

Water Conditions Report

Drought Readiness Council



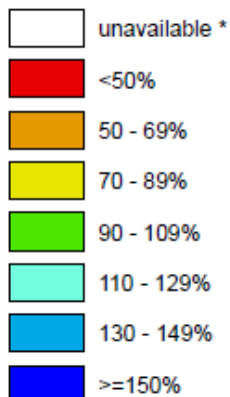
Ken Stahr
Oregon Water Resources
Department
May 10, 2018

Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

May 06, 2018

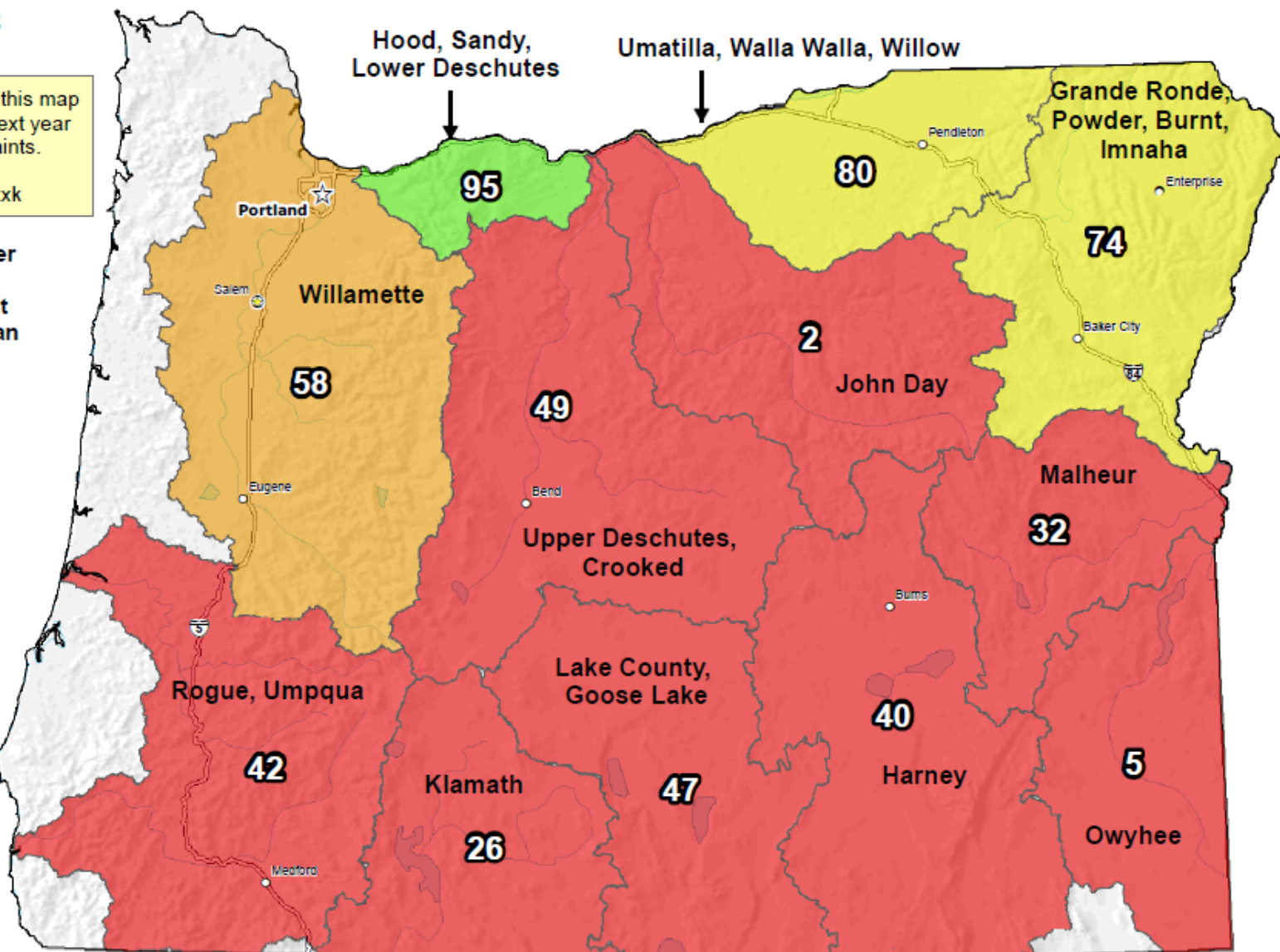
Notice: We anticipate this map will not be available next year due to staffing constraints. Alternate maps: <https://go.usa.gov/xnzxk>

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

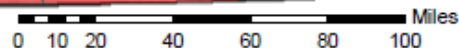


* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data
Subject to Revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



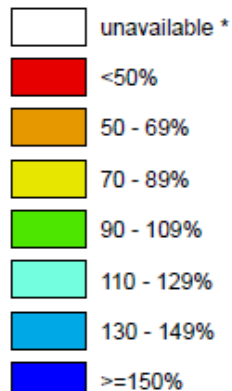
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Oregon SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

