

# Council Study Session

May 3, 2021

<b>Agenda Item</b>	2021 Water Supply Update & Drought Management Plan	
<b>From</b>	Scott Fleury PE	Public Works Director
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<b>Item Type</b>	Requested by Council <input checked="" type="checkbox"/> Update <input type="checkbox"/> Request for Direction <input type="checkbox"/> Presentation <input type="checkbox"/>	

## **SUMMARY**

Before the Council is an update on water supply and the drought management strategy for the 2021 season along with information regarding the City's robust conservation program.

## **POLICIES, PLANS & GOALS SUPPORTED**

Council Goals:

Essential Services

- Water

Value Services

- Address Climate Change

Department Goals:

- Maintain existing infrastructure to meet regulatory requirements and minimize life-cycle costs
- Deliver timely life cycle capital improvement projects
- Maintain and improve infrastructure that enhances the economic vitality of the community
- Evaluate all city infrastructure regarding planning management and financial resources

Plans:

- Water Master Plan - "Adopt an integrated water master plan that addresses long-term water supply including climate change issues, security and redundancy, watershed health, conservation and reuse and stream health."
- Water Management & Conservation Plan
- Climate and Energy Action Plan (CEAP)
  - Manage and conserve community water resources
  - Conserve water use within city operations

## **BACKGROUND AND ADDITIONAL INFORMATION**

**Water Supply Sources:** The City has three distinct sources of water; Reeder Reservoir and Ashland Creek water, Talent Irrigation District (TID) via the Ashland Canal and the Talent-Ashland-Phoenix (TAP) Intertie from the Medford Water Commission (fully treated water).

- Reeder Reservoir has a storage capacity of 260 million gallons (MG) of flows from the east and west forks of Ashland Creek and typically supplies all the City's raw water required for residential and commercial use. The City has water rights totaling ~29 cubic feet per second (cfs) from Ashland Creek flows and a storage right of 800-acre feet in Reeder Reservoir (1927). Storage, especially in the summer months is the limiting factor.

- **TID** – the City has rights to a total of 1,369 acre feet of domestic/municipal and irrigation water rights. The irrigation season generally runs from April to October. This year TID is expected to start charging the canal systems in early June.
  - 769-acre feet (Hyatt Reservoir via Ashland Canal) – perpetual domestic right
  - 600-acre feet BOR/TID municipal use (Howard Prairie via Ashland Canal)
- **TAP** – the City has the rights to 1,000-acre feet of water for municipal use from Lost Creek Lake through the Medford-TAP project. Water is delivered through the use of two vertical turbine pumps for a total capacity of 2.13 MGD pumping at a rate of 1,480 gpm.
- **Treated Water Storage** – The City has four storage reservoirs with a total of 6.8 MG. (Crowson, Alsing, Granite each have 2.1 MG, and Fallon is 0.5 MG)

**Current Conditions (Reeder Reservoir):**

Water Treatment Plant staff started filling Reeder in early April. Due to the lower than average snowpack and warmer weather with very little spring rainfall to date, we felt it best to begin filling the reservoir in preparation for summer season. Typically, the reservoir reaches full capacity in May and spills through the spillway for some time before demand outpaces inflow at which time the reservoir begins its “drawdown”. As of April 22, Reeder Reservoir was 72.8 percent full and continuing to fill at about 1-2 percent per day. The average demand over the past 10 days has been 2.83 MGD.

**Snowpack:** As of April 22, 2021, there was 42 inches of snow with a SWE of 19.5 inches, recorded at the Big Red Mountain SNOTEL Site just southwest of Ashland (77 percent of the 30-year average). There are also three additional sites on Mt. Ashland that are measured manually at the end of each month by the Jackson County Water Master. These SNOTEL sites provide valuable snowpack and related climate data that allow us to analyze the City’s water supply conditions for the year.

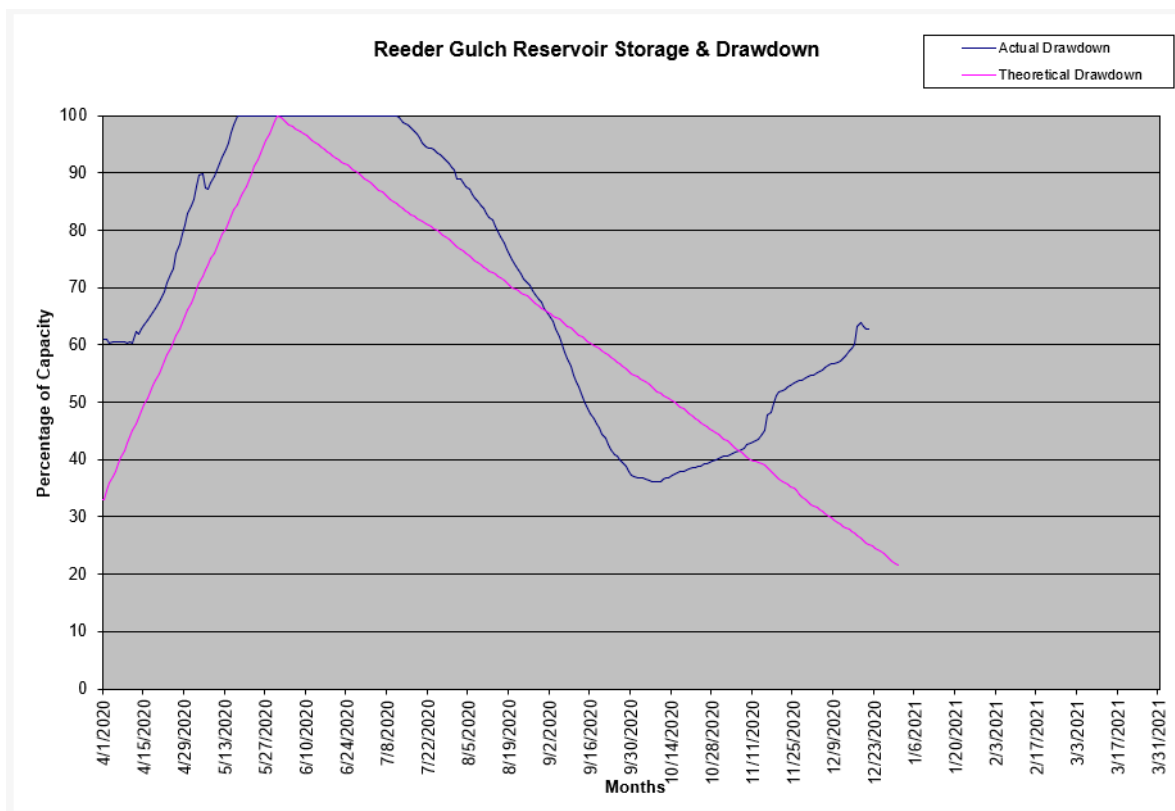
Snow Course/Aerial Marker Sites	Snow Depth (inches)				Snow Water Equivalent (SWE) inches			
	2018	2019	2020	2021	2018	2019	2020	2021
* Big Red Mountain SNOTEL Site 6,050 ft.	22	59	19	42	10.1	24.2	14.1	19.5
Caliban 6,500 ft.	32	66	26	62	11	30.2	11.2	23.8
Mt. Ashland Switchback 6,430 ft.	23	59	18	45	8	27.5	8.3	17.2
Ski Bowl Road 6,070 ft.	6	31	2	41	2.2	15.1	.8	16

\* Big Red Mountain SNOTEL Site is an automated site that provides daily snowpack data. The three additional sites are measured manually by the Jackson County Water Master at the end of each month. The Big Red Site information for 2021 was taken on April 22, 2021. The additional sites previous year data is from May 1 of the listed year.

The current snowpack conditions lend themselves to a below average water year with respect to the Reeder Reservoir supply. Last year the between July 21, 2020 and September 3, 2020, the Public Works pumped 51.15 MG of TID supplemental water for treatment. At which time the TID supplemental source was shut off due to water quality concerns. The reservoir level on September 3, 2020 was 64 percent, which coincided with the actual drawdown going below the theoretical drawdown, reference Figure 1 below. Public Works initiated a plan to begin pumping TAP on September 8 for annual system testing and supply support, this happened to be the day the Alameda Fire began and access to the TAP system was lost on a temporary basis. This loss in conjunction with warmer weather, higher demand and lack of rainfall caused the Reeder Supply to drawdown to 37.1 percent between September 3 and October 1.

With the loss of both supplemental sources in early September and falling below the drawdown curve, Public Works and Administration begin noticing for voluntary curtailment measures to ensure adequate supply until TAP could be restored or fall rains began and demand reduced. Due to the significant concerns over the fire, demand reduced very little in early September building the need to move to mandatory curtailment. The City entered into mandatory curtailment stage 1 on September 14, 2020 with the City Council ratifying the City Administrators decision at the September 15, 2020 Business Meeting ([Minutes](#)). Stage 1 mandatory curtailment was lifted on October 29, 2020.

**Figure 1: 2020 Reeder Reservoir Drawdown**



After numerous weeks of work restoring TAP system operations and ensuring that Oregon Health Authority requirements were met, Public Works begin pumping from the TAP supply on October 1. This helped support overall supply until demand dropped significantly and fall rainfall began. During this time, Public Works pumped 58.65 MG of treated water through the TAP system or roughly 180 of the 1,000 acre-feet total volume right.

**Talent-Ashland-Phoenix Intertie (TAP) Supply:**

The City has a 1,000 acre-foot volume right to stored water in Lost Creek Reservoir that is delivered to the City of Ashland by the Medford Water Commission (MWC) through the TAP system. Final connection to the TAP system was completed in 2014 with construction of the final segments of TAP waterline and associated pump station. The City currently has a wholesale water delivery contract with the Medford Water Commission, pays the defined rate for treated water when delivered to the City, and is paying System Development Charges based on the defined capacity for Ashland within the TAP system, reference attachments 1, 2, and 3.

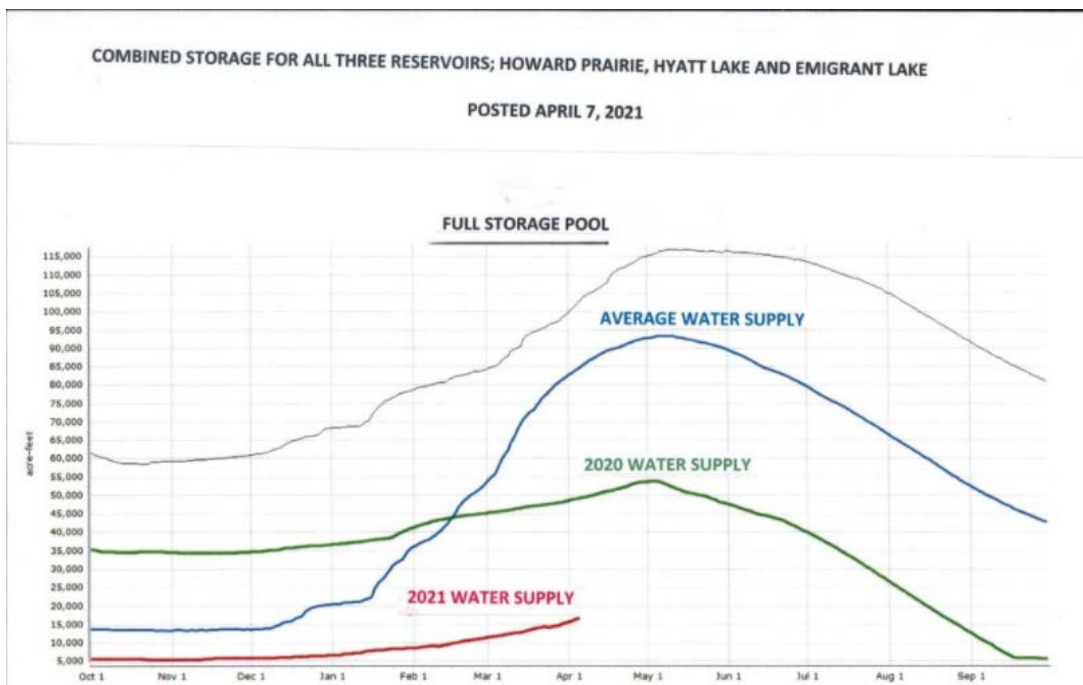
**TID Supply:**

Talent Irrigation District (TID) expects begin charging their canals and infrastructure on June 1 (projected). TID storage reservoirs are currently significantly impacted by the current drought conditions and the irrigation season is expected to be severely impacted due to a lack of stored water.

The District needs 50,000 plus acre feet of water to make it through a regular irrigation season. The current supply stands at 17,000 acre feet (April 6, 2021) which may continue to increase to some extent, depending on weather. This water supply situation is unprecedented in the project’s history. This year’s circumstances have been brought on by several years of below average snowpack, precipitation, and hot dry summer months.

