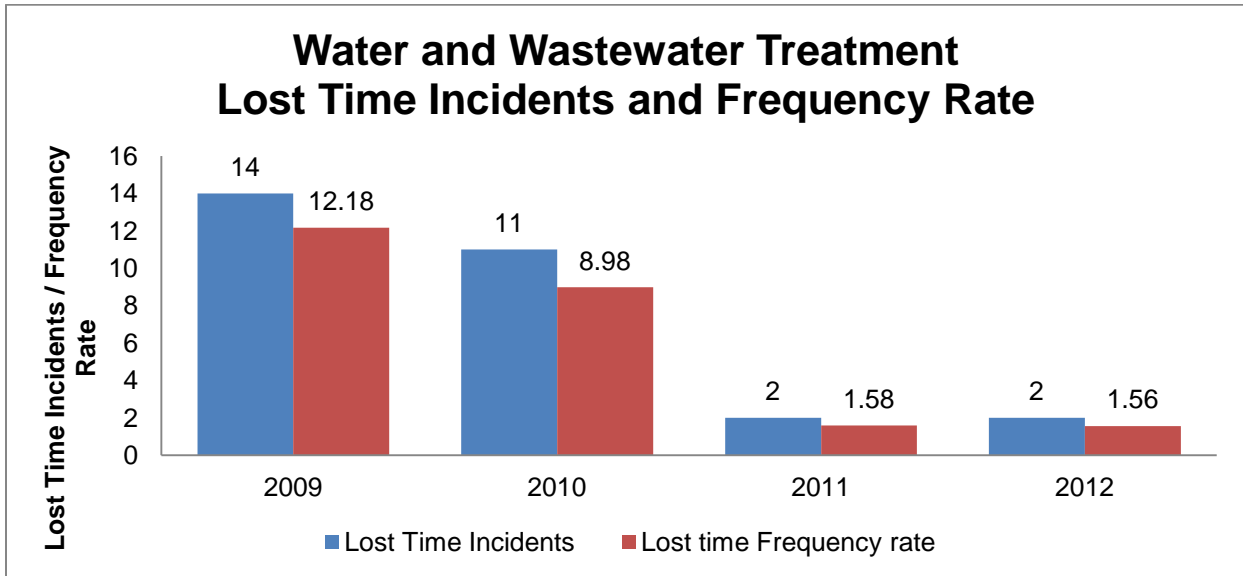
The Water Treatment Plant (WTP) and the Meter Shop together employ 70.7 full time employees (FTEs); the Wastewater Treatment Plant (WWTP) employs 53.0 FTEs. Branch management and staff have placed a strong emphasis on safety in the workplace by holding safety meetings, “tool box” meetings, work observations, and work planning. The Branch achieved the number of safety meetings planned for the year and undertook 98 work observations.

In 2012, the WWTP staff, WTP staff and Meter Shop staff achieved two years, one year and three years, respectively, without a lost time incident.

In 2012, the Branch experienced 2 lost-time incidents for a total of 6 lost-time days. Both these key performance indicators are equal or better than 2011. As a result, both the lost-time frequency rate (1.56) and severity rate (4.67) improved from 2011. The

# 2012 Water & Wastewater Treatment Branch Annual Report

Branch achieved this reduction by working together with the Occupational Health and Safety Committee, staff and management to keep safety #1 in everything we do.



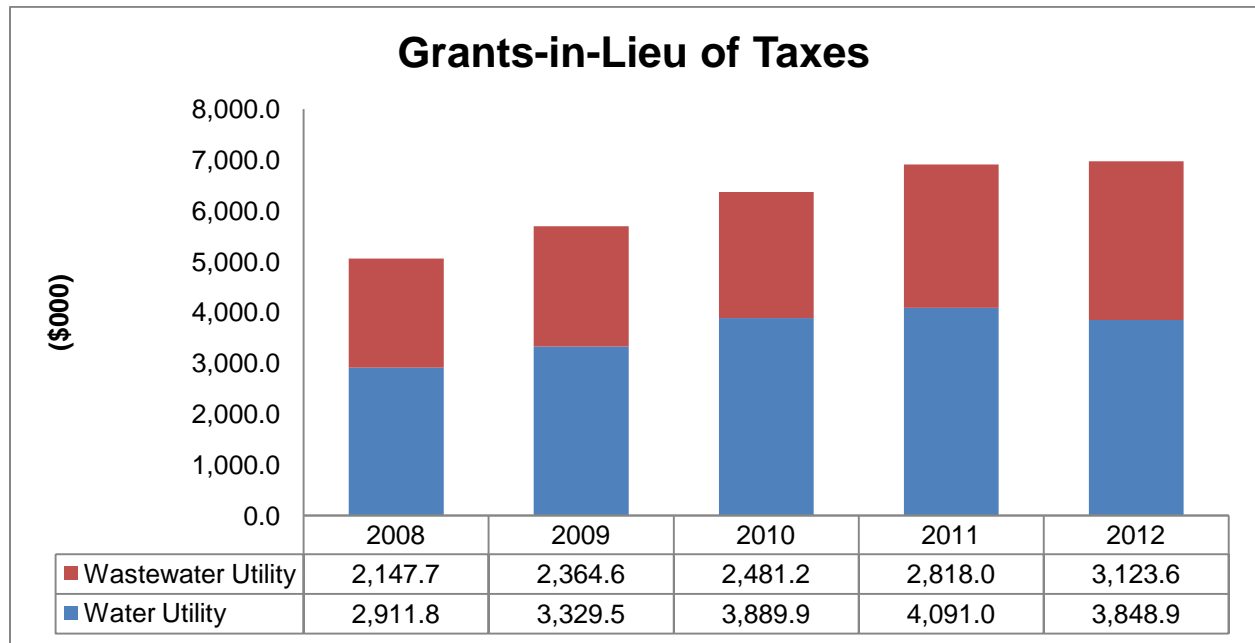
# 2012 Water & Wastewater Treatment Branch Annual Report

## OUR FINANCES

### Revenues Contributed to the City of Saskatoon

The Water and Wastewater Utility provides the City of Saskatoon with a grant-in-lieu of taxes. City policy states that the grant-in-lieu of taxes will equal 10% of budgeted metered revenue excluding revenue designated for transfer to the water treatment capital reserve and wastewater treatment capital reserve.

In 2012, the Water and Wastewater Utilities transferred a total of \$6,972,500 to the City; \$3,848,900 from the Water Utility and \$3,123,600 from the Wastewater Utility.



### Revenues

The Water and Wastewater Utilities are fully funded through their rates. In 2009, Council approved average annual rate increases of 7.5% for each of the years 2010, 2011, and 2012 based on an administrative recommendation.

The financials include water distribution and wastewater collection programs which are the responsibility of Infrastructure Services. The Infrastructure Services Department's

## 2012 Water & Wastewater Treatment Branch Annual Report

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operating costs cover the operation and maintenance of the water distribution system and wastewater collection system. This includes emergency work to repair watermain and service connection breaks, sewer failures, and to clean and clear sewer main blockages.