May 06, 2018

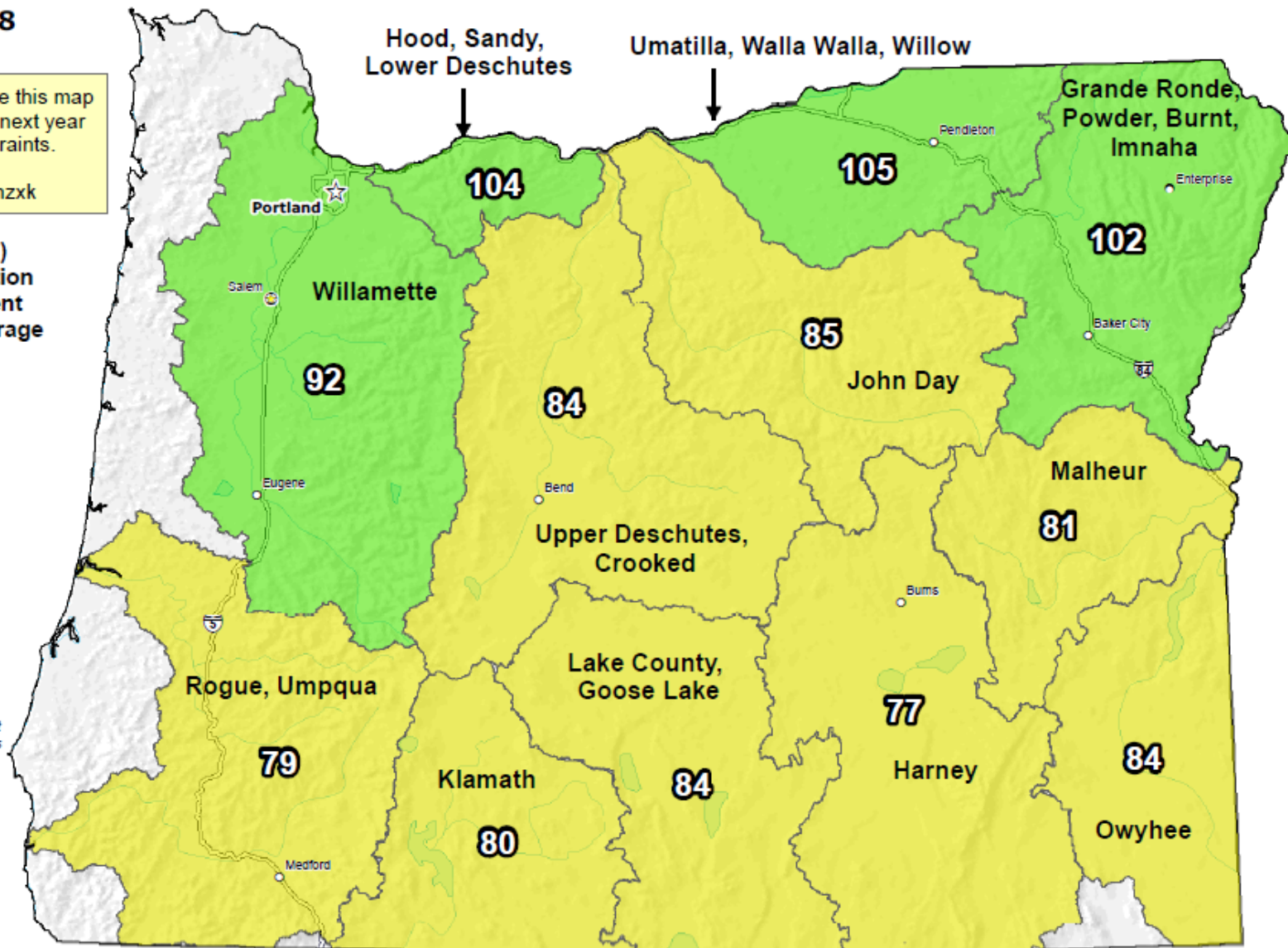
Notice: We anticipate this map will not be available next year due to staffing constraints. Alternate maps: <https://go.usa.gov/xnzxk>

Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average

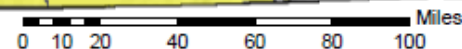


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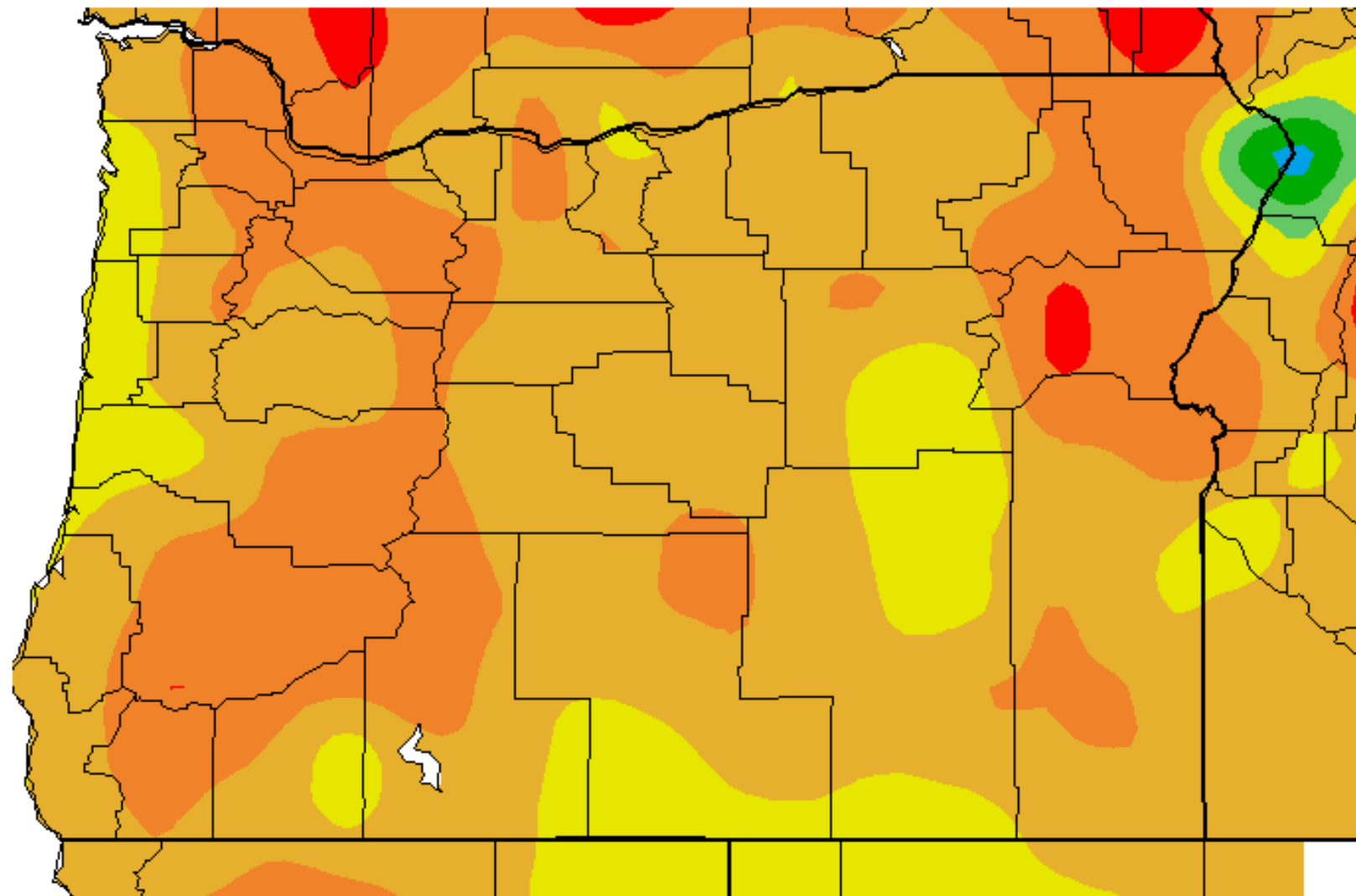


