



# WMCP FIVE-YEAR PROGRESS REPORT

*Prepared for City of Grants Pass*

June 2020  
1019.134.04



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# City of Grants Pass

# WMCP Five-Year Progress Report

June 2020

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## General/Project Report

Prepared by RH2 Engineering, Inc.

Prepared for City of Grants Pass (City)

Note: This Water Management and Conservation Plan (WMCP) Five-Year Progress Report was completed under the direct supervision of the following Licensed Professional Engineer registered in the State of Oregon.

Sincerely,

Rachel Lanigan

**RH2 ENGINEERING, INC.**



EXPIRES: 12/31/2020

Signed: 06/25/2020

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## Introduction

This report serves as a progress update to the City’s 2014 WMCP to meet the requirements of the Oregon Water Resources Department (OWRD). This report includes a status update on all water conservation benchmarks, a summary of diversions over the previous five years, a summary of the water rights held by the City, a water audit, and a comparison of water used in each sector for the previous eight years.

## Progress Report for Conservation Benchmarks

**Table 1** provides a description of the City’s progress in implementing the conservation benchmarks as required under OAR 690-086-0120(4)(a).

**Table 1**  
**Status of Conservation Benchmarks Listed in the 2014 WMCP**

Item	Status
Water Audit	The City used to perform water audits annually but has not been able to conduct a basic annual water audit due to staffing turnover. The water audit included in this report was performed by RH2 Engineering.
Fully Metered System	The City continues to operate a fully metered system.
Meter Testing & Replacement	The City routinely tests meters when they reach the end of their warranty periods and has replaced an average of 686 meters per year since 2014 to maintain billing accuracy.
Water Rates	The City charges a base rate and commodity charge on a block rate structure.
Leak Detection Program	A proactive leak detection program was implemented in 2018 and is ongoing. This includes employing a leak detection company to audit sections of the distribution system.
Public Education	Updated water conservation pages on City website, including tips for indoor and outdoor water use efficiency, educational materials for all school grade levels, and several links to other conservation websites. The website still includes a summary of the City’s Water Treatment Plant low-use water demonstration garden. The City featured the Water Treatment Plant demonstration garden in mailings. The City included water conservation newsletters with billing statements. Printed and distributed 500 toilet leak strips and brochures.
Leak Repairs & Line Replacement	City staff follow up with identified leaks as part of the leak detection program and make repairs/replacements as necessary. The City maintains an annual budget for leak repairs, waterline replacement, and meter repairs. The City hires a leak detection service twice per year to identify areas of leaks and support prioritization of their repair.
Technical & Financial Assistance	<ul style="list-style-type: none"> <li><u>Financial Assistance</u> - The City has financial assistance programs for customers that are unable to pay their bill but the City has</li> </ul>

	<p>not yet provided other technical or financial assistance to customers for improving water use efficiency (such as rebates for replacing fixtures).</p> <ul style="list-style-type: none"> <li>• The City provided shower kits and faucet aerator kits to customers upon request for a few years, but due to lack of interest from customers, discontinued this offer.</li> <li>• Irrigation system improvements to GPID. The City has entered into an Intergovernmental Agreement (IGA) with Grants Pass Irrigation District (GPID) for the purpose of working cooperatively to improve the system to convey stormwater. A side benefit of this will be the “tightening” of the system to reduce water lost through evaporation and saturation.</li> <li>• No action was taken on the B.I.G. (Business, Industry, Govt.) Program.</li> <li>• No action was taken to assess the feasibility of supplier-financed incentive programs.</li> </ul>
Retrofit/Replacement of Inefficient Fixtures	The City distributed 500 toilet leak strips and brochures to encourage customers to retrofit/replace inefficient fixtures. As noted earlier, the City discontinued providing shower kits and faucet aerator kits to customers due to lack of interest.
Conservation Based Rate Structure	The City has adopted a rate structure which further encourages water conservation. The updated rate structure includes a new lower rate initial tier.
Water Reuse	The wastewater treatment plant continues to use treated effluent where possible, including irrigation, for all applications at the plant facility site. GPID continues to provide non-potable irrigation water to many parcels within the City including the Grants Pass Country Club.
Other Measures to Improve Water Use Efficiency	Planted additional drought tolerant plants in Water Treatment Plant demonstration garden.