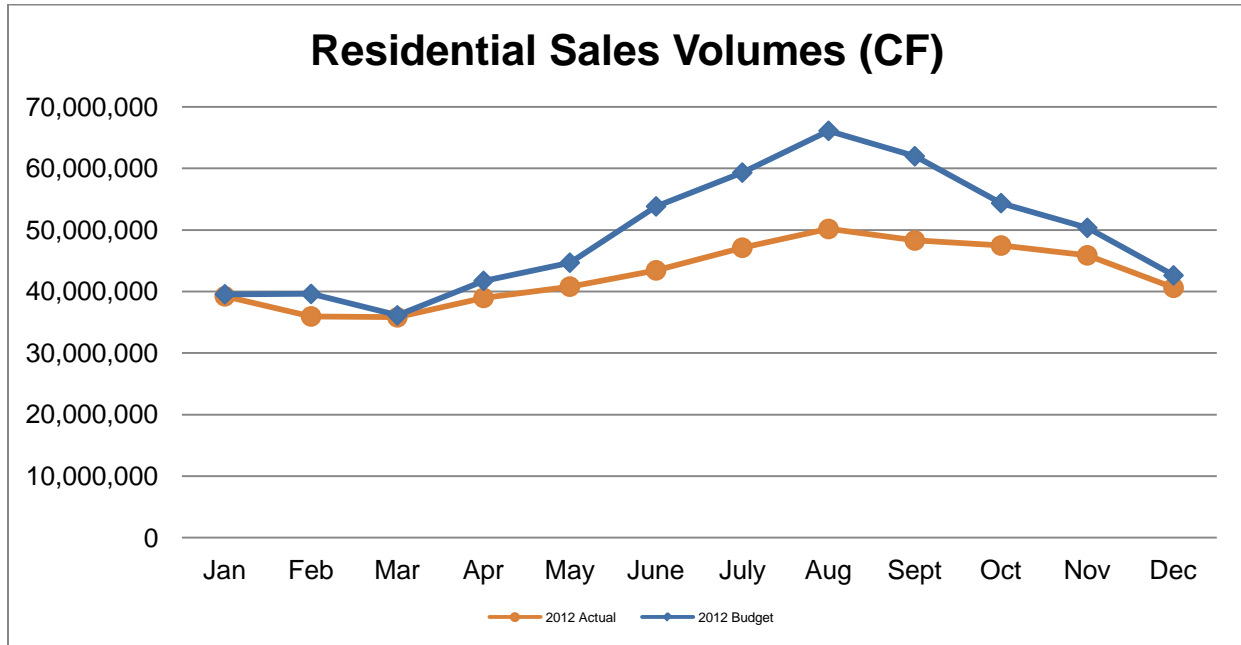
The Infrastructure Levy is used to fund Infrastructure Services water distribution and wastewater collection system capital rehabilitation and replacement projects needed to address aging infrastructure, including elimination of the watermain replacement backlog to meet current service levels.

### **Water Utility Revenue**

Total water revenue in 2012 was \$49,188,000 which is \$2,386,000 (4.6%) less than budget.

Metered revenue was \$44,193,000 which is \$2,104,000 (4.5%) less than budget. The unfavourable revenue variance is due to the sales volume, which was 7.4% less than budget. Approximately 68% of metered revenue is from volumetric charges and the remaining 32% from fixed charges. Revenue from the sale of water consists of sales to residential customers (48% of total) and industrial/commercial/institutional customers (52% of total). The following chart shows 2012 actual and budgeted summer residential sales volumes.

## 2012 Water & Wastewater Treatment Branch Annual Report

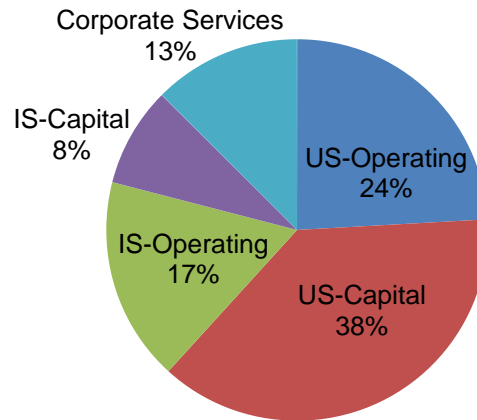


Infrastructure Levy revenue is a volumetric charge that funds the Infrastructure Services capital reserve. This revenue was \$323,000 (7.4%) less than budget due to the lower than budget volumes.

Other revenue, which consists of the fire protection charge, late payment penalties and some miscellaneous revenue, was slightly more than budgeted.

The following chart shows how the Water Utility revenue is distributed among Utility Services (US), Corporate Services, Infrastructure Services (IS), and General Revenues (as grant-in-lieu). US-Operating costs include treatment, pumping, storage, meter shop, administration, and general. US-Capital costs fund all capital work related to the treatment plant and reservoirs. The Corporate Services portion includes grant-in-lieu of taxes, cross charges for customer billing and collections, and corporate administration. IS-Operating includes the operating costs for the distribution system, and IS-Capital funds Infrastructure Services capital reserve to fund capital projects.

## Distribution of Water Revenue



The total 2012 non-capital related operating cost to supply potable water to 263,898 consumers (Saskatoon and SaskWater) was \$26,002,000 or \$98.53 per capita. The total 2012 capital related operating cost was \$22,220,000 or \$84.20 per capita.

# 2012 Water & Wastewater Treatment Branch Annual Report

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## 2012 Water Utility Operating Budget Variance (\$000)

	Budget	Actual	Variance	%
<b>Revenue:</b>				
Metered Revenue	\$46,296	\$44,193	(\$2,104)	-4.54%
Infrastructure Levy	4,394	4,071	(323)	-7.36%
Other Revenue	885	925	41	4.58%
<b>Total Revenue</b>	<b>\$51,575</b>	<b>\$49,188</b>	<b>(\$2,386)</b>	<b>-4.63%</b>
<b>Expenses:</b>				
US -Treatment, Pumping Storage	\$9,406	\$8,441	(\$965)	-10.26%
US-Meters	1,479	1,440	(39)	-2.63%
US-Admin & General	2,421	1,745	(677)	-27.94%
US-Capital Charges	17,889	18,149	260	1.45%
Corporate Services	2,321	2,193	(128)	-5.51%
Grant-in-Lieu of Taxes	3,849	3,849	0	0.00%
IS-Distribution	9,816	8,334	(1,482)	-15.10%
IS-Provision to Capital	4,394	4,071	(323)	-7.36%
<b>Total Expense</b>	<b>\$51,575</b>	<b>\$48,221</b>	<b>(\$3,354)</b>	<b>-6.50%</b>
Revenue less Expense (To)/From Stabilization Reserve	\$0	\$967	\$967	
Return on Investment	0	(\$967)		
	\$0	\$0	\$0	0.00%

Note: Some columns may not add to indicated totals due to rounding.

Utility Services and Infrastructure Services management made significant reductions in operating expenses to offset the revenue variance. In fact, expenses were lowered more than revenue and \$967,000 was transferred to the Stabilization Reserve which can be used to offset budget variances in future years.

The rationale behind the favourable expense variances are as follows:

1. Favourable variance of approximately \$180,000 in chemical costs due to reduced usage due to chemical optimization and lower water demand (less water treated).
2. Favourable variance of approximately \$210,000 in power and pumping costs due to higher efficiency raw water pumps at the new intake and less water pumped due to lower demand.
3. Various favourable variance of approximately \$510,000 due to the number of job vacancies left unfilled (mechanics and labourers), freeze on fixed assets,



## 2012 Water & Wastewater Treatment Branch Annual Report

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deferral of maintenance projects to 2013 repair of large electrical equipment, such as, Motor Control Centres and pump motors.

4. Infrastructure Services Engineering was down due to high cost recovery from building permits.
5. Number of water main breaks in 2012 was at a record low of 187 compared to the five-year average number of breaks of 256.
6. Hydrant repairs and replacements were both down in 2012.

### **Wastewater Utility Revenue**

Total wastewater revenue in 2012 was \$40,926,000 which is \$1,078,000 (2.6%) less than budget.

Metered revenue was \$30,563,000 which is \$1,266,000 (4.0%) less than budget. Wastewater metered revenue is billed based on water volumes. The unfavourable revenue variance is due to the water sales volume which was 7.4% less than budget. Approximately 57% of metered revenue is from volumetric charges and the remaining 43% is from fixed charges. Metered revenue consists of sales to residential customers (48% of total) and industrial/commercial/institutional customers (52% of total).