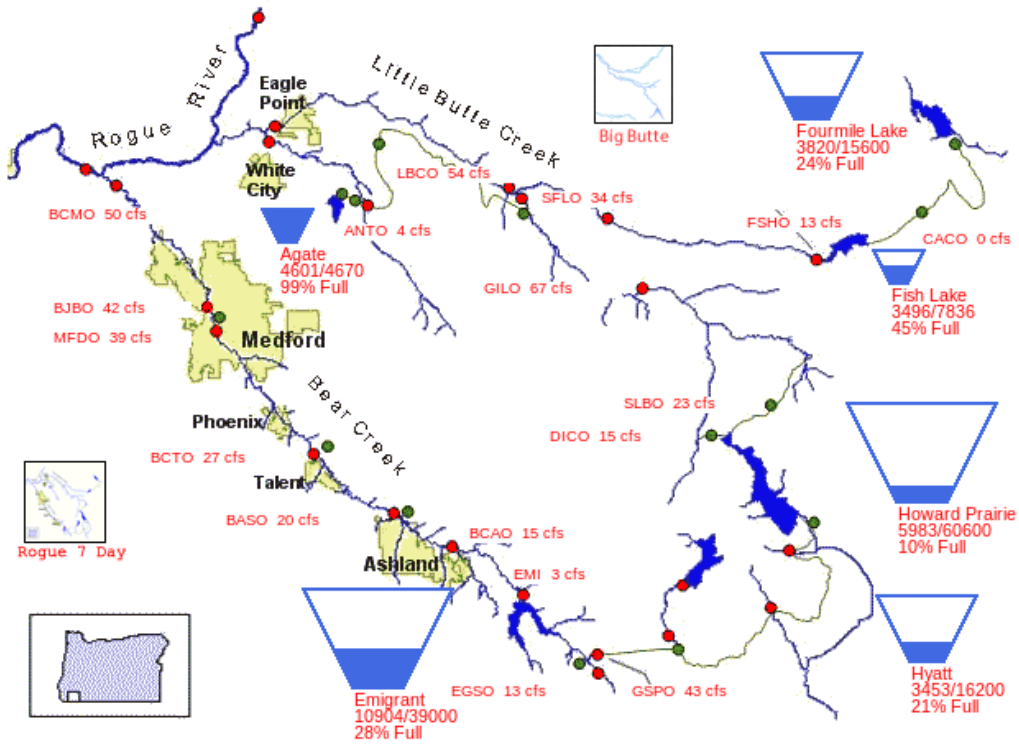
Public Works staff was given notice by TID of a significant delivery reduction of raw water through the TID system to the Ashland Canal for the summer irrigation season. This includes a 40 percent reduction in the City’s 769 acre-foot right along with a 100 percent reduction in the 600 acre-foot right. This results in a total projected delivery of 462 acre-feet for the irrigation season. This significantly diminished volume will not provide enough water in the ditch to utilize the Terrace Street pump station to supplement the Reeder Reservoir supply this season.

**Figure 2: TID Supply Graph (2021)**



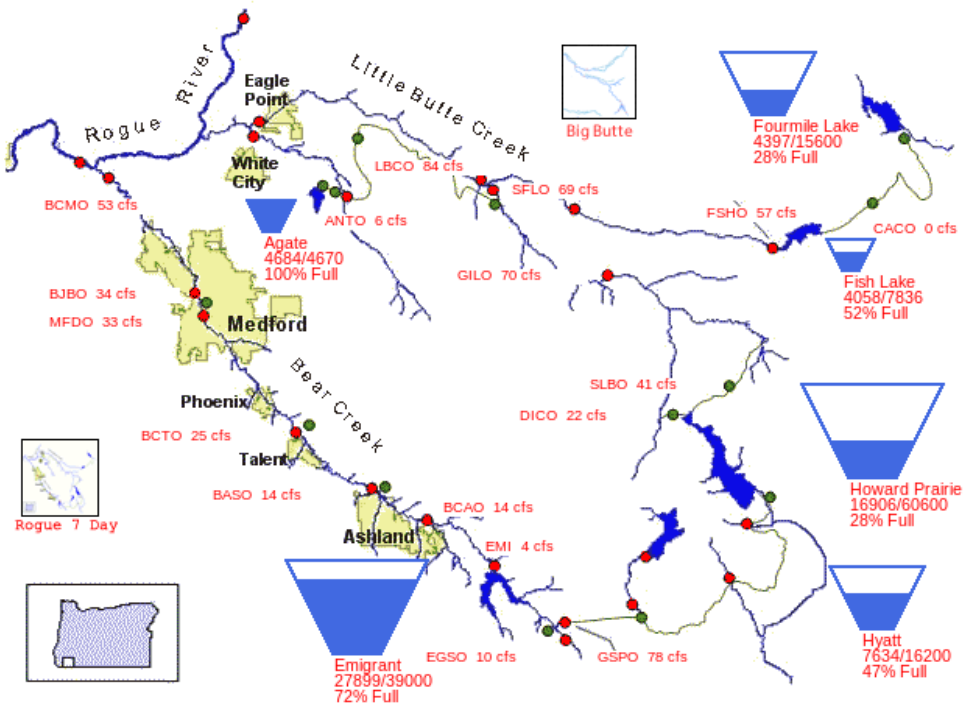
**Figure 3: Rogue Basin T-Cup Diagram (2021)**

04/21/2021



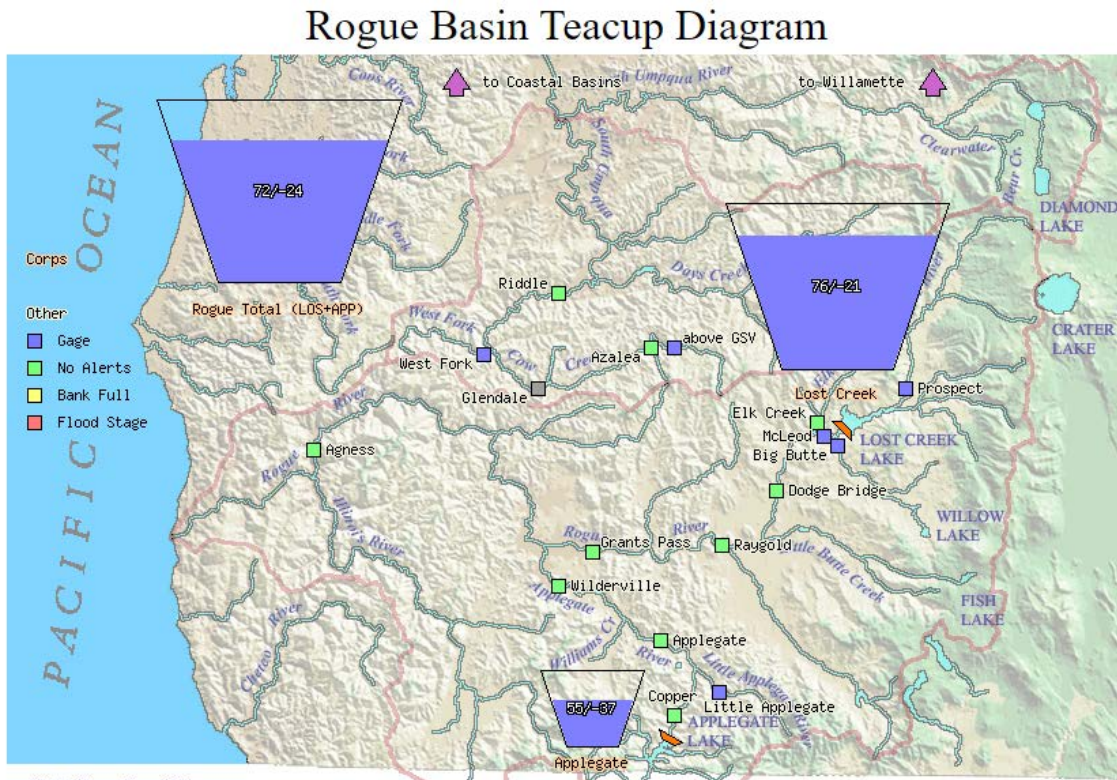
**Figure 4: Rogue Basin T-Cup Diagram (2020)**

04/23/2020





**Figure 5:** Lost Creek Reservoir T-Cup Diagram (2021)



**City of Ashland Water Management Strategy for Drought:**

As a matter of previous practice, recommended by the Ashland Water Advisory Committee (AWAC) and approved by the City Council, Public Works follows a specific strategy for drought management. That strategy is to recommend voluntary conservation and curtailment measures of the community during the summer season, utilize TID waters early to supplement Reeder Reservoir water, protecting the Reeder Supply for as long as possible. Once TID water delivery ends for the season then the City has access to the TAP system for additional supply if needed. The TAP supply is available all year, but under the approved draught strategy utilized after TID in the scenario. Public Works also performs a multi-week functional test of the TAP pump station annually, generally in September or October.

Due to the significant impacts of drought on the City’s water rights associated with the TID supply and the inability to use this source for supplemental supply during the 2021 season, staff is recommending utilization of the TAP source as needed for supplemental supply during the 2021 season.

Use of this source during the 2021 season will provide an additional benefit related to “certifying” the Lost Creek water right permit. Water rights are issued in two stages: The first stage is the “water right permit”, which serves as the initial authorization for a water user to develop the source and begin making use of water. The second stage is the final certificate, which is issued after the water use is fully developed and put to use. The certification date based on the acquisition of the original Lost Creek water right permit is September 7, 2021. This means the City must certify all or a portion of the use and/or request a time extension for the “development” of the remainder of the water right.

To certify the permit a “Claim of Beneficial Use” (COBU) must be developed that shows the water was put to use during a water year (October 1 – September 30). Public Works has contracted with GSI Water Solutions to develop the COBU and associated permit timeline extensions required by the Oregon Water Resources Department as part of a certification process.

The intent has been to certify 25 percent of the right and request a time extension for the remainder of the permit right. This requires at a minimum, pumping another 70 acre-feet or 22.81 MG through the TAP system between now and September 7, 2021.

**Conservation Strategies and Programs:** We continue to encourage customers to use water efficiently and invest in long term conservation measures, not only to minimize the impact of future limitations, but to also ensure we have a sufficient supply to sustain our community for years to come.

In conjunction with water supply strategies, the water conservation team offers our water customers the following programs:

- **Lawn Replacement Rebate** - for removal of irrigated lawns that are replaced with low water use landscapes and efficient irrigation systems.
- **Irrigation System and Indoor Water Use Evaluations** - free for residents and businesses. Evaluations of individual systems uncover ongoing water waste and leaks.
- **Smart Irrigation Controller Rebate** – to install a *WaterSense* labeled smart controller.
- **Appliance Rebates** - are also available for installing high efficiency *WaterSense* labeled toilets and *Energy Star* labeled washing machines.
- **Giveaways** - free low flow showerheads, faucets aerators and spray rinse valves for commercial dishwashing are available for residences and businesses.
- **Water Wise Landscaping Website** - [www.ashland saves water.org](http://www.ashland saves water.org), to help people design landscapes with plants that use less water. The site includes a watering calculator and links to city’s programs and rebates.
- **Public Presentations** - on long term water efficiency changes, as well as information on the City’s drinking water system.
- **City Website** - with descriptions of programs, savings tips, weather data and watering recommendations, educational handouts, and more.

**Additional Measures:**

- **Love Your Water Campaign** – Reusable bags and soil moisture meters for customers who sign up for a water evaluation, either indoor or outdoor.
- **Monthly City Source** newsletter articles in utility bills that discuss water savings tips and provides information about the City’s water efficiency programs and rebates.
- **Movie Theater Advertisement** - To help promote the efficient use of the community’s resources, a combined water and energy conservation ad will play at both movie theaters during the months of July-September.
- **City Owned Property Irrigation Upgrades** – We continue to identify and replace inefficient sprinklers on City and Parks owned properties.
- **Waterwise and Firewise Demonstration Garden** - was installed in front of Fire Station #1 downtown. The garden also incorporates deer resistant and pollinator plants.
- **Southern Oregon Landscape Association** - provide education and resources to local landscape contractors on water efficiency in the landscape.

- **Ongoing Research** - of new technologies in water efficiency and continue to evaluate future programs and incentives to help our customers.

**FISCAL IMPACTS**

The water fund is appropriately funded for the remainder of the biennial budget.

**DISCUSSION QUESTIONS**

Is the City’s prioritization of raw water use appropriate?

Is Council supportive of the staff plan for the use of TAP for the 2021 peak water season?

**SUGGESTED NEXT STEPS**

N/A

**REFERENCES & ATTACHMENTS**

Attachment 1: Medford Water Commission “Partner City Rates Sheet”

Attachment 2: Medford Water Commission Wholesale Agreement

Attachment 3: Medford Water Commission Systems Development Charge Agreement

Attachment 4: Water Curtailment Ordinance

Attachment 5: Oregon Water Conditions Report 4-19-2021

[TAP Master Plan Draft](#)

[Water Conservation and Management Plan](#)



# SCHEDULE 6

## Partner Cities

Rates Effective March 1, 2021

**Application:** This rate schedule shall apply to incorporated cities purchasing water from the Commission as defined by the Regulations Governing Water Service.

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### BASE CHARGES

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1. Normal Monthly Fee	<u>Meter Size</u>	<u>Charges</u>
	2"	\$ 77.06
	3"	\$ 145.67
	4"	\$ 226.07
	6"	\$ 433.04
	8"	\$ 663.19
	10"	\$1,009.28

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### CONSUMPTION CHARGES

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1. **Water Gallonage Charge\***

*All gallonage, per 1,000 gallons*

Summer Season \$ 0.95

Winter Season \$ 0.75

\*Differential is based on \$0.10 for summer incentive and \$0.10 for Future Water Supply and Treatment.

## WHOLESALE WATER SERVICE AGREEMENT

THIS WATER SERVICE AGREEMENT (Agreement), made and entered in duplicate to commence on the first day of October, **2016**, between the City of Ashland, a municipal corporation of the State of Oregon, acting as purchaser (Ashland), and the City of Medford, a municipal corporation of the State of Oregon, acting by and through its Board of Water Commissioners, acting as vendor (MWC), together referred to as the Parties.

