



Water Conservation Program

2014 Annual Report



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OVERVIEW

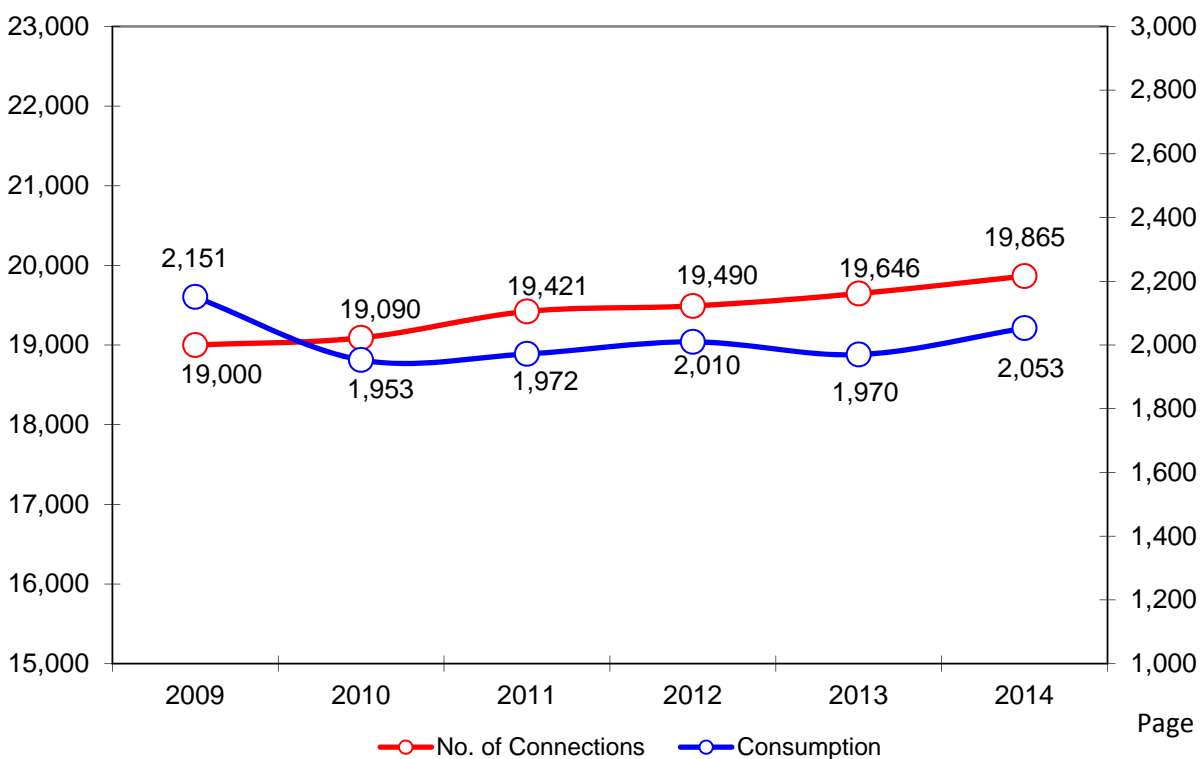
The City's goal to reduce consumption by 5 percent per connection by the end of 2014 (*2009-2014 Water System Plan*) was exceeded by over 3 percent! Olympian's proved their dedication to water use efficiency by reducing consumption by 8.7 percent per connection during the planning period. We also continue to meet Department of Health requirements to maintain water loss below 10 percent of production. In 2014, our water loss was 7.7 percent; with a three-year average of 8.6 percent.

A good deal of time was spent in 2014 developing the Water Use Efficiency chapter for the *2015-2020 Water System Plan* (to be adopted later this year). During the process we determined two new water conservation goals: reduce indoor use by 100,000 gallons per day (gpd) and to reduce outdoor use by 5%. The reason we chose to use a different metric for indoor and outdoor reductions is because with indoor water use we know what the average gpd water savings is for installation of efficient fixtures in homes and businesses; while we can only compare total outdoor use year-to-year.

