Waukesha Water Utility is submitting this report to the Public Service Commission, as required by PSC 185.97. This report addresses each of the points requested by the Commission, including the following information.

<table>
<thead>
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<th>Section</th>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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I. ANNUAL BUDGET AND EXPENDITURES

Per Docket 6240-WR-107 the PSC determined that a “reasonable level of conservation costs recoverable in rates for the test year (2012) is $62,271.”

The actual costs for the past two years are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Actual 2014</th>
<th>Actual 2013</th>
<th>Actual 2012</th>
<th>Budget TY 2012</th>
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<tr>
<td><strong>Revenue</strong></td>
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<tr>
<td>Sewer Reimbursement</td>
<td>30,484</td>
<td>23,028</td>
<td>15,052</td>
<td>22,271</td>
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<td></td>
<td>92,755</td>
<td>85,299</td>
<td>77,323</td>
<td>84,542</td>
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<td><strong>Expenses</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Program Administration</td>
<td>9,831</td>
<td>14,474</td>
<td>5,736</td>
<td>25,255</td>
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<tr>
<td>Customer Outreach and Education</td>
<td>15,681</td>
<td>13,865</td>
<td>24,117</td>
<td>2,000</td>
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<tr>
<td>Other Program Costs</td>
<td>3,829</td>
<td>27,445</td>
<td>67,469</td>
<td>44,787</td>
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<tr>
<td>Toilet Rebates</td>
<td>7,976</td>
<td>12,815</td>
<td>5,596</td>
<td>12,500</td>
</tr>
<tr>
<td>Public &amp; Industrial Incentives</td>
<td>29,626</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>66,943</td>
<td>68,599</td>
<td>102,918</td>
<td>84,542</td>
</tr>
<tr>
<td><strong>Excess(Deficit)</strong></td>
<td>$25,812</td>
<td>$16,700</td>
<td>$(25,595)</td>
<td>$ -</td>
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</table>

Program revenue increased in 2014 by $7,000. The increase was due to a higher cost sharing allocation with the City Sanitary Sewer Department. Sanitary Sewer treatment costs decrease when less water is consumed and placed into the sanitary system. As a result, the Utility allocates 50% of the conservation costs that relate to administration and technical services to the City Sewer Department. The increased cost sharing dropped to the bottom line, driving the program excess up.

It is important to note that the 3 year average of program excess, of $5,639 per year, is not driven by water rates, but rather by internal funding from municipal sources.
II. INCENTIVE PROGRAM

The Utility has two incentive programs:
A. Toilet Rebate Program
B. Grants for Innovative Site Specific Water Saving Measures

A. Toilet Rebate Program

Waukesha Water Utility’s High-Efficiency 1.28 gpf WaterSense toilet rebate program has been in effect since October 2008.
- From October 2008 to July 2012 – The program offered a $25 rebate.
- In 2012, the Utility increased the rebate to $100, although less is paid if the actual cost to the customer is less.
- In 2013, the Utility began to target a younger audience. A toilet leak/rebate effort was launched as part of AWE’s Fix a Leak initiative (see pages 36-38 for details).
- In 2014, the Utility continued that effort. Fewer grade school classes chose to participate than in the prior year. 81 toilet rebates were processed in 2014.

Historically, the following rebates have been awarded:

![Waukesha Water Utility Toilet Rebates Chart]

Using the Alliance for Water Efficiency (AWE) Conservation Tracking Tool, the overall cost effectiveness of the program is demonstrated below.

<table>
<thead>
<tr>
<th>Class</th>
<th>Activity Name</th>
<th>Unit Cost ($/MG)</th>
<th>PV Cost</th>
<th>Unit Benefit ($/MG)</th>
<th>PV Benefit</th>
<th>B/C Ratio</th>
<th>Avoided Supply</th>
<th>Avoided Wastewater</th>
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</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Residential HE Toilets, $25 Rebate</td>
<td>$412.18</td>
<td>$8,729.64</td>
<td>1,662.09</td>
<td>35,201.33</td>
<td>4.03</td>
<td>$19,596.13</td>
<td>$15,605.20</td>
</tr>
<tr>
<td>Residential</td>
<td>Toilets, $100 Rebate (Residential)</td>
<td>$657.37</td>
<td>$27,729.69</td>
<td>1,770.81</td>
<td>74,698.37</td>
<td>2.69</td>
<td>$41,608.97</td>
<td>$33,089.40</td>
</tr>
</tbody>
</table>
The projected water savings through 2035 is demonstrated by the two graphs below. The first relates to water savings from the $25 rebates.

The second graph relates to water saved by the $100 rebates.

2013 was the first full year that $100 rebates were offered. As the early adopters took advantage of the rebate in 2013, the rebates requested decreased in 2014, therefore the increase in gallons saved between 2013 and 2014 is less dramatic than between 2012 and 2013.
B. Grants for Innovative Site Specific Water Saving Measures

In 2014, Waukesha Water Utility began to support innovative, site specific, water saving measures for non-residential accounts. The following 4 companies received grants from the Utility to support their conservation initiatives.

1. La Casa de Esperanza (Village #1) – Commercial - A Wisconsin-based social service organization that offers affordable apartments to low-income seniors and disabled individuals.

   As mentioned previously in 2013’s PSC Report, La Casa changed out their old, water guzzling, toilets with low flow toilets in every apartment. (Due to the uncertainties surrounding the drain line transport issues in commercial buildings, La Casa was unable to install the 1.28 gpf toilets; so La Casa did the next best thing – installed the 1.6 gpf toilets.) In one year, La Casa saved 97,250 gallons of water.

   Since the Utility’s toilet rebate program is only for the 1.28 gpf toilets, the Utility agreed to support La Casa’s initiative with a $50 rebate per toilet, once the project was completed. La Casa finished the project in late 2013 and the Utility sent La Casa a check in 2014 for $2,100.

2. Waukesha School District – Public - one of our top 100 water users.

   A longtime partner in conservation and a fellow entity dependent on public support, the Waukesha School District showed their dedication to water conservation in two ways. First, South High School replaced a valve on its swimming pool, saving the district 330,000 gallons per year, see page 28. Then, the District initiated a full blow conservation effort with Siemens. A part of the initiative called for replacing water cooled chiller condenser units with air cooled units for 2 high schools and 2 middle schools. It is estimated this project will save approximately 570,000 gallons of water per year.

   The Utility supported the School District’s efforts with an incentive of $15,000.
3. Eaton – Industrial - one of our top 10 water users

The Waukesha Water Utility provided a $10,000 grant in 2014 to offset the purchase of recirculating chillers designed to cool pumps used in the manufacturing process by Eaton’s Cooper Power Systems Division. This grant recognized that the installation of the units will save approximately 3.1 million gallons of water per year (the four-year historical average measured by its sewer credit meter.) The City’s sanitary sewer department brought the project to the attention of the Utility. As a courtesy, Eaton had contacted the department to make them aware of the decrease in water discharged to the sanitary sewer. The contact between the three parties achieved a third objective when discussions revealed that additional cross connection measures would have to be taken.

This grant and the savings it produced became a benchmark for the Utility. The project’s calculated cost benefit ratio of $1:310 gallons saved

4. Carroll University – Commercial - one of our top 100 water users.

Carroll University is also conserving water by updating the Van Male Natatorium.

The conservation measures taken by the University include installing domestic water heaters (thereby eliminating the need to import water through a lateral from a distant building), installing water softeners with better flow rates, changing out their clothes washers with efficient washers, and installing efficient lavatories, sinks, urinals, and shower heads. It is estimated that this project will save approximately 783,000 gallons of water annually. Using a cost-benefit-ratio of $310 per gallon saved, the Utility supported this initiative with a $2,526 grant.
III. EFFECTS OF WATER RATES STRUCTURE

While the Utility implemented an inclining rate block structure in 2007, it wasn’t until 2010 that it had data separated into single, duplex and triplex customers. Since 2010 the number of customers that have been in the first block appears to have increased. Whether this is a trend, remains to be seen. Furthermore, it is impossible to know whether the rate structure alone is causing an increase in “frugal” customers, or whether other conservation measures are involved.