Infrastructure Levy revenue is a volumetric charge that is transferred to Infrastructure Services capital reserve. This revenue is \$446,000 (7.4%) less than budget due to the lower than budget volumes.

Other revenue, which consists of liquid waste hauler fees, late payment penalties, and some miscellaneous revenue, was \$309,000 (38.3%) more than budget.

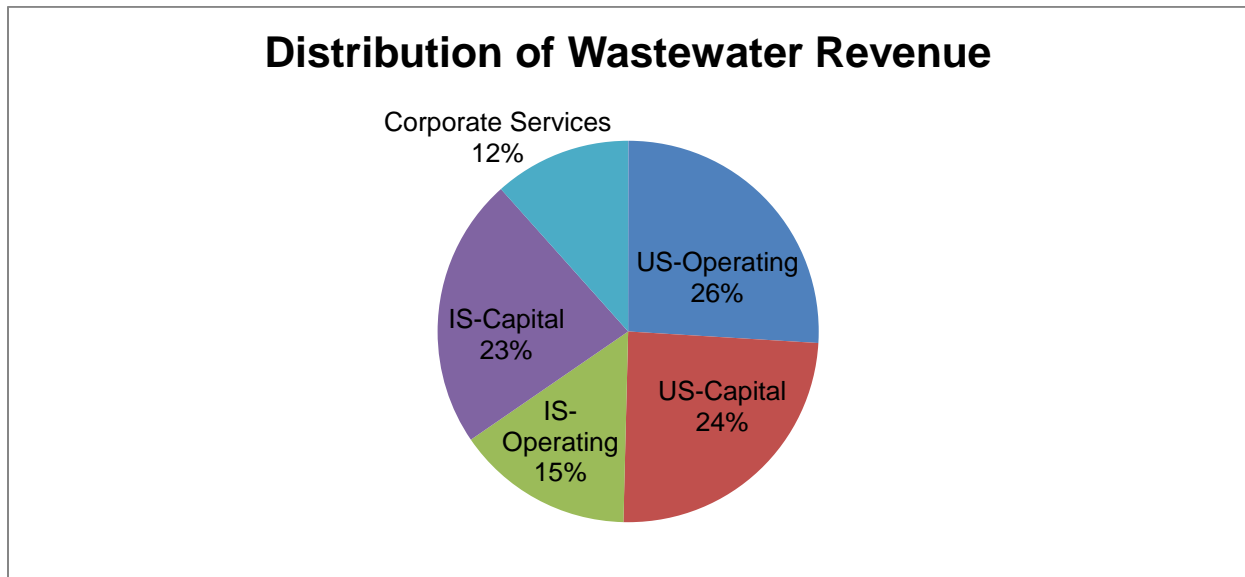
Flood Protection Levy revenue is a fixed charge that is transferred to Infrastructure Services capital reserve. This revenue is \$325,000 (9.9%) more than budget due to a higher than budgeted number of meters.

## 2012 Water & Wastewater Treatment Branch Annual Report

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The following chart shows how the Wastewater Utility revenue is distributed among Utility Services (US), Infrastructure Services (IS), and Corporate Services. US-Operating costs include treatment, lift stations, sludge handling and disposal, and administration.

US-Capital funds all wastewater plant and lift station capital works. Corporate Services portion includes a grant-in-lieu of taxes, cross charges for customer billing and collections, and corporate administration. IS-Operating funds operating costs for the sanitary sewer collection system and IS-Capital is the Infrastructure Levy revenue and Flood Protection Levy that are transferred to the Infrastructure Services capital reserve to fund capital projects.



The total 2012 non-capital related operating cost to treat the City's wastewater was \$21,148,000 or \$89.38 per capita. The total 2012 capital related operating cost was \$19,075,000 or \$80.62 per capita.

# 2012 Water & Wastewater Treatment Branch Annual Report

## 2012 Wastewater Utility Operating Budget Variance (\$000)

	Budget	Actual	Variance	%
<b>Revenue:</b>				
Metered Revenue	\$31,829	\$30,563	(\$1,266)	-3.98%
Infrastructure Levy	6,068	5,621	(446)	-7.36%
Other Revenue	808	1,117	309	38.26%
Flood Protection Levy	3,300	3,625	325	9.85%
<b>Total Revenue</b>	<b>\$42,005</b>	<b>\$40,926</b>	<b>(\$1,078)</b>	<b>-2.57%</b>
<b>Expenses:</b>				
US -Treatment	\$7,426	\$6,773	(\$653)	-8.79%
US-Lift Stations	1,117	1,360	243	21.75%
US-Sludge Handling & Disposal	1,663	1,493	(170)	-10.23%
US-Admin & General	809	818	8	1.05%
US-Capital Charges	9,940	9,829	(111)	-1.12%
Corporate Services	1,623	1,543	(80)	-4.95%
Grant-in-Lieu of Taxes	3,124	3,124	0	0.00%
IS-Collection	6,936	6,039	(897)	-12.93%
IS-Provision to Capital	9,368	9,246	(121)	-1.30%
<b>Total Expense</b>	<b>\$42,005</b>	<b>\$40,224</b>	<b>(\$1,781)</b>	<b>-4.24%</b>
Revenue less Expense (To)/From Stabilization Reserve	\$0	\$703	\$703	
Return on Investment	0	(\$703)		
Return on Investment	\$0	\$0	\$0	0.00%

Note: Some columns may not add to indicated totals due to rounding.

Utility Services and Infrastructure Services management made significant reductions in operating expenses to offset the revenue variance. In fact, expenses were lowered more than revenue and \$703,000 can be transferred to the Stabilization Reserve. The Stabilization Reserve can be used to offset budget variances in future years.

The rationale behind the favourable expense variances are as follows:

1. Vacancies left unfilled.
2. Some savings on chemicals at the plant through optimization.
3. Various savings by deferring important but non-critical work (example: grit haul contract was delayed until site assessment study completed).
4. Significant overall plant savings through process optimization made possible by a new control system commissioned in April 2012.
5. Sewer Service connection expense less than budget.

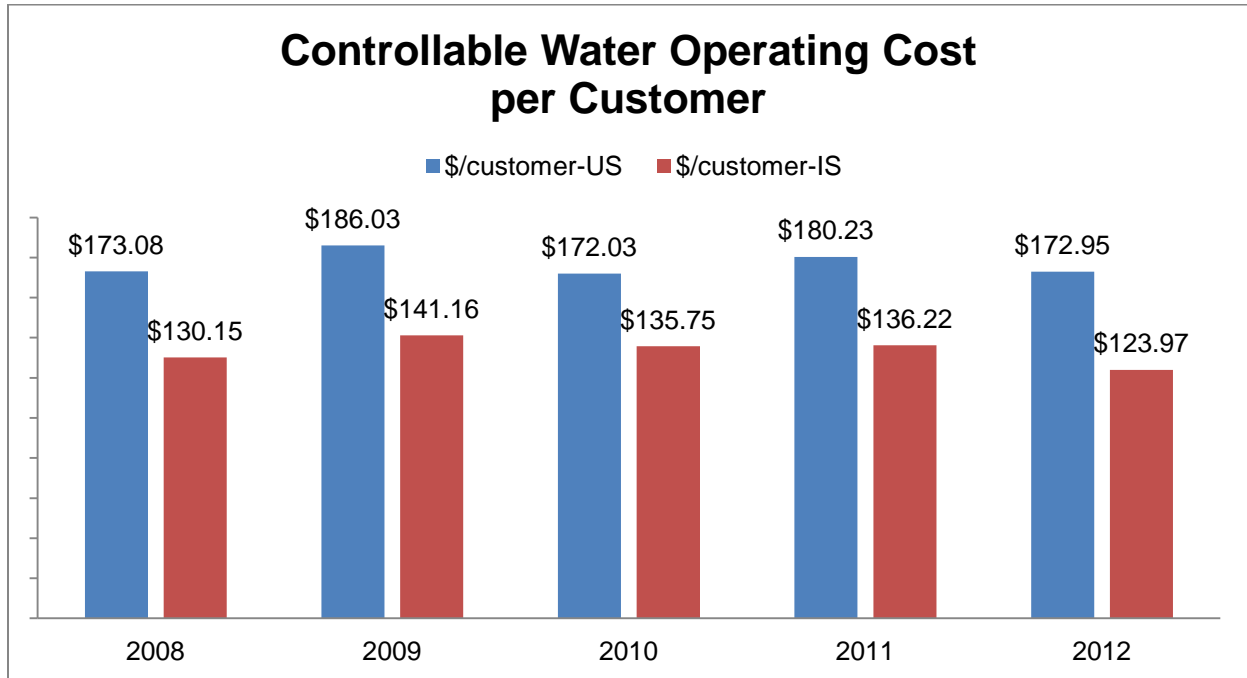
# 2012 Water & Wastewater Treatment Branch Annual Report