The City continues to operate the remaining bulk water dispensing station and metered fire hydrant flow for bulk water purchases. A second station is currently being constructed to make bulk water more accessible.

As seen in the table, the City has met most of the conservation benchmarks established in the 2014 WMCP. The City plans to implement the following benchmarks to remain in compliance with their Water Management and Conservation Plan:

- Annual Water Audit
- Public Education:
  - Newsletters with Billing Statements
  - Water Demonstration Garden Feature in Mailings
- Evaluate feasibility and appropriateness of technical and financial assistance programs:
  - Irrigation System Improvements
  - B.I.G. Program
  - Supplier-Financed Incentive Programs

## Diversion of Water

The City holds two water right certificates and two permits for municipal water supply from the Rogue River. The total allowed municipal rate is 34.95 cfs (18.8 mgd) and developed rate is 29.45 cfs (15.8 mgd). The City also holds a livestock water right supplied from Lost Creek Reservoir. **Table 2** attached to the end of this report summarizes the City’s water rights.

The average monthly and daily diversions under each right held by the water supplier for the previous five years is presented in **Table 3** as required under OAR 690-086-0120(4)(b).

**Table 3**  
**Diversion of Water for the Previous Five Years**

Source/Point of Diversion	Year				
	2015	2016	2017	2018	2019
Rogue River - POD 1	2015	2016	2017	2018	2019
Average Monthly Diversion (MG/month)	189.5	184.4	188.1	192.5	208.6
Average Daily Diversion (mgd)	6.2	6.1	6.2	6.3	6.9
Rogue River - POD 2	2015	2016	2017	2018	2019
Average Monthly Diversion (MG/month)	2.9	3.6	1.3	1.4	1.8
Average Daily Diversion (mgd)	0.10	0.12	0.04	0.05	0.06

## Water Audit

The results of the City’s annual water audit for the previous six years is shown in **Table 4** (required under OAR 690-086-0150(4)(a)). The average calculated water loss from 2014 to 2019 is approximately 9 percent which is within an acceptable range for municipal distribution systems. The City changed billing software in 2016, which resulted in more accurate accounting of water billing by 2017. The water loss from 2017 to 2019 is significantly higher than previous years. This is attributed to the new billing software. The calculated water loss in 2019 is 12 percent which exceeds the acceptable water loss for municipal systems. The City will continue leak detection and monitoring of non-revenue water use to work to reduce water loss to 10 percent or below.

**Table 4**  
**Water Audit Data**

Reporting Period (Year)	Water Production (MG)	Revenue Water		Non-Revenue Water			Total Water Loss (%)
		Authorized Consumption				Water Losses	
		Retail Metered Consumption (MG)	Bulk Water Sales (MG)	Authorized Non-Revenue Flows (MG)	Total Authorized Consumption (MG)	Apparent & Real Losses (MG)	
2014	2,010	1,919	3.45	N/A	1,922	88	4%
2015	2,075	1,898	1.95	N/A	1,900	175	8%
2016	2,046	1,922	8.88	N/A	1,931	115	6%
2017	2,087	1,837	11.49	N/A	1,848	238	11%
2018	2,144	1,903	13.86	N/A	1,917	226	11%
2019	2,079	1,822	14.80	N/A	1,837	242	12%
<b>Average Water Loss:</b>							<b>9%</b>

## Comparison of Water Use by Customer Type

A comparison of the quantities of water used in each sector is presented in accordance with OAR 690-086-0120(4)(d) for the previous six years. **Table 5** shows the total amount of water used in each sector from 2014 to 2019. The City breaks down billing data of its customers into four categories: single-family residential, multi-family residential, commercial, and public. The latest WMCP for the City reported data through 2011.