![Graph showing customer quarters in the first block from 2010 to 2014.]

The detailed data, on the next three pages, supplements the consumption history; supplied in previous years’ reports. In order to provide a more accurate picture of “# of customers,” volumes associated with final reads have been excluded.
# Single Family Consumption

<table>
<thead>
<tr>
<th>Interval</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Customers</td>
<td>% Consumption</td>
<td># of Customers</td>
</tr>
<tr>
<td>0-10,000</td>
<td>6,211</td>
<td>39.5%</td>
<td>38,778,400</td>
</tr>
<tr>
<td>10,001-30,000</td>
<td>9,173</td>
<td>58.4%</td>
<td>145,979,000</td>
</tr>
<tr>
<td>&gt;30,000</td>
<td>327</td>
<td>2.1%</td>
<td>12,776,180</td>
</tr>
<tr>
<td>Q Total</td>
<td>15,711</td>
<td>100.0%</td>
<td>197,533,580</td>
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</table>

<table>
<thead>
<tr>
<th>Interval</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Customers</td>
<td>% Consumption</td>
<td># of Customers</td>
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<tr>
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<td>6,075</td>
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<td>9,175</td>
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<tr>
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<td>476</td>
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</tr>
<tr>
<td>Q Total</td>
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<td>205,728,400</td>
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</table>

<table>
<thead>
<tr>
<th>Interval</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td></td>
<td># of Customers</td>
<td>% Consumption</td>
<td># of Customers</td>
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<td>26,052,200</td>
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<tr>
<td>&gt;30,000</td>
<td>1,989</td>
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<td>93,000,200</td>
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<table>
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<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td></td>
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<td>% Consumption</td>
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<tr>
<td>0-10,000</td>
<td>5,654</td>
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<td>35,636,400</td>
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<tr>
<td>10,001-30,000</td>
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<tr>
<td>&gt;30,000</td>
<td>649</td>
<td>4.1%</td>
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<tr>
<td>Q Total</td>
<td>15,778</td>
<td>100.0%</td>
<td>218,921,500</td>
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<table>
<thead>
<tr>
<th>Interval</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td></td>
<td># of Customers</td>
<td>% Consumption</td>
<td># of Customers</td>
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<td>5,535</td>
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<tr>
<td>10,001-30,000</td>
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<td>860</td>
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<tr>
<td>Total</td>
<td>15,741</td>
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<td>910,610,780</td>
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# Two Family Consumption

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<td># of Customers</td>
<td>% Consumption</td>
<td># of Customers</td>
</tr>
<tr>
<td>Quarter 1</td>
<td></td>
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<tr>
<td>0-20,000</td>
<td>647</td>
<td>45.4%</td>
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<td>20,001-30,000</td>
<td>536</td>
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<td>241</td>
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<td>566</td>
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<td>&gt;31,000</td>
<td>217</td>
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<td>Q Total</td>
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<tr>
<td>0-20,000</td>
<td>511</td>
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<td>Annual</td>
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<td>596</td>
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<td>20,001-30,000</td>
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<td>59,349,800</td>
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<td>&gt;31,000</td>
<td>268</td>
<td>18.8%</td>
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<tr>
<td>Total</td>
<td>1,423</td>
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## Three Family Consumption

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<th># of Customers</th>
<th>% Consumption</th>
<th># of Customers</th>
<th>% Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quarter 1</td>
<td>Quarter 1</td>
<td>Quarter 1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0-20,000</td>
<td>21</td>
<td>27.3%</td>
<td>272,100</td>
<td>11.3%</td>
<td>23</td>
<td>30.7%</td>
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<td>20,001-30,000</td>
<td>51</td>
<td>66.2%</td>
<td>1,682,100</td>
<td>70.0%</td>
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<td>&gt;31,000</td>
<td>5</td>
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<td>449,700</td>
<td>18.7%</td>
<td>6</td>
<td>8.0%</td>
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<tr>
<td>Q Total</td>
<td>77</td>
<td>100.0%</td>
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<td>100.0%</td>
<td>75</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Quarter 2</td>
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<td>Quarter 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20,000</td>
<td>22</td>
<td>28.9%</td>
<td>294,300</td>
<td>12.7%</td>
<td>19</td>
<td>25.3%</td>
</tr>
<tr>
<td>20,001-30,000</td>
<td>49</td>
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<td>54</td>
<td>72.0%</td>
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<td>6.6%</td>
<td>406,100</td>
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<td>2</td>
<td>2.7%</td>
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<tr>
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<td>76</td>
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<td>2,317,800</td>
<td>100.0%</td>
<td>75</td>
<td>100.0%</td>
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</tr>
<tr>
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<td>18</td>
<td>23.7%</td>
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<td>7.8%</td>
<td>17</td>
<td>22.7%</td>
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<td>20,001-30,000</td>
<td>50</td>
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<td>1,779,600</td>
<td>60.4%</td>
<td>55</td>
<td>73.3%</td>
</tr>
<tr>
<td>&gt;31,000</td>
<td>8</td>
<td>10.5%</td>
<td>938,100</td>
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<td>3</td>
<td>4.0%</td>
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<tr>
<td>Q Total</td>
<td>76</td>
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<td>2,948,500</td>
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<td>75</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0-20,000</td>
<td>22</td>
<td>29.3%</td>
<td>297,300</td>
<td>12.9%</td>
<td>22</td>
<td>29.3%</td>
</tr>
<tr>
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<td>47</td>
<td>62.7%</td>
<td>1,516,100</td>
<td>65.9%</td>
<td>49</td>
<td>65.3%</td>
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<tr>
<td>&gt;31,000</td>
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<td>8.0%</td>
<td>486,100</td>
<td>21.1%</td>
<td>4</td>
<td>5.3%</td>
</tr>
<tr>
<td>Q Total</td>
<td>75</td>
<td>100.0%</td>
<td>2,299,500</td>
<td>100.0%</td>
<td>75</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Annual</th>
<th>Annual</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20,000</td>
<td>21</td>
<td>27.3%</td>
<td>1,094,500</td>
</tr>
<tr>
<td>20,001-30,000</td>
<td>49</td>
<td>64.8%</td>
<td>6,595,200</td>
</tr>
<tr>
<td>&gt;31,000</td>
<td>6</td>
<td>7.9%</td>
<td>2,280,000</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>100.0%</td>
<td>9,969,700</td>
</tr>
</tbody>
</table>
A review of residential revenue and gallons billed indicates that, in general, the Utility has done a good job of using the rate making process to offset the decrease in revenue that would come from fewer gallons consumed. The dip in 2014 revenue corresponds with the decrease in volume sold because the Utility did not apply for a simplified rate increase last year.
IV. CONSERVATION EFFICIENCY MEASURES - NONRESIDENTIAL CUSTOMERS

Commercial, Industrial and Public rates are structured with declining blocks.

<table>
<thead>
<tr>
<th>Gallons</th>
<th>Commercial, Industrial, Public (Effective 7/11/12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 75,000</td>
<td>$3.29</td>
</tr>
<tr>
<td>75,001 - 1,500,000</td>
<td>$3.12</td>
</tr>
<tr>
<td>Over 1,500,000</td>
<td>$2.80</td>
</tr>
</tbody>
</table>

Yet, as seen below, there appears to be enough variation in consumption within the classes to question whether the rates, increased in 2012, are affecting utilization. Anecdotally, consumption seems to move with the economy and the weather.