### RECITALS:

- 1) MWC is an entity established under the Home Rule Charter (Charter) adopted by the citizens of the City of Medford, comprised of five citizens appointed by the Mayor and confirmed by the City Council, to manage the Water Fund for the purpose of supplying inhabitants of the City of Medford with water; and
- 2) Under Section 19 of the Charter, the MWC is authorized to sell water and/or supply facilities outside the legal boundaries of the City of Medford, only if said water and/or supply facilities are surplus to the needs of the inhabitants of the City of Medford, and meet certain conditions of MWC Resolution No. 1058; and
- 3) Under the Charter, the MWC is authorized to set rates for City of Medford inhabitants, and to make all necessary rules and regulations for the sale, disposition and use of water and water service from the City of Medford water system, and the MWC has adopted such rules and regulations; and
- 4) Per the MWC's projections, reports and plans, the MWC finds it has surplus water and supply facilities capacity available in its system to serve Ashland; and
- 5) Ashland desires to purchase surplus treated and transported water from MWC from October through April, and purchase surplus supply facilities treatment and transport services for Ashland's own water appropriated under Ashland's own state-issued water rights from May through September;

NOW, THEREFORE, for and in consideration of the foregoing and of the mutual promises herein, the Parties mutually agree as follows:

## AGREEMENT:

### ARTICLE 1. SCOPE OF SURPLUS WATER SUPPLY AND SERVICE

Subject to Article 3 of this Agreement, MWC agrees to supply surplus water up to a combined (from all connections) maximum of 1480 gallons per minute (GPM) for the months of October through April, and surplus facilities capacity to treat and transport water up to a combined (from all connections) maximum of 1480 GPM for the months of May through September. Ashland agrees to provide sufficient water storage as part of its water system to assure that the maximum rate of withdrawal in GPM by Ashland is not exceeded.

Upon written request by Ashland, this Agreement may be amended to provide supplemental supply and service to Ashland if MWC determines that it has surplus capacity for Ashland's use, and Ashland agrees to reimburse MWC the reasonable cost of providing such supplemental supply and service.

### ARTICLE 2. ASHLAND DISTRIBUTION SYSTEM EMERGENCY

Upon notice to MWC by Ashland of a distribution system emergency, MWC will use its best efforts to provide supplemental water supply or services during the emergency.

For purpose of this agreement, "distribution system emergency" means: Any human or natural caused event that disables or impairs the distribution system such that its use constitutes an immediate threat to human life or health.

### ARTICLE 3. MWC CONNECTIONS

MWC owns and is responsible for the construction, extension, maintenance, and operation of the MWC system up to the point of and including the master Ashland meter. Ashland shall pay all costs of connections to the MWC system including initial metering, initial and ongoing backflow protection, and annual testing of the backflow device, all in accordance with MWC standards. MWC shall monthly read and annually test the master meter and provide readings and test results to Ashland.

Ashland's water supply is provided by the following master meter(s) with backflow connections to MWC:

- 10" Rosemount Spool Mag Meter at the Talent-Ashland-Phoenix (TAP) Pump Station on Samike Drive, Medford, Oregon

Temporary emergency connections to MWC with prior approval can be provided at the following location(s):

N/A

The following special conditions concerning connections to MWC apply:

- The water supplied by MWC is limited under this agreement to 2.13 million gallons per day (MGD), after having paid, or arranged to pay, all System Development Charges (SDCs) for that amount. In the future, Ashland can request up to a total of 3.0 MGD by paying future SDC rates on the remaining 0.87 MG.
- MWC acknowledges Ashland's right to exchange and transfer water between the cities of Ashland, Talent, and Phoenix, Oregon within the total cumulative contracted GPM of all three noted cities served through TAP and their individual wholesale customer agreements with MWC.

#### ARTICLE 4. MWC REGULATIONS

Water service under this Agreement shall be in accordance with Section 30 SURPLUS WATER and Section 31 PROVISIONS RELATING TO UTILITY AND MUNICIPAL CUSTOMERS of the MWC Regulations Governing Water Service (Regulations), as now in effect or as may be amended. If there is any inconsistency between this Agreement and the Regulations, the Regulations control. Notwithstanding the foregoing, nothing herein is intended to relieve MWC of its obligation to supply surplus water in accordance with the terms of this Agreement, except as dictated by Federal/State regulations outside the control of MWC. The Parties acknowledge that implementation of this Agreement and the Regulations are subject to federal or state directives.

MWC shall promptly provide Ashland a copy of any amendments to the Regulations.

#### ARTICLE 5. URBANIZATION POLICY

~~[NAME OF CITY] agrees to provide water and services to customers within Ashland city limits, or as otherwise approved by MWC in MWC Resolution No. 1058, as may be amended. [NAME OF CITY] may provide water and services outside of city limits, but within its urban growth boundary, provided that the property requesting service has signed an irrevocable consent to annex to the [NAME OF CITY], or as otherwise approved in writing by MWC. The current general water service map covering city limits and urban growth boundaries for the [NAME OF CITY] is attached to this Agreement as Exhibit A. [NAME OF CITY] shall promptly notify MWC and provide a revised map as city limits and urban growth boundaries are modified.~~

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ARTICLE 6. MEETING FUTURE WATER DEMANDS

Water and water services provided by MWC under this Agreement are pursuant to water rights held by the MWC and Ashland. Nothing in this Agreement shall be construed to confer upon either party a legal or beneficial interest in each other's water rights, or to prevent either party from seeking additions or alterations to their water rights as deemed necessary.

Ashland shall acquire and maintain such water rights as needed to meet the demand within its service area during the months of May through September. Ashland may use the MWC intake facility, located at the intersection of Table Rock Road and the Rogue River in White City, as the designated point of diversion for Ashland water rights. MWC shall cooperate in the perfection of any Ashland water rights. Ashland currently holds water rights with a diversion point on the Rogue River at the MWC Intake Facility site at the rate of     N/A     cubic feet per second and/or volume of **1000** acre feet. Delivery of such Ashland water through MWC facilities shall be subject to the same terms and conditions as delivery of surplus MWC water. MWC shall measure and record at its Robert A. Duff Water Treatment Plant the amount of water withdrawn from the Rogue River by MWC and its municipal water service customers under each of their respective water rights. In its monthly water service invoice, MWC shall provide water use data for Ashland. ~~[NAME OF CITY] shall provide MWC updated demand projections.~~

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ARTICLE 7. SYSTEM DEVELOPMENT CHARGES

Pursuant to Resolution No. 774, MWC has established Water System Development Charges (SDCs) and supporting methodology to finance future MWC transmission and treatment facilities expansions. ~~SDCs apply to all new customers, including customers of municipal wholesale customers served by MWC. [NAME OF CITY] shall collect SDCs set by MWC from new [NAME OF CITY] customers.~~ MWC reviews the SDCs annually and reserves the right, in its sole discretion, to modify or replace the SDCs with a different financing mechanism for system improvements.

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~~All SDCs collected by [NAME OF CITY] will be held in a separate account and forwarded to MWC along with an accounting of the number and sizes of the services installed. [NAME OF CITY] shall provide MWC with a copy of the section within the annual [NAME OF CITY] audit that shows accounting of MWC SDCs collected during the audited year. MWC shall, in turn, provide [NAME OF CITY] an annual accounting of all SDCs collected.~~

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MWC utilizes a utility basis for determining the water usage rate it charges Ashland. Under this rate analysis, Ashland is required to pay a return on investment for its share of the facilities paid for by MWC. Facilities funded by SDCs shall not be included in the return on investment portion of the rate analysis.

~~MWC shall render technical assistance to [NAME OF CITY] in determining SDCs. MWC shall defend [NAME OF CITY] against any legal action or appeals which may arise over the development, methodology, or implementation of the SDCs. [NAME OF CITY] shall cooperate and support MWC in the defense, but shall not be obligated to incur any monetary obligation in such defense.~~

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Upon termination of this Agreement, the following refund policy shall apply:

- (a) MWC shall return to Ashland its prorated share of the unexpended balance of the SDCs fund. This prorated share shall be based upon the actual unexpended SDCs collected by Ashland for the specific facilities funded by the SDCs, plus the interest earned.
- (b) MWC shall return to Ashland a prorated share of the depreciated plant value of the specific MWC facilities funded by the SDCs and already installed. The prorated share shall be a percentage based upon the total amount of SDCs paid by Ashland divided by the total SDCs collected and used to fund the facility, not including interest earned during the years in which the SDCs were collected.
- (c) In order to avoid a financial hardship, MWC shall develop a reasonable schedule of up to five (5) years for repayment of the depreciated value of the specific MWC facilities funded by the SDCs.
- (d) At the request of Ashland, the MWC shall provide an accounting of the refunds made pursuant to this section.

#### ARTICLE 8. PAYMENTS TO MWC

Ashland shall pay monthly for all water and services provided by MWC at MWC's scheduled wholesale rates then in place. Payment shall be made within ten (10) days after the meeting of the Ashland's Council following receipt by Ashland of a statement of charges from MWC.

MWC reserves the right, in its sole discretion, to change (with prior written notification of a rate study review) said rate at any time upon sixty (60) days written notice to Ashland, following rate procedures and protocols in the MWC Regulations.

## ARTICLE 9. TERM OF AGREEMENT

This term of this Agreement shall be five (5) years from its commencement. Ashland may, at its option, extend the term for three additional five-year periods, which periods would run through October of **2026**, **2031**, and **2036** respectively. Extensions shall be subject to the same terms and conditions as this Agreement. Written notice of the election to exercise a five-year extension of this Agreement must be given to MWC not later than January 1<sup>st</sup> of the year in which the Agreement would otherwise expire. If Ashland fails to provide MWC such notice, this Agreement shall be deemed canceled at the end of the term then in effect. MWC shall continue service for a reasonable period, determined in MWC's sole discretion, to allow Ashland to secure other sources of water. Provided, however, Section 19 of the Charter of the City of Medford limits the term of water service contracts to 20 years and, therefore, the obligations of MWC under this Agreement, including renewal periods, shall not exceed that period of time.

## ARTICLE 10. ASSIGNMENTS

Ashland shall make no assignment of this Agreement without written permission from MWC. Any approved assignee or successor shall agree to be bound by the terms and conditions of this Agreement.


## ARTICLE 11. WATER CURTAILMENT PLAN

During periods of drought or emergency, Ashland shall be subject to the MWC Water Curtailment Plan, per MWC Resolution No. 1345, unless Ashland has in effect a state-approved and adopted Water Curtailment Plan at least as stringent as that of MWC. In the event of a conflict between the Ashland plan and the MWC plan, the MWC plan shall control. The MWC shall give Ashland as much advance warning as possible prior to curtailment of water supplies. The level of curtailment shall be determined by MWC based on the severity of the anticipated shortage. Ashland shall be responsible for enforcing the MWC curtailment plan or the above mentioned Ashland plan in its service area.

MWC will require and apply emergency curtailment of water use in an equitable, fair, and consistent manner consistent with Resolution 1345. Continued service during periods of emergency shall neither be construed as a waiver nor limitation of any kind on any water rights held by MWC, or a waiver or curtailment of any water rights held by Ashland, nor as affecting any other terms in this Agreement.

ARTICLE 12. ANNUAL WATER QUALITY REPORTING

MWC will gather annual water quality data and prepare informational reports as required under state Consumer Confidence Reporting (CCR) rules. These CCR reports will include water quality information for MWC and all participating municipal water customers. ~~Annual costs involved will be proportionally shared among participating municipal water customers and billed separately to each.~~

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~~Statistical data necessary to create the CCR report for the prior year must be provided by [NAME OF CITY] to MWC no later than April 1st of each year. If bulk mailing is the primary distribution method utilized, [NAME OF CITY] shall also provide MWC with postal routes covering their respective service areas by April 1st of the delivery year. MWC reserves the right to utilize other approved delivery methods (e.g., electronic), which may impact responsibilities for [NAME OF CITY].~~

~~In the event that [NAME OF CITY] receives water into its system that is supplied by an entity other than MWC, the composite MWC report for that year will not include data for [NAME OF CITY]. Ashland shall be responsible for preparation of its own annual CCR, and MWC will provide MWC data by April 1st of the delivery year.~~

MWC maintains water quality test points throughout the MWC system and one specifically at the master meter location(s) of Ashland. These test points are used to collect water samples for meeting required state water quality parameters on a weekly, monthly, and annual basis. All information collected is of public record and is accessible through state or MWC databases. Responsibility for water quality is transferred to Ashland at the point of the master meter location(s), except where water quality problems are attributable to MWC.

ARTICLE 13. MUTUAL INDEMNITY

To the extent allowed by law, Ashland and MWC shall each defend, indemnify and hold the other, and their officers, employees, and agents harmless from any and all claims, suits, actions, or losses arising solely out of the acts and omissions of the Party's own officers, employees, or agents while acting under this agreement.

ARTICLE 14. PARTIAL INVALIDITY

If any term, covenant, condition, or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in force and effect, and shall in no way be affected, impaired, or invalidated thereby.

## ARTICLE 15. INTEGRATION

This Agreement represents the entire understanding of MWC and Ashland as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered herein. This Agreement may not be modified or altered except in writing signed by both parties.

## ARTICLE 16. DEFAULT

For purposes of this Agreement “default” means failure to comply with any of the terms of this Agreement. If either party determines that a default has occurred, it shall provide the other party written notice of the default, which such party shall have thirty days in which (a) to cure the default, (b) show that the default is of such a nature that it cannot be reasonably cured within thirty days, or (c) show that no default occurred.

