



Water Management Conservation Plan

Mike Miller, Public Works Director ♦ August 17, 2020



City of Florence
A City in Motion

History

March 2010

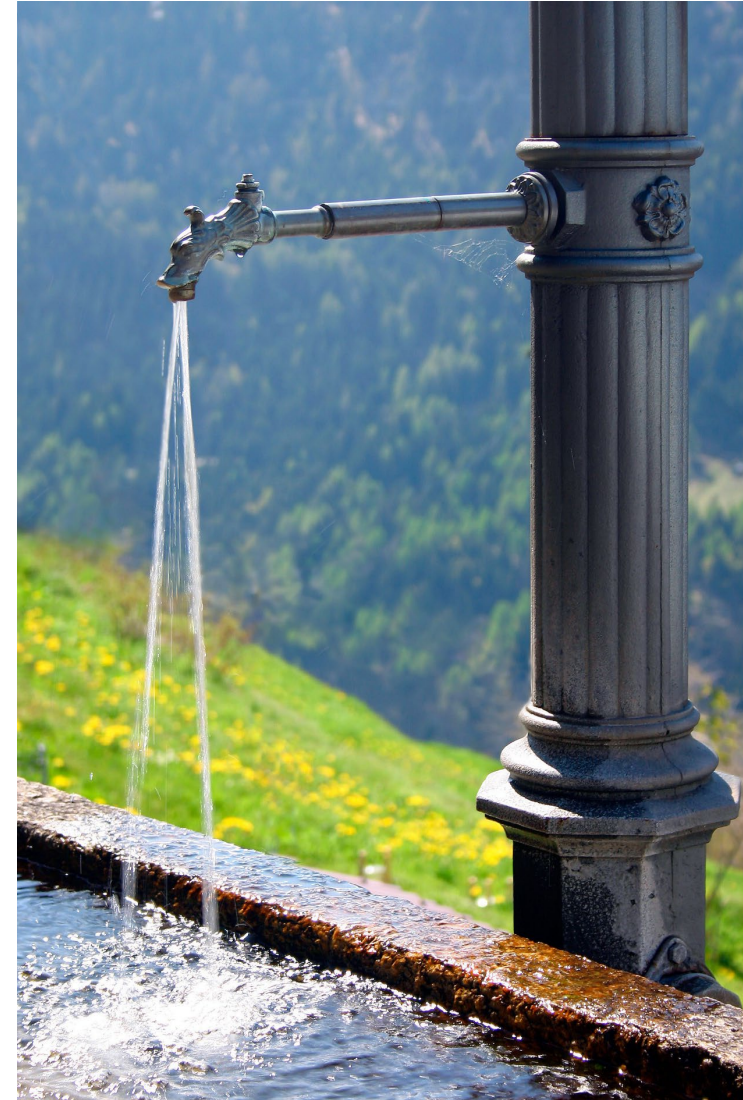
The City of Florence completed its first Water Management & Conservation Plan

Oregon Administrative Rules (OAR) require 5-year benchmarks for implementation

The City's reports to Oregon Water Resources Department (OWRD) were submitted and accepted in 2015

An updated plan is a condition of OWRD's approval of the 2010 WMCP

Required as part of water use permit G-15056





OAR Chapter 690, Division 86



The City allowed for extended public comment period, with no comments received (with the exception of our Planning Department)

The State allowed for extended public comment period once the plan was received, with no comments

Upon expiration of the public comments periods, the State had 60 days to review and provide comments

The WMCP Update has been revised to address the comments from the State

WMCP EXPLAINED

“Water Management and Conservation Plan”

The Water Management and Conservation Plan describes water management, conservation, and curtailment measures that will help the City wisely manage its water resources. The WMCP has been developed to meet all of the elements required by the Oregon Water Resources Department (OWRD) and to guide the City’s management of its precious water supply.



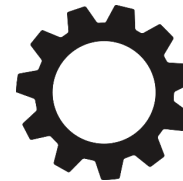
ANALYSIS

Water use data is analyzed to determine the annual, monthly and daily values for water used within the City.