<table>
<thead>
<tr>
<th>Billing Class</th>
<th>2010 (Gallons)</th>
<th>2011 (Gallons)</th>
<th>2012 (Gallons)</th>
<th>2013 (Gallons)</th>
<th>2014 (Gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>801,713,900</td>
<td>795,106,272</td>
<td>816,621,116</td>
<td>795,377,000</td>
<td>780,972,720</td>
</tr>
<tr>
<td>Industrial</td>
<td>326,289,200</td>
<td>340,464,000</td>
<td>334,776,300</td>
<td>266,539,000</td>
<td>270,877,200</td>
</tr>
<tr>
<td>Public</td>
<td>93,491,300</td>
<td>99,126,100</td>
<td>114,020,400</td>
<td>92,508,000</td>
<td>92,618,300</td>
</tr>
</tbody>
</table>

Therefore the Utility uses efforts, other than the rate structure, to incent conservation.

To bolster the rate increase, the Utility has additional conservation programs that affect Non-Residential customers and some that affect all customer classes. The additional programs include the following:

A. Sprinkling Ordinance (for all customer classes)
B. Yard Sign Campaign (for all customer classes)
C. Waukesha Rain Barrel Program (for all customer classes)
D. Outdoor Conservation Tips (for all customer classes)
E. Information on What You Can Do to Conserve Water (for all customer classes)
F. Program on Finding & Fixing Leaks (for all customers)
G. Web based consumption history and comparisons available (for all customers)
H. Audit Program (for residential & non-residential customers)
I. Educational Programs & Partnerships (all customers) (described on pages 30-48)
As we have mentioned in past reports, Waukesha does not have irrigation rates in place. Instead, we use **four tools to encourage conservation during the summer months**: a sprinkling ordinance, a yard sign campaign, an information program relating to rain barrels, and website tips to reduce outdoor water use. These efforts relate to residential and nonresidential customers alike. There is a discussion of each of these tools below; followed by data that demonstrates the efficacy of the Utility’s approach.

**A. Sprinkling Ordinance**

City Ordinance 13.11 was enacted in 2006 and applies to all customers in Waukesha. The ordinance is in effect from May 1 to Oct 1 each year. This ordinance bans all sprinkling during the daytime hours of 9 AM to 5:00 PM during the stated time period. Customers are allowed to irrigate two days a week according to their address.

**A brochure** that explains the ordinance is placed at several public locations.

---

![Brochure Outside](image1)

**Brochure Inside**
In addition to the Sprinkling Ordinance brochure, **Bill stuffers** are sent to all customers each year beginning in April and ending in June. The stuffers are designed to remind customers of the Ordinance. A copy of the stuffer is below.

![Stuffers Image](image)

**Did you know...**

- If you replace your old water guzzling toilet (3.5 gallon or more) with a 1.28 gpf (gallons per flush) WaterSense toilet, you may be eligible to receive a rebate from the Water Utility.
- You can purchase rain barrels through the Waukesha School District’s Environmental Education Department (262-970-4333) or Retzer Nature Center (262-896-8007). Capturing rain water not only saves you money but is better for your garden, lawn, and plants because the water is not chlorinated.
- It is not necessary to water the lawn. It is natural for lawns to turn brown in the hottest months. The lawn doesn’t die, it just goes dormant. The green lawn will return with the autumn rain.
- Toilets should be checked for leaks at least twice a year because they are one of the most common places where leaks occur. Hundreds of gallons of water per day can be wasted. Free Leak Detection Dye Tablets are available at the Utility.
- Dripping faucets are usually easily and inexpensively repaired by replacing the washer inside the handle. Check both internal and external faucets for leaks. See our website for videos on how to fix leaks.

For more detailed information, please visit our website at [www.ci.waukesha.wi.us/waterhome](http://www.ci.waukesha.wi.us/waterhome)
Street signs, alerting the public to the Ordinance, have been placed on every major street.

Time Warner Cable aired a public service announcement that addressed the Sprinkling Ordinance in 2012. The same announcement is broadcast annually on the City’s TV25. TV25 airs information pertaining to local government and community events.

Reminders are placed in local papers (as seen on the next page).

Fines are approved and in place for violations to this Ordinance, as follows:

- 1st Citation: $172
- 2nd Citation: $298
- 3rd Citation: $424
- 4th Citation: $676

Before citations are issued, Notices are sent to violators to encourage them to comply. Due to a wet summer, only 3 notices were sent in 2014 to violators. A copy of the notice is on page 17.
For Immediate Release

Press Release

May 2014 - With the arrival of springtime weather, the Waukesha Water Utility would like to remind city residents of the Sprinkling Ordinance in effect from May 1st – October 1st.

Odd-numbered street addresses may water on Tuesdays and Saturdays prior to 9 a.m. or after 5 p.m.

Even-numbered street addresses may water on Thursdays and Sundays prior to 9 a.m. or after 5 p.m.

A hand-held watering can, container, or hose may be used at any time to water gardens, trees, or shrubs, but only if the water device is utilized manually and not left unattended.

The City developed the sprinkling ordinance as part of an ongoing water conservation program. Additional water conservation is needed to protect local water resources and reduce demand during peak hours. The City is requiring customers to refrain from watering during daytime hours, when up to 40% of the water applied by a sprinkler can be lost to evaporation.

Waukesha Water Utility customers may pick up a yard sign at 115 Delafield Street that reads “My Brown Lawn is Green” to show your dedication to our conservation efforts.

For additional information and exceptions to the day and time restrictions, please visit the Water Utility’s website at www.ci.waukesha.wi.us/waterhome or phone the Utility at (262) 521-5272.
July 11, 2014

Dear Water Utility Customer:

It has been observed that you have been sprinkling at your property during unauthorized periods, specifically on _________________.

Conservation Ordinance #20-06, Chapter 13.11 of the City Municipal Code was passed by the Waukesha Common Council in April 2006 which restricts the days and times that an owner may water their property. These restrictions are in effect annually from May 1st through October 1st, and are as follows:

Addresses ending with an Odd Number may water on Tuesdays and Saturdays, before 9:00 a.m. or after 5:00 p.m.

Addresses ending with an Even Number may water on Thursdays and Sundays, before 9:00 a.m. or after 5:00 p.m.

Please adjust your sprinkling times to coordinate with the days and times that are applicable to your address; and please adjust your sprinklers so that they are not watering the sidewalks or driveway.

Enclosed is a brochure to help answer any questions you may have. If you would like additional information, please contact the Waukesha Water Utility at 262-521-5272.

We appreciate your prompt response and your assistance in helping protect and maintain our water supplies for the future.

Sincerely,

WAUKESHA WATER UTILITY
Customer Service
B. My Brown Lawn is Green Campaign

Furthermore the Utility continued to encourage customers to let their lawns go dormant during drought conditions. Large colorful lawn signs, designed by a local artist, are available free of charge to customers who wish to demonstrate their commitment to water conservation. The signs serve to acknowledge those who are conserving and to encourage their neighbors to do the same. A sample of the lawn sign is below.
C. **Rain Barrel Program**

Waukesha Water Utility helps to promote the Rain Barrel Program with the Waukesha School District and Waukesha County. We send out bill inserts and any time a customer calls and requests information about a rain barrel, we inform them about these two local programs. In addition, we talk about rain barrels in our Water Education classes while we educate students, teachers, and chaperones.