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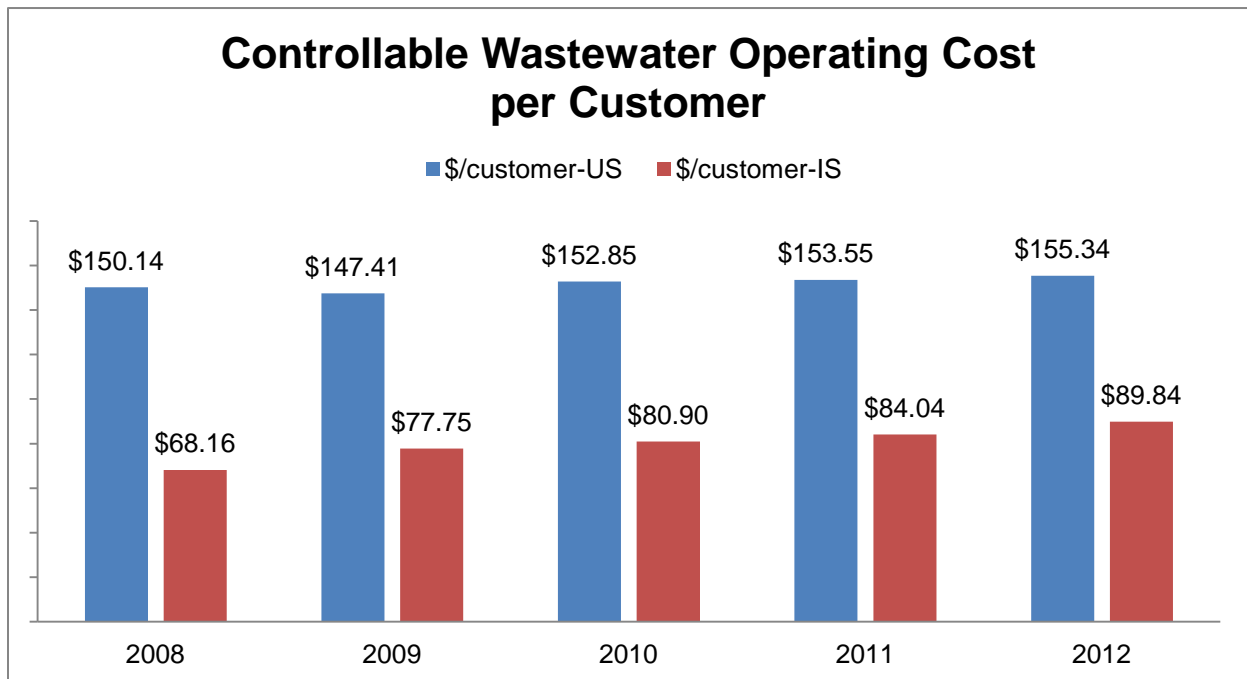
## Key Performance Indicators

Unmetered water is determined as the difference between the amount of treated water pumped from the Water Treatment Plant and the amount metered at customer premises. This difference is due to water loss through leaks or unauthorized water use, authorized but unmetered consumption, and estimated consumption and year-end unbilled volumes. Over the past five years, this difference has ranged from 15 to 17% of pumpage volumes. For a given level of sales consumption, any improvement in water loss would result in lower water volume treated and lower water treatment operating costs. Reduction of water loss will require maintenance and investment in the water distribution system.

Utility Services controllable water operating costs include treatment, pumping, storage, meter shop, administration, and general. Controllable operating costs exclude the cost of Corporate Services, debt servicing costs, and provisions to capital reserves. Infrastructure Services operating costs include the operating costs for the distribution system. Faced with a large unfavourable revenue variance, management was able to reduce controllable water costs per customer from 2009, due in part to lower chemical and electricity costs resulting from reduced volume treated and pumped. The average increase in this metric over the five-year period was 0.0% for Utility Services and decreased 1.3% for Infrastructure Services.



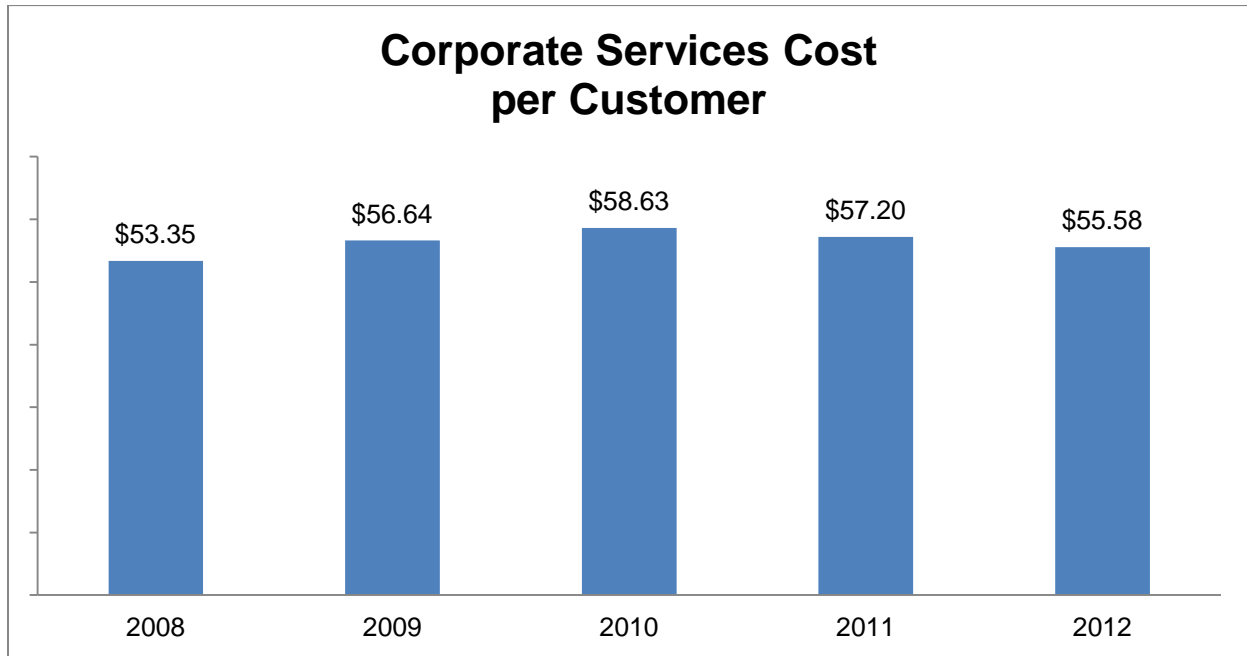
Utility Services controllable wastewater operating costs include treatment, lift stations, sludge handling and disposal, administration, and general. Infrastructure Services wastewater operating costs include the operating costs for the wastewater collection system. The average increase in this metric over the five-year period was 0.9% and 7.1% per year respectively for Utility Services and Infrastructure Services.