PROJECTIONS

The data is used to develop water use for future water needs, including conservation measures and curtailment planning completed



THE WORK PRODUCT

Procedures are developed to meet the requirements of OAR Chapter 690, Division 86



THE TOOLS

WMCP’s are the tools that water providers use to justify their need for water rights



The Five Elements

WISELY MANAGING OUR WATER RESOURCES

- Water Supplier Plan Elements (Introduction)
- Water Supplier Description
- Conservation Measures
- Curtailment Plan
- Supply Plan



Municipal Water Supplier Description

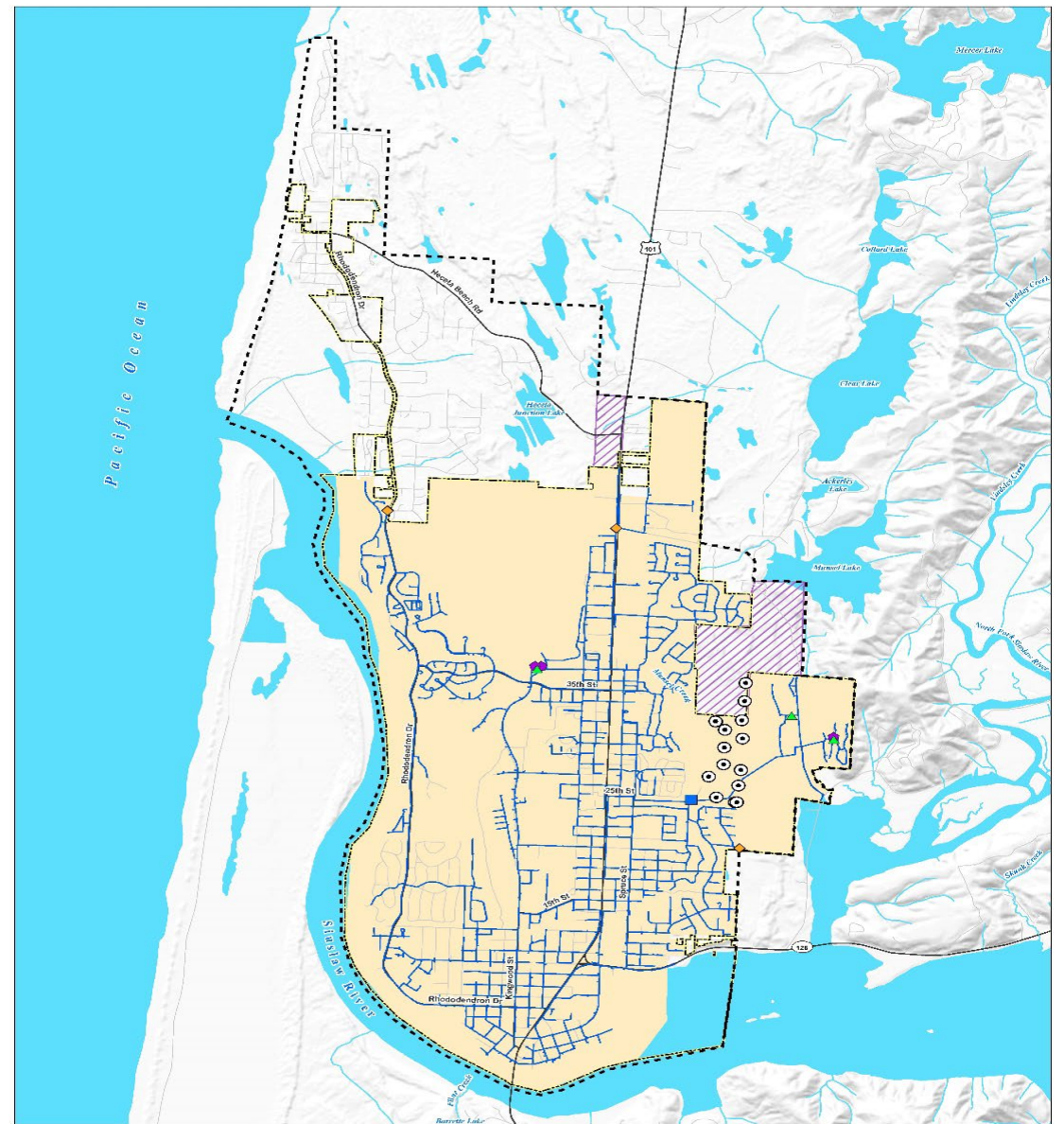
SYSTEM MAP

The City's main source of water is groundwater

Three groundwater rights totaling 5.89 cfs (3.8 mgd)

The City has 13 wells within the Munsel Creek Basin all located within our 80 acre wellfield

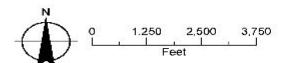
Water rights are also held by the City for the use of surface water from Munsel Creek (currently not in use as a supply source)