---

**Waukesha County Water Conservation Coalition**

**Rain Barrel Project**

- Store rainwater for later use
- Reduces runoff to help our rivers and streams
- Reduces pumping of groundwater for watering plants
- Saves you money by saving water
- Naturally soft water is great for watering plants and washing windows or cars
- Many local sources of barrels

**Clean Water—One Barrel at a Time**
D. Outdoor Conservation Tips

Waukesha Water Utility has outdoor conservation tips on its website that is available for all customers. As seen below, the topics covered are the following: Rain Harvesting, Garden Hose, Car Washing, Plants/Trees/Shrubs/Vegetable Gardens, Pools/Spas, and Rain Gardens.
The 4 Tools are Working

The information below indicates that Waukesha uses, on average, much less water in the summer now than it did before these four tools went into place. We have effectively reduced our peak demands, even during the extreme drought conditions of 2012.

Gallons Pumped, during the summer months in 2014, 1,015,137,000, was at the lowest point in 10 years. The summer gallons per cent of total, 42.1%, while lower than in the past is skewed by the cold weather water runs that the Utility requested. The winter of 2014 was frigid. In order to keep laterals from freezing, the Utility asked more customers than usual to continuously run water.

<table>
<thead>
<tr>
<th>Year</th>
<th>Waukesha Pumpage</th>
<th>Brookfield Pumpage</th>
<th>Oconomowoc Pumpage</th>
<th>Pewaukee Pumpage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual (000's)</td>
<td>Summer (000's)</td>
<td>Summer as % Total</td>
<td>Annual (000's)</td>
</tr>
<tr>
<td></td>
<td>2,838,403</td>
<td>1,333,367</td>
<td>47.0%</td>
<td>1,496,931</td>
</tr>
<tr>
<td>2005</td>
<td>2,823,418</td>
<td>1,175,795</td>
<td>44.8%</td>
<td>1,465,878</td>
</tr>
<tr>
<td>2006</td>
<td>2,618,461</td>
<td>1,183,827</td>
<td>45.2%</td>
<td>1,368,726</td>
</tr>
<tr>
<td>2007</td>
<td>2,531,108</td>
<td>1,126,313</td>
<td>44.6%</td>
<td>1,446,256</td>
</tr>
<tr>
<td>2008</td>
<td>2,479,905</td>
<td>1,109,337</td>
<td>44.7%</td>
<td>1,295,233</td>
</tr>
<tr>
<td>2009</td>
<td>2,441,221</td>
<td>1,074,691</td>
<td>44.6%</td>
<td>1,272,681</td>
</tr>
<tr>
<td>2010</td>
<td>2,545,103</td>
<td>1,129,986</td>
<td>44.4%</td>
<td>1,436,548</td>
</tr>
<tr>
<td>2011</td>
<td>2,527,370</td>
<td>1,187,305</td>
<td>47.0%</td>
<td>1,365,823</td>
</tr>
<tr>
<td>2012</td>
<td>2,348,655</td>
<td>1,049,020</td>
<td>44.6%</td>
<td>1,378,039</td>
</tr>
<tr>
<td>2013</td>
<td>2,413,582</td>
<td>1,015,137</td>
<td>42.1%</td>
<td>1,887,514</td>
</tr>
<tr>
<td>Average</td>
<td>2,413,582</td>
<td>1,015,137</td>
<td>42.1%</td>
<td>1,887,514</td>
</tr>
</tbody>
</table>

Further support for the efficacy of the Utility’s program can be found by comparing its summer water use with its neighbors (who are affected by similar weather conditions). Waukesha uses a lower proportion of water in the summer than does its neighbors.
E. Informational on What You Can Do to Conserve Water (Inside & Out)

In addition to the four outdoor tools, Waukesha Water Utility has information on ‘What You Can Do to Conserve Water’ on its website. This material pertains to indoor and outdoor use and to all customer classes. Topics such as repairing leaks, installing aerators and high-efficiency showerheads, toilets, and appliances, and developing new conservation habits are addressed.
The Utility’s website also links to Alliance for Water Efficiency’s (AWE) Water Calculator. This tool calculates how much water is being used in the house/business vs. how much water would be used if fixtures/appliances were efficient. The link **also offers conservation tips not only for residential customers, but also for commercial, industrial, and institutional customers.**
F. Program on Finding & Fixing Leaks

The Utility has a link on its website to Environmental Protection Agency’s (EPA) WaterSense site for information on ‘Finding & Fixing Leaks’ that is also available for all customers.

In addition, the Utility’s website has information pertaining to toilet leaks as to how much water is wasted and various leak cases; along with a link to American Water Works Association’s (AWWA) drip calculator – to calculate how much water is wasted.
7. Web based consumption history and comparisons (for all customers)

In 2014, the Utility installed Link, a system available to customers to pay their bills online.

Integral to Link is the customer’s ability to search transaction and consumption history. Now, a customer can compare their consumption across seasons.
They can also compare themselves to the City as a whole,

as well as to the neighbors on their street.

The Utility hopes that if a customer sees they are consuming more than their neighbors, they will begin to ask why. While there may be legitimate reasons for higher consumption, e.g. family size, the consumer may also touch on other habits, which with change, could lead to conservation.
8. **Water Audit/Leak Detection Program**

Waukesha Water Utility has an informational program on its website for conducting water audits for residential and non-residential customers; along with links to AWE’s Water Audit Process Introduction, AWWA’s Free Water Audit Tool Kit, California Urban Water Conservation Council’s H2OUSE, and to EPA WaterSense’s on What You Can Do to Make Every Drop Count.

In addition to advertising the information on the website, the Utility also educates its customers about the Audit/Leak Survey program through presentations. The Utility has given presentations to the Business Alliance, Rotary Club, Southside Business Council, Wisconsin Water Conservation Coalition, and the Utility’s Conservation Stakeholders Committee. All of these groups have members from the commercial, public, and industrial sectors.

Finally, any time a customer calls the utility asking for information or has a high consumption, Waukesha Water Utility is always willing to act as a resource to help its customers - as shown in the 2 examples on the next page and in the Wisconsin Water Association’s fall 2014 newsletter.
As mentioned in 2013’s PSC report, Waukesha Water Utility was working with 2 public accounts – the City of Waukesha and Waukesha South High School. Both of these accounts had issues with their pools; and even though the issues were different, after working with the Utility, both public entities were able to save water and reduce their costs.

A. City of Waukesha’s Public Pool

In 2014, the Utility followed up with the City’s departments. After the consumption data was uploaded, pool piping plans were reviewed, and visual inspections were made; meetings were held with pool pipe designers, chemical suppliers, and engineers. Together, they found several small leaks; and when the team was finished, they calculated that their solutions save the City seven to eight hundred gallons of water per day.

B. Waukesha South High School’s Pool

The Utility also followed up with the Waukesha School District. In 2014, Waukesha South contacted a supplier, that the Utility had previous recommended, for an actuator for the control valve, one that is spring loaded. They needed this actuator so that whenever there is a power failure, the pool wouldn’t lose all its water – instead, the drain line would close. Now, whenever there is an electrical outage, the pool doesn’t need to be refilled – saving the School District thousands of gallons of water.
V. EDUCATION PROGRAMS & PARTNERSHIPS

Waukesha Water Utility follows NR 852 Requirements. As a result several educational programs have been adopted.

TOOLS

The Education Programs use the following communication tools. [ X ]

Website
[ X ] Bill Stuffers
[ X ] Local Newspaper
[ X ] Public Community Meetings – 28 hours
[ X ] School Programs
[ X ] Other: Street Signs
[ X ] Other: Yard Signs - Brown Lawn Campaign
[ X ] Other: Social Media (Twitter & Facebook)
[ X ] Other: Public Giveaways: Toilet Leak Detection Tablets & Rain Gauges
[ X ] Other: Brochures / Bill Inserts
[ X ] Other: Bill Messages
A. Education Programs

In addition to the education that has already been discussed throughout this report, Waukesha Water has the following educational programs.