## 2012 Water & Wastewater Treatment Branch Annual Report

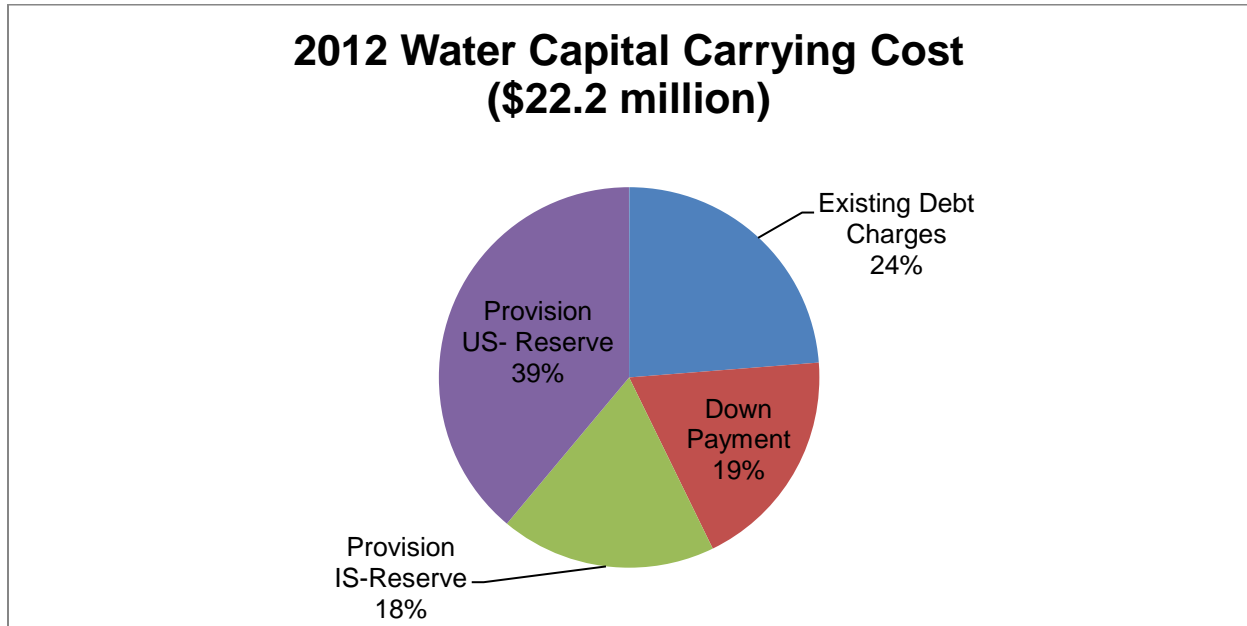
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Corporate Services costs include customer billing and collections, administrative overhead, and computer services charges. The following chart shows the combined annual Corporate Services costs for water and wastewater.

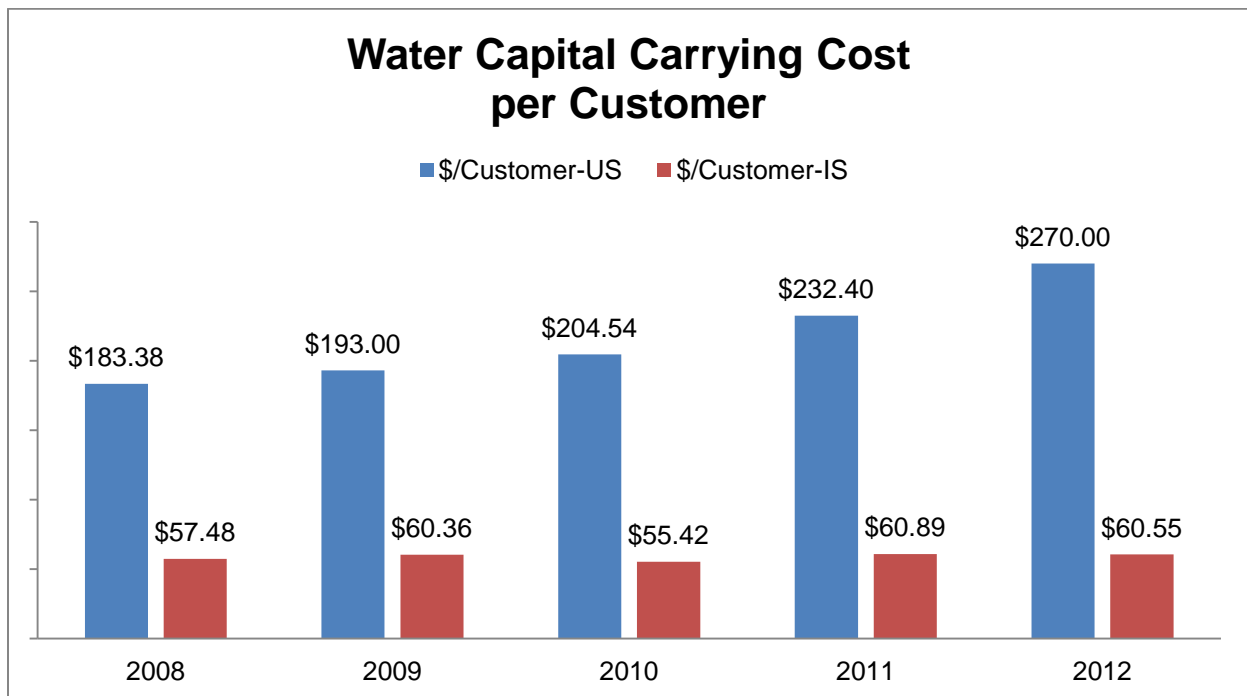


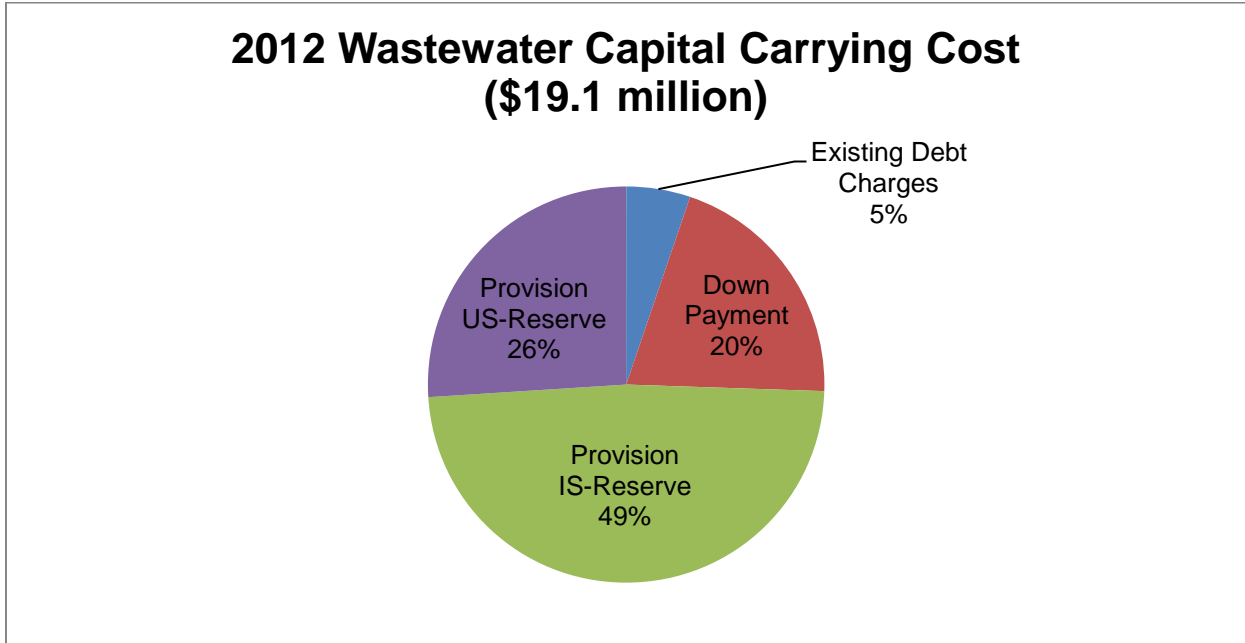
The Utility's capital expenditures are funded from capital reserves and debt. Provisions to capital reserves and debt servicing costs are all funded from utility rates and termed capital carrying cost.

