

Water Conservation in Bend: Stretching Water Supplies into the Future

Dan Denning- Program Manager

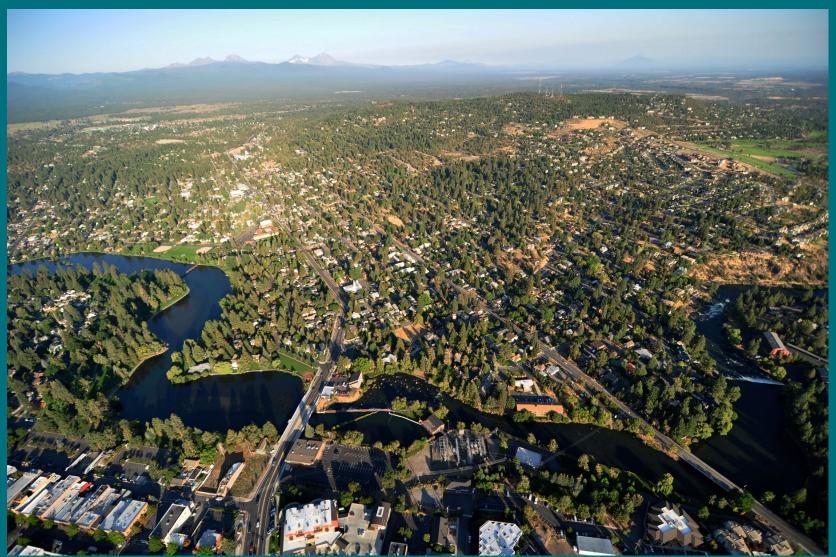
10/18/24

Agenda

- Bend water overview
- Program evolution
- Challenges and effective tools



A Bend Story



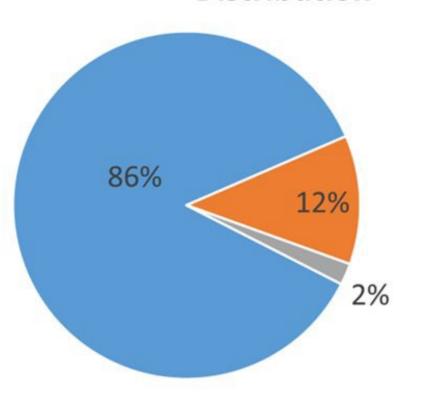


Municipal Water Use

- Only 2% of use Deschutes Basin
- Municipal conservation required
- Water Management & Conservation Plan
- Irrigation Districts are critical participants
- Instream Water Rights are key