1. Toilet Rebate Program
2. EPA WaterSense’s National Fix a Leak Week
3. EPA’s/Home Depot’s Water Conservation Workshop
4. Public Meeting Presentations
5. Water Education Classes
6. La Casa’s Outreach Program
7. Tips on to Prevent Freezing Pipes
1. **Advertisement of the Toilet Rebate Program**

The Utility has publicized the toilet rebate program in press releases, with Waukesha’s Home Depot and local plumbers, messages on water bills, on a bill insert, on the Utility’s website, in the Utility’s reception area, in the City’s Park & Recreation Activity Guide, and at all speaking and public outreach/educational events. The Utility also purchased an A-Frame sign to advertise the rebates and be used at outreach events (as shown on page 33).

   a. **Messages on water bills for all customer classes**

   IMPORTANT INFORMATION:

   “Receive $100 for replacing an old water guzzling toilet. Information at www.ci.waukesha.wi.us/waterhome.”

   b. **Bill Insert:**

   Bill inserts are sent out annually to all customer classes informing them of the 1.28 gpf toilet rebate, where they can purchase rain barrels, that it is not necessary to water the lawn, toilets should be checked twice a year for leaks, and that dripping faucets can usually be easily and inexpensively repaired.
c. City’s Park & Recreation Activity Guide

The toilet rebate program was advertised in the City’s Activity Guide. This Guide is on the City’s website and is mailed out to approximately 30,000 homes.

![Activity Guide Summer 2014](image-url)
d. City of Waukesha’s Winter Janboree Pancake Breakfast & Informational Booths

This is the third year that the Utility promoted the toilet rebates at the City of Waukesha’s Janboree Pancake Breakfast in January 2014. Approximately 600 people attended. The Utility had a Conservation educational booth and an informational sign regarding the 1.28 gpf WaterSense toilet rebate. Utility staff was present to promote the toilet rebate program and answered questions related to conservation.
2. **EPA’s WaterSense National Fix a Leak Week**

Waukesha Water Utility promoted Environmental Protection Agency (EPA) WaterSense’s fifth annual Fix a Leak Week with the following activities:

- Messages were inserted on the Bills.

> “In honor of Fix a Leak Week, March 17\textsuperscript{th} – March 23\textsuperscript{rd}
Check your winter water bill. If you use 12,000 gallons or more per month, you may have a leak!
Learn how to fix them at [www.ci.waukesha.wi.us/waterhome](http://www.ci.waukesha.wi.us/waterhome).”

- An Informational Sheet & Leak Detection Dye Tablets were available in the Utility’s reception area.

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**Fix a Leak Week**  March 17-23, 2014

**Save Money and Help Conserve Water During Fix-a-Leak Week**

According to the EPA, “did you know that an American home can waste, on average, more than 10,000 gallons of water every year due to running toilets, dripping faucets, and other household leaks?”

As an EPA WaterSense partner, we encourage you to check your plumbing fixtures and irrigation systems for leaks and to repair the leaks you find during this year’s national *Fix a Leak Week*, March 17-23, 2014.

**Identify Toilet Leaks**

Toilet leaks are one of the most common leaks that tend to be invisible and waste hundreds of gallons of water a day. Identify toilet leaks by placing a few drops of food coloring in the toilet. Wait for at least 15 minutes before flushing. If any color appears in the toilet bowl, you have a leak. (Be sure to flush immediately, after the experiment, to avoid staining the tank.) If you don’t have food coloring, you can pick up free leak detection dye tablets from Waukesha Water Utility, located at 115 Delafield Street in Waukesha.

**Identify & Fix Leaks**

For your convenience, the WaterSense website ([http://www.epa.gov/watersense/our_water/fix_a_leak.html](http://www.epa.gov/watersense/our_water/fix_a_leak.html)) offers videos and tips not only on how to identify leaks, but also on how to fix leaks in toilets, faucets, showerheads, and outdoors. In most instances, leaks are easy to fix and you benefit by saving money!

**Replace the Fixture if Necessary**

Look for the WaterSense label. WaterSense products are independently tested and certified to use 20 percent less water and perform as well as or better than standard models. In addition, if you purchase a 1.28 gallon per flush WaterSense toilet, you might be eligible for a rebate.
• A Press Release describing all the Fix a Leak Week activities.

PRESS RELEASE

WAUKESHA WATER UTILITY                                             For Immediate Release
115 DELAFIELD STREET                                               DATE:  (March 18, 2014)
WAUKESHA, WI 53188-3615                                              Contact:  (Mary Adelmeyer, Customer Service Assistant)
Contact:          (Mary Adelmeyer, Customer Service Assistant)
Office:             (262) 521-5272 Ext. # 524
Office:             (262) 521-5272 Ext. # 524
Fax:                (262) 521-5265                                    Fax:                (262) 521-5265

Waukesha, WI – (March 18, 2014,) Each year the average American home can waste more than
10,000 gallons of water due to running toilets, dripping faucets, and other household leaks. That
unnecessary water waste can cost your family a lot of money!

For this reason, the Waukesha Water Utility is teaming up with Waukesha’s Home Depot and the
Waukesha School District to educate customers about toilets and fixing leaks. The effort is part of
national Fix a Leak Week, March 17 to 23, 2014.

Water utility staff will be at Home Depot, 2320 W Bluemound Road, on Saturday, March 22 from 10:00
a.m. to 11:30 a.m. for Home Depot’s Fix a Leak Week: Replace or Repair? do-it-yourself workshop.
Utility staff will discuss Waukesha’s $100 Toilet Rebate and will demonstrate how to check for water
leaks by checking your meter. The utility will also give away free leak detection dye tablets and the
professionals at Home Depot will demonstrate how easy it is to fix leaks.

The water utility will also be working with the Waukesha School District’s fifth graders. Fifth graders
will receive dye tablets that they can take home to test their own toilets for leaks and a worksheet to
find out if their toilets qualify for the $100 rebate. These hands-on activities will help students learn
how quickly water waste adds up and possibly save their families money.

The focus is on toilets because they are the main source of water use in the home, accounting for
nearly 30% of an average home’s indoor water consumption. When toilets leak, hundreds of gallons of
water a day can be wasted without the homeowner’s knowledge. Toilet leaks are common, so the
water utility recommends checking for leaks at least twice each year.

Whether you replace or repair your toilet depends on its age. Replacing toilets that were
installed before 1994 with a more water efficient model is one of the best ways to help reduce water
usage. Purchasing a 1.28 gallon per flush, WaterSense-labeled toilet can save homeowners up to
$75 per year on water and wastewater bills. If you live in the city of Waukesha, you may also
qualify for the $100 toilet rebate.

For more details on the toilet rebate or how to fix leaks, please see us at the Waukesha Home Depot
or visit the Waukesha Water Utility’s website at www.ci.waukesha.wi.us/waterhome.
• A Fix a Leak Week Activity for Waukesha’s 5th Graders

This is the second year that Waukesha Water Utility partnered with the Waukesha School District’s 5th graders to celebrate Fix a Leak Week. Students tested their toilets for leaks with leak detection tablets, provided by the Utility, and completed an Activity Worksheet to determine if their toilets are eligible for the $100 rebate. Of the toilets that were tested, 15% were leaking, 22% qualified for the rebate, and 95% of the parents were notified about the rebate. Below is the article, published in the local paper, regarding the event; along with a copy of the two-sided Student Activity Worksheet.

![Fix a Leak Week Student Activity in the Waukesha Freeman’s newspaper](image-url)
Fix a Leak Week: Student Worksheet

Name:________________________

Save Water & Money

According to the Environmental Protection Agency (EPA) WaterSense partnership program, “an American home can waste on average, more than 10,000 gallons of water every year due to running toilets, dripping faucets, and other household leaks.” That can cost your family a lot of money. That is why Waukesha Water Utility encourages you to use water wisely and check your home for leaks, during this year’s national Fix a Leak Week. Try the activities and math problems on both sides of this sheet to see how fast water waste adds up.