MWC and Ashland will work in good faith to amicably resolve the default. If after thirty days of the notice of default, MWC determines, in its sole discretion, that Ashland is unable or unwilling to cure the default within a reasonable time, MWC may impose escalating penalties as follows: (a) ten percent surcharge for a period of thirty days; (b) twenty percent surcharge for the next thirty days; and (c) termination of this Agreement. Such penalties are in addition to any other remedies at law or equity that may be available to MWC. Failure to issue notice of default or to enforce its remedies under this Article 16 shall not preclude MWC from taking such action for future defaults.

If after thirty days, Ashland determines, in its sole discretion, that MWC is unable or unwilling to cure the default within a reasonable time, Ashland may terminate this Agreement and pursue any other remedies at law or in equity that may be available to Ashland.

## ARTICLE 17. FORCE MAJEURE

Neither party hereto shall be liable for delays in performance under this Agreement by reason of fires, floods, earthquakes, acts of God, wars, strikes, embargoes, necessary plant repairs or replacement of equipment, of any other cause whatsoever beyond the control of such party, whether similar or dissimilar to the causes herein enumerated. This clause does not include causes related to water supply and demand planning or failure to engage in such planning.

## ARTICLE 18. DISPUTE RESOLUTION

If a dispute arises out of or relates to this contract, and if the dispute cannot be settled through negotiation, the parties agree first to try to settle the dispute by non-binding mediation before resorting to litigation or other process. The parties agree to share equally the costs of mediation.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed by their proper officers on the dates noted below.

THE CITY OF MEDFORD  
BY AND THROUGH ITS  
BOARD OF WATER COMMISSIONERS

*L. J. Kirk T. Johnson*  
Leigh Johnson, Chair

*K. S. Winnie Shepard*  
Karen Spoonst, City Recorder  
*Winnie Shepard, Deputy*

12-14-2016  
Date

THE CITY OF ASHLAND

*John Stronberg*  
Mayor

\_\_\_\_\_  
City Recorder

11-15-16  
Date

**APPROVED AS TO FORM**  
*David Shma*  
**Ashland City Attorney**  
Date 11/16/16



## AGREEMENT TO PAY SYSTEMS DEVELOPMENT CHARGES

Between the City of Medford, by and through the Medford Water Commission

and

The City of Ashland

### Parties

The parties to this agreement are the City of Medford, an Oregon Municipal Corporation, by and through the Medford Water Commission (Water Commission, Commission, MWC), a Medford Charter entity, and the City of Ashland (Ashland), an Oregon Municipal Corporation.

### Purpose

By the authority granted in ORS 190.110 the Water Commission and the City of Ashland may enter into cooperative agreements for the performance of services otherwise provided separately by either entity.

This agreement is payment by Ashland of its fair share of Systems Development Charges (SDCs) expended by the Water Commission to expand its Duff Water Treatment Plant to create surplus facilities in order to treat and transport surplus and other water for Ashland. This agreement does not create any ownership in the Duff Treatment Plant by the City of Ashland.

### Terms

In exchange for payments described herein, and as conditioned upon a separate Wholesale Other City Customer Surplus Water Service Agreement, MWC will allow Ashland to receive surplus water during the months of October through April, and surplus facilities for treatment and transport of Ashland water from the Duff I Water Treatment plant during the months of May through September.

### Amount Due

The total amount of Ashland's fair share of SDC is \$2,620,084.00 (Two million, six-hundred twenty thousand, eighty-four dollars and no cents). This amount is based on service of 2,130,000 gallons per day (two million, one hundred thirty thousand gallons per day or 2.13MGD) at \$1,476.27 per Equivalent Residential Unit (ERU) and 1200 gallons per day (GPD) per ERU.

### Payments

Ashland shall pay the SDC as follows:

An Initial Payment of \$262,008.00 (Two hundred sixty-two thousand, eight dollars and no cents) within 10 days of execution of the Wholesale Other City Customer Surplus Water Service Agreement. The Initial Payment will be applied to the principal amount of the SDC.

The outstanding principal of \$2,358,076.00 (Two million, three hundred fifty-eight thousand, seventy-six dollars and no cents) will be due in 40 semi-annual installments beginning six months after the initial payment. Semi-annual installments will be \$81,877.77 (Eighty-one thousand, eight hundred seventy-seven dollars and seventy-seven cents) based on level amortization over 20 years at an annual interest rate of 3.42%.

Ashland may prepay all or any portion of the outstanding balance of this Agreement on any business day upon thirty (30) days' notice to the Commission; provided, however, that each payment shall include payment of the accrued interest on the amount prepaid. In the case of a prepayment that does not repay all of the outstanding principal of this Agreement, the Commission shall recalculate a new level amortization schedule based on the remaining years of the original 20-year term of this Agreement and on the original interest rate. There will be no pre-payment penalty of the remaining balance due.

#### Default

Ashland will be deemed in default of this Agreement upon its failure to pay any installment or other charge within 10 days after it is due.

Anytime after the ten (10) day period, MWC shall provide Ashland with a written notice of default and a grace period of thirty (30) days in which to cure.

After failure to cure the default, MWC, at its option may terminate the SDC Agreement by notice in writing by certified or registered mail to Ashland. The notice may be given before the running of the grace period for default.

#### Nonwaiver.

Waiver by either party of strict performance of any provision of this SDC Agreement shall not be a waiver of or prejudice the party's right to require strict performance of the same provision in the future or of any other provision.

#### Termination

Payment of SDC's is separate from purchase of water, and all other terms and conditions for payment for surplus water between the parties is provided in Wholesale Other City Customer Surplus Water Service Agreement is separate from this obligation to pay SDCs. However, termination of this SDC agreement constitutes grounds to terminate Ashland's Wholesale Other City Customer Surplus Water Service Agreement.

This agreement may be terminated by either party at any time. In the event of termination, the following refund policy shall be established:

- A. MWC shall return to Ashland a prorated share of the unexpended balance of the SDCs fund. This prorated share shall be based upon the actual unexpended fees paid by Ashland for the SDCs funded surplus supply water facilities plus the interest earned.

B. MWC shall return to Ashland a prorated share of the depreciated plant value of the SDCs funded surplus supply water facilities already installed. The prorated share shall be a percentage based upon the total amount of SDCs paid by Ashland divided by the total SDCs collected which was used to fund the facility. There will be no interest adjustments for the years in which the SDCs payments were made.

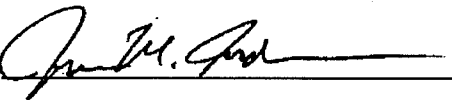
C. In order to avoid a financial hardship on MWC, a reasonable schedule of up to five (5) years shall be developed for repayment of the depreciated value of the SDCs funded surplus supply water facilities.

If this Agreement is terminated due to breach by either party, the injured party reserves all remedies available at law or equity.

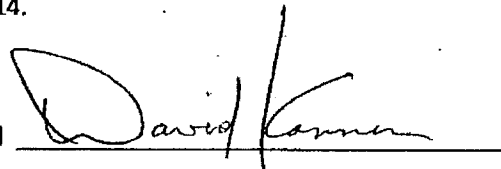
Condition Subsequent

All terms and conditions of this Agreement are enforceable subject to the parties reaching final and enforceable agreement of the Wholesale Other City Customer Surplus Water Service Agreement.

Dated this 26<sup>th</sup> day of March (month), 2014.

Signed 

Medford Water Commission

Signed 

City of Ashland

## Chapter 14.06

### WATER CURTAILMENT

Sections:

- 14.06.010 Definitions**
- 14.06.015 Water Allocation Table**
- 14.06.020 Determination of Water Shortage**
- 14.06.030 Water Curtailment Stages**
- 14.06.060 Exemptions and Appeals**
- 14.06.080 Excess Water Consumption Surcharge – Flow Restrictor Installation**
- 14.06.090 Penalties and enforcement**

#### **14.06.010 Definitions**

The following words and phrases whenever used in this chapter shall be construed as defined in this section unless from the context a different meaning is intended.

- A. “Billing period” means that period used by the City for the reading of water meters consisting of approximately 30 calendar days.
- B. “City water” means water sold or delivered by the City of Ashland and includes Talent Irrigation District water delivered through the City’s water system.
- C. “Cf” means cubic feet.
- D. “Customer” means that person or persons designated in City records to receive bills for water service.
- E. “multi-family dwelling” means a building containing two or more residential units.
- F. “Outside plants” means grass, lawns, ground cover, shrubbery, gardens, crops, vegetation and trees not located within a fully enclosed building.
- G. “Permanent resident” means a person who resides at the dwelling at least five days a week, nine months a year.
- H. “Temporary or Drop-In Guest” means a person who resides at the dwelling less than 3 consecutive months per year.
- I. “Water Allocation Table” means that table of meter types and sizes and maximum volumes of water set forth in AMC [14.06.015](#).
- J. “Waste” means:

1. To use City water to irrigate outside plants:
  - a. Between the hours of 10:00 a.m. and 8:00 p.m. May through July or between 10:00 a.m. and 7:00 p.m. August through October, except that drip irrigation systems may be used during these times.
  - b. in such a manner as to result in runoff on a street, sidewalk, alley or adjacent property for more than five minutes.
2. To use City water to wash sidewalks, walkways, streets, driveways, parking lots, open ground or other hard surfaced areas except where necessary for public health or safety.
3. To allow City water to escape from breaks within a plumbing system for more than 24 hours after the person who owns or is in control of the system is notified or discovers the break.
4. To use City water to wash cars, boats, trailers, aircraft, or other vehicles by hose without using a shutoff nozzle except to wash such vehicles at commercial or fleet vehicle washing facilities using water recycling equipment.
5. To serve City water for drinking at a restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale, to any person unless expressly requested by such person.
6. To use City water to clean, fill or maintain decorative fountains, lakes or ponds unless all such water is re-circulated.
7. Except for purposes of building construction, to use City water for construction, compaction, dust control, cleaning or wetting or for building wash down (except in preparation for painting).
8. To use City water for filling swimming pools or for filling toy, play or other pools with a capacity in excess of 100 gallons provided, however, that water may be added to swimming pools to replace volume loss due to evaporation.

K. "HOA" means Home Owners Association (Ord. 3011, amended, 05/04/2010; Ord. 2869, amended, 05/15/2001)

### 14.06.015 Water Allocation Table

CATEGORY	METER SIZE	STAGE 1	STAGE 2	STAGE 3	STAGE 4
Res Irrig	0.75	1800	600	100	0
Res Irrig	1.00	1800	600	100	0
Res Irrig	1.50	1800	600	100	0
Res Irrig	2.00	1800	600	100	0
Com Irrig	0.75	3200	1100	100	0



<b>CATEGORY</b>	<b>METER SIZE</b>	<b>STAGE 1</b>	<b>STAGE 2</b>	<b>STAGE 3</b>	<b>STAGE 4</b>
Com Irrig	1.00	6100	2100	200	0
Com Irrig	1.50	10400	3700	400	0
Com Irrig	2.00	15200	5300	500	0
Com Irrig	3.00	30400	10600	1100	0
Gov Irrig	0.75	3200	1100	100	0
Gov Irrig	1.00	6100	2100	200	0
Gov Irrig	1.50	10400	3700	400	0
Gov Irrig	2.00	15200	5300	500	0
Gov Irrig	3.00	30400	10600	1100	0
Gov Irrig	4.00	48100	16800	1700	0
TID Irrig	4.00	48100	16800	1700	0
Comm=l	0.75	6400	4800	3200	1600
Comm=l	1.00	12200	9200	6100	3100
Comm=l	1.50	20900	15600	10400	5200
Comm=l	2.00	30400	22800	15200	7600
Comm=l	3.00	60800	45600	30400	15200
Comm=l	4.00	96200	72200	48100	24100
Comm=l	6.00	186400	139800	93200	46600
Comm=l	8.00	304400	228300	152200	76100
Condo/multi-family	All	2700	2000	1300	700
Resid=1	.075	3600	2500	1800	900
Resid=l	1.00	3600	2500	1800	900
Resid=l	1.50	3600	2500	1800	900

(Ord. 3011, amended, 05/04/2010)

## 14.06.020 Determination of Water Shortage

A. The City Manager is authorized to prohibit waste as defined in AMC [14.06.010](#) or implement water curtailment stages upon determination that a water shortage emergency condition exists. Such determination shall be based on an analysis of the demand for water in the City, the volume of water in Reeder Reservoir, the standard drawdown curve for Reeder Reservoir, the projected curtailment date for Talent Irrigation District water and flows in the east and west forks of Ashland Creek. The determination of the City Manager under this section shall be effective until the next meeting of the City Council following such determination, at which time the City Council shall either ratify or invalidate the determination.

B. The City Manager is authorized to terminate waste prohibitions or water curtailment stages upon determination that a water shortage emergency condition no longer exists. Such determination shall be based upon factors listed in subsection [A](#) of this section and the billing cycle. The termination shall be effective until the next meeting of the City Council following the determination of the City Manager, at which time the City Council shall either ratify or invalidate the determination. (Ord. 3192 § 109, amended, 11/17/2020; Ord. 3011, amended, 05/04/2010; Ord. 2869, amended, 05/15/2001)

## 14.06.030 Water Curtailment Stages

Depending on the severity of the potential water shortage, the City Manager may implement the following water curtailment stages. During any stage, no person shall waste City water.

Stage 1. The following restrictions are effective during water curtailment Stage 1:

1. No customer shall receive through the water meter assigned to such customer more than the maximum volume of water for such meter indicated for Stage 1 in the Water Allocation Table.
2. Government agencies and HOAs, including but not limited to parks, schools, colleges and municipalities, may have separate account allotments combined into one "agency" allotment and are exempt from Stage 1 restrictions if their water consumption is otherwise reduced by 20% from the volume of water delivered in the same billing period for the first previous nonwater curtailment year.