The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



Prepared by:
USDA/NRCS National Water and Climate Center
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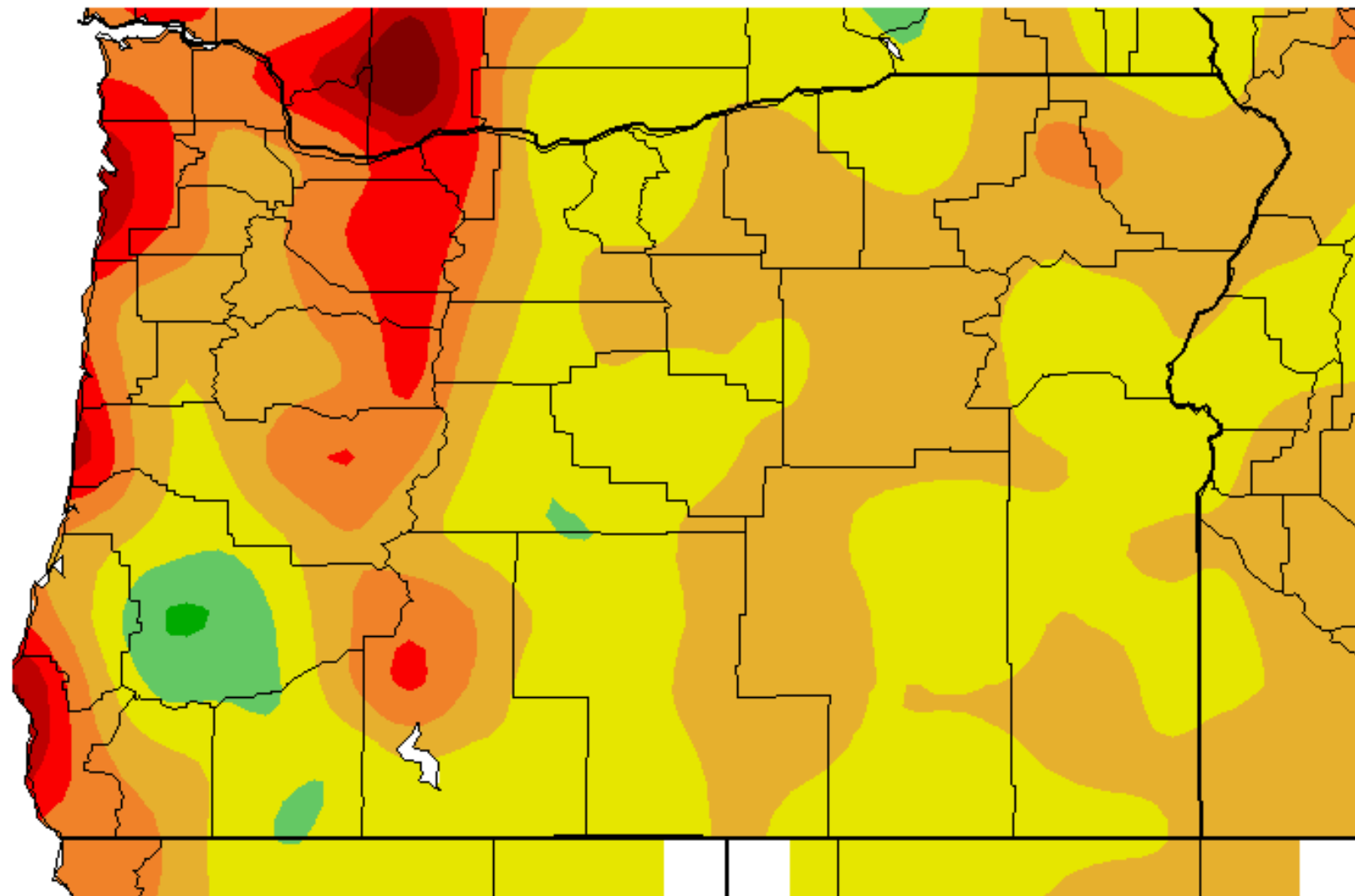
Ave. Temperature dep from Ave (deg F)
4/23/2018 - 5/6/2018



Generated 5/ 7/2018 at WRCC using provisional data.