**Little Leaks Waste Big Amounts of Water**

<table>
<thead>
<tr>
<th>SIZE OF LEAK (Diameter)</th>
<th>WATER WASTED EACH QUARTER (Assuming 60 lbs of pressure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/32&quot; drip</td>
<td>16,500 gallons</td>
</tr>
<tr>
<td>1/16&quot; trickle</td>
<td>74,000 gallons</td>
</tr>
<tr>
<td>1/8&quot; stream</td>
<td>296,000 gallons</td>
</tr>
<tr>
<td>1/4&quot; stream</td>
<td>1,181,500 gallons</td>
</tr>
</tbody>
</table>

**Toilet Leaks:**

Toilet leaks are one of the most common leaks. Toilet leaks tend to be invisible. Hundreds of gallons of water a day can be wasted on toilet leaks. The sound of water running in a toilet tank signals costly leakage. For this reason, it is recommended that toilets be checked for leaks at least twice each year.

**Activity #1: Test All Your Toilets for Leaks, with the help of your parent.**

Checking a toilet for leaks is easy!

Take lid off the back of the toilet tank.

Put ONE of the attached leak detection tablets into the tank of the toilet.

Do NOT flush the toilet.

Wait for 20 minutes.

If you have another toilet, test that toilet for leaks too by repeating the directions above.

If colored water from the dye tab appears in the bowl within 20 minutes, you have a leak.

Make sure to flush the colored water as soon as the 20 minutes is up, otherwise the coloring may stain.

(Please continue on to page 2 →)
Activity #2: Record your Data & Calculate How Many Gallons of Water Your Toilet Uses

1. How many toilets do you have? _____ Did you test all your toilets for leaks? _____

2. Does your toilet leak? (Did the dye color appear in the bowl?)
   Toilet #1: _____ Toilet #2: _____

3. How old is your toilet? (The year of the toilet can be found on the underside of the tank lid. The date of the manufacture is often stamped into the porcelain.)
   Year: Toilet #1: _____ Year: Toilet #2: _____

4. What is the size, make, and model of the toilet? (This information may be found in the toilet tank or under the tank lid.)
   Toilet #1: Size: _____ Make: _____ Model: _____
   Toilet #2: Size: _____ Make: _____ Model: _____

5. Using a ruler on the outside of the toilet tank, measure the water level (Be sure to measure in feet – answers maybe recorded with decimals or fractions.)
   Toilet #1: Tank Length: _____ Tank Width: _____ Side Water Depth: _____
   Toilet #2: Tank Length: _____ Tank Width: _____ Side Water Depth: _____

6. Calculate how many cubic feet of water is in the tank. (Multiply Length x Width x Depth)
   Toilet #1: _____ cu. ft. Toilet #2: _____ cu. ft.

7. Calculate how many gallons of water your toilet uses for every flush. (Multiply the cubic feet x 7.47 = Gallons per Flush)
   Toilet #1: _____ gals. Toilet #2: _____ gals.

$100 Toilet Rebate

8. Is your toilet a pre-1994 toilet? (Look at your answer in #3)
   Toilet #1: _____ Toilet #2: _____

9. Does your toilet use 3.5 gallons/flush or more? (Look at your answer in #7)
   Toilet #1: _____ Toilet #2: _____

10. Does your family get a water bill from Waukesha Water Utility? (Ask your parents)
    Toilet #1: _____ Toilet #2: _____

11. If you answered yes to #8, #9, and #10, your family could be eligible to get up to $100 per toilet for replacing their old water guzzling toilet. Is your family eligible?
    Toilet #1: _____ Toilet #2: _____

12. Have you told your parents about this $100 toilet rebate?
    _____

If your family is eligible, the old toilet needs to be replaced with a WaterSense 1.28 gpf toilet. Your parents can call the Waukesha Water Utility at (262) 521-5272 or visit our website for more information at www.ci.waukesha.wi.us/waterhome.

Parent Signature: _____ Date: _____
• Fix a Leak Week: Replace or Repair? Do-it-Yourself Workshop

This is the first year that Waukesha Water Utility partnered with Waukesha’s Home Depot to celebrate Fix a Leak Week. The Utility and Home Depot hosted a Replace or Repair? Do-it-Yourself Workshop. Waukesha Water shared information on the $100 toilet rebate, demonstrated how to check for water leaks by checking your meter, and the Utility also gave away free leak detection dye tablets. The professionals at Home Depot demonstrated how easy it is to fix leaks. Below is a picture and the article, which was published in the local newspaper and on our social media channels.

Water Utility/Home Depot to host Fix a Leak Week workshop

WAUKESHA – The Waukesha Water Utility and Home Depot are hosting a Saturday do-it-yourself workshop to teach attendees about detecting water leaks by checking their meters, giving away free leak detection dye tablets and more.

The workshop will take place from 10 a.m. to 11:30 a.m. at Home Depot, 2320 Bluemound Road, in conjunction with the last day of “Fix-a-Leak Week.”

The utility will also give away free leak detection dye tablets and the professionals at Home Depot will demonstrate how easy it is to fix leaks.

The water utility has also been working with the Waukesha School District's fifth graders, who have received dye tablets that they can take home to test their own toilets for leaks.

The focus is on toilets because they are the main source of water use in the home, accounting for nearly 30 percent of an average home’s indoor water consumption.

When toilets leak, hundreds of gallons of water a day can be wasted without the homeowner’s knowledge. Visit www.ci.waukesha.wi.us/waterhome for more.
3. **EPA WaterSense/Home Depot Water Conservation Workshop**

This is the first year that Waukesha Water Utility participated in the EPA’s/Home Depot Water Conservation Workshop. The Utility received an email from WaterSense regarding an event where some of the Home Depots in the U.S were going to hold water conservation workshops on Saturday, April 26th (Earth Day). Waukesha Water reached out to Waukesha’s Home Depot and learned they were unaware of this event. The Utility collaborated with Home Depot and held a clinic on Lawns, Leaks, and Lavatories and highlighted the WaterSense labeled fixtures. This event was advertised on the Utility’s website, in the local paper, through the Utility’s social media channels, and on the Announcement board at Home Depot.
4. **Public Meeting Presentations**

Conservation brochures and giveaways are an integral part of every public presentation. Public presentations were made to the following groups:

- Town of Waukesha – John Marek, Chairman
- Waukesha Common Council
- Springsted Financial Advisors, Annual Conference
- Randall S.T.E.M. Academy
- State of Wisconsin - Representative Scott Allen
- Marquette University – Engineering Department
- City of Franklin – Interim Engineer
- Water Resources Group – Sheboygan
- City of Franklin – Mayor Steve Olson
- UWM School of Freshwater Sciences
- Waukesha Kiwanis
- University of Michigan – Ann Arbor
- Waukesha Water Commission Meeting (12 times)
5. **Water Education with the Youth – Tomorrow’s Future**

Waukesha Water Utility plans for the future by educating our youth. In 2014, the Utility continued to provide water education classes to the following:

- Waukesha School District’s 5th graders (for the past 25 years)
- Mount Calvary Lutheran’s 7th graders (for the sixth year)
- Waukesha County’s Boy Scouts (for the third year)
- Brownie Troop #8001 (for the first time)
- Waukesha’s S.T.E.M. (for the first time)

In addition, Waukesha Water continued its partnership with the Wisconsin Water Youth Education committee, where an exciting educational project was completed, as described in the Partnerships section on page 48.

a. **Waukesha School District’s 5th Graders**

For the past 25 years, Waukesha Water Utility has partnered with the Waukesha School District to provide water education to all 5th graders. As part of their Environmental & Science Curriculum, the students study the natural cycles of water and the human impact on our water resources. Thousands of students have toured one of the Utility’s pumping stations. At the station, they learn about the following:

- the water cycle
- where their water comes from
- how their water is treated and distributed
- the quality and quantity of the water they use
- conservation methods that use water resources in a sustainable manner
- the costs of municipal water, and its value compared to bottled water

The students also explore the natural cycles of water by spending a day in the Fox River Sanctuary investigating the chemical and biological components of the river and marsh.