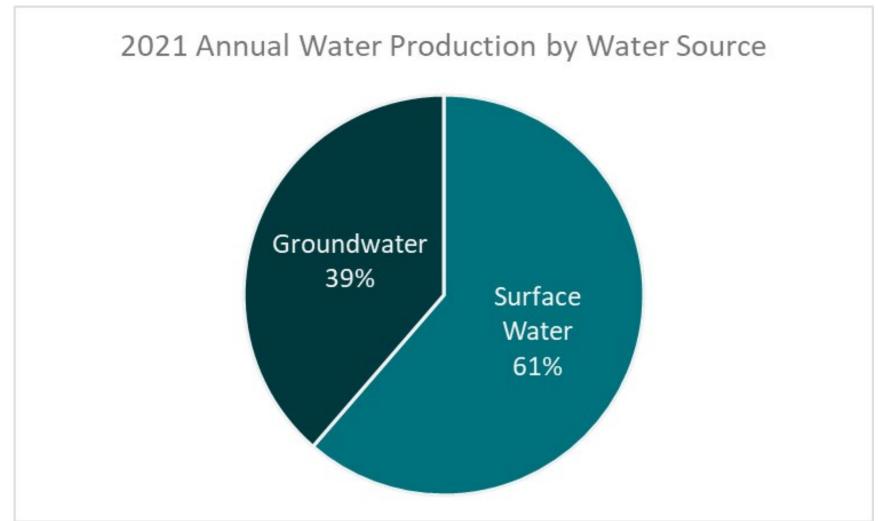
Source: Deschutes Basin Study

Deschutes Basin Water Rights Distribution

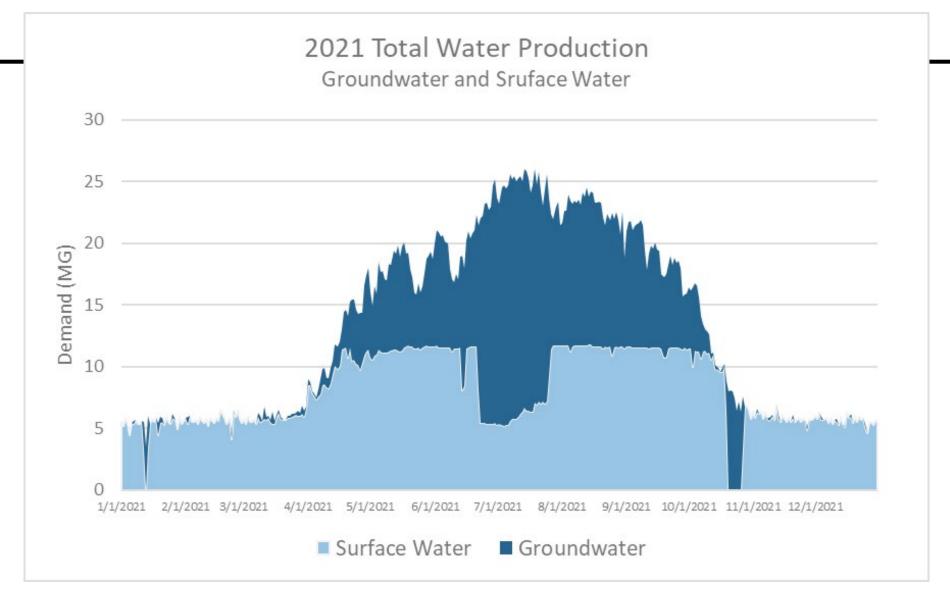




Bend Water Supplies

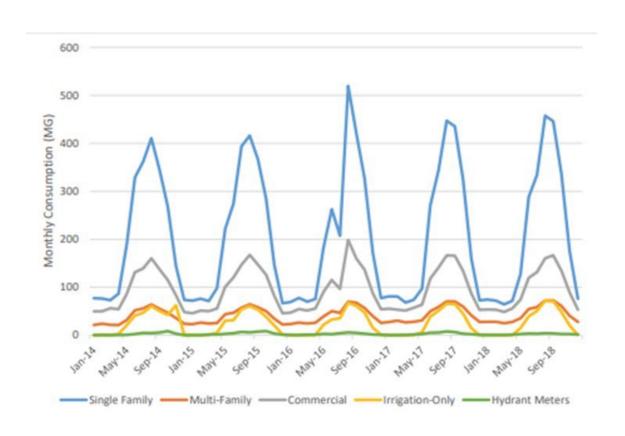


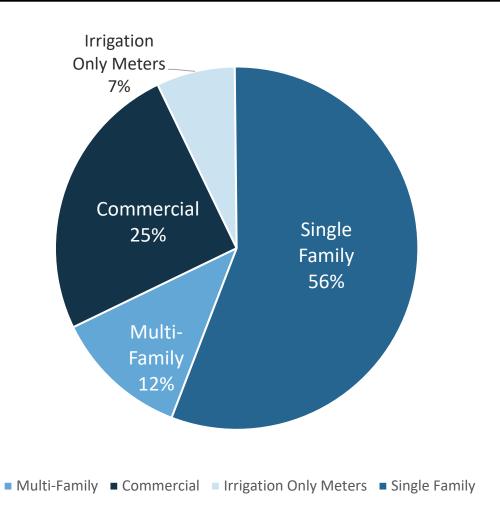






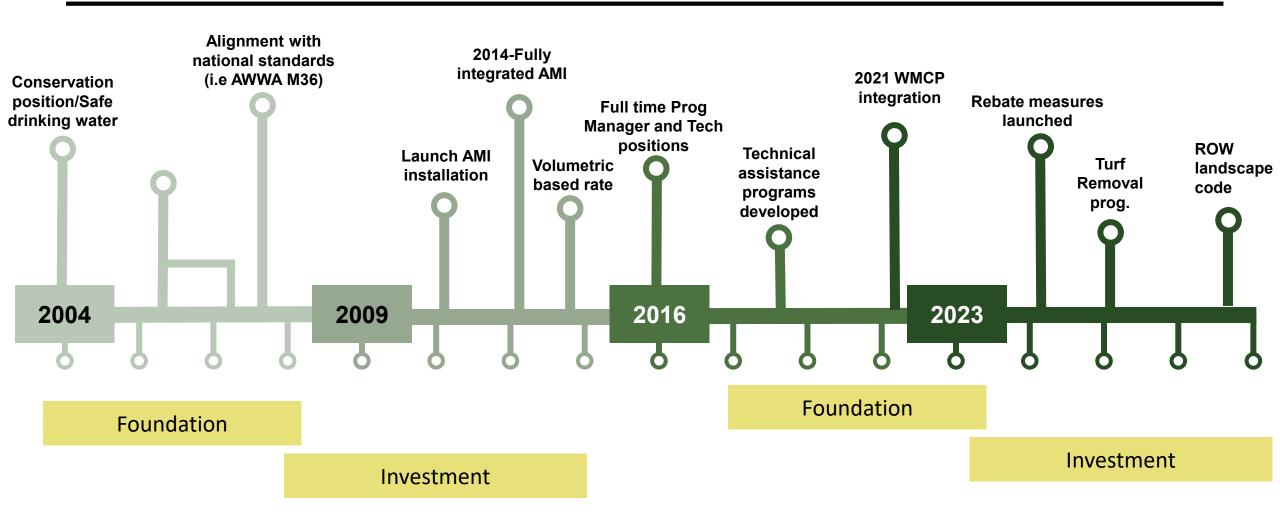
How Bend Uses Water







Timeline – Conservation Evolution





Building blocks of conservation policy and investment

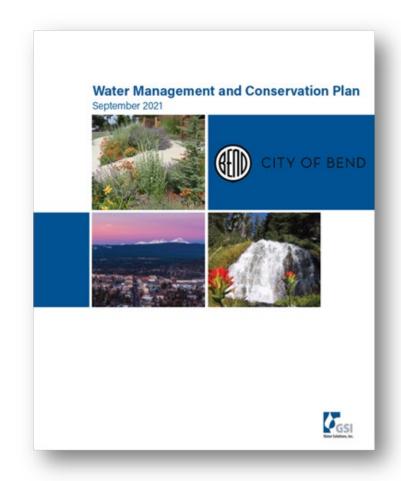


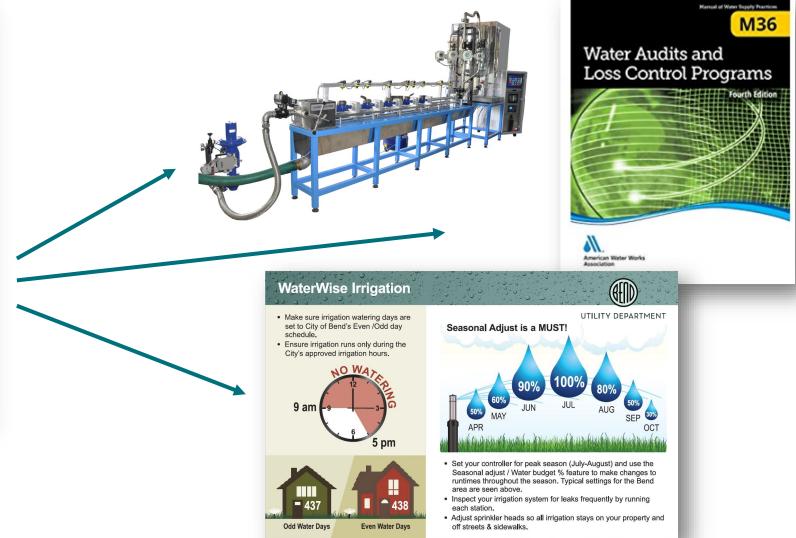
Aligning with national standards for Utilities

- Creates baseline and guidance to build policy
- I.e. adoption fo M36 Water Audit model
 - Set stage for investment in measurement- AMI
 - Reduction in water loss (Non Revenue Water)- Meter accuracy
 - Revenue Recovery- Rate structure
 - Demand management- Conservation