NOAA Regional Climate Centers

Precipitation Departure from Average (in.)
4/23/2018 - 5/6/2018

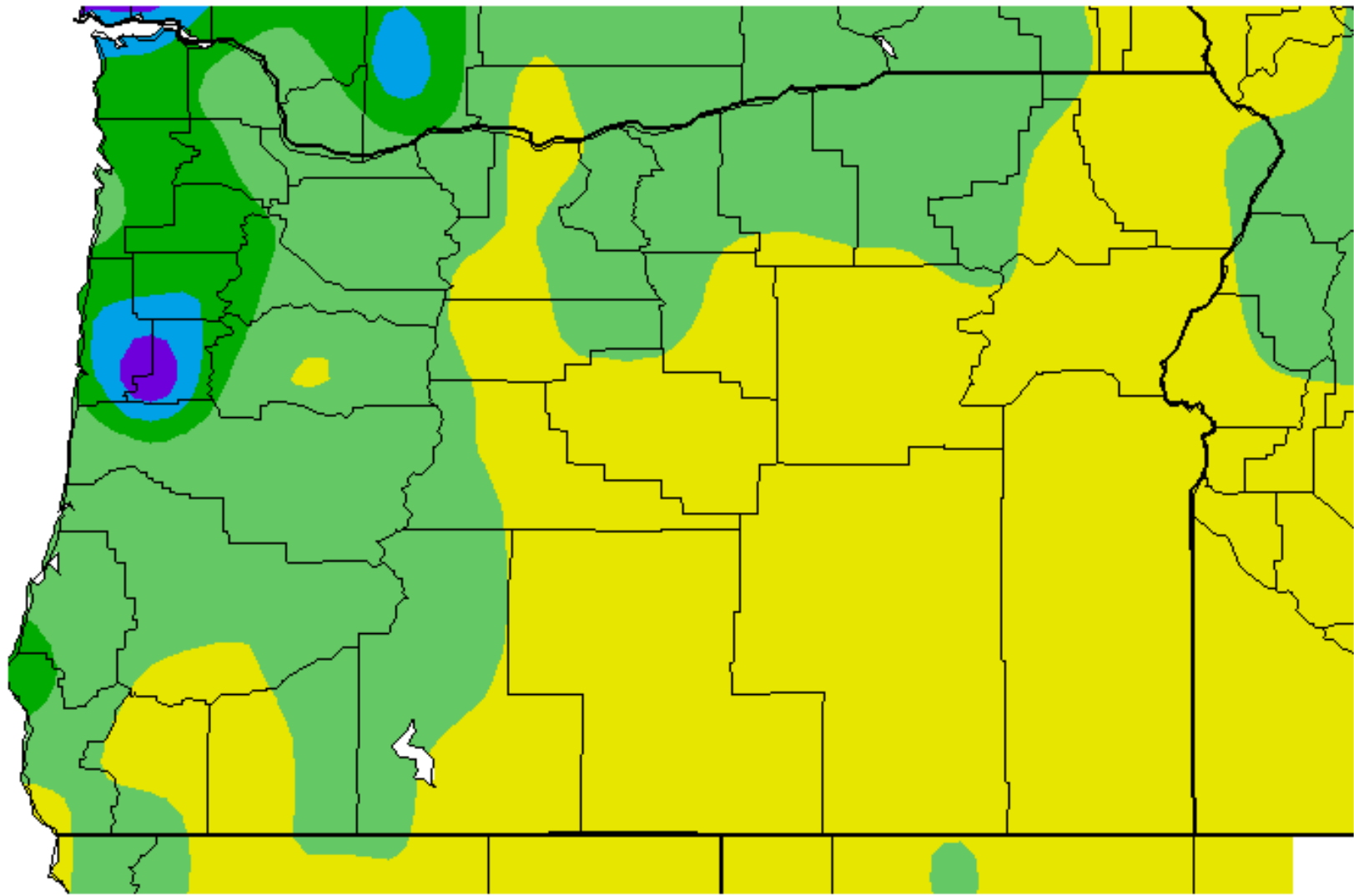


-2.25 -1.8 -1.35 -0.9 -0.45 0 0.45 0.9 1.35 1.8 2.25

Generated 5/ 7/2018 at WRCC using provisional data.

NOAA Regional Climate Centers

Precipitation Departure from Average (in.) 4/7/2018 – 5/6/2018



Generated 5/ 7/2018 at WRCC using provisional data.

NOAA Regional Climate Centers

Percent of Average Streamflow Month of April, 2018

Percent of Average Streamflow

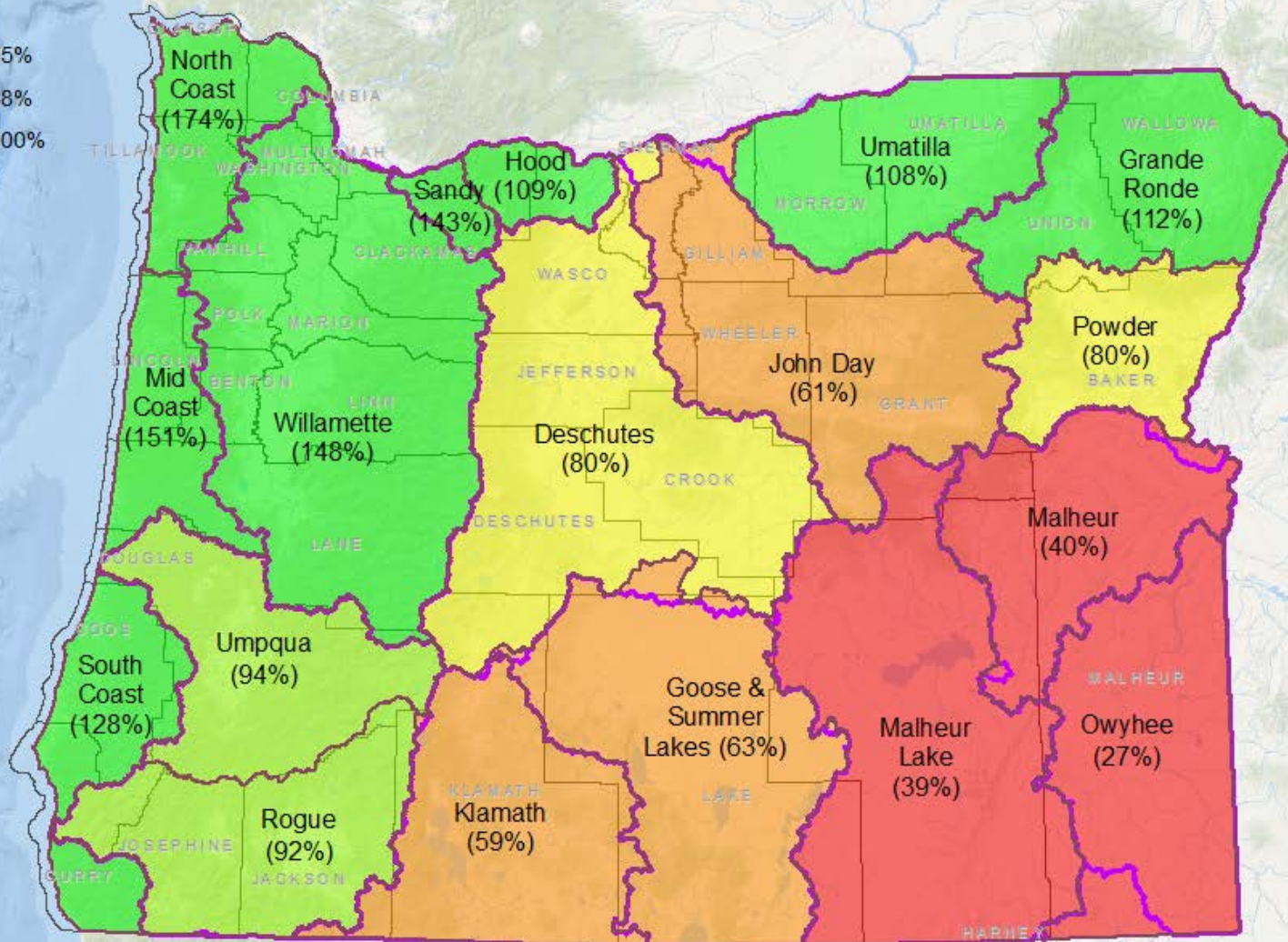
WRD Basin

- < 50%
- 50% - 75%
- 76% - 88%
- 89% - 100%
- > 100%

NRCS Basin



County

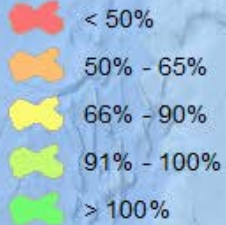


Average streamflow data are based on 30 years of record (1981-2010). All data represent free-flowing streams unaffected by significant man-made control structures such as dams or diversion works.