In 2014, we spent approximately 65 hours educating approximately 1,060 students, along with their teachers and chaperones.
b. Mount Calvary Lutheran 7th Graders

For over six years, Mount Calvary Lutheran 7th graders, along with their teacher and chaperones, have toured one of Waukesha Water Utility’s pumping stations to learn about where their water comes from, how it’s treated and distributed, and also to learn about water conservation. A few weeks after their tour, they follow up with thank you letters sharing the highlights of what they learned.

Sample of 2014’s thank you letters from Mount Calvary’s students:

“Thank you so much for giving us a tour. It was quite interesting learning where the water that I drink comes from and how it gets to my home....Again, thank you so much.” Lily

“Thank you so much for showing us around at the field trip. I learned a lot about water and where it goes. I can’t believe it takes 50 years for rain water to get from Jefferson County all the way over to Waukesha County. That is a really long time....Thank you again.” Hayden

“Thank you for telling me so much about the water system and what bad things we do....I never knew how much money we spend on water and showers....I will try not to take long baths and showers.” Hudson

“Thank you for showing us around the water pumping station. I thought it was really cool! Our class had a good time getting to learn more about our water. I really liked the game of Water Jeopardy. I’m going to try to take shorter showers. Once again, thank you.” Jared

“Thank you for showing us what great things you guys do. I was really fascinated by all the underground pipes and stuff that have to be installed....We kind of take our clean and unlimited water source for granted. Thank you guys a bunch for all your hard work.” Paul
c. Waukesha County Boy Scouts

Waukesha Water Utility partnered with Waukesha County Boy Scouts helping them to earn their Soil and Water Conservation Merit Badge. This is the third year that the boy scouts toured one of our pumping facilities to learn about the water cycle, how the drinking water is treated and distributed, and to learn about water conservation.

Spring Break—Soil and Water Conservation Merit Badge Clinic
Sponsored by Waukesha County Parks and Land Use Department
Thursday, April 24th, 2014 from 8:30 to 4:30 pm
Check-in from 8:15 a.m. to 8:30 a.m.
At Retzer Nature Center
S14 W28167 Madison St.
Waukesha, WI 53188
$20.00 Course Fee

- Call Waukesha County Parks at 262-548-7801 to register—payment due at registration. # course limited to first 20 # Register by April 16th.
- Course fee of $20.00 must be paid at time of booking and includes materials for the day, afternoon field trip and lunch.
- Scouts should wear uniform and bring signed blue card.
- Bring a re-usable water bottle, pen and paper.
- Scouts will be taking a field trip in the afternoon and will be transported by bus to the Waukesha Waste Water treatment facility and a water pumping station. You must bring your signed permission slip to go on the trip. Permission slips will be mailed to you after you register.
- All scouts should arrange to be picked up between 4:15 and 4:30 p.m.

Please note: Scouts who do not satisfactorily complete the work for the course will not get the blue card signed. All course requirements as listed in the merit badge book must be completed during the day---this includes writing a 500 word report.

A cancellation fee of $5.00 maximum if cancelled on program registration date. If cancelled after registration date, we reserve the right to forfeit the whole program registration fee. We reserve the right to issue credit on account, or a voucher toward future programs, instead of refunding money. Credit on account and vouchers must be redeemed within the same calendar year unless otherwise noted.

Giving an introduction to the Boy Scouts inside the Pumping Station
d. **Brownie Troop #8001**

Waukesha Water Utility was contacted by a Waukesha Girl Scout leader for a 2\textsuperscript{nd} grade Brownie troop #8001. The girls were working on a Journey project that focused on water/water conservation. Waukesha Water gave the girls a tour of our pumping station and taught them about the water cycle, the distribution system, the declining aquifer, the importance of conservation, and ways to conserve.

![Brownie Troop #8001 Touring the Water Pumping Station](image1.png)


e. **Waukesha S.T.E.M.**

Waukesha Water Utility was contacted by Waukesha’s S.T.E.M. program (Waukesha School District’s project based curriculum which focuses on Science, Technology, Engineering, and Math) to give presentations to approximately 170 5\textsuperscript{th} graders on the following topics:

- How we got to where we are today
- Contaminants
- Water Conservation
- Remediation Efforts

Waukesha Water Utility’s presentation included a power point and a demonstration that shows how drinking water is treated. Since all fifth graders tour the pumping station and learn how ground water is treated, this presentation showed the other side – how surface water gets treated.

![Waukesha S.T.E.M. Presentation](image2.png)
6. **La Casa’s Outreach Material**

Waukesha Water Utility has developed a relationship with La Casa de Esperanza. La Casa is a community based organization that helps approximately 20,000 individuals and families annually with a variety of programs and services.

La Casa helps low-income people not only with childcare, employment assistance, low-income housing for seniors and disabled individuals, but also helps to educate people on identifying water/energy waste and cost-effective conservation saving measures.

La Casa has been a part of our Stakeholder’s group, has taken advantage of the toilet rebate program, and has changed out old appliances (water heaters, etc.) with more water and energy efficient heaters.

Recently, La Casa contacted the Utility requesting some water conservation educational outreach material that they can hand out as they meet with their clients. The Utility provided La Casa with toilet rebate information, *Water Conservation at Home* brochures, and leak detection tablets.
7. **Tips on How to Prevent Water Pipes from Freezing & Breaking**

Broken water pipes waste a lot of water. To prevent pipes from freezing and breaking, Waukesha Water Utility put the following press release in the Waukesha Freeman, on the Utility’s website, and on the City’s TV 25 local government and events channel.

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**For Immediate Release**

**Press Release**

**Waukesha Water Utility**

Contact: Lori Sweet
115 Delafield Street
Waukesha, WI 53188
Phone 262-521-5272 ext. 520
Fax 262-521-5265

**Prevent Freezing Pipes**

Waukesha, WI, December 2014 - Cold weather and wind chills are here. This means we can expect frozen water pipes and water damage if exposed areas aren’t properly insulated or we aren’t careful about winter heating. Here are some problem areas, warning signals and tips to minimize the chance of freezing water pipes.

**PROBLEM AREAS**
- Pipes near broken or open basement windows
- Unheated crawl spaces and equipment rooms
- Pipes near the foundation or cracks in the basement wall
- Pipes near exterior wall in unheated room
- Inadequate heating in un-insulated or uncovered outside pit
- Pipes under kitchen sinks or cupboards

**WARNING SIGNS OF FREEZE**
- Unusually cold water temperature (less than 35°F) at any fixture
- Unusually low water flow at a fixture
- Discolored water at a fixture
- Low water pressure at a fixture
- Extremely cold piping at a fixture
- Sputtering sound when opening a fixture

**THAWING FROZEN PIPES**
- It’s safest to use hot air from a hair dryer or exhaust from a vacuum cleaner
- Use heat tape, but with caution, and unplug when finished

**PREVENTION**
- Check water temperature and run a little water if unusually cold
- Shut off and drain outside water faucets before freezing occurs
- Run small amounts of water from highest faucet until full flow returns
- Insulate walls and exposed piping
- Repair cold air leaks to reduce drafts on piping and meter

**CAUTION**
- To prevent fires, never thaw with an open flame or torch
- Be careful if pipe is cracked, it will spray water into electrical appliances when thawed
- Check and clear drains to prevent basement flooding in case of pipe burst
- Know where the main shut-off valve is located so you can turn it off quickly in case a pipe bursts

If you need additional information, please contact the Customer Service Department of the Waukesha Water Utility at (262) 521-5272.