Stage 2. The following restrictions are effective during water curtailment Stage 2:

1. No customer shall receive through the water meter assigned to such customer more than the maximum volume of water for such meter indicated for Stage 2 in the Water Allocation Table.
2. Government agencies and HOAs, including but not limited to parks, schools, colleges and municipalities, may have separate account allotments combined into one "agency" allotment and are exempt from Stage 2 restrictions if their water consumption is otherwise reduced by 30% from the volume of water determined under Stage 1.

Stage 3. The following restrictions are effective during water curtailment Stage 3:

1. No customer shall receive through the water meter assigned to such customer more than the maximum volume of water for such meter indicated for Stage 3 in the Water Allocation Table.
2. Government agencies and HOAs, including but not limited to parks, schools, colleges and municipalities, may have separate account allotments combined into one "agency" allotment and are exempt from Stage 3 restrictions if their water consumption is otherwise reduced by 40% from the volume of water determined under Stage 2.

Stage 4. The following restrictions are effective during water curtailment Stage 4:

1. No customer shall receive through the water meter assigned to such customer more than the maximum volume of water for such meter indicated for Stage 4 in the Water Allocation Table.
2. Government agencies and HOAs, including but not limited to parks, schools, colleges and municipalities, may have separate account allotments combined into one "agency" allotment and are exempt from Stage 4 restrictions if their water consumption is otherwise reduced by 50% from the volume of water determined under Stage 3.
3. No City water shall be used to irrigate outside plants, except for trees, shrubs and food plants. If the customer has an irrigation meter, the irrigation meter shall not be used. The watering of trees, shrubs and food plants shall be through the nonirrigation meter and the total allocation shall not exceed the amount allowed for the nonirrigation meter. (Ord. 3192 § 110, amended, 11/17/2020; Ord. 3011, amended, 05/04/2010)

## **14.06.060 Exemptions and Appeals**

- A. Any person who wishes to be exempted from a restriction imposed by any water curtailment stage shall request an exemption in writing on forms provided by the City and file the request for exemption in writing with the Utility Billing Office.
- B. Requests will be reviewed after a water audit is conducted by the City and a determination made by the Conservation Analyst as to the validity of the request for an exemption. No exemptions will be considered until the City has conducted a water audit.
- C. Exemptions may be granted for the following:
  1. Any person with substantial medical requirements as prescribed in writing by a physician. Examples would be hydrotherapy pools or life support systems.
  2. Residential connections with more than four permanent residents in a single-family residence or three permanent residents per unit in a multifamily dwelling can receive up to 350 cf per month per additional permanent resident. A census may be conducted to determine the actual number of permanent residents per living unit. Temporary or drop-in guests will not be considered for additional allocations.

3. For commercial or industrial accounts where water supply reductions will result in unemployment or decrease production, after confirmation by the City that the account has instituted all applicable water efficiency improvements.
  4. For any other reason upon showing of good cause and where necessary for public health or safety.
  5. For commercial accounts where water meter is undersized (as determined under the Uniform Plumbing Code) for the current occupancy, the allocation for such accounts may be increased up to the allocation for the water meter size designated for such occupancy in the Uniform Plumbing Code.
- D. Exemptions will not be allowed for steam cleaning or similar uses of water. The amount allocated for any given customer will include such uses and no additional allocation will be allowed.
- E. The Conservation Analyst shall report to the Director of Public Works the findings and conclusions resulting from the review. The Director shall approve or deny the request for exemptions and may impose conditions. Such conditions may include the amount volume restrictions may be exceeded and that all applicable plumbing fixtures or irrigation systems be replaced or modified for maximum water conservation. If the Director and the applicant are unable to reach accord on the exemption, or if the applicant is dissatisfied with the decision, the applicant may appeal to the City Manager in writing. The City Manager will make the final determination.
- F. Except for an exemption granted under subsections [C.1](#), [C.2](#) and [C.5](#) of this section, the water consumption surcharge specified in AMC [14.06.080](#) shall apply to all exemptions. (Ord. 3192 § 111, amended, 11/17/2020; Ord. 3011, amended, 05/04/2010; Ord. 2869, amended, 05/15/2001)

## **14.06.080 Excess Water Consumption Surcharge – Flow Restrictor Installation**

For any full billing period that begins after the City Manager’s determination is made and ratified as provided in AMC [14.06.060](#):

- A. Any customer who exceeds the maximum volumes established in the Water Allocation Table for Stages 1, 2 or 3 shall pay a surcharge of four (4) times the rate for water delivered in excess of the established maximum volume.
- B. During Stage 4, any customer who exceeds the maximum volumes established in the Water Allocation Table shall pay a surcharge of ten (10) times the rate for water delivered in excess of the established maximum volume.
- C. Notwithstanding the above, at any time the City may install a flow restricting device upon a service exceeding the maximum volume for more than one billing period. For services up to one and one-half-inch size the City may install a flow restricting device of two gallon-per-minute capacity, and, for larger services, comparatively sized restricting devices for larger services, for a period of seven days. Before normal service will be restored, a flow restrictor installation and removal charge of \$100.00 shall be paid by the person who subscribes for the water service. Appeals are as provided in AMC [14.06.060](#). (Ord. 3192 § 112, amended, 11/17/2020; Ord. 3137, amended, 2017; Ord. 2869, amended, 05/15/2001)

## 14.06.090 Penalties and enforcement

Any person who violates any provision of this Chapter is subject to Section [1.08.020](#) of the Ashland Municipal Code. In addition to other legal and equitable remedies available to the City of Ashland, including restriction or termination of service:

- A. Violation of any section of this chapter AMC [14.06](#) is a Class II violation. (Ord. 3137, amended, 2017; Ord. 3029, amended, 08/03/2010; Ord. 3011, amended, 05/04/2010)

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**The Ashland Municipal Code is current through Ordinance 3195, passed December 1, 2020.**

Disclaimer: The City Recorder's office has the official version of the Ashland Municipal Code. Users should contact the City Recorder's office for ordinances passed subsequent to the ordinance cited above.

**Note:** This site does not support Internet Explorer. To view this site, Code Publishing Company recommends using one of the following browsers: Google Chrome, Firefox, or Safari.

[City Website: www.ashland.or.us](http://www.ashland.or.us)

City Telephone: (541) 488-5307

[Code Publishing Company](#)



# Oregon Water Conditions Report



April 19<sup>th</sup>, 2021

## HIGHLIGHTS

To date, [local drought disasters have been declared](#) in three Oregon counties: Klamath, Jackson, and Lake. Executive Orders have been issued for both Klamath (March 31) and Jackson (April 13) Counties.

Reservoir storage contents are below normal for both [USBR](#) and [USACE](#) projects throughout Oregon, with exception of projects in the Tualatin, Umatilla, and Burnt basins. Current conditions are impacting management operations such as timing of releases and meeting minimum flow requirements.

[Statewide snowpack](#) is currently measuring 98% of the long-term median. Snowpack in all basins is melting out at a rate greater than what has been observed compared to the historic median, potentially leading to melt-out occurring earlier than usual.

[NRCS SNOTEL precipitation](#) is currently measuring 87% of the long-term average. Precipitation over the past two weeks has been well below average statewide (see below), where much of Oregon received [little to no measurable precipitation](#).

[Temperatures over recent weeks have been variable](#), where much of the northern half of Oregon experienced temperatures cooler than average. Portions of Klamath and Lane Counties experienced elevated temperatures of 4°F - 5°F above average.

[Low soil moisture profiles](#) throughout much of Oregon have exacerbated drought conditions. Several counties including Klamath, Lake, and Baker have notably low soil moisture conditions.

Streamflows over the past 28-day period have measured below normal throughout much of the state. With the exception of northeastern Oregon, many streams are experiencing below to well below normal streamflows. Several streams are measuring the [lowest 28-day streamflows on record](#) for April 18<sup>th</sup>. Many counties in southwestern and eastern Oregon are measuring well below average streamflows over the water year to date (see below).

Near-term climate outlooks for the next [8 - 14 days](#) indicate probabilities favoring above average temperatures and precipitation throughout Oregon.

There is [minimal fire potential over the next 7 days](#) throughout much of Oregon, with exception of northeastern Oregon and southeastern Washington. The [potential for fire elevates to above normal](#) in the central corridor of Oregon in June and beyond.

## DROUGHT CONDITIONS

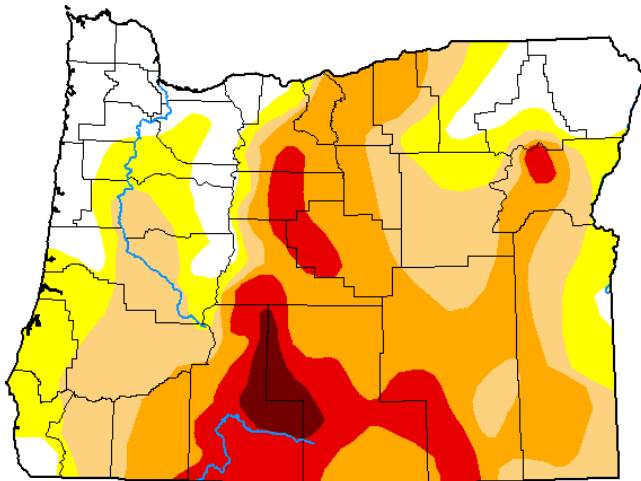
The [US Drought Monitor](#) indicates just over 83% of the state is experiencing some classification of drought conditions. Spatial coverage and drought intensity has changed over recent weeks, which include a one-class degradation from D2 to D3 in Crook, Jefferson, and Wasco counties with [potential for significant impacts to irrigators](#). Spatial coverage of the D4 classification in Klamath and Lake Counties has expanded slightly. Much of Jackson County has been classified as D2 due to low streamflows and dry soil moisture profiles.

### U.S. Drought Monitor Oregon

**April 13, 2021**

(Released Thursday, Apr. 15, 2021)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	16.95	83.05	65.95	42.60	14.12	2.22
<b>Last Week</b> 04-06-2021	17.73	82.27	65.94	41.68	13.22	1.48
<b>3 Months Ago</b> 01-12-2021	8.91	91.09	75.17	60.94	25.97	0.00
<b>Start of Calendar Year</b> 12-29-2020	8.57	91.43	83.53	68.71	27.74	0.00
<b>Start of Water Year</b> 09-29-2020	6.50	93.50	84.77	65.53	33.59	0.00
<b>One Year Ago</b> 04-14-2020	10.53	89.47	60.46	26.20	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

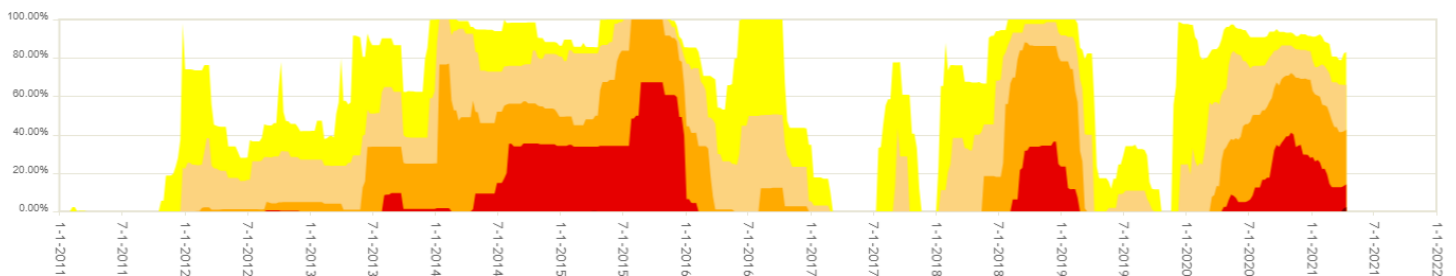
Author:

Deborah Bathke  
National Drought Mitigation Center

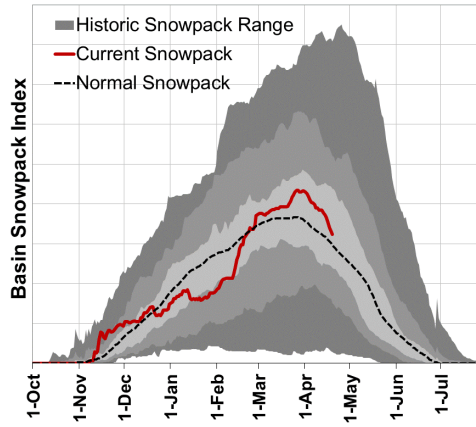


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

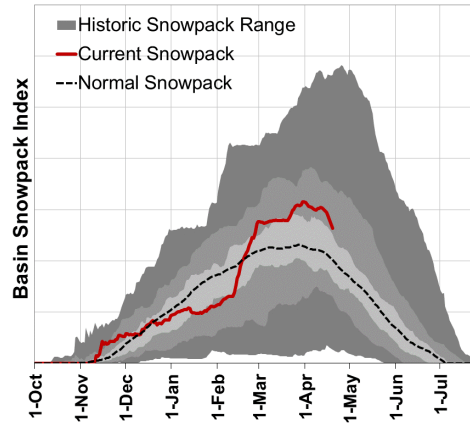
### Oregon Percent Area



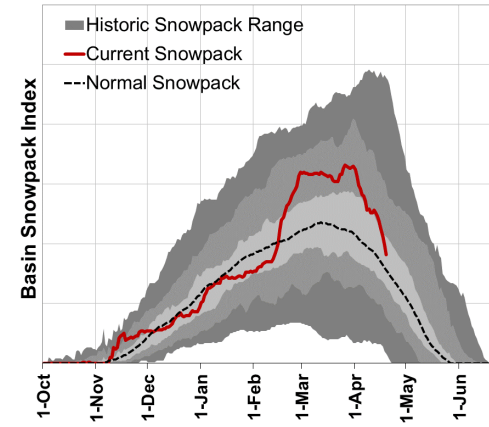
**Willamette**



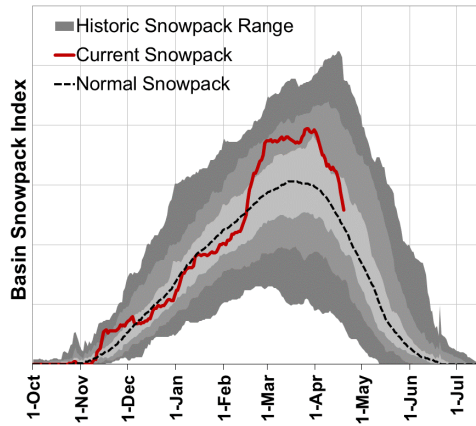
**Hood-Sandy-Lower Deschutes**



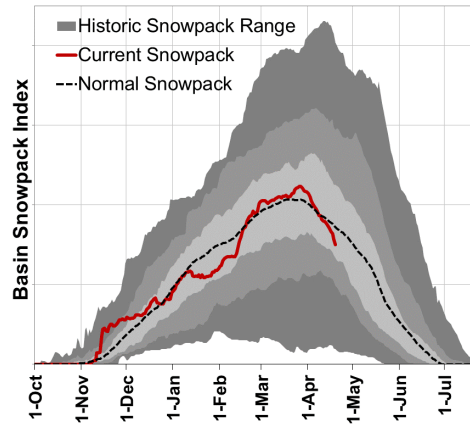
**Umatilla-Walla Walla-Willow**



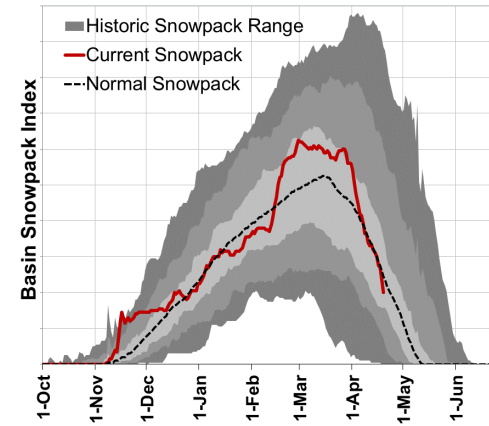
**Grande Ronde-Burnt-Powder-Imnaha**

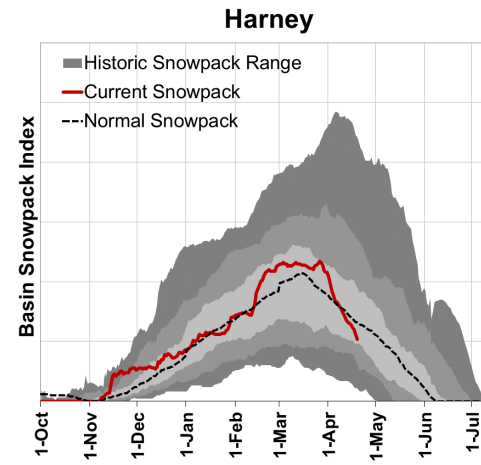
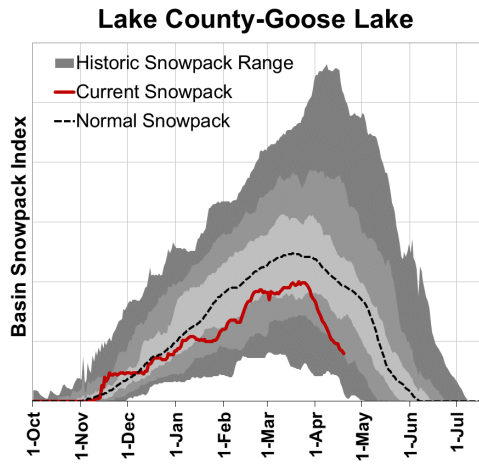
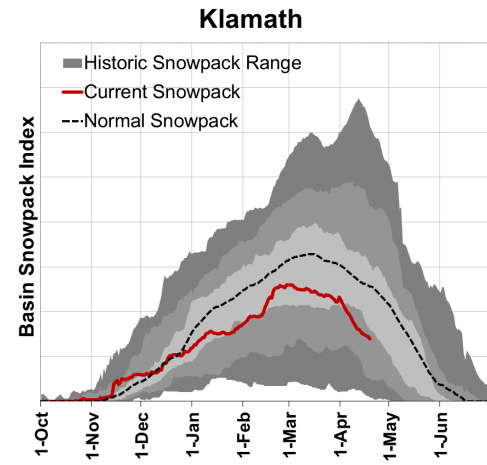
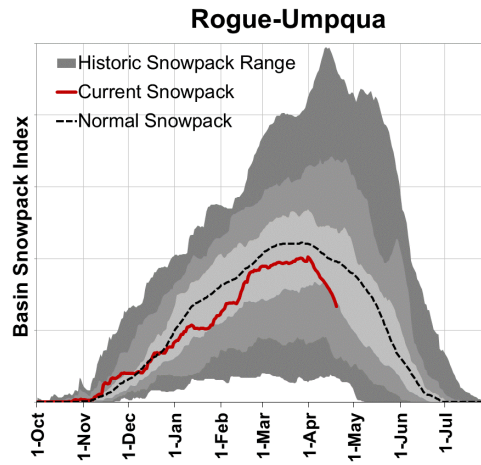
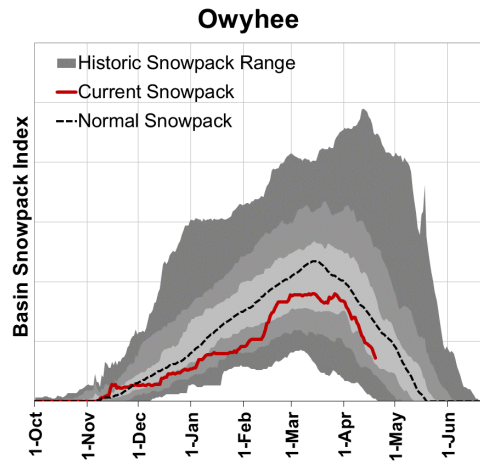