Reservoir Storage Summary for the end of April, 2018

Percent of Average Storage

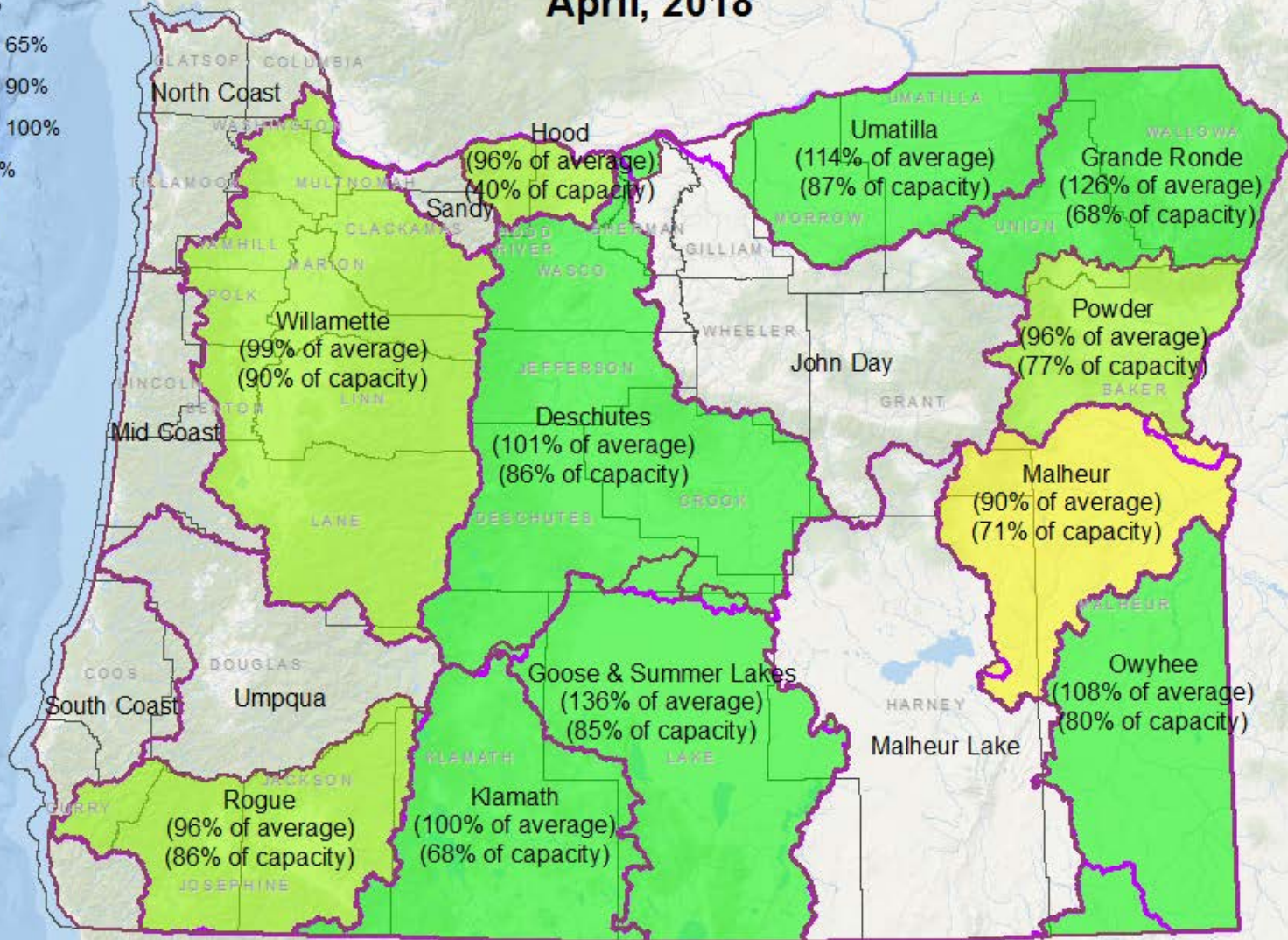
WRD Basin



NRCS Basin



County



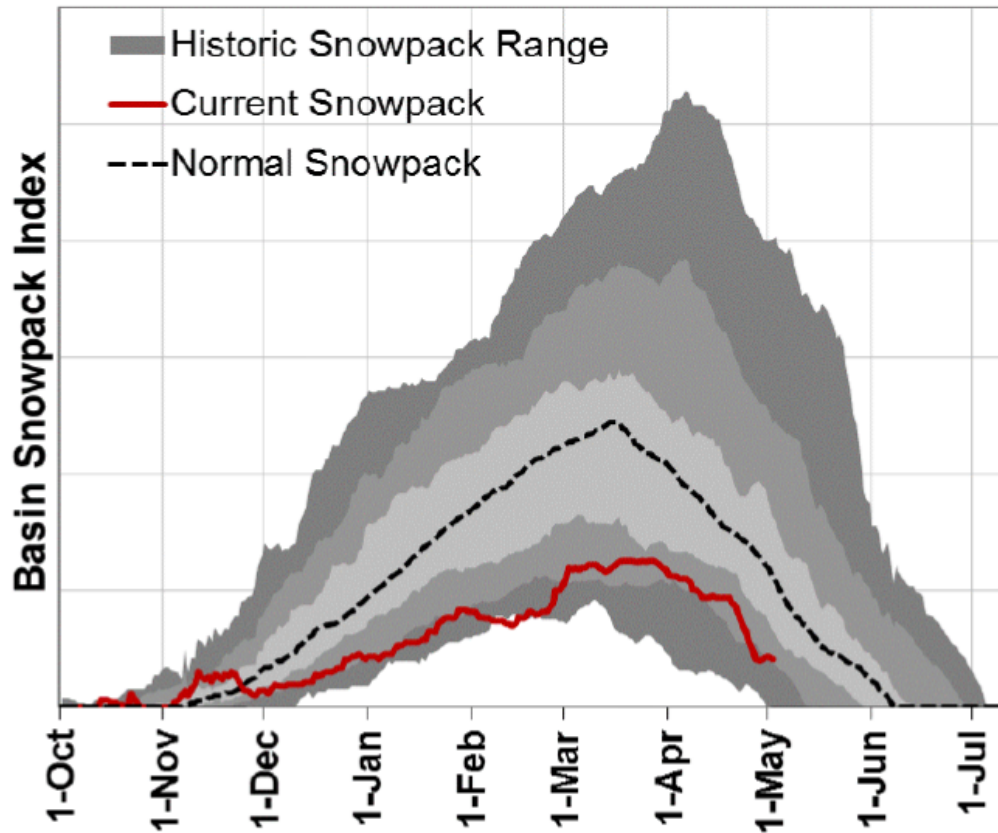
NRCS Basinwide Summary: May 1, 2018
(averages based on 1981-2010 reference period)