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B. Partnerships

In addition to the educational programs, Waukesha Water Utility also maintains the following partnerships:

1. **Wisconsin Water Association – Youth Education**

An exciting 2014 accomplishment of this committee was a youth education broadcast program with the *Into the Outdoors* production company. The title of this 30 minute production is “Do You Know H2O?” and is scheduled to be aired at 4 separate times. The broadcast goes out to approximately 1,000,000 viewers and is available for teachers to download for free. The production includes information on source water protection, potable water treatment, potable water distribution/supply, and careers in the water industry. In addition to the broadcast, there is also an educational packet to support classroom education. For a copy of the episode and Teacher Discussion Guide go to: [http://intotheoutdoors.org/topics/know-your-h2o/](http://intotheoutdoors.org/topics/know-your-h2o/)

2. **Wisconsin Water Association - Water Efficiency Group**

In 2014, the Efficiency group coordinated the Efficiency Award process for utilities, organizations, and individuals which is presented at the annual conference; along with sponsoring sessions on creating water loss control programs for the conference. This group also decided to continue working with the Illinois section to sponsor webinars for conservation and efficiency topics that are free to WWA members.

3. **Wisconsin Water Conservation Coalition**

The Utility continues to participate in the Coalition’s work. One project that is being discussed is possibly partnering with a developer of a new subdivision and doing a WaterSense irrigation case study. More work on this potential project is expected to occur in 2015.
VI. WATER LOSSES AND ACCOUNTED FOR WATER

Per NR 852.04 and PSC 185 the Utility performs and documents water use audits on a monthly basis. A summary of 2014 is as follows. Data is entered into the format below.

<table>
<thead>
<tr>
<th>Data Input</th>
<th>2014 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales - Metered</td>
<td>2,093,482,220</td>
</tr>
<tr>
<td>Sales - Est. Consumption</td>
<td>0</td>
</tr>
<tr>
<td>Plant</td>
<td>283,000</td>
</tr>
<tr>
<td>Water Analyzer Water Flow (9)</td>
<td>660,000</td>
</tr>
<tr>
<td>Filter Back wash</td>
<td></td>
</tr>
<tr>
<td># 3</td>
<td>4,990,000</td>
</tr>
<tr>
<td># 8</td>
<td>3,269,000</td>
</tr>
<tr>
<td># 10</td>
<td>7,449,000</td>
</tr>
<tr>
<td>Flushing</td>
<td></td>
</tr>
<tr>
<td>Mains</td>
<td>29,972,012</td>
</tr>
<tr>
<td>Services</td>
<td>24,260</td>
</tr>
<tr>
<td>Main Breaks</td>
<td>5,832,340</td>
</tr>
<tr>
<td>Service Breaks</td>
<td>3,883,020</td>
</tr>
<tr>
<td>Filling Mains / New Construction</td>
<td>617,600</td>
</tr>
<tr>
<td>Fire (524-3647)</td>
<td>419,335</td>
</tr>
<tr>
<td>Misc: Specify</td>
<td></td>
</tr>
<tr>
<td>Cleaned Saylesville Reserv</td>
<td>0</td>
</tr>
<tr>
<td>Well #10 Filter Rehab</td>
<td>0</td>
</tr>
<tr>
<td>Eliminate 16&quot; valve on North St</td>
<td>0</td>
</tr>
<tr>
<td>Hydrant Repairs</td>
<td>28,500</td>
</tr>
<tr>
<td>Hydrant Replacement</td>
<td>15,750</td>
</tr>
<tr>
<td>Hydrant Surveys</td>
<td>0</td>
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<tr>
<td>Valve replacements (2)</td>
<td>61,000</td>
</tr>
<tr>
<td>Fire Flow Test</td>
<td>3,325</td>
</tr>
<tr>
<td>Leakage &amp; Overflows at Towers</td>
<td>44,295,245</td>
</tr>
<tr>
<td>Total Pumped</td>
<td>2,413,582,000</td>
</tr>
</tbody>
</table>
Then the raw data is converted into the Water Balance categories specified in PSC 185.

<table>
<thead>
<tr>
<th>Water Balance</th>
<th>2014 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Input Volume =</td>
<td>2,413,582,000</td>
</tr>
<tr>
<td>Authorized Consumption =</td>
<td>2,141,275,002</td>
</tr>
<tr>
<td>Water Losses =</td>
<td>272,306,998</td>
</tr>
<tr>
<td></td>
<td>2,413,582,000</td>
</tr>
<tr>
<td>Authorized - Billed =</td>
<td>2,093,482,220</td>
</tr>
<tr>
<td>Authorized - UnBilled =</td>
<td>47,792,782</td>
</tr>
<tr>
<td>Losses - Apparent =</td>
<td>218,296,393</td>
</tr>
<tr>
<td>Losses - Real =</td>
<td>54,010,605</td>
</tr>
<tr>
<td></td>
<td>2,413,582,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Authorized Consumption</th>
<th>2014 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billed &amp; Metered</td>
<td>2,093,482,220</td>
</tr>
<tr>
<td>Billed &amp; UnMetered</td>
<td>-</td>
</tr>
<tr>
<td>UnBilled &amp; Metered</td>
<td>46,647,272</td>
</tr>
<tr>
<td>UnBilled &amp; UnMetered</td>
<td>1,145,510</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Losses</th>
<th>2014 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unauthorized Consumption</td>
<td></td>
</tr>
<tr>
<td>Meter Inaccuracies</td>
<td></td>
</tr>
<tr>
<td>Data Handling Errors</td>
<td>218,296,393</td>
</tr>
<tr>
<td>Main Breaks</td>
<td>5,832,340</td>
</tr>
<tr>
<td>Leakage &amp; Overflows at Towers</td>
<td>44,295,245</td>
</tr>
<tr>
<td>Service Breaks</td>
<td>3,883,020</td>
</tr>
<tr>
<td></td>
<td>2,413,582,000</td>
</tr>
</tbody>
</table>

| Revenue Water =        | 2,093,482,220       |
| Non Revenue Water =     | 320,099,780         |
|                        | 2,413,582,000       |

The summary, above, indicates that in 2014, 11.2% of the Utility’s water was lost. This loss is far less than the 15% that triggers a comprehensive survey and corrective action plan.
The stability of the statistics over the last eleven years and the data itself is indicative of a diligently maintained distribution system. (The Utility reformatted its data from 2002 forward so that its display is consistent with the 2012 requirements.) Accounted for Water ranges between 88.8% and 96.5%. The results are achieved because the Utility routinely repairs and replaces water services, hydrants and valves. In addition, the Utility replaced 11,135 feet of water main in 2014, exceeding its goal of 9,549. The goal is part of a program that gradually ramps up replacement in order to meet and sustain the AWWA’s recommended 1% replacement goal in 2017.

In 2014, the water losses rose to 11.2%. The increase was driven by frigid temperatures in 2014. The Utility flushed mains and towers to keep the water moving, in order to prevent freezing.
VII. CONCLUSION

From the data above, you can see the combined effect of our various conservation programs. Over time:

a. Total water pumped has steadily declined
b. Average day pumpage has steadily declined
  c. The number of days where >8.8 million gallons needed to be pumped has decreased.

However, ultimately, the Utility must compare the results of its conservation program with the water savings goal of 1 mgd in 2050. In order to achieve the 2050 goal, the Utility assumed that it would need to save 182,500,000 gallons per year by the year 2030. After it completed its plan in 2012, the plan predicted savings of 204,900,000 by the year 2030. In other words, if the planned savings are achieved, the Utility will exceed the 1mgd goal. The data below indicates that the Utility’s actual savings are exceeding the planned savings and in line to meet or exceed the 1mgd goal.