Regulatory Guidance







Cant save what you cant measure

AMI WaterSmart







Our Program



Education and Outreach















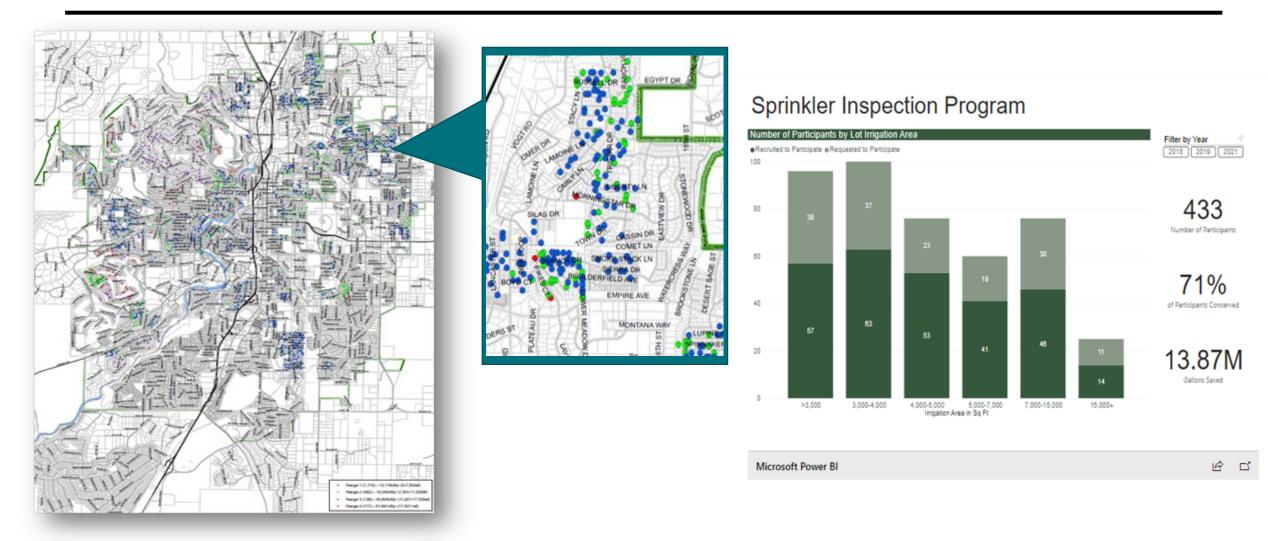








Data Driven Conservation





Large water use customers

Utility Consumption Data

			otior

Customer Name	May 2021	June 2021	July 2021	August 2
	914,477	5,555,863	5,175,390	3,569
■ BEND PARKS & RECREATION	1,470,446	2,086,780	2,506,636	2,304
□ CITY OF BEND		1,617,339	1,097,981	941
		1,184,853	768,219	719
□ DESCHUTES BREWERY	477,757	487,487	458,505	534
SUNTREE VILLAGE		620,669	410,619	379
□ 10 BARREL BREWING CO	124,369	324,509	285,149	265
⊕ COCC	160,853	276,305	368,138	297
STONE BRIAR APARTMENTS		385,309	240,884	245
		398,223	208,210	215
□ DESCHUTES COUNTY	186,305	232,218	231,340	
□ RIVERHOUSE PROPERTY LLC	156,434	193,977	221,642	225
	4,738			
⊞ ROATS WATER SYSTEM INC		321,000	,	
		344,019	189,642	200
		280,130	176,970	181
		242,427	134,884	129
		371,487	223,255	
		277,103		
■ BRIDGES AT SHADOW GLEN HOA		334,068	,	195
	13,974	274,320	218,022	145
	103,310	117,064		
□ COMMONS AT PILOT BUTTE		277,197	,	
■ BEND PROPERTY MANAGEMENT	26,775	163,104	96,810	
■ NASE COMPANY II C		189 098	137 096	137

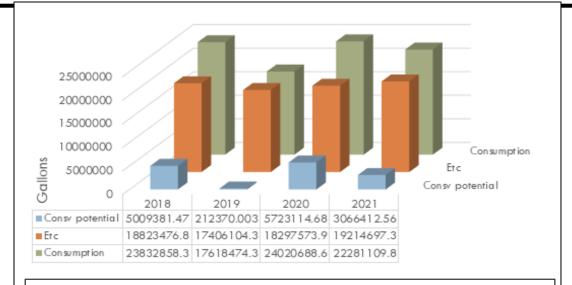
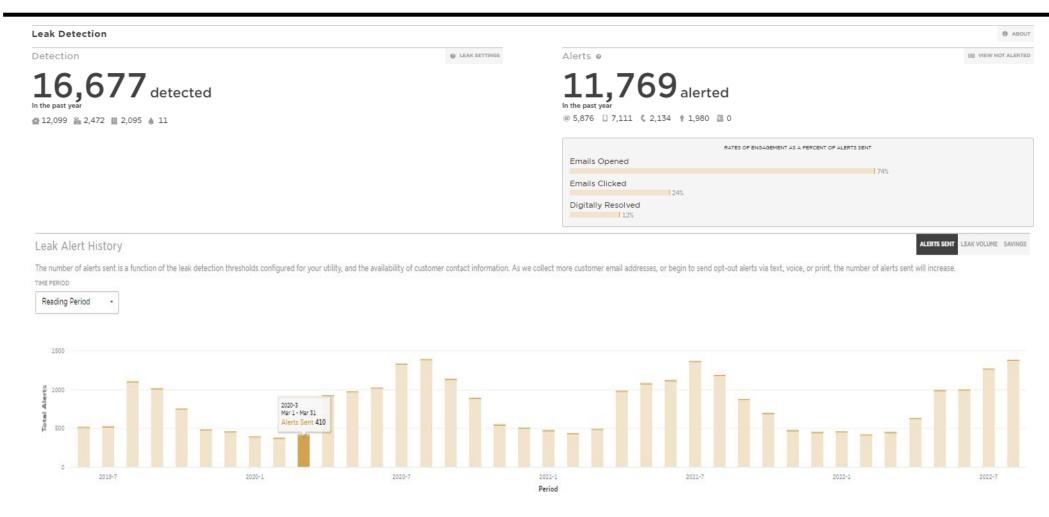


Fig 3. Historical comparison of Landscape Water Need (Etc), Consumption, and Conservation (Consv) Potential for MVHS.