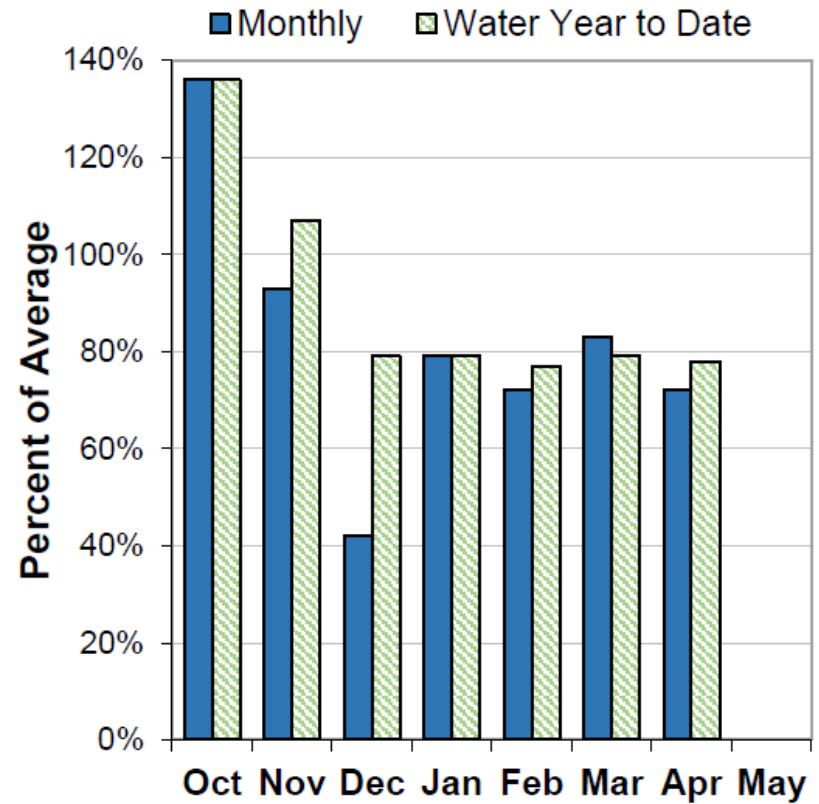
Harney Basin

May 1, 2018

Mountain Snowpack

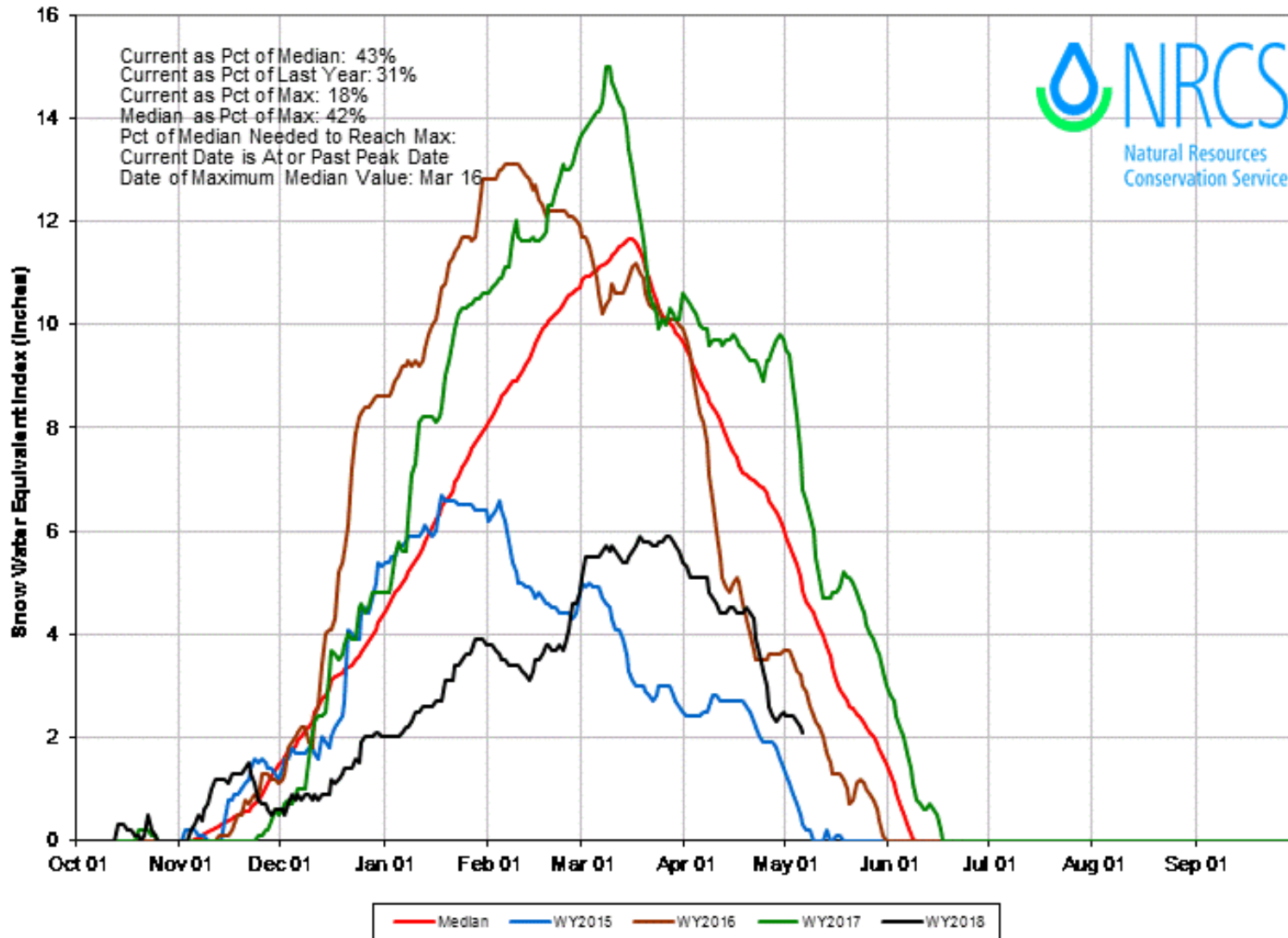


Basin Precipitation