The following charts show the composition of annual capital carrying costs funded from revenue. Down payment includes approximately 10% of newly approved debt and earlier approved, but still unissued, debt. Provision to the Infrastructure capital reserve for water is funded by the Infrastructure Levy and for wastewater the Infrastructure Levy and Flood Protection Levy.

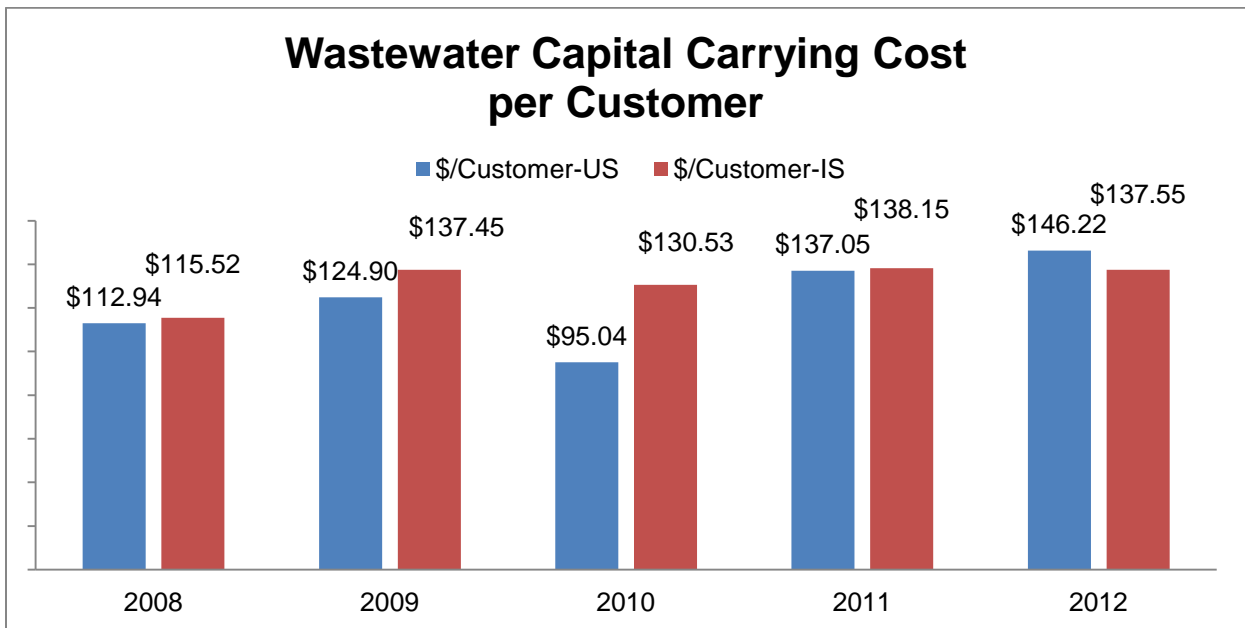


Water capital carrying costs per customer has increased at a rate of 10.2% per year for Utility Services from \$183.38 in 2008 to \$270.00 in 2012. This ratio has increased at a rate of 1.3% per year for Infrastructure Services from \$57.48 in 2008 to \$60.55 in 2012.





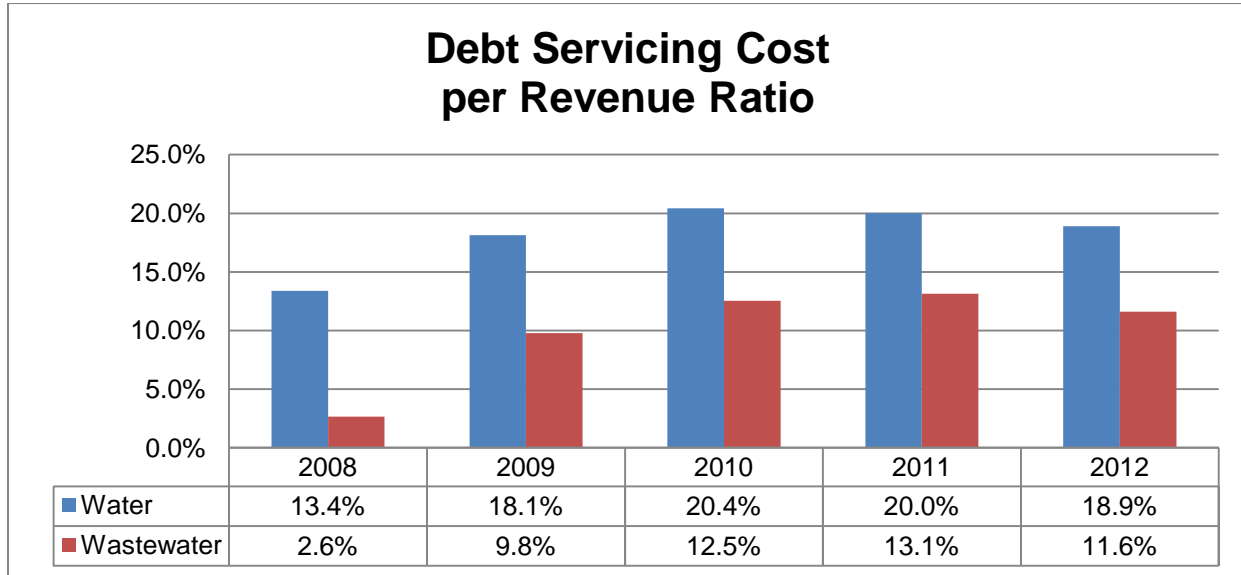
Wastewater capital carrying costs per customer has increased at a rate of 6.7% per year for Utility Services from \$112.94 in 2008 to \$146.22 in 2012. This ratio has increased at a rate of 4.5% per year for Infrastructure Services from \$115.52 in 2008 to \$137.55 in 2012.





# 2012 Water & Wastewater Treatment Branch Annual Report

The ratio of debt servicing cost to revenue for Utility Services water and wastewater is shown in the following chart. Debt servicing cost includes existing debt principal and interest, debt reduction charges, and revenue excludes the Infrastructure and Flood Protection Levies. This ratio indicates that the level of debt relative to revenue is manageable for the Utility.



## OUR WORK

The provincial government Permit to Operate requires stringent monitoring and reporting. City chemists, technologists, and treatment plant operators conduct over 50,000 water treatment quality tests and a further 5,000 distribution water quality tests every year as part of the water quality control program. The City of Saskatoon consistently meets or exceeds all regulatory limits for drinking water quality as per Saskatchewan Water Security Agency Permit to Operate.

The public expects, and the Branch is committed to, responsible watershed management and stewardship. The Utility is a member of South Saskatchewan Watershed Stewards Incorporated, a community based non-profit corporation that was formed to implement the South Saskatchewan River Watershed Source Water

## 2012 Water & Wastewater Treatment Branch Annual Report

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Protection Plan. Protecting the river and its surrounding watershed is vital to the long-term sustainability of our water supply.