Data Driven Efforts

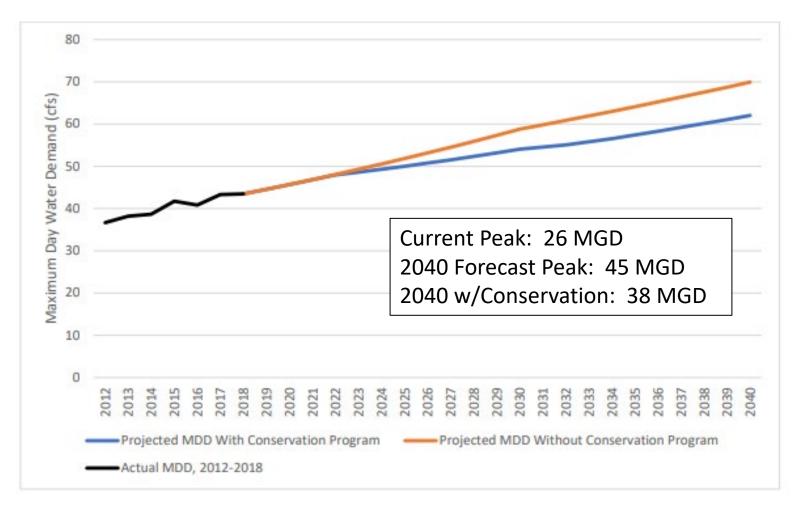




New Efforts and Challenges



New Goals for Water Conservation

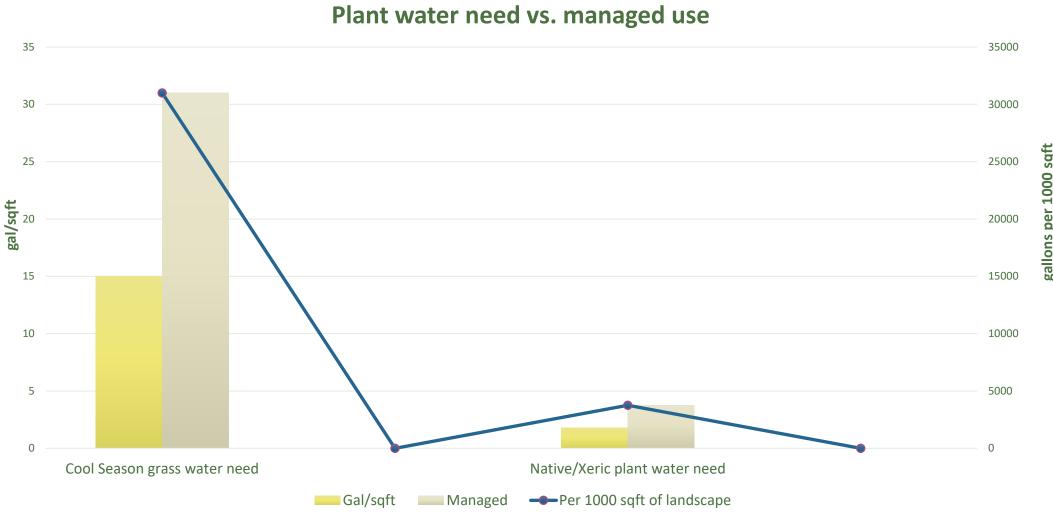


- Water and cost savings goal:
 - ✓ 20 year conservation potential to offset \$21 million in new infrastructure (3 wells and a reservoir)
- Measures to meet goals
 - ✓ Rebate program on water efficient devices
 - ✓ Building code for indoors and outdoor new development
 - ✓ Enforce water waste code
- Cost of new measures
 - √ \$11 million invested over 20 years





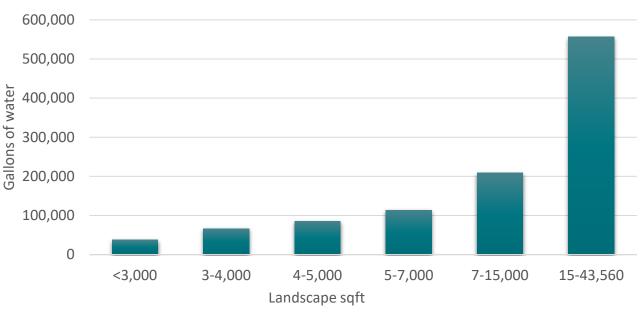
Need vs. Management

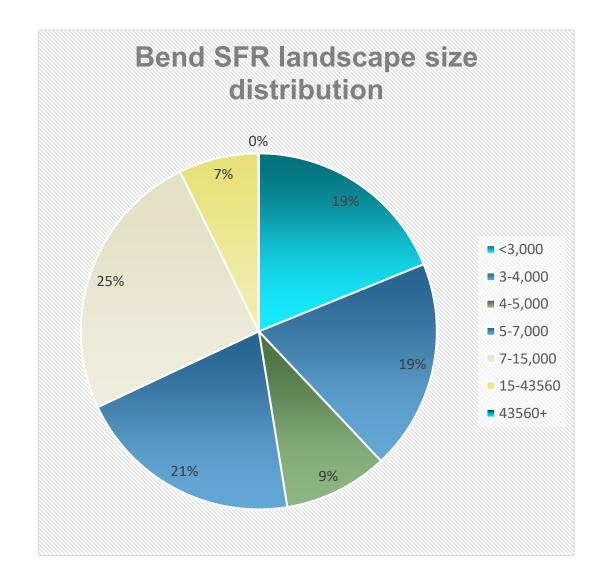




Impacts/ Savings potential

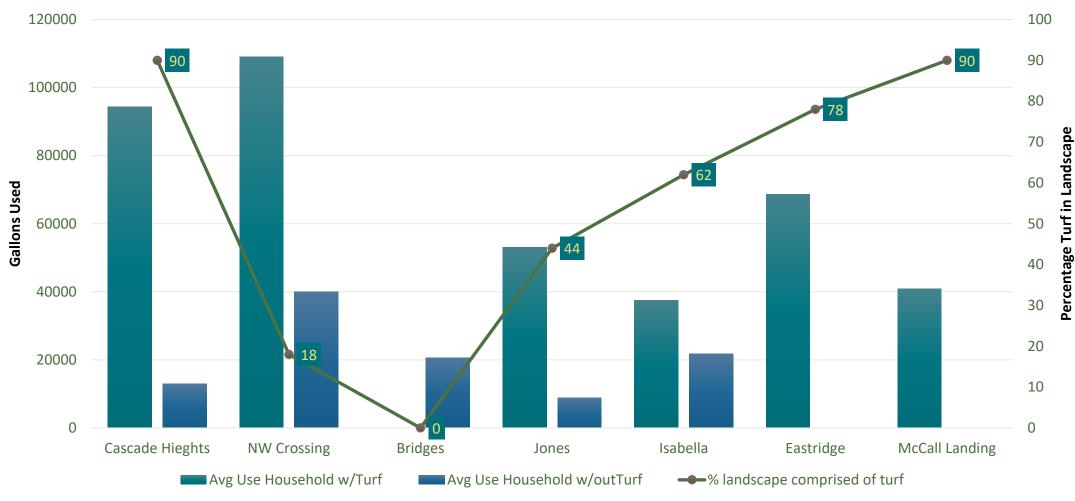
Annual Water Savings Gal/year by landscape size