2014 CONSUMPTION

Consumption slightly increased in 2014 due in part to a nice, long, warm summer increasing outdoor use. The switch to Automated Meter Reading (AMR) that replaced old, under-reporting meters with the new technology is now giving us more accurate consumption data. **Table 1** depicts the consumption in millions of gallons, with the number of service connections at year end.

Table 1: Water Use and Number of Connections in Olympia, 2009-2014



Consumption by Rate Class

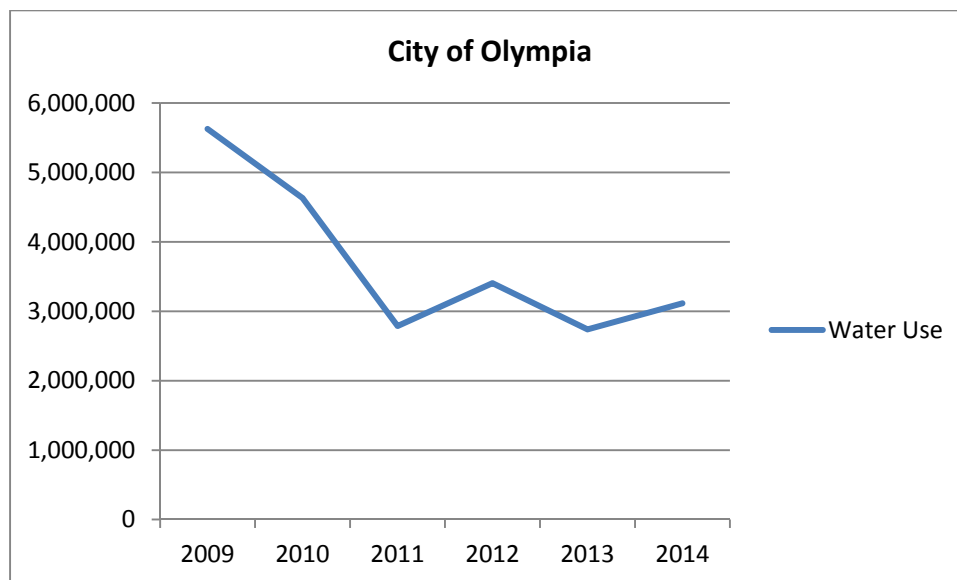
Below, **Table 2** lists the consumption by rate class in cubic feet (CF), broken out between domestic and irrigation use.

Table2: Water Consumption by Rate Class (CF)

	2009	2010	2011	2012	2013	2014
Single Family Res.						
Water:	133,773,189	122,642,323	122,850,846	124,832,007	122,000,148	126,080,952
Irrigation:	3,705,060	2,745,978	3,097,240	3,232,288	3,463,193	3,353,398
Multi Family Res.						
Water:	48,173,420	46,648,785	45,863,176	47,178,631	47,718,264	49,139,370
Irrigation:	1,927,646	1,377,089	1,609,065	1,657,553	1,632,690	1,976,581
Commercial						
Water:	52,457,919	52,274,320	55,312,407	53,601,798	54,061,597	59,937,422
Irrigation:	13,294,998	9,462,347	10,375,162	11,843,750	9,254,133	10,869,753
Municipal						
Water:	3,103,359	3,033,672	705,393	850,439	713,834	668,476
Irrigation:	2,522,947	1,598,796	2,082,620	2,555,820	2,024,457	2,445,417
Political Subdivision						
Water:	8,451,470	8,104,499	7,911,229	8,158,150	7,644,750	4,702,616
Irrigation:	4,219,099	2,601,598	2,695,717	3,288,570	3,003,852	2,710,508
State						
Water:	13,411,439	8,945,235	8,769,266	8,799,952	9,513,853	10,274,846
Irrigation:	2,492,671	1,678,262	2,390,886	2,668,231	2,272,494	2,272,021
TOTAL Water (CF):	259,370,796	241,648,835	241,412,317	243,420,976	241,652,445	250,803,682
Million Gallons:	1,940	1,808	1,806	1,821	1,808	1,876
TOTAL Irrigation (CF):	28,162,421	19,464,068	22,250,690	25,246,212	21,650,819	23,627,678
Million Gallons:	211	146	166	189	162	177
GRAND TOTAL (CF):	287,535,158	261,114,711	263,664,813	268,669,009	263,305,072	274,431,360
Million Gallons:	2,151	1,953	1,972	2,010	1,970	2,053