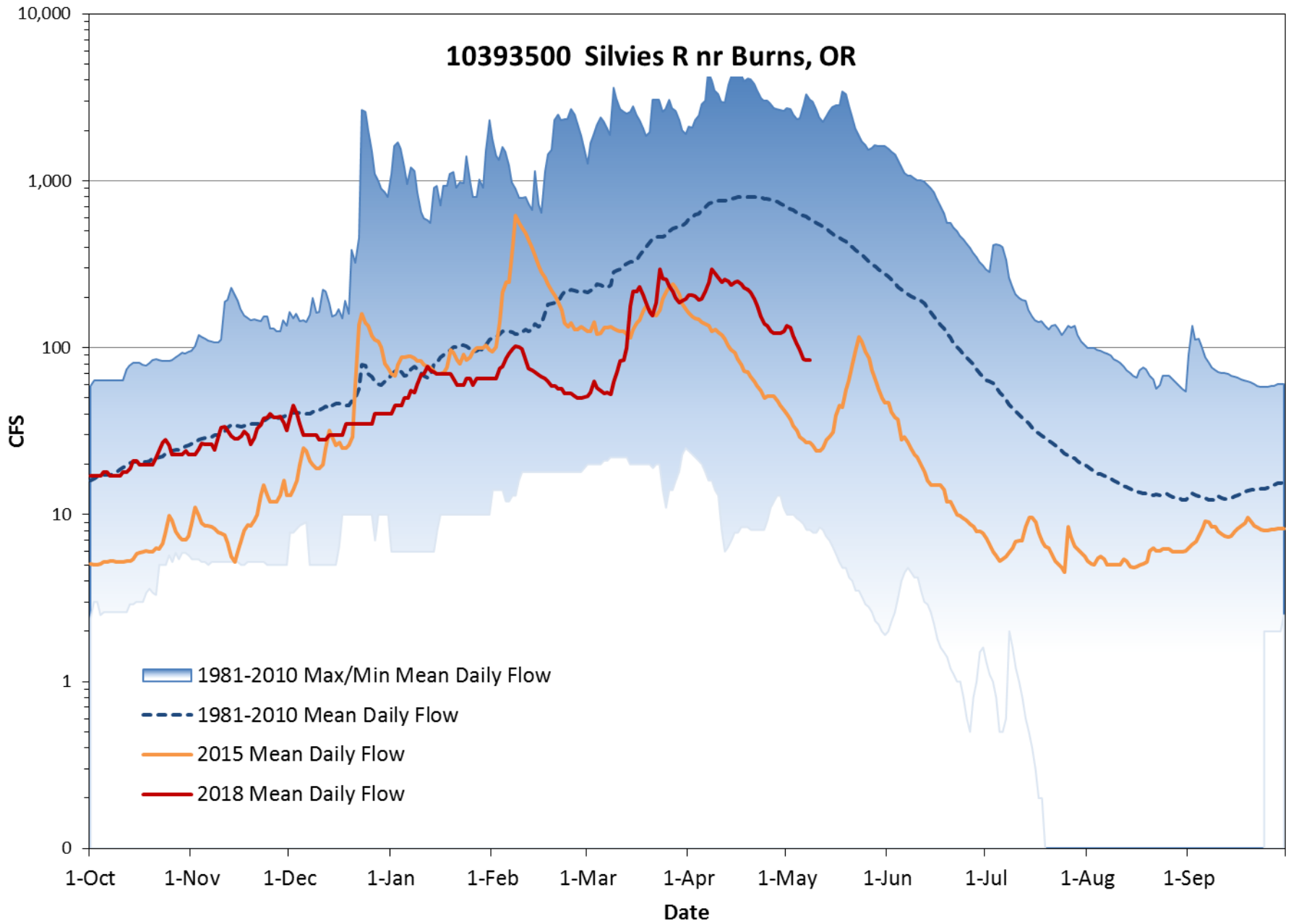


Harney Snowpack Summary

*HARNEY Time Series Snowpack Summary
Based on Provisional SNOTEL data as of May 06, 2018*