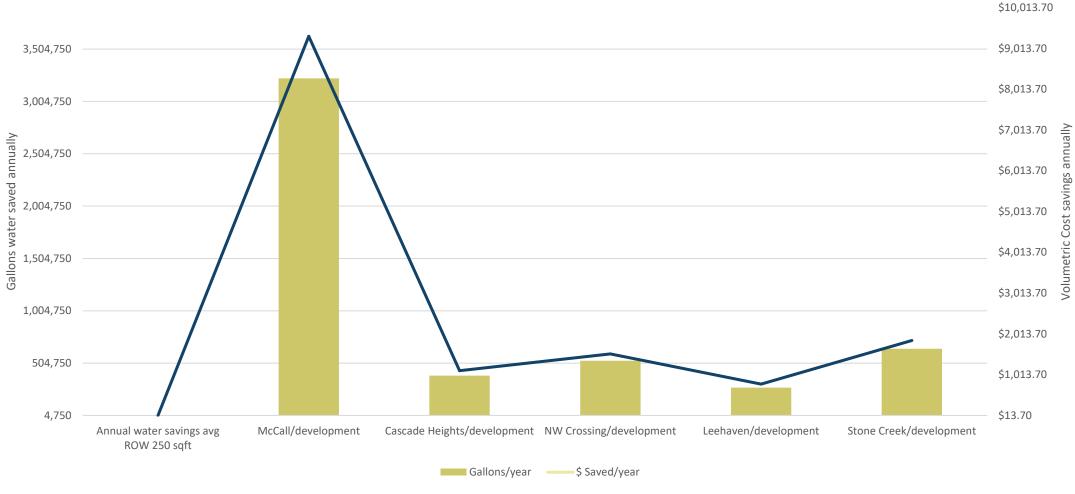


AVERAGE HOUSEHOLD IRRIGATION USE OF HOMES WITH VS. WITHOUT TURF



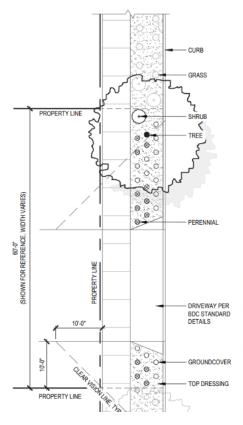


ANNUAL WATER AND COST SAVINGS PER LOT AND ENTIRE DEVELOPMENT (BASED ON AVG SIZE STREET STRIP 250 SQFT)





Addressing the lawn



MOTES.

- ALL PLANT MATERIAL IN CLEAR VISION AREA MUST STAY UNDER 24" HEIGHT
- SOIL SHALL BE AMENDED PER C.O.B. STANDARD SPECIFICATIONS PART II, CHAPTER 12.2.4.2
- TREE SPACING VARIES, REFER TO STANDARDS AND SPECIFICATIONS CHAPTER 12.2.3.5
- ALL PLANTING & IRRIGATION SHALL BE INSTALLED PER C.O.B. STANDARDS & SPECIFICATIONS PART II, CHAPTER 12
- PLANT QUANTITY DEPENDENT ON PARKWAY WIDTH AND DESIGN VARIATIONS. MINIMUM 50% COVERAGE AT MATURITY. APPROX. 10 PLANTS/ 100 SOFT
- ANY PLANT SUBSTITUTIONS SHALL BE SUBMITTED TO THE CITY OF BEND FOR

 APPROVAL APPROVED BLANTS ARE

(INDIAN RICEGRASS)

PRE-APPROVED VERY LOW WATER-USE PALETTE



(IDAHO FESCUE)

(PRAIRIE JUNEGRASS)





(BLUEBUNCH WHEATGRASS)

Turf Removal Rebate Save water, money and time by upgrading to a high desert landscape. Must be a City of Bend water customer to participate. The City of Bend is offering a Turf Removal Rebate to convert thirsty lawns into a low-water use landscape which provides a colorful, biodiverse and waterwise alternative to traditional lawns. These alternatives can also lower your utility bills and reduce maintenance requirements. up to \$3,000 **BYE LAWN... HIGH DESERT!** WaterWiseTips.org CITY OF BEND

Challenges

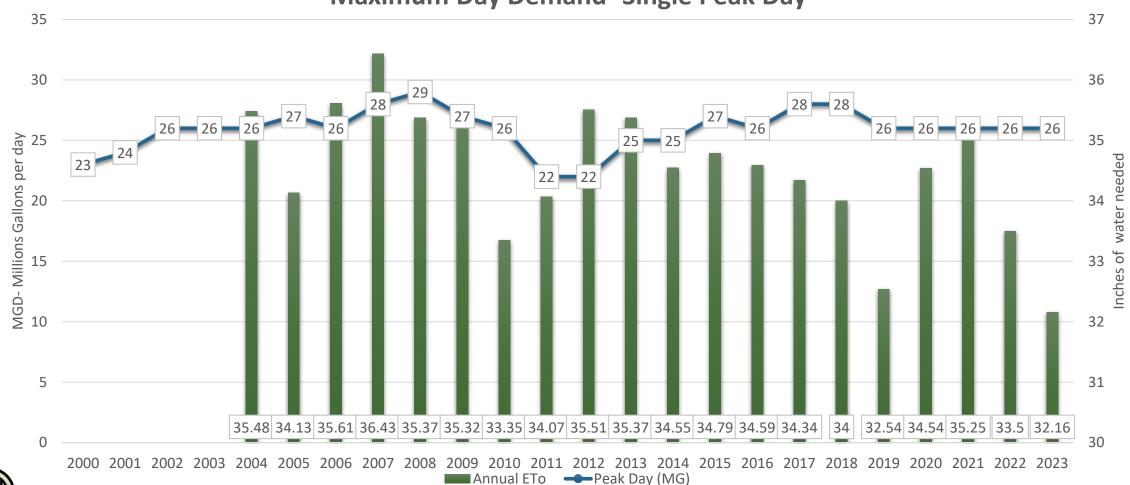


- Roll out
- Customer engagement
- Financials
- Future of Water resources
- Regulation



Effects of conservation

City of Bend Water ProductionSummary Data 2000-2023 Maximum Day Demand- Single Peak Day