- LEGEND**
- Well
 - Water Treatment Plant
 - Water Pump
 - Drinking Water Storage
 - Intertie
 - Water Main
 - Water Service Area
 - Future Service Area
 - Urban Growth Boundary
 - City Limits
 - Major Road
 - Road

FIGURE 2-1
WMCP
Florence, Oregon

Date: March 5, 2020
Data Source: USGS, ESRI, City of Florence



DEMAND

Exhibit 2-1. Annual Demands, 2014-2018

Exhibit 2-1 summarizes the City's average day, maximum day, and maximum month demand for data for the period 2014 through 2018.

Exhibit 2-14 shows the annual water loss for the system.

Exhibit 2-1. Annual Demands, 2014-2018

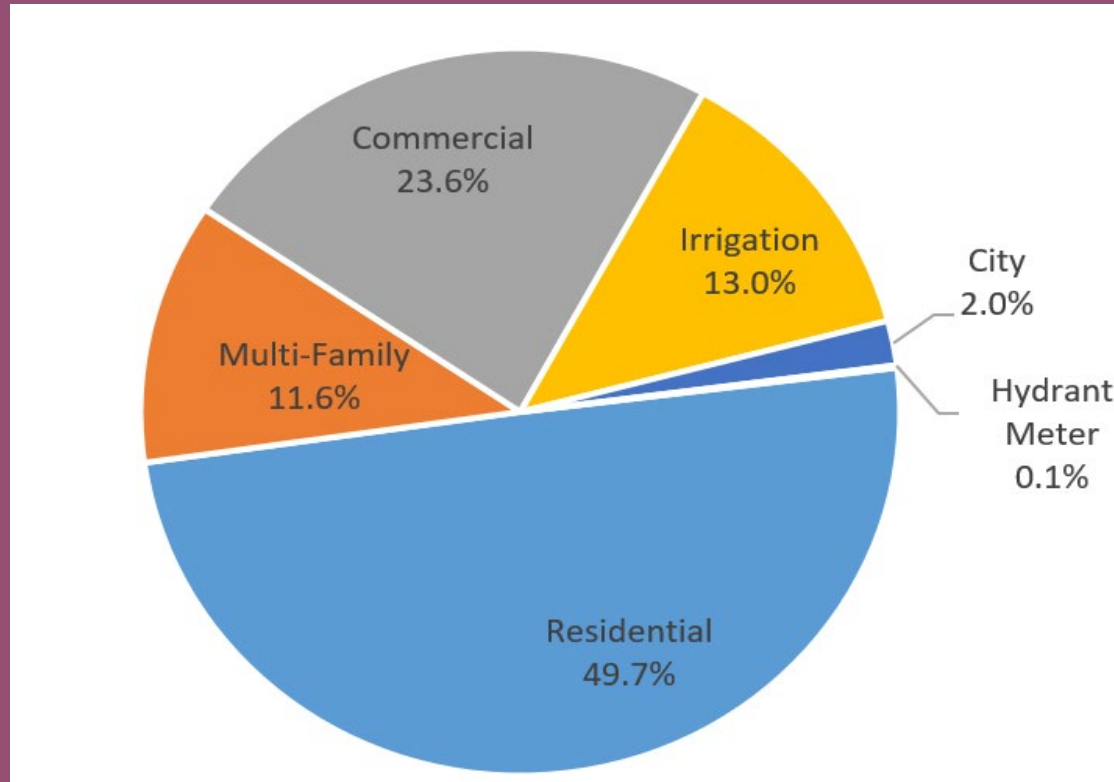
	Annual Demand (MG)	ADD (mgd)	MDD (mgd)	Peaking Factor	MMD (mgd)	Month of MMD
2014	359.4	1.0	1.7	1.7	46.7	August
2015	391.2	1.1	1.9	1.8	51.8	July
2016	378.9	1.0	1.8	1.8	49.0	August
2017	371.8	1.0	2.0	2.0	50.9	August
2018	410.9	1.1	1.9	1.7	53.6	July
Average	382.4	1.0	1.9	1.8	50.4	-
Maximum	-	1.1	2.0	2.0	53.6	-