The City of Saskatoon consistently meets or exceeds all regulatory limits for final wastewater effluent quality as per Saskatchewan Water Security Agency Permit to Operate. Phosphorous is the key nutrient the Wastewater Treatment Plant removes because of its negative impacts on the Saskatchewan River. The implementation of the ultraviolet disinfection facility, to replace chlorine disinfection at the Wastewater Treatment Plant, has improved the quality of the final effluent being discharged to the South Saskatchewan River.

The Utility supports the Provincial Operator Certification Program, for both the Water and Wastewater Treatment Plants, which helps protect both the public and the environment.

Information on the water treatment process, water quality test results and other water quality topics and information is provided in a Consumer Confidence Report which is distributed annually to households in Saskatoon and can be found on the City's website. Guided tours of both the Water Treatment and Wastewater Treatment Plants are available to the public to increase awareness of the operations of the utilities and the provision of safe reliable water as well as the production of quality effluent returned to the South Saskatchewan River.

### **Conservation**

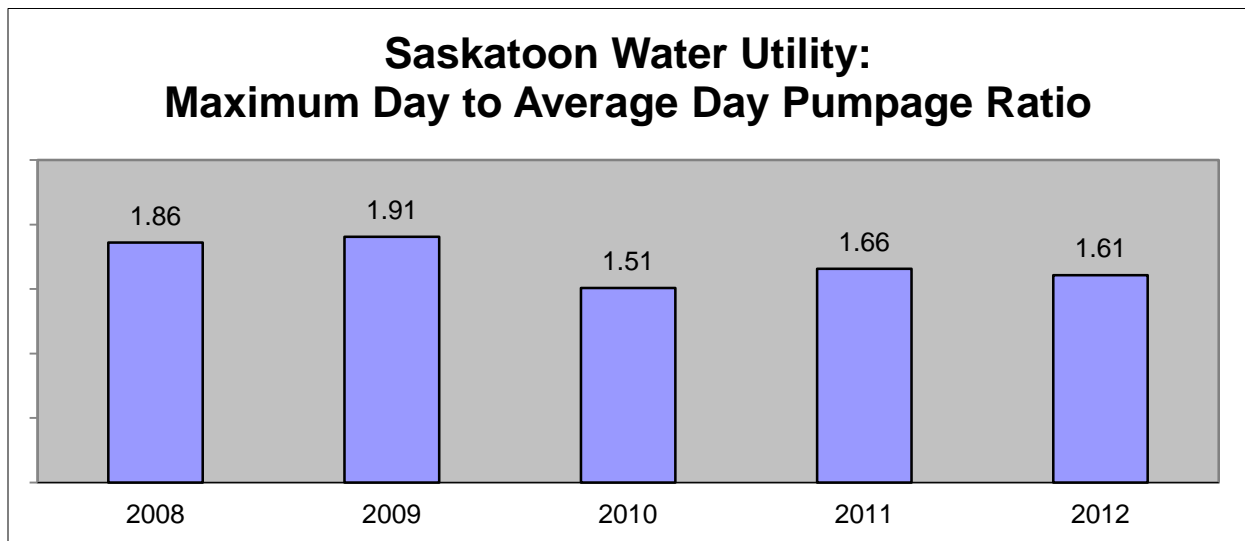
The 2009 Water Treatment Long Term Capital Development and Expansion Plan recommended the development of a water conservation plan to defer the need for a new water treatment plant, and other capital expenditures attributed to increased demand. The 2010-2012 rate plan implemented new conservation-oriented rates. In addition, customer education to attenuate the summer maximum day volume (peak demand management) will also defer some capital expenditures. In 2010, the maximum day pumpage was very low because of the virtual elimination of summer irrigation. As a result, the peaking ratio of

## 2012 Water & Wastewater Treatment Branch Annual Report

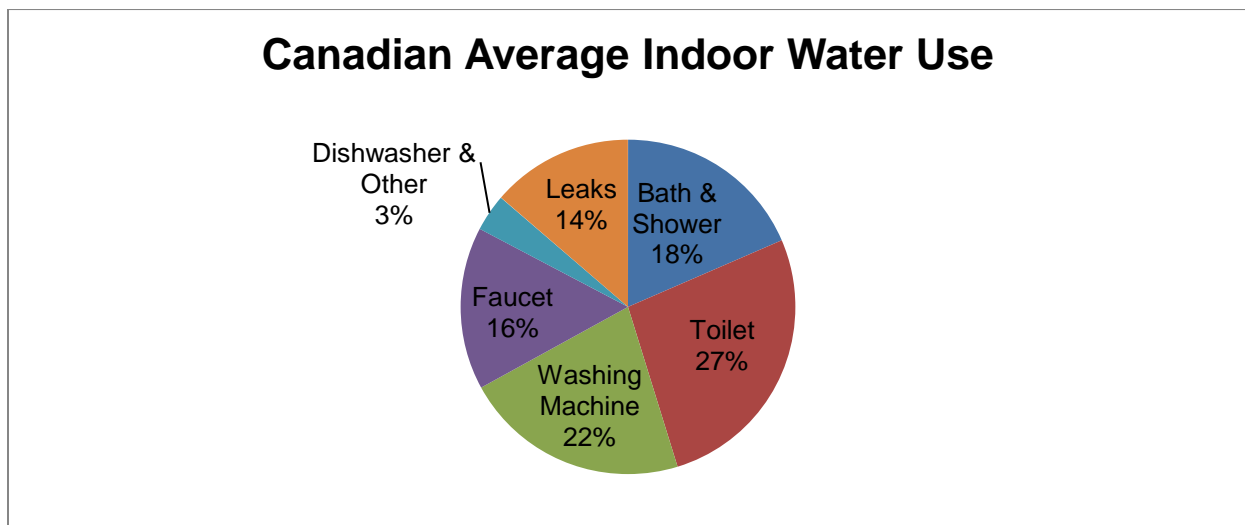
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maximum day to average day fell to 1.51. In 2011, the mandatory water restriction and wetter than normal months, of June and July reduced the peaking ratio to 1.66.

Lower summer irrigation in 2012 resulted in a peaking ratio of only 1.61. As conservation rates and customer education begin to impact customer behaviour, this ratio should fall from the 1.9 level experienced in 2009; however, it is not anticipated to reach as low as the 2010 level on a consistent basis. A dry, hot summer is needed to get a better evaluation of the peaking ratio.



The following chart provides an indication how water is consumed in Canadian homes.