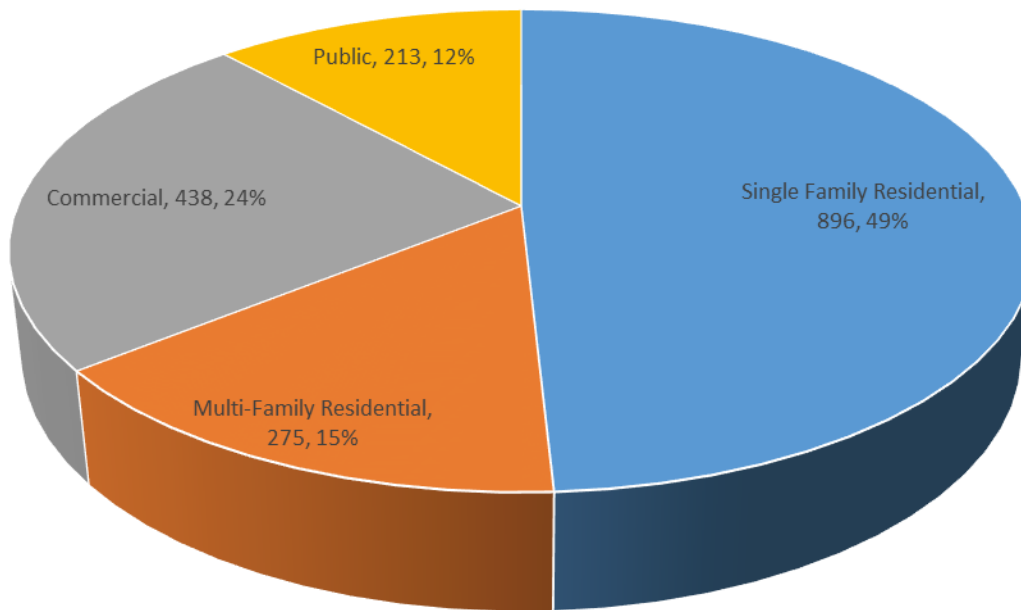
**Table 5**  
**Total Annual Water Use by Customer Type**

Year	Single Family Residential (MG)	Multi-Family Residential (MG)	Commercial (MG)	Public (MG)	Total (MG)
2014	940	296	505	177	1,919
2015	914	295	442	247	1,898
2016	979	325	431	188	1,922
2017	913	280	437	207	1,837
2018	943	289	446	225	1,903
2019	896	275	438	213	1,822

**Chart 1** shows the percentage of water use by customer type in 2019. 2019 consumption is approximately 49 percent single-family residential, 24 percent commercial, 15 percent multi-family residential, and 12 percent public.



**Chart 1**  
**2019 Water Use Percentage by Customer Type**



The total number of accounts for each customer type is presented in **Table 6**.

**Table 6**  
**Total Number of Accounts by Customer Type**

Year	Single Family Residential (accounts)	Multi-Family Residential (accounts)	Commercial (accounts)	Public (accounts)	Golf Course (accounts)
2007 <sup>1</sup>	7,904	951	1,271	182	1
2008 <sup>1</sup>	8,027	968	1,294	183	1
2009 <sup>1</sup>	8,056	987	1,318	179	0
2010 <sup>1</sup>	8,085	991	1,323	182	0
2011 <sup>1</sup>	8,083	990	1,330	176	0
2012 <sup>2</sup>	-	-	-	-	-
2013 <sup>2</sup>	-	-	-	-	-
2014	8,152	1,007	1,213	154	N/A <sup>3</sup>
2015	8,170	1,001	1,195	157	N/A <sup>3</sup>
2016	8,458	1,013	1,215	185	N/A <sup>3</sup>
2017	8,523	1,010	1,178	86	N/A <sup>3</sup>
2018	8,703	983	1,086	144	N/A <sup>3</sup>
2019	8,786	1,021	1,094	161	N/A <sup>3</sup>