MUNICIPAL WATER USE

Table 3: 2009-2014 Water Use



Since 2009, the City of Olympia has reduced its water use by 45 percent. This substantial water savings can be attributed to several factors:

- In 2010, the City underwent extensive indoor plumbing upgrades for all City-owned facilities through LOTT's WaterSmart Technology Program resulting in some 6,000 gallons per day water savings.
- Also in 2010, the City replaced the cooling system at the Old City Hall/Criminal Justice Center, saving approximately 2.5 million cubic feet, or over 18,700,000 gallons annually.
- In 2011, the new LEED Certified City Hall opened featuring high-efficiency plumbing fixtures further reducing water use.
- In 2013, the City completed work with our certified irrigation auditor and the Olympia Parks Department to develop and implement the Landscape Water Management Plan to maximize irrigation efficiency in our parks and City facilities. Parks received over \$10,000 from the utility to expand their efficient weather-based irrigation control system (with leak detection) to remaining parks.

LOTT FUNDED PROGRAMS

Through the Water Conservation Coordination Committee (WC3), and subsequent *2013-2018 Water Conservation Coordination Plan*, the LOTT Clean Water Alliance funds the majority of our indoor water reduction programs. For the current planning period, the goal is to reduce wastewater flows by at least 175,000 gallons per day (gpd), and ideally by 250,000 gpd. As **Table 4** demonstrates, Olympia is still taking the lead on water savings between the partner cities. **Table 5** below breaks down the water savings by program, per City.

Table 4: 2014 GHPD Water Savings by City

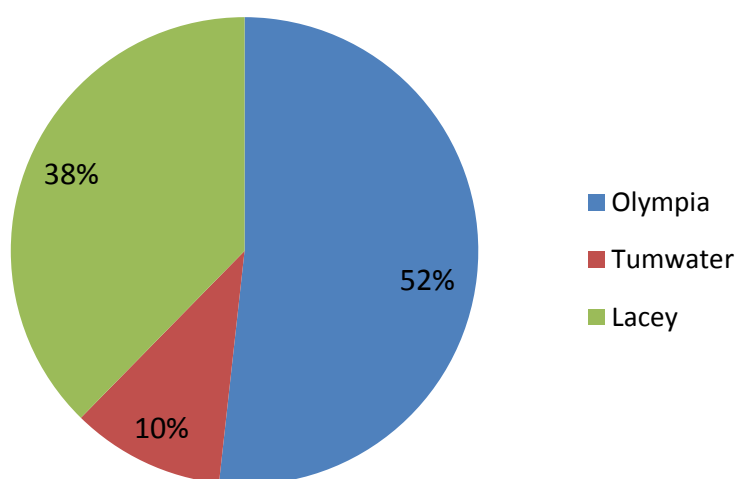


Table 5: LOTT Programs, 2009-2014 GPD Water Savings

	2009	2010	2011	2,012	2013	2014
WaterSmart						
Olympia	34,135	29,734	15,732	6,633	1,514	1,882
Lacey	0	635	3,782	3,072	4,804	119
Tumwater	2,446	47	8,687	0	0	0
Commercial HETs						
Olympia	6,116	4,206	3,828	2,948	1,980	540
Lacey	6,688	4,373	2,772	484	180	0
Tumwater	5,675	3,569	2,068	352	225	0
Multi-Family HETs						
Olympia	n/a	n/a	3,565	2,914	3,325	392
Lacey	n/a	n/a	5,177	3,007	4,250	1,532