Exhibit 2-14. Water Loss

	Demand (MG)	Metered Customer Consumption (MG)	Other Authorized Consumption (MG)				Total	Water Loss (MG)	Water Loss (% of Demand)
			System Flushing	Fire Dept. Usage	Reservoir Cleaning	Other ¹			
2014	359.4	345.0	N/A	0.1	N/A	0.6	0.7	13.8	3.8%
2015	391.2	371.9	N/A	0.2	N/A	0.6	0.7	18.6	4.7%
2016	378.9	361.3	N/A	0.2	N/A	0.6	0.7	16.9	4.4%
2017	371.8	358.3	N/A	0.1	N/A	0.6	0.7	12.8	3.5%
2018	410.9	375.9	0.5	2.0	1.8	0.6	4.8	30.1	7.3%
Average	382.4	362.5	-	-	-	-	-	18.4	4.8%

Customer Categories and Number of Accounts

Customer Category	Count	Percent of All Accounts
Commercial	434	10.70%
Hydrant Meter	7	0.20%
Irrigation	156	3.80%
Multi-family	42	1.00%
Municipal	22	0.50%
Residential	3,396	83.70%
Total	4,057	100%



Annual Water Use by Category



Year	Service Area Population	ADD in million gallons	MDD in million gallons
2018	8,521	1.1	1.9
2030	9,530	1.5	2.5
2040	10,421	1.6	2.8

Water Demand Projections

WATER CURTAILMENT ELEMENT

Satisfies the Requirements of OAR 690-086-0160

The development of proactive measures to reduce demand during supply shortages resulting from:



Earthquake



Drought



Infrastructure
Failure



Source Water
Quality
Degradation
Due to Aquifer
Contamination

Curtailment Planning

STAGE 1

Water Shortage Alert

1. General recognition of drought conditions in area
2. Demand reaches 80% of water supply for a period of 3 or more consecutive days
3. Water supply approaches the minimum required for fire protection or other essential needs

Minimize landscape watering between 10 a.m. and 6 p.m..


Water landscapes on alternate days

STAGE 2


Serious Water Shortage

The City predicts continuation of hot, dry weather, or City's water demand is 81 – 90% of water supply capacity for 3 or more consecutive days as a result of natural or human caused event.

Mandatory outdoor water conservation measures are implemented and additional non-essential water use is prohibited




Outdoor watering is prohibited; no water use to fill, refill or add to any indoor or outdoor pools (see special exceptions in report)




STAGE 3

Severe Water Shortage

Water demand is more than 90% of water supply capacity for 3 or more consecutive days for any reason, whether natural or human caused.