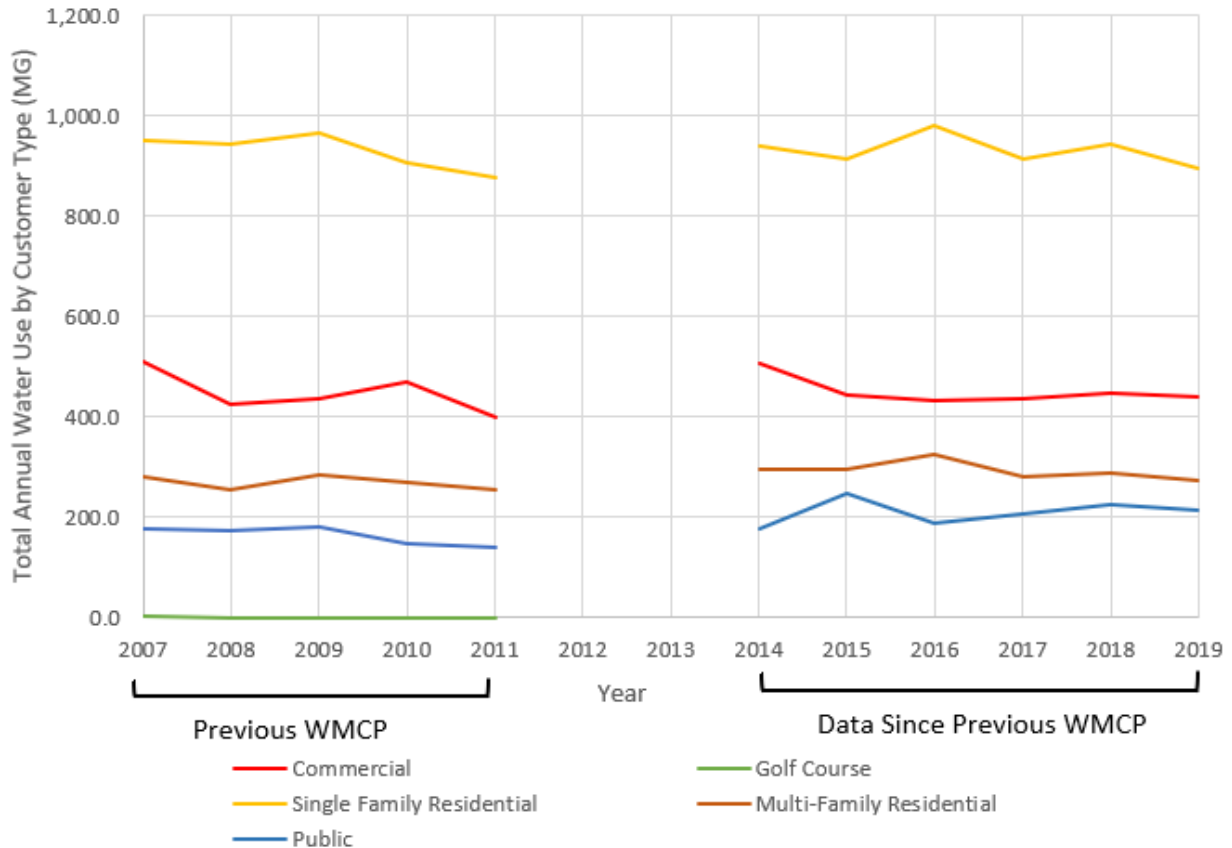
1. 2007 through 2011 data is from the 2014 WMCP (Murray Smith and Associates, Inc.).

2. 2012 and 2013 data was not available.

3. Starting in 2014, the golf course was no longer separated into its own customer category for billing.

Water use was categorized slightly differently from 2007 to 2011 (WMCP, Murray Smith, June 2014). The golf course was broken out into its own sector until 2014. **Chart 2** presents a graphical comparison of total annual consumption by sector.