Tumwater	n/a	n/a	4,557	9,672	0	110
Residential HETs						
Olympia	9,620	7,992	7,955	6,216	6,013	5,176
Lacey	4,070	5,439	5,217	5,254	3,735	3,903
Tumwater	2,664	2,775	2,294	2,109	1,491	972
Better-Than-Code						
Olympia	n/a	167	0	0	0	0
Lacey	n/a	0	686	0	0	0
Tumwater	n/a	0	4,674	0	0	0
WashWise						
Olympia	10,217	11,198	7,084	5,896	7,395	6,496
Lacey	11,296	10,362	6,122	4,620	5,771	4,988
Tumwater	3,457	4,114	2,422	1,804	2,349	1,885
Water Saving Kits*						
Olympia	7236**	3654**	1,422	882	614	4,822
Lacey	3,560	unknown	3,179	3,034
Tumwater	2,607	1,043	1,373	1,770
Demo School						
Olympia	n/a	6,246	n/a	n/a	n/a	n/a
Lacey	n/a	n/a	n/a	3,700	n/a	n/a
Tumwater	n/a	n/a	4,430	n/a	n/a	n/a
TOTAL:						
Olympia	60,088	59,543	38,164	24,607	20,227	14,486
Lacey	22,054	20,809	23,756	16,437	18,740	10,542
Tumwater	14,242	10,505	29,132	13,937	4,065	2,967
*not included in total						
**savings calculated per kit not household, household data not available						

The following is a detailed breakout of each LOTT-funded program, outlining specific projects and resulting water savings, as well as the number of fixtures and rebates distributed to Olympia customers in 2014.

Water Smart Technology Projects:

- Vantage Physicians
High-Efficiency Toilets = 82 gpd

- Olympia Orthopedic
Autoclaves (Steam Sterilizers) = 1800 gpd

Residential HET Rebates:

- 309 toilets @ 16.75 gpd = 5,175 gpd

Commercial HET Rebates:

- 12 toilets @ 45 gpd = 540 gpd

Multi-Family HET Rebates:

- 32 toilets @ 12.25 gpd = 392 gpd

Multi-Family Free HET Program:

- 0 toilets @ 25 gpd = 0 gpd

WashWise Rebates:

- 224 @ 29 gpd = 6,496 gpd

Water Saving Kits:

- 333 distributed
- 267 HH @ 18 gpd = 4,806 gpd*

LOTT TOTAL GPD: 19,291 (includes potential savings from water saving kits)



CITY OF OLYMPIA PROGRAMS

Indoor

The City offers our water customers with the septic systems (who do not qualify for LOTT-funded programs) free indoor water savings kits (low-flow showerhead, bathroom and kitchen sink aerators and toilet leak detection tablets), a High-Efficiency Toilet rebate program and an efficient washing machine rebate program.

Outdoor

On the residential side, we offer customers free outdoor water saving kits (adjustable spray nozzle, hose repair kit and rain/sprinkler gauge), free hose watering timers, free rain sensors for irrigation systems and an irrigation smart controller rebate. For our commercial customers, we offer rebates up to \$2,500 for upgrades made to irrigation systems through our Efficient Irrigation Program.

Below is a detailed breakout of City-funded indoor and outdoor programs/giveaways for 2014.

Residential HET Rebates:

- 102 toilets @ 16.75 gpd = 1,709 gpd (\$10,151.22)

Residential Washing Machine Rebates:

- 20 @ 29 gpd = 580 gpd (\$2,000)

Indoor Water Saving Kits:

- 44 kits distributed
- 37 HH @ 18 gpd = 666 gpd*

Dish Squeegees:

- 279

Irrigation Equipment Rebates (Commercial):

- 1 @ \$500

Smart Controller Rebates (Residential):

- 32 (\$6,400)

Rain Barrel Rebates:

- 13 (\$260)

PRV Rebates:

- 21 (\$2,625)



Outdoor Water Saving Kits:

- 135

Hose Watering Timers:

- 112

Rain Sensors:

- 4

Garden Medallions:

- 157

OLYMPIA TOTAL GPD: 2,955 (includes potential savings from water saving kits)

PSE Free Washing Machine Exchange: 1,224 GPD

TOTAL 2014 SAVINGS: 23,470 GPD



2015-2020 WATER CONSERVATION PROGRAM

The Water Conservation Program objectives and strategies help meet the Drinking Water Utility's Goal 3:

Olympia's water supplies are used efficiently to meet the present and future needs of the community and natural environment.