Year: 2000 Connections: 14,500 Year: 2021

Connections: 30,718

Annual Water Production

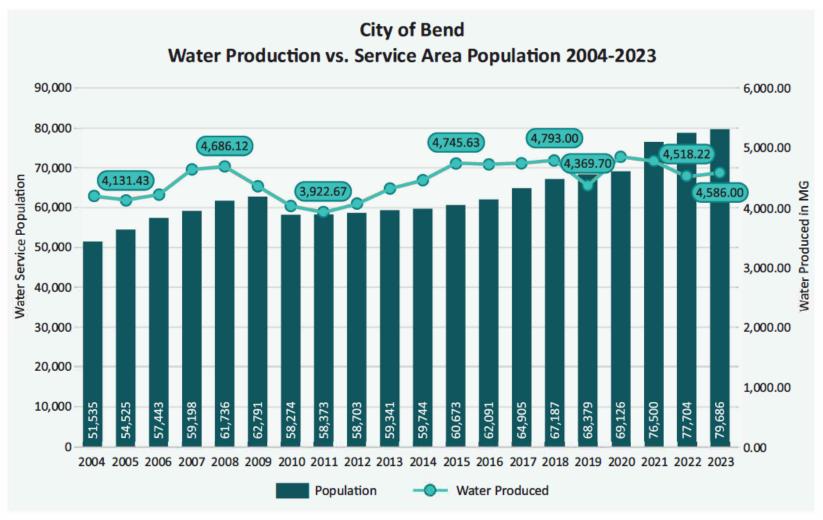
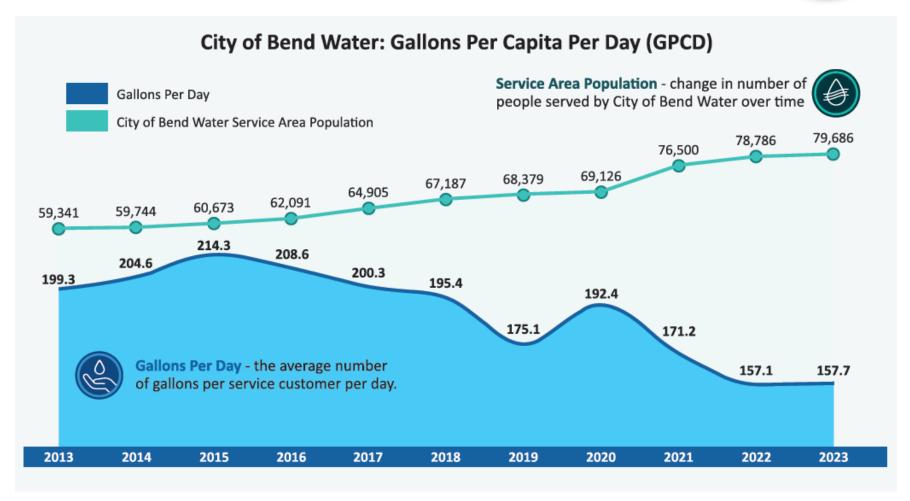




Fig. 1 - Total annual water production vs. service area population

Individual Water Use - City of Bend Customers







Thank You

Questions?

ddenning@bendoregon.gov





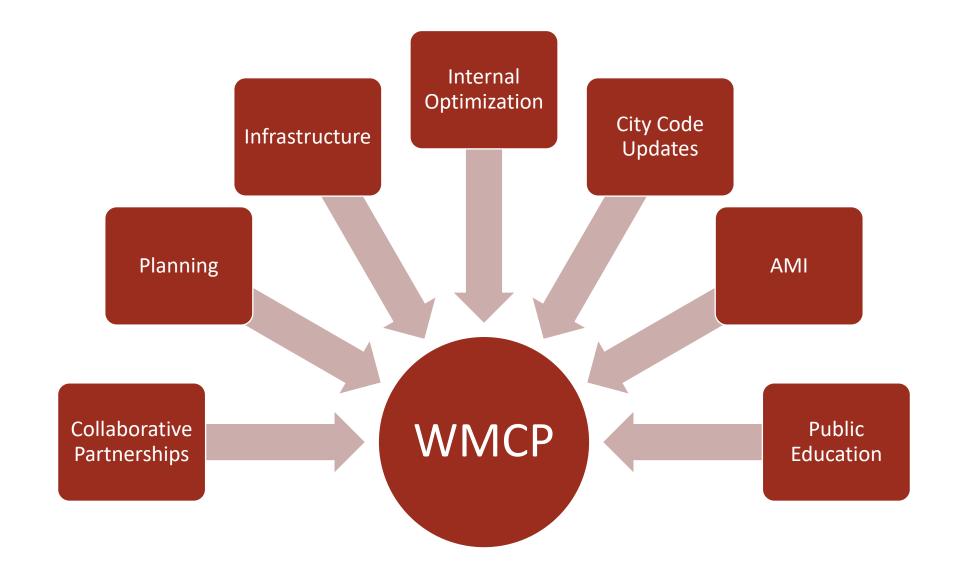


CITY OF REDMOND WATER CONSERVATION

LEAGUE OF OREGON CITIES: OCT 18, 2024



WATER MANAGEMENT AND CONSERVATION PLAN





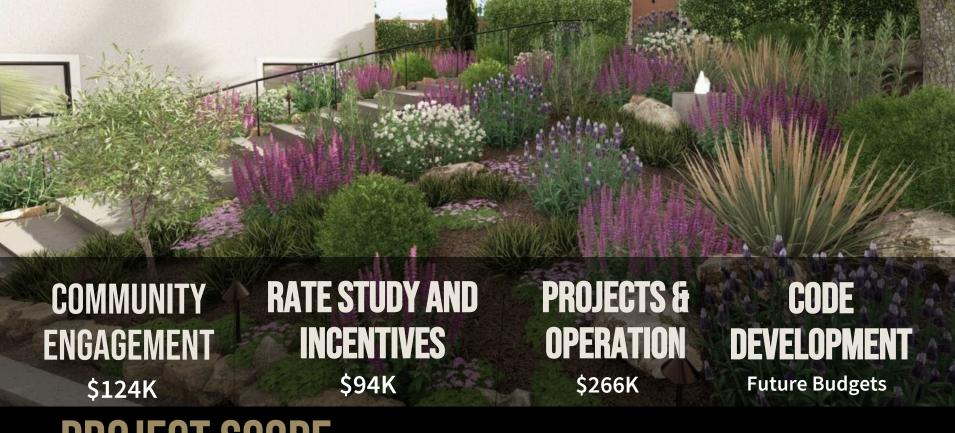


24/25 PROGRAM OVERVIEW

FY 24/25 INVESTMENTS

\$500K

SLIDE / 32



PROJECT SCOPE

- Mailers, community events, utility billing messages, water reports,
 City website, social media, stakeholder coordination
- Water & Wastewater Rate Study to explore a tiered rate structure
- WaterWise Landscape Demonstration Projects; Parks Master Plan Update
- Code update informed by demonstration projects



WATER CONSERVATION WORK PLAN & BUDGET IMPACTS

O1 COMMUNITY ENGAGEMENT CAMPAIGN

- Special Projects & Natural Resources Program Manager
- Mailers, community
 events, utility billing
 messages, water reports,
 City website, social media,
 stakeholder coordination
 (\$36k)

02

RATE STUDY & INCENTIVES

- Water & Wastewater Rate Study (\$90k) to explore a tiered rate structure
- Explore turf reduction incentives (future budgets)

03

INFRASTRUCTURE
PROJECTS &
OPERATIONAL
CONTROLS

- 15% reduction (-\$23k) to Parks irrigation
- WaterWise Landscape
 Demonstration Projects
 (\$200k); City Hall reserve
- Parks Master Plan Update

 evaluate use of artificial
 turf & balance of
 developed vs. natural
 spaces (\$48k)