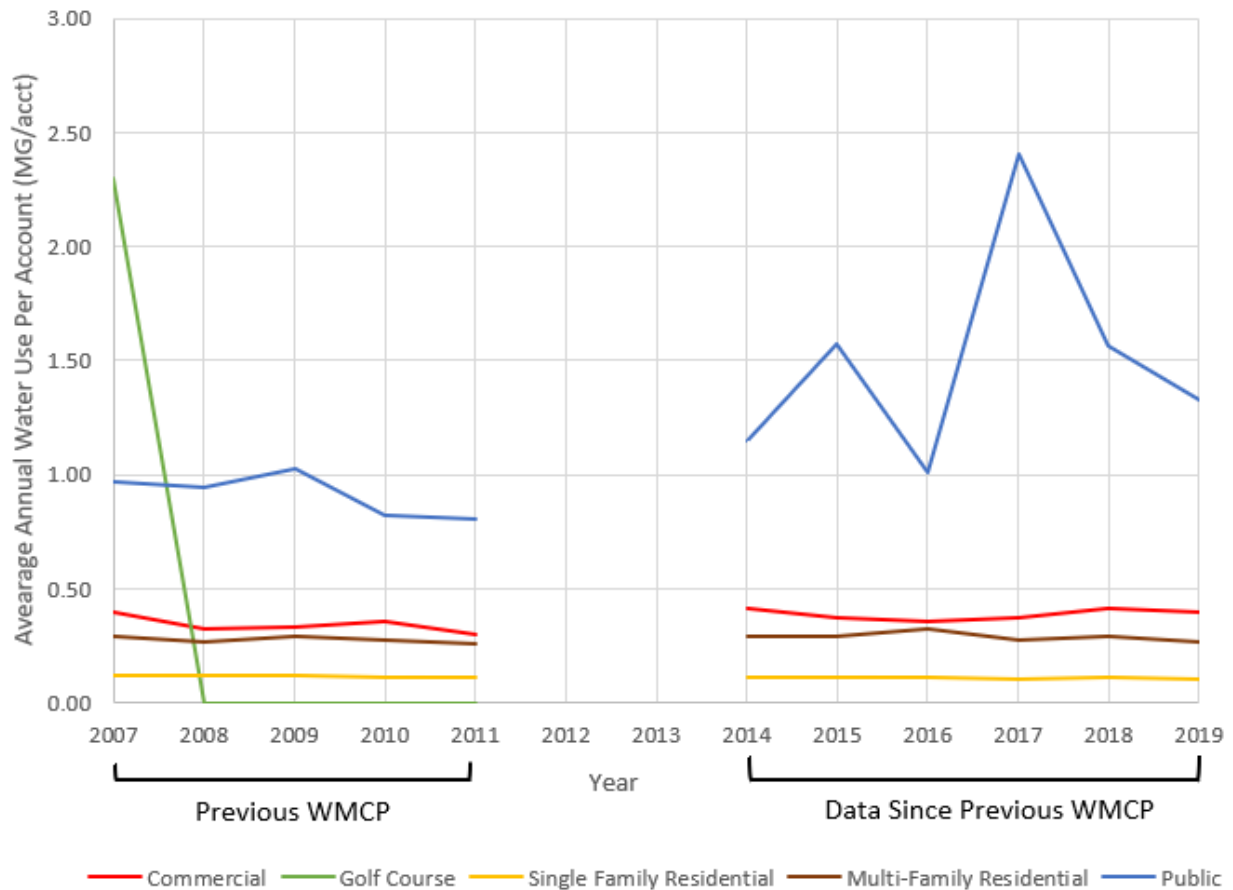
**Chart 2**  
**Total Annual Water Use by Customer Type – Comparison to Previous WMCP**



As seen in **Chart 2**, the annual single family residential and multifamily residential consumption peaked in 2016 and then decreased in 2019. Public consumption peaked in 2015, decreased in 2016, and then gradually increased until 2018 when it decreased again. Commercial consumption peaked in 2014 and then decreased and flattened out from 2015 to 2019. The **Chart 2** comparison of the previous WMCP data to the new data is somewhat inaccurate because the City changed the way it categorized customers in its billing data. The previous WMCP had a golf course category but total annual water use is only reported for the golf course in 2007 and it is minimal (2.3 MG).