Utilize emergency intertie with HWPUD, rental of water trucks, request assistance from City of Portland through ORWARN, send customers to pre-designated water distribution locations

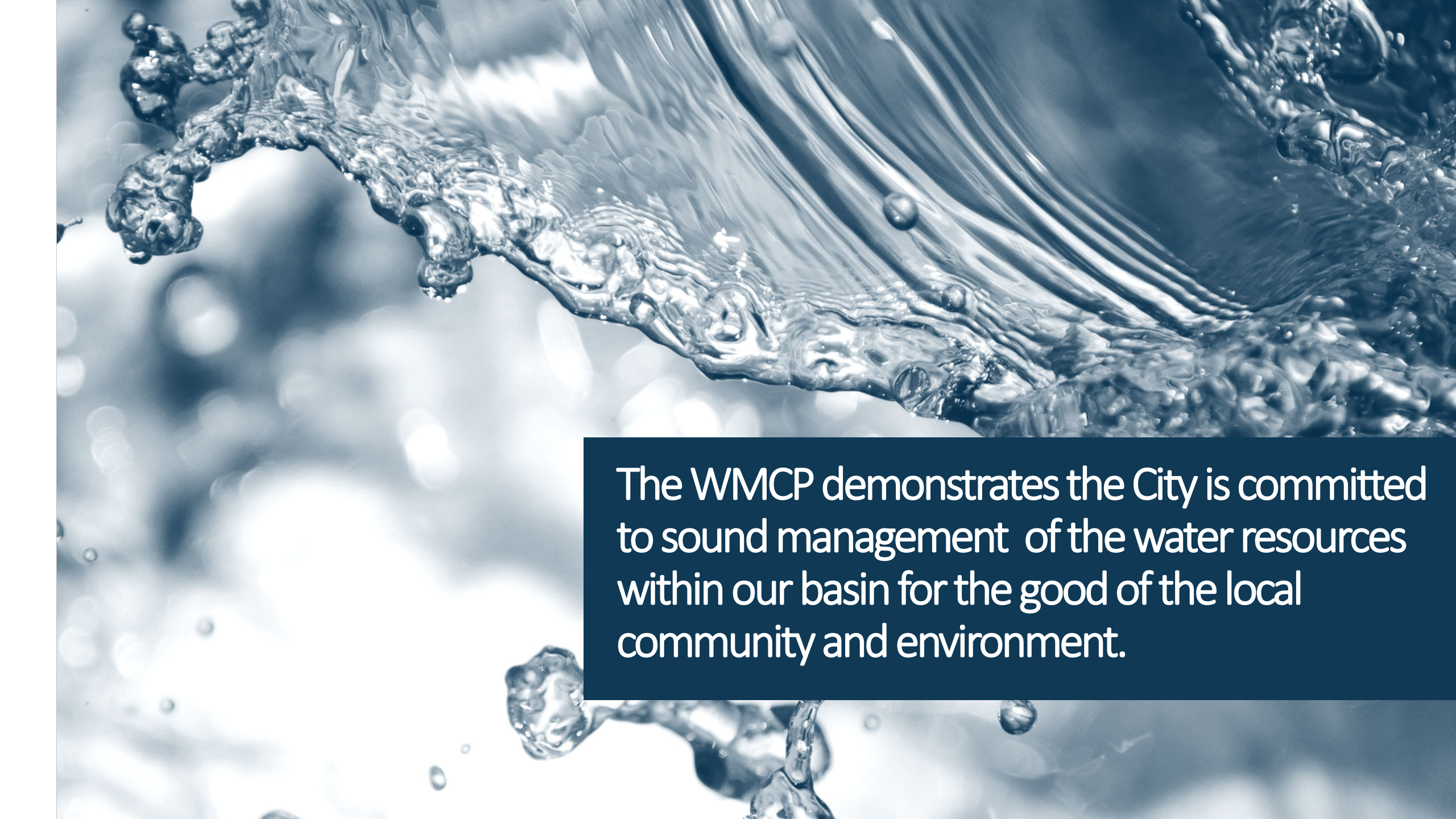


STAGE 4

Critical Water Shortage

Failure of a major system component or non-drought emergency conditions results in an immediate shortage of water. Examples:

- Failure of main transmission lines
- Failure of the intake or WTP
- Chemical Spills
- Malevolent attack on the system



The WMCP demonstrates the City is committed to sound management of the water resources within our basin for the good of the local community and environment.