04

CODE UPDATES & ENFORCEMENT

- Future budgets
- Code update informed by demonstration projects

\$





PRIMARY OUTREACH

Direct Contact with 12,770

City Water Customers

- Monthly Water Conservation Letter Inserts starting June 2024
- City Newsletter, Website & Social Media





PUBLIC RELATIONS

- **Press Releases**
- **HOA and Civic Discussions**
- **Earned Media Interviews**
- **Public Engagement Events**
 - ✓ National Night Out
 - ✓ Annual Home & Garden Show
 - ✓ In-class Education RSD

Top Stories FOLLOW

City of Redmond says it's cut water use at parks, municipal facilities by about one-third: Here's how they did it

















12,068,195 GALLONS

EFFORTS INCLUDE:

- INSTALLATION OF SMART SYSTEMS
- ROUTINE AUDITS AND MAINTENANCE
- UPGRADED INFRASTRUCTURE





WATERWISE LANDSCAPE CONVERSIONS (PK2401)

CONSTRUCTION PROJECTS
OCT 3 – DEC. 31, 2024



Goal: Water Conservation

CONSOLIDATING GENERAL REQUIREMENTS

102 ADJUSTING COMMON AREAS, PARK TYPES

SCREENING MATERIALS FROM VIEW

REDUCING IRRIGATED TURF

LANDSCAPE AMENDMENTS



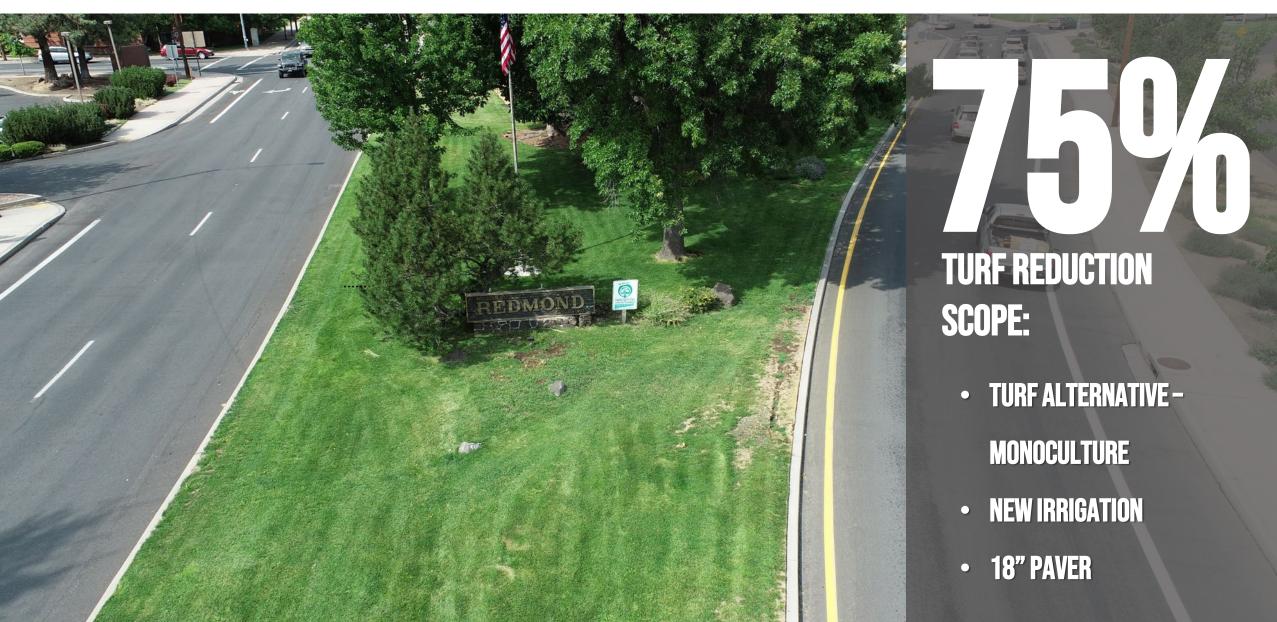


TURF REDUCTION SCOPE:

- HYDRAZONE PLANTINGS
- ROCK AND WOOD MULCH
- UPDATED IRRIGATION
- 18" PAVER









GATEWAY CONVERSION PROJECT - PROJECT BIDS



• **CITY'S ESTIMATE:** \$225,000.00

• **BID AWARD:** \$225,076.06

• **FUNDING SOURCES:** Transportation Capital Outlay





DATA AND REPORTING

2025

JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC

YEAR ONE IRRIGATION SEASON

YEAR TWO IRRIGATION SEASON

First 6 months:

- Water savings data
- Plant establishment
- Public perception
- Cost savings

12 Months:

- Seasonal water efficiency
- Plant health and growth
- Maintenance adjustments

Two Years:

- Comprehensive water savings report
- Landscape maturity
- Policy recommendations
- Public satisfaction and adoption







WATER CONSERVATION ENGAGEMENT

MAY 24

• PSA Watering Schedule • PSA Rebates

• Water Summit

JUNE 24

JULY 24

AUG 24

PSA Water Schedule

SEP 24

Rate Study

WaterWise Projects

OCT 24

WaterWise Projeg

MAY 24	JUNE 24	JULY 24	AUG 24	JLI ZT	OCT 24			
Watering Schedule, AquaHawk, Outdoor Rebate Program, Water Efficiency, Report Waste Rebate impacts								
		Ways to save water outside						
Billing Message: • Watering Schedule	Billing Message: • Water Reports	Billing Message: • Report Waste	Billing Message: • Water Reports	Billing Message: • Rate Study Impacts	Billing Message: • Rate Study Impacts			
Events: • Home & Garden Show • Water Summit • Parks Master Plan	Events: • SW Neighborhood HOA Discussion	Events: • Music on the Green	Events: • NW Neighborhood HOA Discussion	Events: • Dry Canyon Neighborhood HOA Discussion	Events: • TBD			
Social Media: • Water Schedule • Rebates	Social Media: • Video water schedule • WaterWise Planting • Report Waste	Social Media: Register for AquaHawk Water Schedule Rebates	Social Media: Check for leaks Water Reports WaterWise Construction Projects	Social Media: • Rebates • Rate Study • Water Efficiency	Social Media: • Fall Prep • Rate Study			
	Direct Mail: • Post Card - Schedule • Water Report	Direct Mail: • Post Card - Reduce Waste • Water Reports	Direct Mail: • Post Card -AquaHawk • Water Reports	Direct Mail: • Water Reports	Direct Mail: • Water Reports			
Press:	Press:		Press:	Press:	Press:			