**Chart 3** presents a graphical comparison of average water use per account to the previous WMCP. All sectors except for public and golf course consumed a somewhat steady amount per account every year. There is an anomaly in the 2017 public data: the total number of public accounts decreased from 185 in 2016 to 86 in 2017, and increased again in 2018 to 144. There is a slight spike in public consumption in 2017, as seen in **Chart 2**. Variation in the number of accounts from 2016 to 2018 skews the consumption per account calculation for the public sector. This anomaly is likely due to the conversion in the billing method which may have caused some duplications of data for some customers.

**Chart 3**  
**Average Annual Water Use Per Account - Comparison to Previous WMCP**



The average water use per account calculated values from 2007 to 2019 are presented in **Table 7**.

**Table 7**  
**Average Annual Water Use per Account by Customer Type**

Year	Single Family Residential (MG/acct)	Multi-Family Residential (MG/acct)	Commercial (MG/acct)	Public (MG/acct)	Golf Course (MG/acct)
2007 <sup>1</sup>	0.12	0.29	0.40	0.97	2.30
2008 <sup>1</sup>	0.12	0.26	0.33	0.94	0.00
2009 <sup>1</sup>	0.12	0.29	0.33	1.02	-
2010 <sup>1</sup>	0.11	0.27	0.35	0.82	-
2011 <sup>1</sup>	0.11	0.26	0.30	0.81	-
2012 <sup>2</sup>	-	-	-	-	-
2013 <sup>2</sup>	-	-	-	-	-
2014	0.12	0.29	0.42	1.15	N/A
2015	0.11	0.29	0.37	1.57	N/A
2016	0.12	0.32	0.35	1.01	N/A
2017	0.11	0.28	0.37	2.41	N/A
2018	0.11	0.29	0.41	1.56	N/A
2019	0.10	0.27	0.40	1.33	N/A

1. 2007 through 2011 data is from the 2014 WMCP (Murray Smith and Associates, Inc.).  
 2. 2012 and 2013 data was not available.  
 3. Starting in 2014, the golf course was no longer separated into its own customer billing category.

# Table 2 City of Grants Pass – Water Right Inventory

Application No.	Permit No.	Priority Date	Certificate No.	Transfer No.	Source	Use	Permit Rate (cfs)	Allowed Rate (cfs)	Actual Diversion				Authorized Completion Date	Notes/Environmental concerns
									Maximum Instantaneous Rate Diverted to Date (cfs)	Maximum Annual Quantity Diverted to Date (MG)	Average Monthly Diversion (MG)	Average Daily Diversion (Gallons)		
<b>Municipal Water Rights</b>														
		12/31/1888	15839		Rogue River, POD 1	Municipal (and Irrigation)	12.5 cfs	12.5 cfs	12.5 cfs	1,724 MG	144 MG	4,724,646 gal	1949	Owner is listed as "Rogue River Water Company" on the OWRD water rights information query
S-34141	S-26901	7/19/1960	89629	T8032	Rogue River, POD 1 and POD 2	Municipal	25.0 cfs	16.95 cfs (16.95 cfs is developed)	4.0 cfs	552 MG	46 MG	1,511,887 gal	Oct 1, 2040	Limited to when the mouth of the Rogue River is flowing more than 735.0 cfs. Transfer approves additional point of diversion (POD 2).
							4.2 cfs							
S-64732	S-47346	1/13/1983			Rogue River, POD 2	Municipal	25.0 cfs	1.3 cfs	0.36 cfs	50 MG	4 MG	136,070 gal		
S-41672	S-45827	12/2/1965			Rogue River, POD 1	Municipal	25.0 cfs	0.0 cfs	-	-	-	-		City wants to utilize this right prior to S-47346 due to the priority date
<b>Grants Pass Municipal Totals</b>							<b>87.5 cfs</b>	<b>34.95 cfs</b>	<b>16.86 cfs</b>	<b>2,326 MG</b>	<b>194 MG</b>	<b>6,372,603 gal</b>		
<b>Livestock Water Rights</b>														
P-74102		5/24/1994			Rogue River, POD 1 – Reservoir (Lost Creek Reservoir)	Livestock		21.52 AF						City just sold the property to which this water right is transferred. Current tenant holds lease for another year. Likely stored water purchased from Lost Creek Reservoir. No information available regarding actual diversion from this water right.