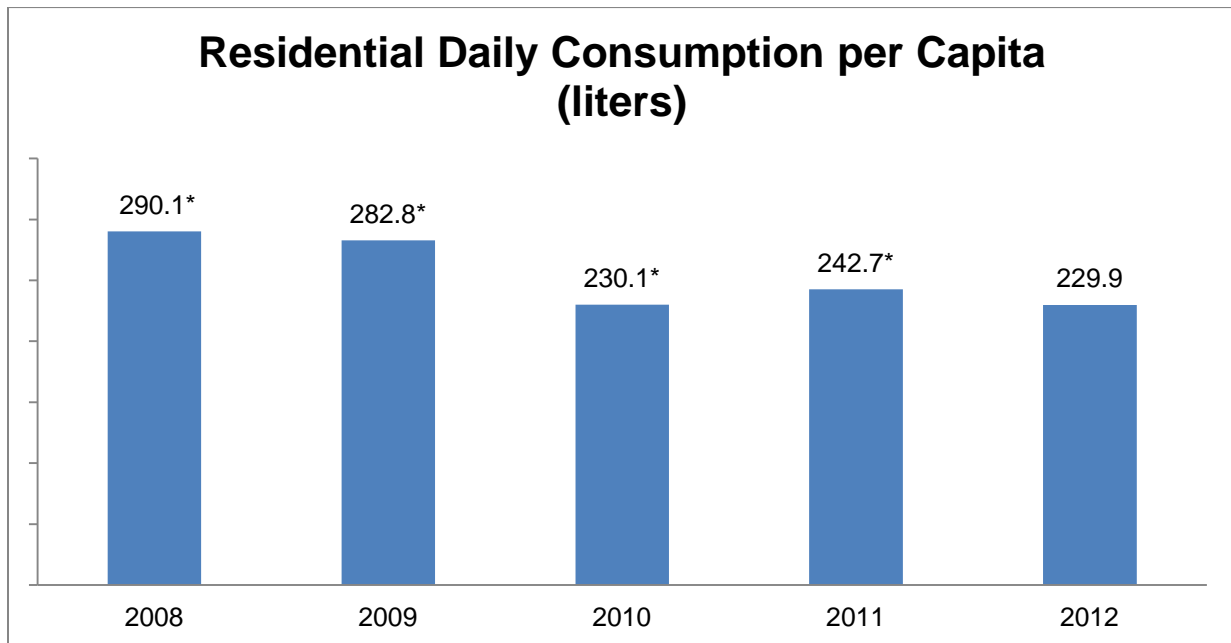


## 2012 Water & Wastewater Treatment Branch Annual Report

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The above proportioning of indoor water use can vary significantly depending on whether low-flow toilets, showers and washing machines are used. Studies show that households with low-flow fixtures use approximately 25% less indoor water than households without water efficient fixtures.

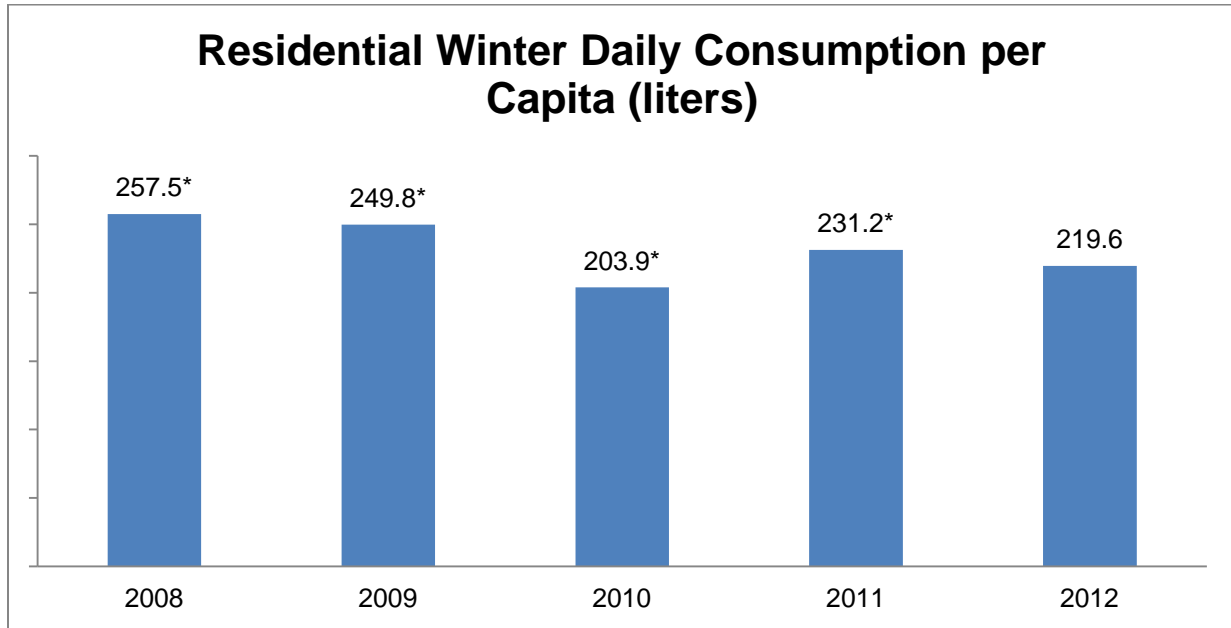
The following chart provides a measure of Saskatoon residential consumption on a per day per capita basis averaged over the entire year and, therefore, includes outdoor use.



\*estimated values prior to 2012 as multi-unit residential was classified as commercial

There has been a downward trend for residential daily consumption per capita; however, due to fluctuating seasonal irrigation demands this value varies significantly from year to year. In 2010, 2011 and 2012, this metric is lower than usual due to the wet summers and the 2011 mandatory water restriction. By comparison, the most recent National Benchmarking initiative showed a median Canadian consumption of 217 litres per capita per day in 2011.

The following chart provides a measure of residential consumption on a per capita per day basis averaged over the months of January to March and October to December when outdoor water use is not a factor.



\*estimated values prior to 2012 as multi-unit residential was classified as commercial

A comparison of residential sales during the winter months shows a steady decline in per capita daily indoor consumption of 3.9% per year since 2008 or a total decline of 14.7%. Studies from other municipalities confirm that this downward trend in indoor residential use has been occurring over the last decade. Although quite significant now, it is anticipated that this trend will flatten after most households are fitted with low-flow fixtures. The decline in indoor use accounts for 64% of the total decline in the average daily per capita consumption when irrigation is considered.

## Capital Projects in Progress



*Aerial view of construction of Avenue H Reservoir Expansion*

The Engineering Services section provides project management services for capital expansion and asset replacement for the Branch. At 2012 year end, there were 16 active projects in the Water Treatment section with total approved funding of \$76 million of which \$47 million remained to be spent. The Avenue H Reservoir Expansion, Ultraviolet Disinfection and High Lift Pumping (\$42 million) is 40% complete. The 42<sup>nd</sup> Street Reservoir and Pumphouse Expansion (\$30 million) will commence construction in May 2013.

The Wastewater Treatment section had 34 active projects at year end with approved funding of \$37 million of which \$24 million remained to be spent. Significant projects included Energy Recovery (\$4.6 million), Lift Station Upgrades (\$6.0 million), and Operations/Maintenance Facility Upgrade (\$7.8 million).

An Odour Source and Mitigation study was conducted at the Wastewater Treatment Plant to determine the major sources for odour and possible solutions. In 2013, a consulting firm will be hired to determine odour abatement options and provide a detailed design for 2014 construction.

## Water Treatment Plant Residual Handling Facility

The construction of a Residual Handling Facility (RHF) at the Water Treatment Plant (WTP) was required by Environment Canada, Department of Fisheries and Oceans and Saskatchewan Water Security Agency. The purpose of the RHF is to remove chlorine and

## 2012 Water & Wastewater Treatment Branch Annual Report

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solids, mostly consisting of sand and inert ferric, from the WTP effluent that is discharged to the South Saskatchewan River.

Since July 30, 2012, the RHF has been fully operational and accepting all Water Treatment Plant effluent. City staff has spent much time and effort on innovative upgrades to the initial design to achieve consistent operation of the facility and ensure compliance with the regulators' directives.

### **IN CONCLUSION**

Through its approved 2012 Operating Budget and the approved Five Year Capital Plan including the 2012 Capital Budget, the Utility was able to maintain operations and fund capital projects related to treated water and wastewater quality, city growth, and regulatory matters.

The success of the Utility is dependent on the dedication and skills of its employees and their efforts are greatly appreciated. Our competent team of plant operators, tradespersons, maintenance staff, engineers, technologists, technicians, chemists, and administrators all play a crucial role. The guidance and support of the General Manager, City Manager and City Council is appreciated.

The Utility and its staff look forward to the challenges and the opportunities that the future will provide.