**Upper Deschutes-Crooked**



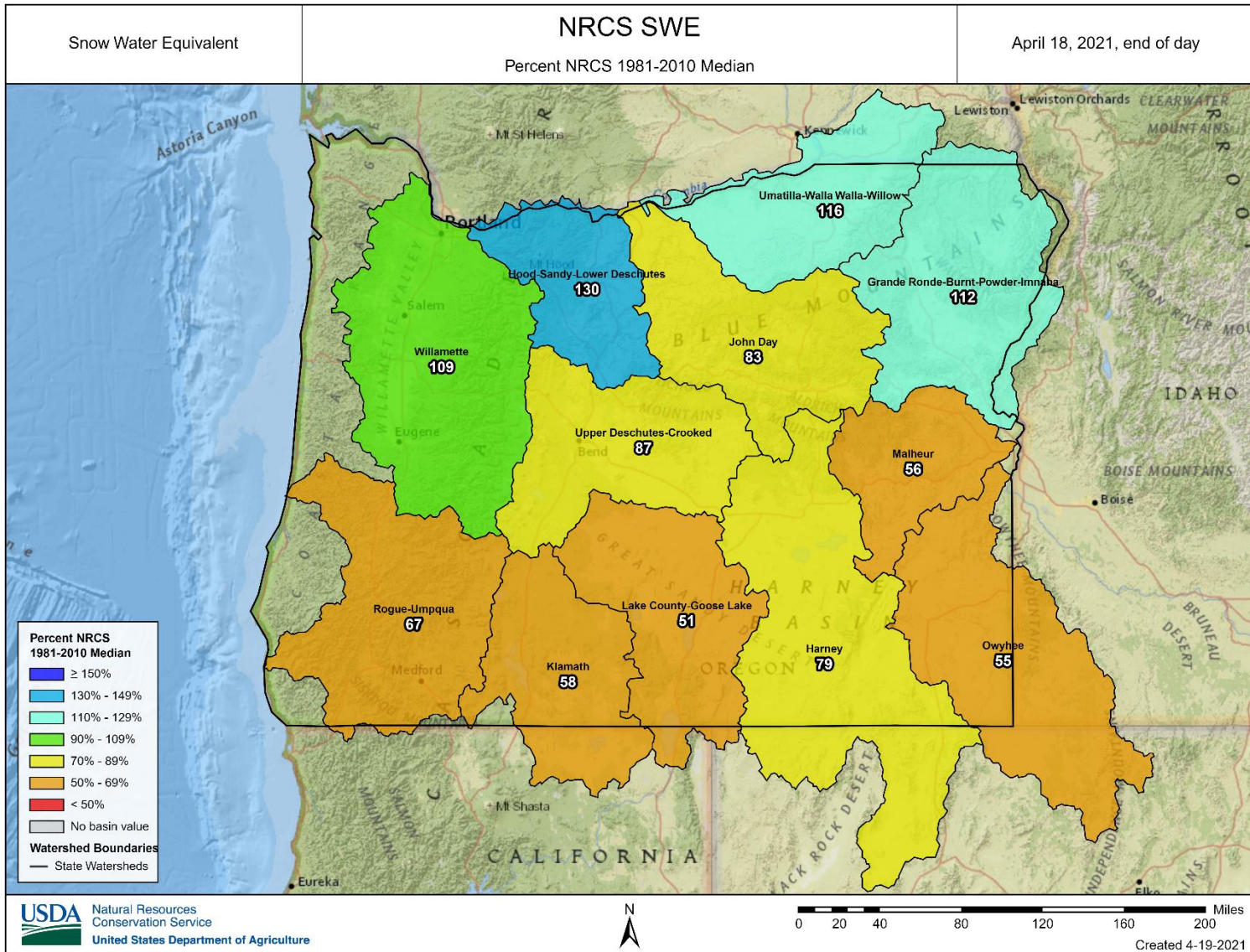
**John Day**



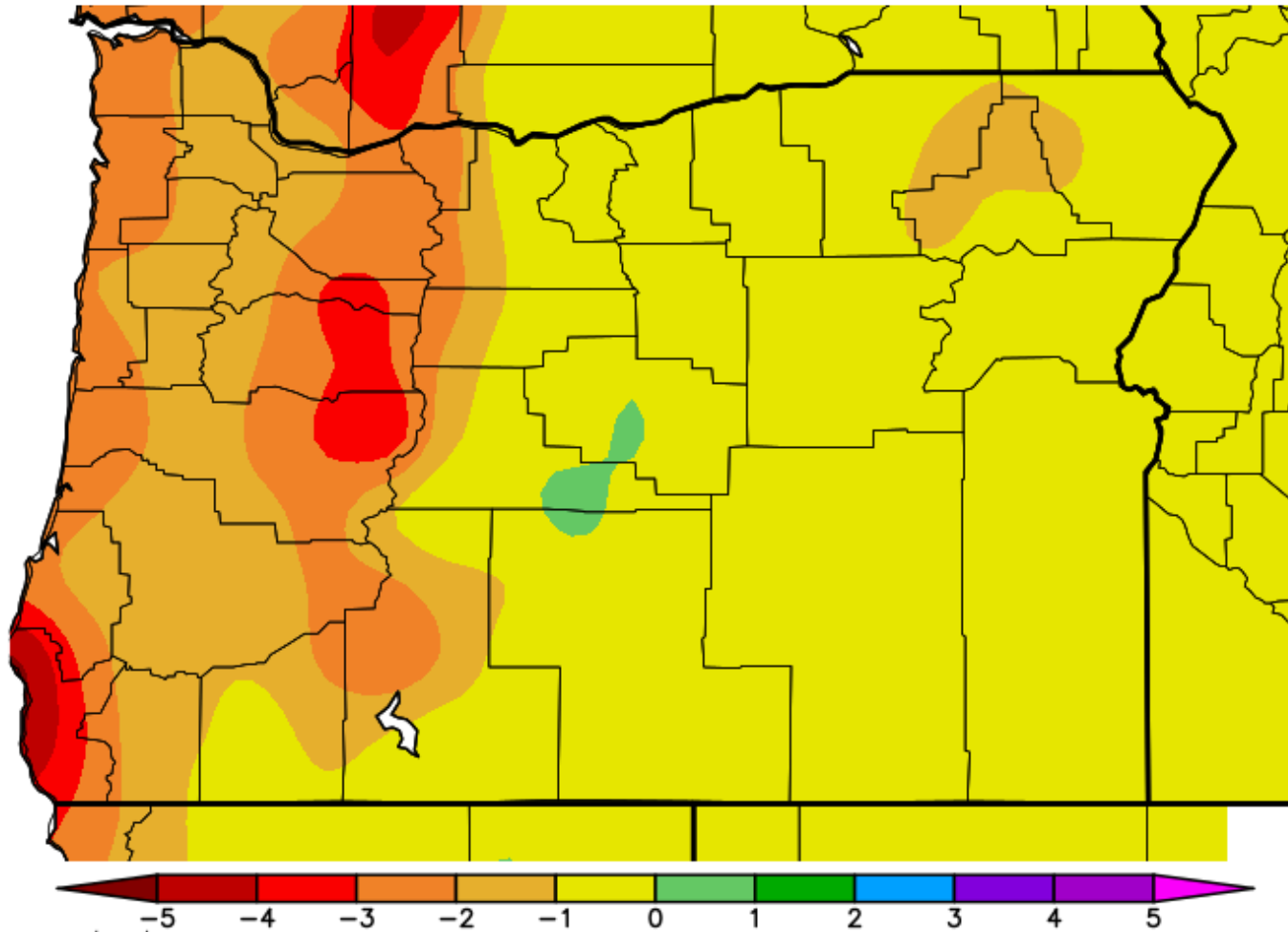




**CLIMATE CONDITIONS**  
**SNOW WATER EQUIVALENT**

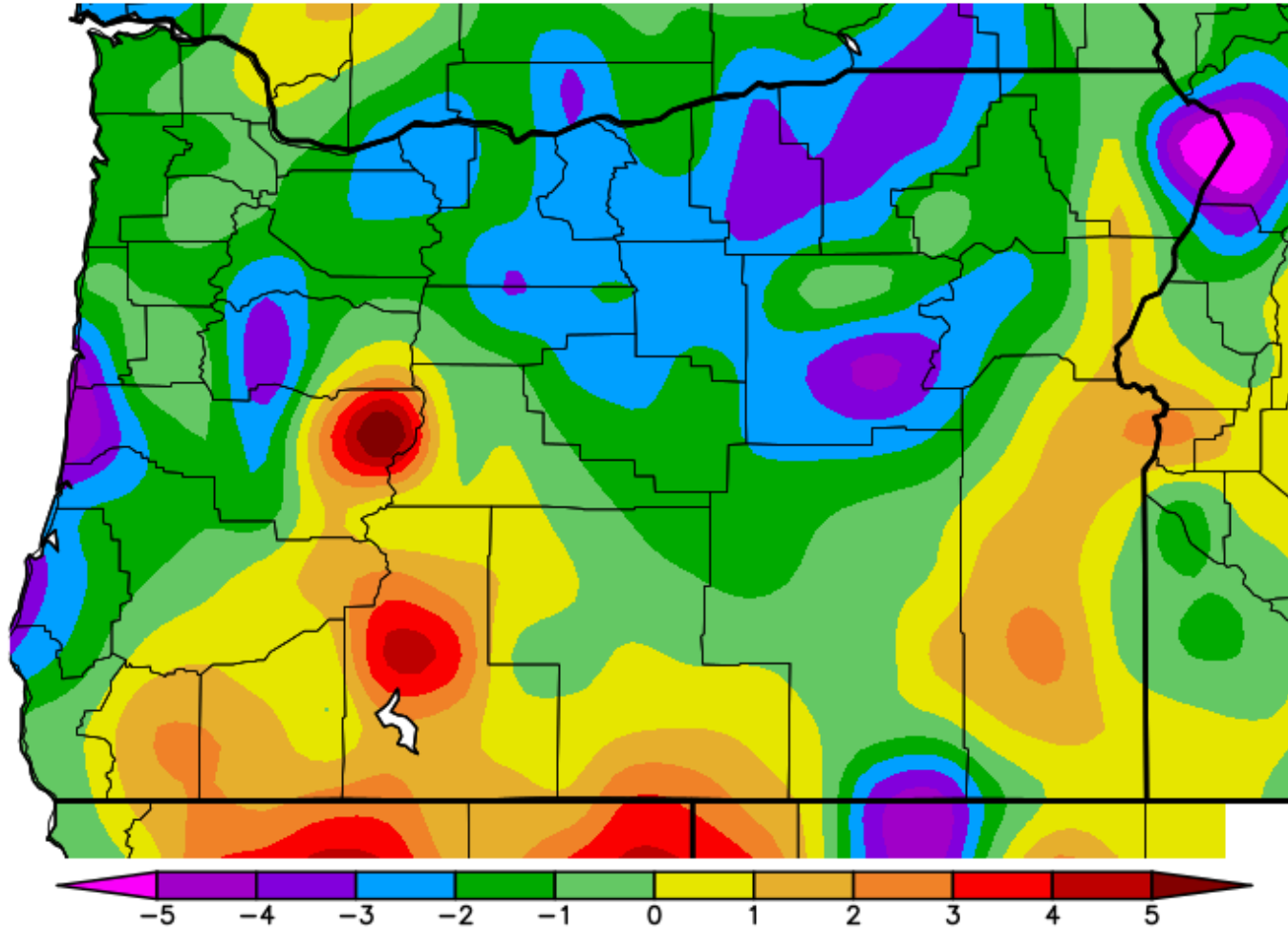


# Precipitation Departure from Average (in.) 4/5/2021 – 4/18/2021



Generated 4/19/2021 at WRCC using provisional data.  
NOAA Regional Climate Centers

Ave. Temperature dep from Ave (deg F)  
4/5/2021 - 4/18/2021



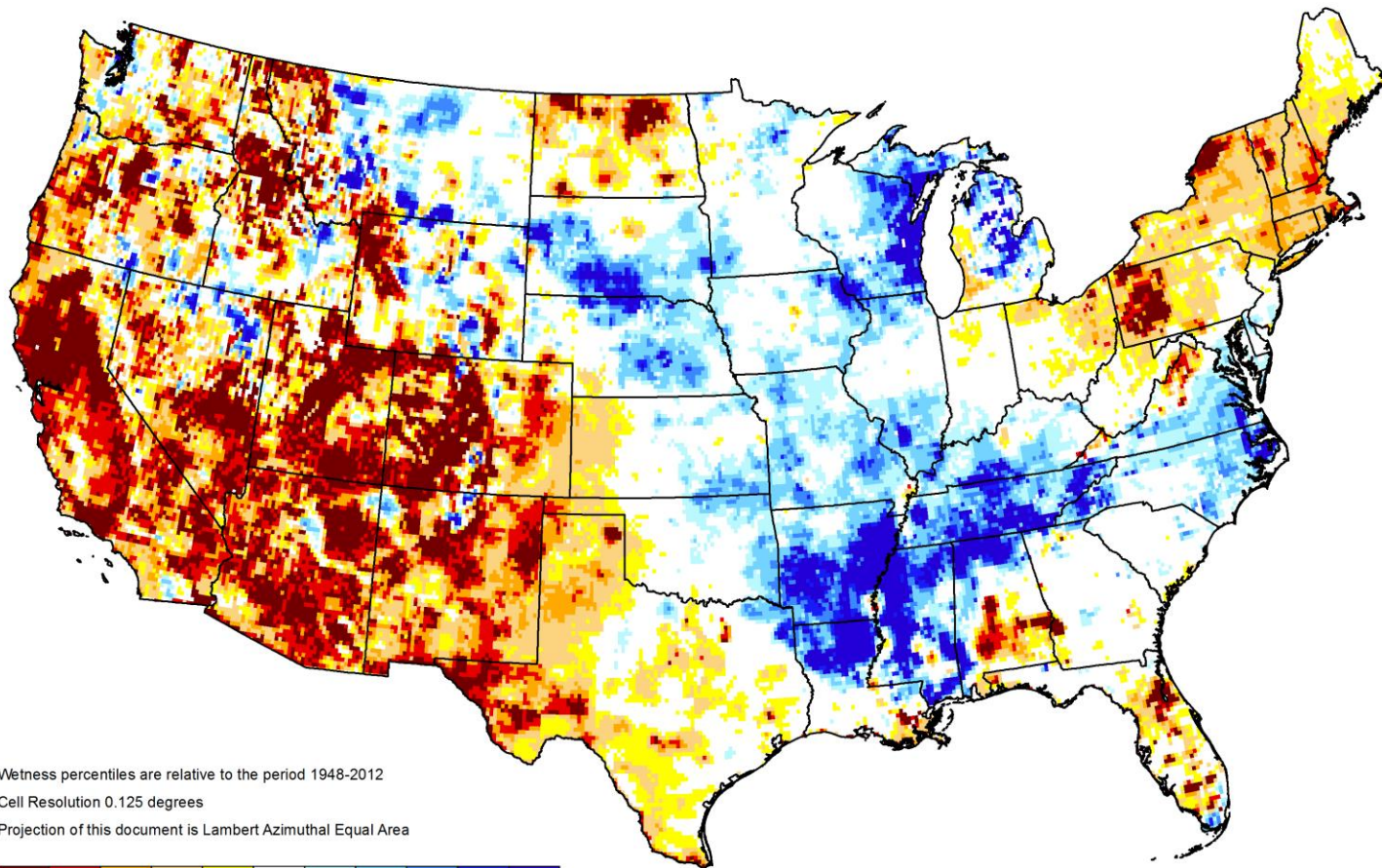
Generated 4/19/2021 at WRCC using provisional data.  
NOAA Regional Climate Centers



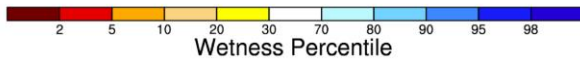


# GRACE-Based Shallow Groundwater Drought Indicator

April 12, 2021

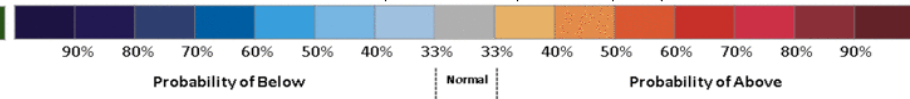
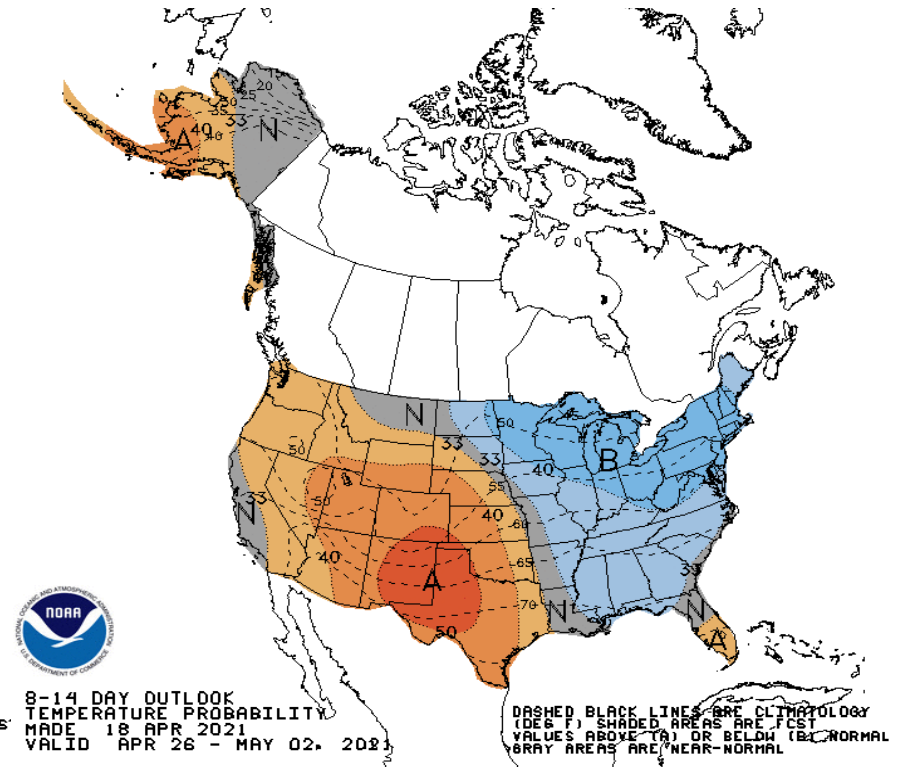
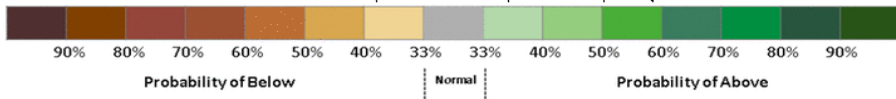
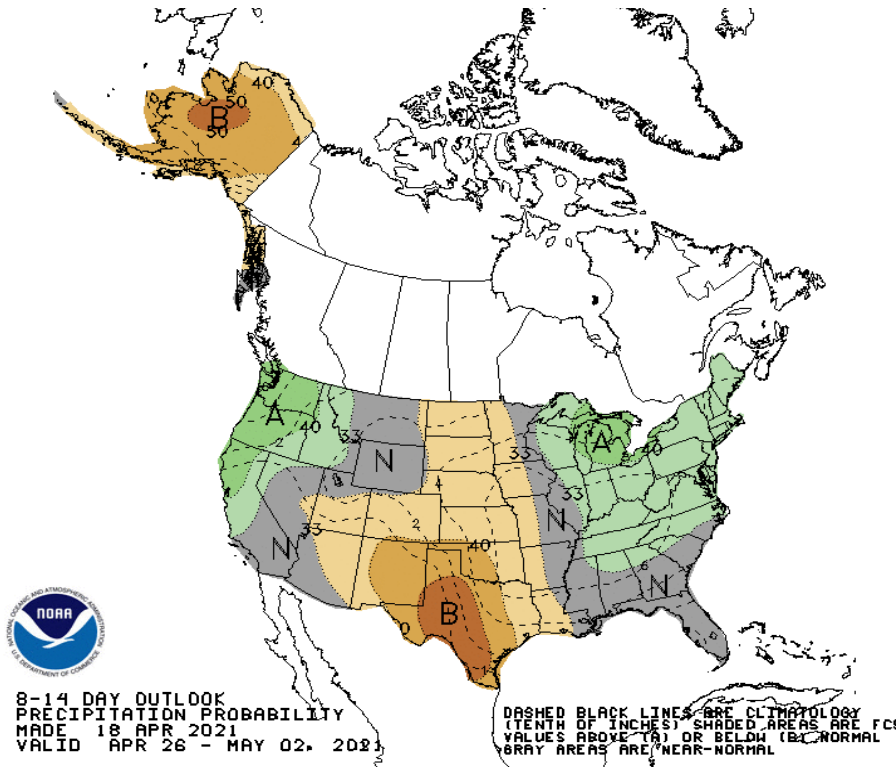