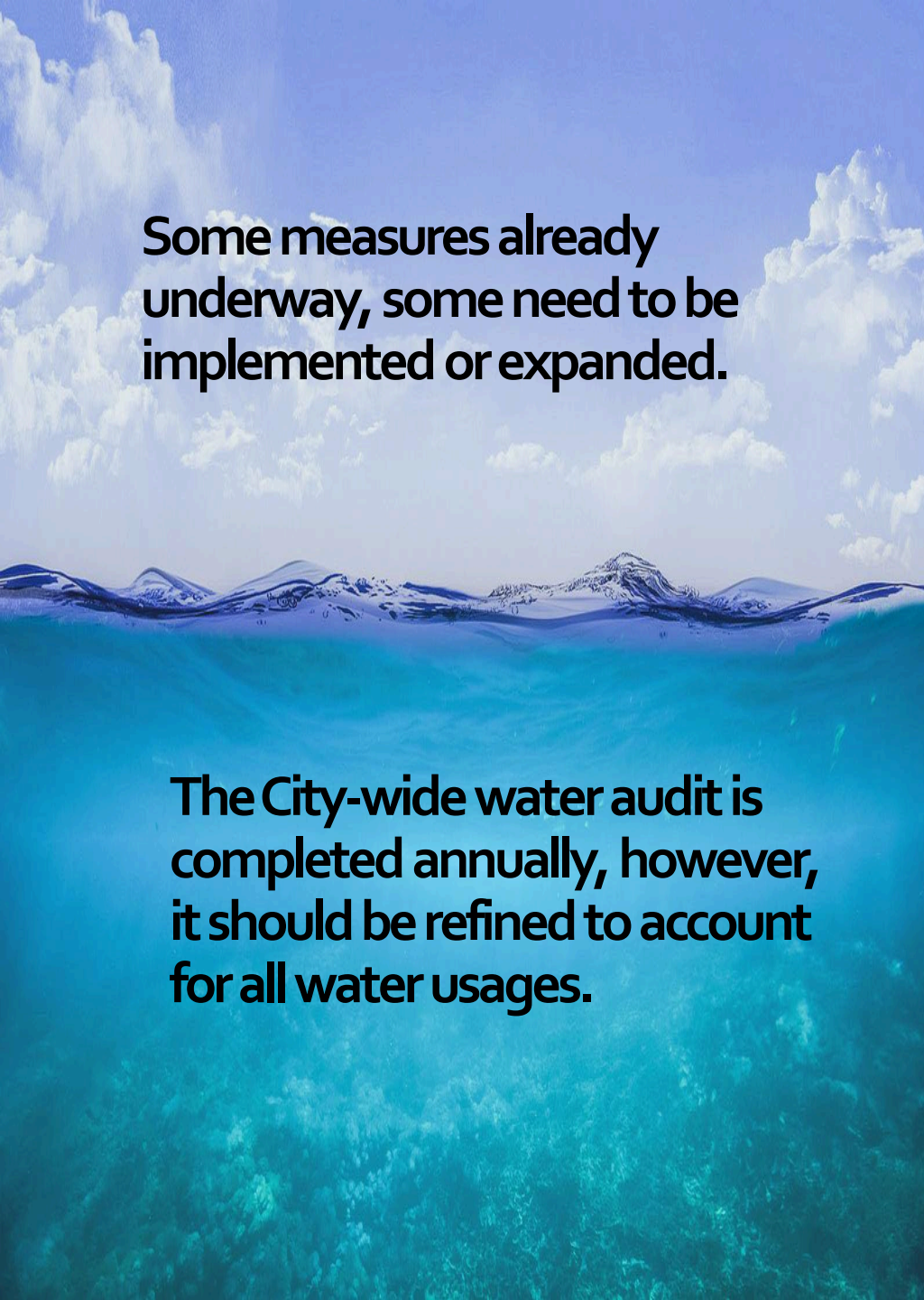
Fiscal Impacts

OAR 690-086-0150(4)(a-f)

Requires all water suppliers establish 5-year benchmarks for implementing water management & conservation measures:

- Annual Water Audit
- System-wide metering
- Meter testing and maintenance
- Unit based billing
- Water loss analysis
- Public Education





Some measures already underway, some need to be implemented or expanded.