WATER CONSERVATION ENGAGEMENT

NOV 24	DEC 24	JAN 25	FEB 25	MAR 25	APR 25
Winterization needs, Indo	oor Water Use		Rebate impacts		
	F	Rate Study			
Billing Message: • Winterization	Billing Message: • Indoor Conservation	Billing Message: • AquaHawk	Billing Message: • Indoor Conservation	Billing Message: • Spring Planting	Billing Message: • Water Schedule
Events: • TBD	Events: • TBD	Events: • TBD	Events: • State of the City	Events: • First Green	Events: • TBD
Social Media: • Winterization • Rate Study • Report waste	Social Media: • Video: Indoor Conservation • Winterization	Social Media: • Indoor conservation	Social Media: • Indoor conservation • Plan spring plantings	Social Media: • Rebates • Rate Study • Water Efficiency	Social Media: • Fall Prep • Rate Study
	Direct Mail: • Post Card - Schedule • Water Report	Direct Mail: • Water Reports	Direct Mail: • Water Reports	Direct Mail: • Water Reports	Direct Mail: • Water Reports
Press: • PSA Water Schedule & Winterization		Press: • Rate Study Adoption			Press: • Water Schedule

2024 WATER CONSERVATION ENGAGEMENT THEMES

O1 FOLLOW OUR WATERING SCHEDULE

O2 MONITOR YOUR WATER USE

O3 PARTICIPATE IN OUR REBATE PROGRAM

O4 LOOK AT WAYS TO IMPROVE YOUR EFFICIENCY

- April 1 to October 31, the City has a mandatory watering schedule.
- This schedule reduces demand on the City's infrastructure and supports water efficiency measures.

Track your water report

- Register for AquaHawk
- Set water budgets
- Receive usage alert
- Set conservation goals

\$

- \$2 per nozzles for irrigation controllers
- Up to \$125 for weatherbased irrigation controllers
- Up to \$70 for soil sensors
- Free water gauges

P

- Install low-flow fixtures
- Indoor kits
- Use only what you and your landscapes need.







APRIL 2024 - MAY 2025

POLICYMAKER CONSIDERATIONS

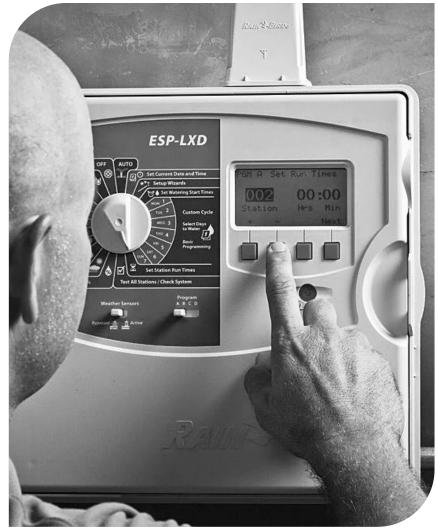
JUNE 2024

PARKS MASTER PLAN UPDATE

AUGUST 2024 2024 WATERWISE CONSTRUCTION APRIL 24 **MAY 2024 CONTRACT AWARD COUNCIL INFORMAL BUDGET COMMITTEE** PRELIMINARY RATE STUDY BUDGET **RESULT COUNCIL CHECK-IN** COMMITTEE **WATER SUMMIT** SEPTEMBER 2024 **LOBBY - RECYCLED WATER MASTER PLAN CODE AMENDMENT CHECK-IN DECEMBER 2024 PARKS MASTER** PLAN ADOPTION **FEBRUARY 2025 MAY 2025 APRIL 2025** RATE STUDY ADOPTION CODE **BUDGET CODE AMENDMENT AMENDMENTS** COMMITTEE **CHECK-IN**



ADHERE TO REDMOND WATERING SCHEDULE



CITY OF REDMOND REQUIRED WATERING SCHEDULE	APRIL 1 TO OCTOBER 31		
CUSTOMERS w/ ODD- NUMBERED ADDRESSES	Schedule Watering on odd Days		
CUSTOMERS w/ EVEN- NUMBERED ADDRESSES	Schedule Watering on Even Days		
WATERING WINDOW	Must be done before 11:00 a.m. and/or after 4:00 p.m.		
NO WATERING PERMITTED	No irrigation is allowed on the 31st of any month		
EXEMPTIONS	 There are a few exemptions to the City's watering schedule: Watering with a hose and spray nozzle New landscaping, up to 30 days after installation, with an approved variance from the City. 		

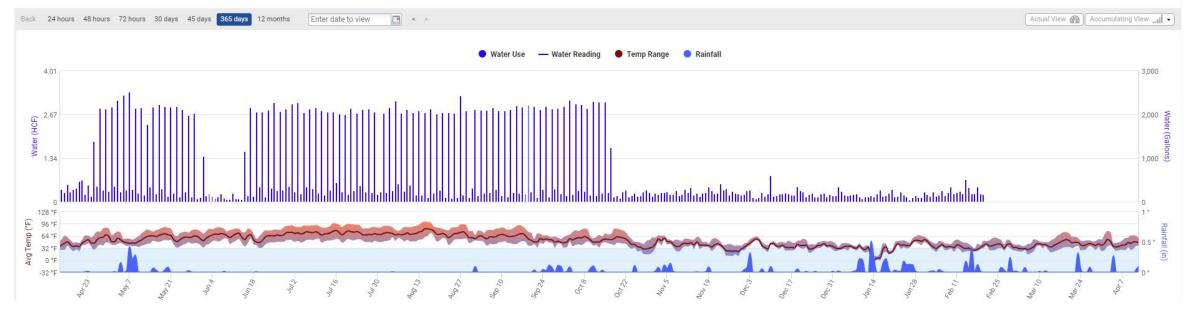
Online at





- Track your water usage
- Register for AquaHawk
- Set water thresholds
- Receive usage alert
- Set conservation goals

Last 365 Days (Fri Apr 14, 2023 - Fri Apr 12, 2024)



Register Online at



REBATES FOR WATER CONSERVATION

CITY PROVIDES REBATES FOR QUALIFIED OUTDOOR IRRIGATION SYSTEM UPDATES

Rotating Sprinkler Heads - Up to \$2 per head (up to 20 heads)

O2 Soil Moisture Sensor - Up to \$70 to measure soil moisture

Weather-based Irrigation Controller - Up to \$125 to update your irrigation controller

 FREE outdoor watering gauges, waterefficient showerheads and faucet aerators, and toilet tank displacement bags



Online at WWW.REDMONDOREGON.GOV/REBATES



IMPROVE YOUR WATER EFFICIENCY



Install low-flow fixtures and high efficiency appliances



Follow the watering schedule



Use only what you and your landscapes need.



Learn more ways to realize water savings on our City website.



Online at WWW.REDMONDOREGON.GOV/WATERSAVINGS