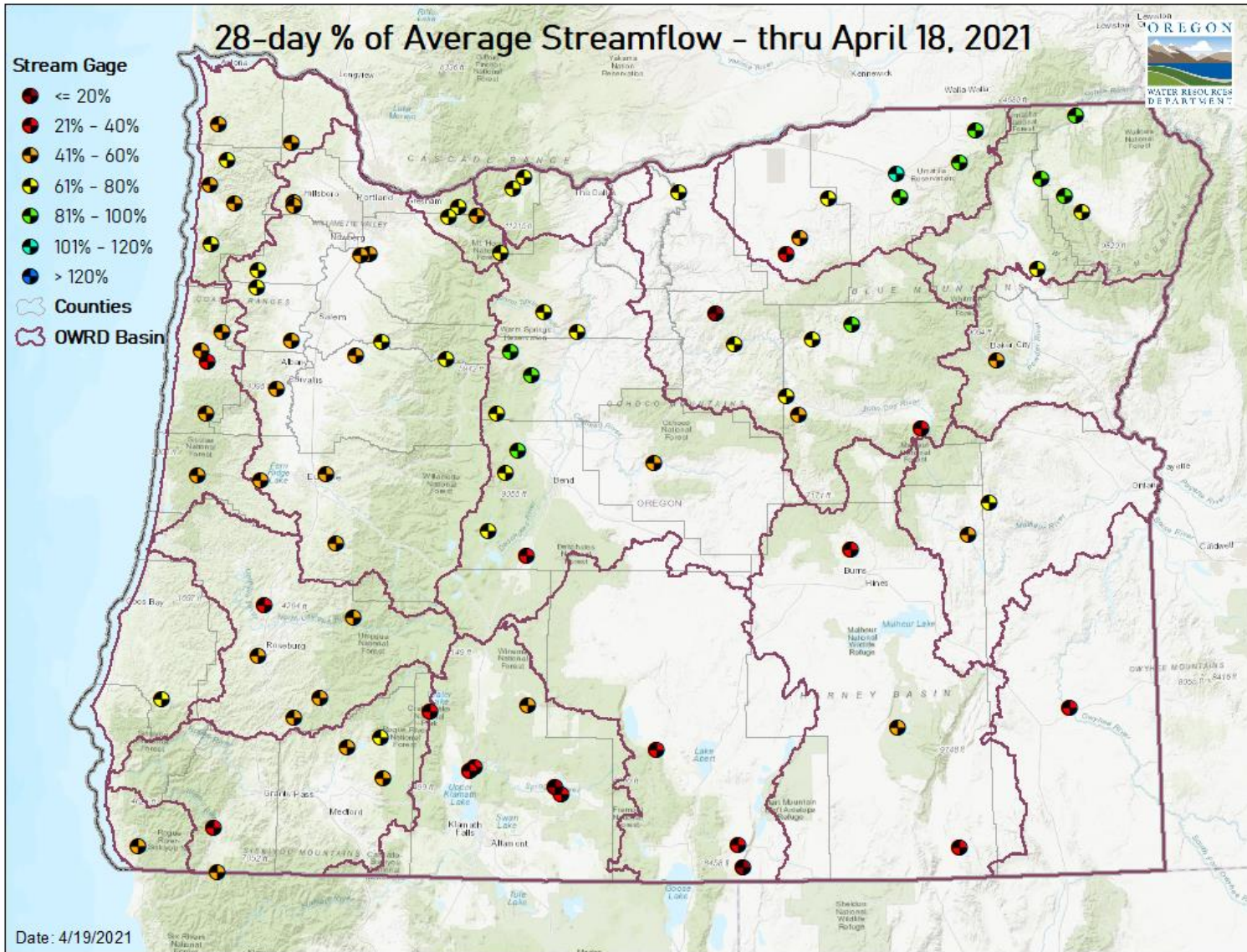
Wetness percentiles are relative to the period 1948-2012  
Cell Resolution 0.125 degrees  
Projection of this document is Lambert Azimuthal Equal Area



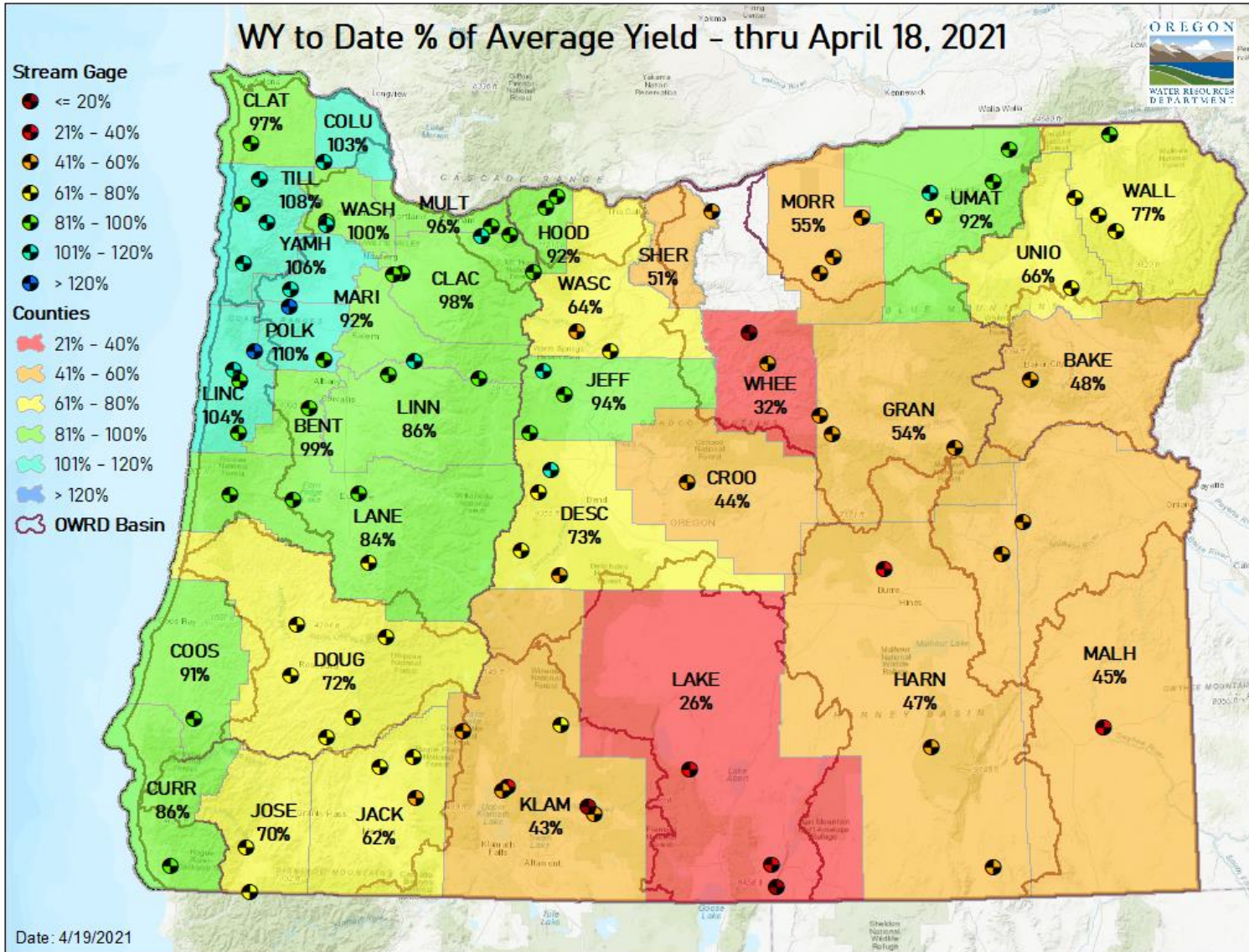
<https://nasagrace.unl.edu>



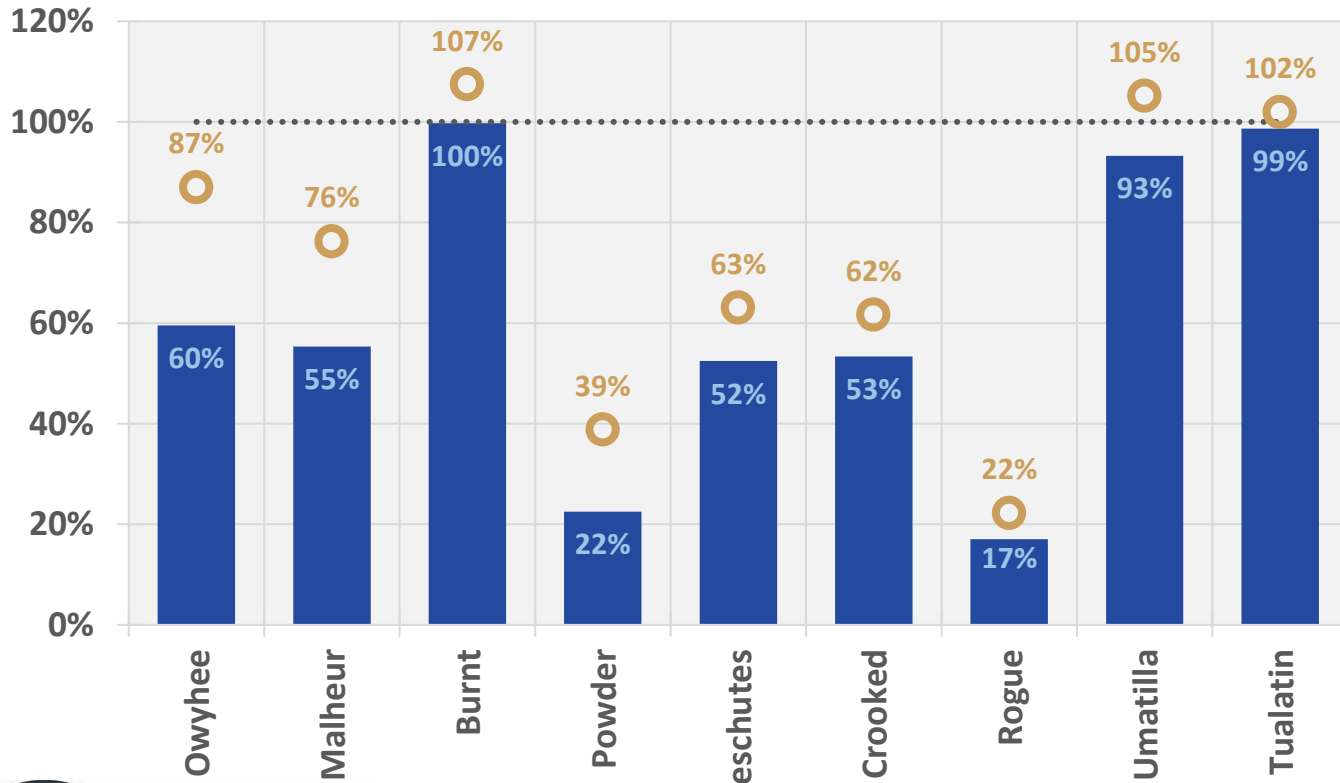








### April 18 Reservoir Storage



BUREAU OF RECLAMATION

■ Percent Full

● Percent of Average

## RESOURCES/REFERENCES

Released every Thursday, the [US Drought Monitor](#) provides a weekly assessment of drought conditions. The USDM provides a [network infographic](#) which depicts the network of observers who gather and report information about conditions and drought impacts.

The [NRCS Snow Survey](#) Program provides mountain snowpack data and streamflow forecasts for Oregon and the western United States.

The [WestWide Drought Tracker](#) uses data from [PRISM](#) to provide easy access to fine-scale drought monitoring and climate products, such as the figures depicting climate conditions within this report.

The National Weather Service's [Climate Prediction Center](#) offers [weekly](#), [monthly](#), and [seasonal](#) climate outlooks illustrating the probabilities of temperatures and precipitation.

The [Regional Climate Centers](#) (RCC) working with NOAA partners, deliver climate services at national, regional, and state levels. Climate [anomaly maps of Oregon](#) are updated daily at around noon PST.

NASA's [Gravity Recovery and Climate Experiment](#) (GRACE) provide satellite-based observations of soil moisture conditions that are useful as drought indicators, helpful in describing current wet or dry soil conditions.

USGS [Water Watch](#) provides maps of real-time and average streamflow conditions at USGS sites throughout the state.

Reservoir storage "teacup" diagrams are offered by both the [US Bureau of Reclamation](#) and [US Army Corps of Engineers](#). The diagrams represent the level of fill in the reservoirs as both percent full and as a ratio of volume of water currently in the reservoir to the volume of water in the reservoir when it is full.

Oregon wildfire information can be found through [InciWeb](#) and the Oregon Department of Forestry's [Wildfire News](#), along with the [National Interagency Fire Center](#) which offers outlooks on the significant wildland fire potential.

Oregon Office of Emergency Management maintains a [hydrology/meteorology dashboard](#) which shows state and local drought declarations, as well as hosts many of the data sources to generate this report. Use the selection arrows at the bottom of your browser to navigate through the various sources.

US Department of Agriculture provides the [Weekly Weather and Crop Bulletin](#) as a vital source of information on US and global weather, climate, and agricultural developments, along with seasonally appropriate agrometeorological charts and tables. USDA's [Drought Programs and Assistance](#) offers links to programs and resources to help those struggling with persistent drought.