The City-wide water audit is completed annually, however, it should be refined to account for all water usages.

System wide metering: All meters have been retrofitted to an Automated Meter Read (AMR). Meter testing & maintenance is a continuation of existing programs

Unit based billing is already in place

Water conservation & outreach includes conservation education with printed materials and indoor & outdoor conservation kits

Media is being developed that is appropriate for our community

Webpage development and enhancements

RELEVANCE TO ADOPTED COUNCIL GOALS

City of Florence City Council



CITY SERVICES DELIVERY

Providing economies of scale by the delivery of cost effective & efficient services



LIVABILITY & QUALITY OF LIFE

Conservation of one of our most precious natural resources, water, provides us the opportunity for innovation & sustainability which helps to provide for a high quality of livability and life for our citizens



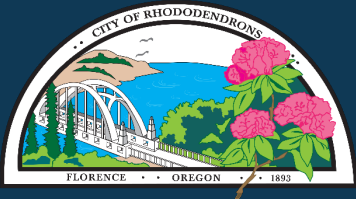
COMMUNICATION & TRUST

Strengthening citizen trust by providing cost effective, efficient & dependable supplies of water for now and into the future



FINANCIAL & ORGANIZATIONAL SUSTAINABILITY

Leveraging limited resources to provide cost effective solutions to water use and conservation



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THANK
YOU!

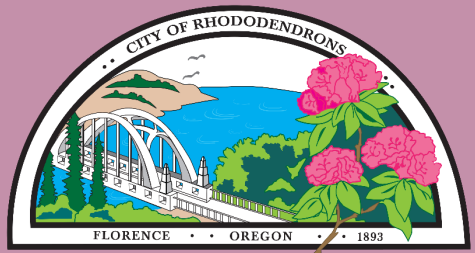
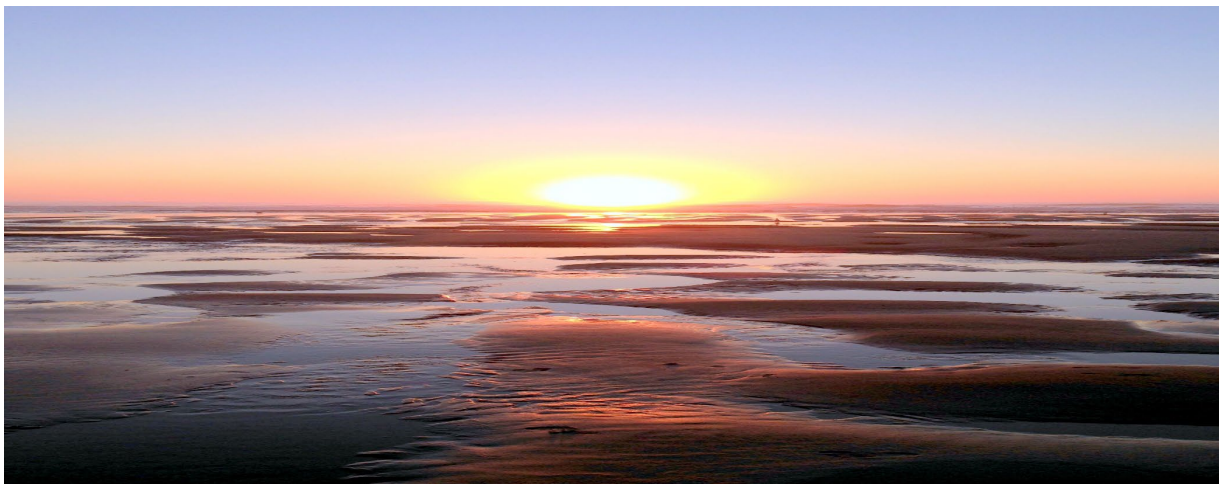


QUESTIONS?

COMMENTS?



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