The Water Conservation Program for 2015-2020 is designed to maintain past program success, and to continue to meet State water use efficiency regulations. There are three objectives the Program will focus on during the Plan period.

Objective 1: Reduce indoor use by 100,000 gallons per day (gpd)

Strategy 1. Continue to implement flow reduction programs through the partnership with the LOTT Clean Water Alliance and Cities of Lacey and Tumwater for single-family, multi-family and industrial/commercial/institutional (ICI) customers who receive LOTT sewer service. Programs include High-Efficiency Toilet Rebates, WashWise Rebates, Water Saving Kits, WaterSmart Technology Rebates and Better-Than-Code Rebates.

Strategy 2. Continue to implement water-saving programs for residential City water customers who do not have sewer service (septic). Programs include High-Efficiency Toilet Rebates, Washing Machine Rebates and Water Saving Kits.

Strategy 3. Continue to raise awareness of the importance of water use efficiency through outreach via web, utility inserts, program brochures, targeted campaigns, tabling at sustainability events and classroom presentations.

Performance Measure for Objective 1:

1. Using industry-wide water saving assumptions for various efficient devices (e.g. toilets), determine annually the water savings achieved through program efforts.

Objective 2: Reduce outdoor use by 5 percent

Strategy 1. Continue to implement outdoor water use reduction programs for residential customers. Offerings include Smart Irrigation Controller Rebates, Rain Sensors, Water Saving Kits and Rain Barrel Rebates.

Strategy 2. Continue to implement our Efficient Irrigation Hardware Rebate Program for ICI customers.

Strategy 3. Continue to raise awareness of the importance of water use efficiency through outreach via web, utility inserts, program brochure, targeted campaigns, tabling at sustainability events and classroom presentations.

Performance Measures for Objective 2:

1. Monitor irrigation meter consumption annually. Consumption needs to be adjusted for weather/plant need based evapotranspiration.
2. Monitor domestic seasonal water use through consumption records annually. Again, consumption needs to be adjusted for weather/plant need based evapotranspiration.

Objective 3: Maintain water loss below 10 percent of production

Strategy 1. Continue to monitor water lost in our system annually as required by the WA State Department of Health (DOH) by evaluating production, authorized consumption (both metered and unmetered) and resulting distribution system leakage (DSL).

Strategy 2. Continue to work closely with the Olympia Fire Department and surrounding fire districts to get accurate estimates of water used for fire suppression, fire flow testing, sprinkler flushing and training conducted off-site.

Strategy 3. Continue to work closely with Water Operations & Maintenance to monitor field use, main breaks and leaks, as well as expanding leak detection efforts.

Strategy 4. If our water system exceeds the DSL standard, we will develop and implement a Water Loss Control Action Plan as required by DOH.

Performance Measure for Objective 3:

1. Submit annual Water Use Efficiency Report to DOH.

CONCLUSION

In 2014, participation in the new HET and washing machine rebate programs for water customers on septic was phenomenal, and participation hasn't slowed in 2015. We have been working with our certified irrigation professional, Howard Stenn, to ramp up participation in our Efficient Irrigation Program for commercial customers. Howard has been giving presentations to local contractors and irrigation suppliers so we are hopeful we will have more projects to rebate this year. Lastly, with the support of Mayor Stephen Buxbaum, we are currently participating in the National Mayor's Challenge for Water Conservation for the first time. Halfway through the Challenge we are ranked #7 in the nation based on population.