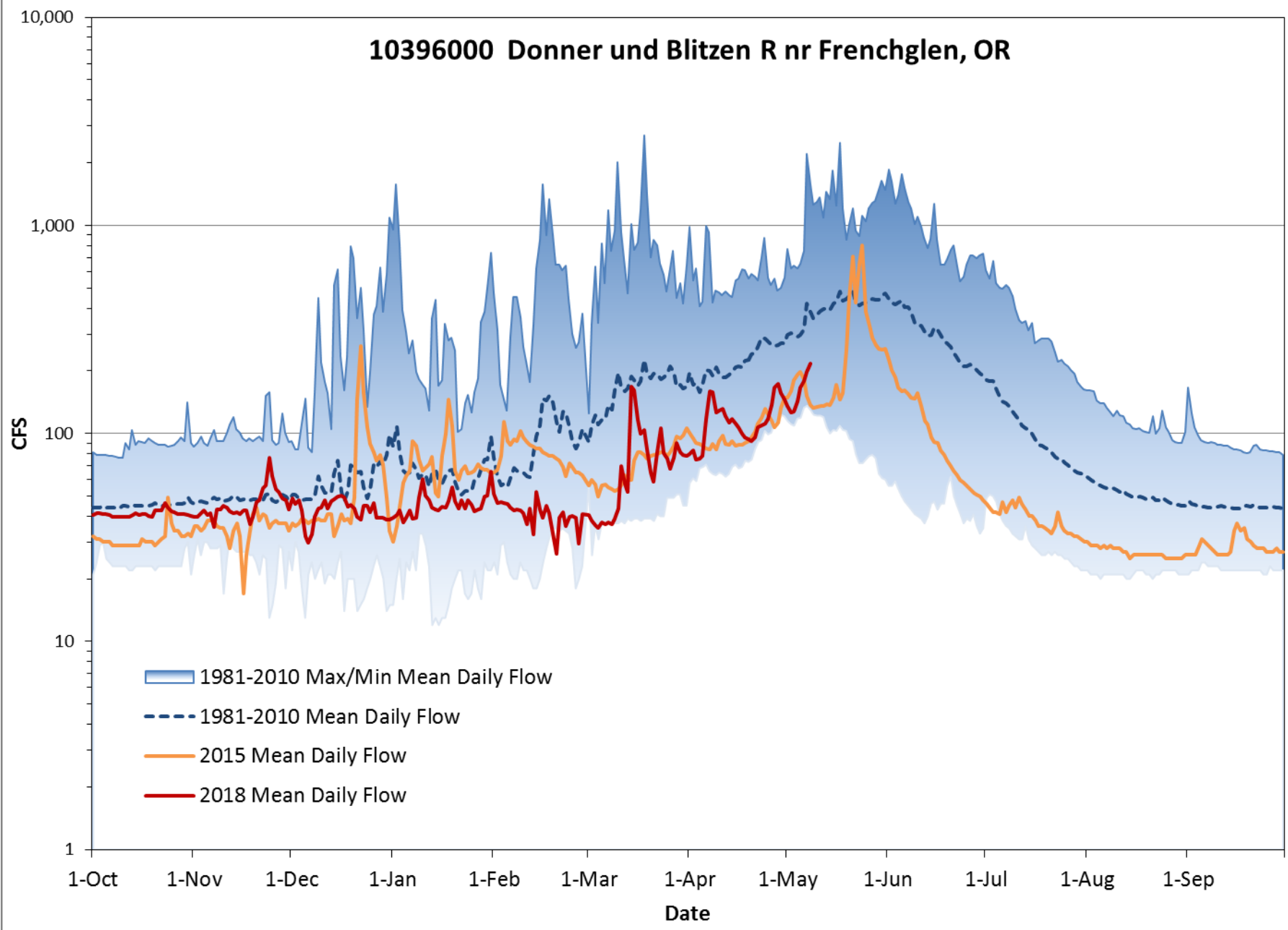


10393500 Silvie R nr Burns, OR





10396000 Donner und Blitzen R nr Frenchglen, OR



OREGON



WATER RESOURCES
DEPARTMENT

Thank you.



HARNEY COUNTY COURT

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Co-Chair, Oregon Drought Readiness Council
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Via Email: Sonya.Andron@state.or.us

RE: Harney County Oregon Drought

April 19, 2018

Dr. Bateman and Ms. Andron:

Harney County Oregon, by and through its County Elected Officials, request that the Governor of Oregon issue an executive order for all of Harney County, Oregon under the provisions of ORS 536 as a direct result of severe and continuing/projected drought conditions.

There is the potential for Harney County agricultural and livestock, natural resources, recreational tourism, and related economies to experience widespread and severe damage resulting from extreme weather conditions within the county. The annual water supplies available for irrigators and ranchers within Harney County are from winter snow pack which is significantly lower than normal in the Harney basin. The extended weather forecast for Harney County projects higher than normal temperatures and below average precipitation.

The county has already formally declared a drought, and has attached a copy of the adopted resolution for your files. In addition, the county has taken the following actions to anticipate or mitigate effects of the drought: Local livestock producers have taken major steps by reducing the number of animals they pasture in fields. Some areas are not being used at all due to the desired conditions such as water holes not receiving any water at all.

The Harney County Board of Commissioners/Judge has determined that additional action by and support from the state is needed. This may include assistance from the Oregon Water Resources Department and other Oregon executive branch agencies, operating within their statutory authorities.

The Harney County Board of Commissioners/Judge therefore requests and executive order from the Governor, declaring drought in Harney County Oregon.

We extend in advance our appreciation for your consideration on this matter.

Sincerely,

Pete Runnels,
Harney County Judge

IN THE COUNTY COURT FOR THE STATE OF OREGON
FOR THE COUNTY OF HARNEY

In the Matter of a Declaration of)
Local Disaster and Request to)
Declare a State Drought Emergency)
For Harney County Oregon)

RESOLUTION #2018-06

THIS BEING the 18th day of April, 2018 and a day set aside for a regular meeting of the Harney County Court and there being present Pete Runnels, County Judge; Mark Owens, County Commissioner and Patty Dorroh, County Commissioner; and

WHEREAS, the Harney County Court finds that Harney County agricultural and livestock industries and related economy are suffering widespread and severe economic damage, potential injuries and loss of property resulting from extreme weather conditions within the County; and

WHEREAS, annual water supplies available for irrigators and ranchers within Harney County are from winter snow pack which is significantly lower than normal in the Harney basin; and

WHEREAS, the above conditions result in loss of economic stability, pasture shortages, decrease in feed production, shortened growing season and decreased water supplies for Harney County agricultural and livestock producers. In addition, if a multi-year cumulative drought occurs, it will result in decreased fuel moisture and early onset fire danger; and

WHEREAS, the County Court determines that extraordinary measures must be taken to alleviate suffering of people and livestock and to protect or mitigate economic loss and to be responsive to the threat of wildfires;

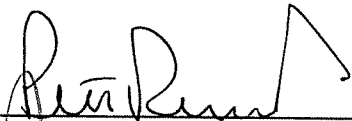
NOW, THEREFORE, BE IT RESOLVED that:

- 1) A local disaster is declared within Harney County.
- 2) The Harney County Drought Emergency Management Plan has been implemented.
- 3) Pursuant to ORS 401.015(2), we find that appropriate response is beyond the capability of Harney County. We are declaring a state of emergency for the purpose of assessment, evaluation and acquiring the ability to provide appropriate available resources.


- 3) Pursuant to ORS 401.015(2), we find that appropriate response is beyond the capability of Harney County. We are declaring a state of emergency for the purpose of assessment, evaluation and acquiring the ability to provide appropriate available resources.
- 4) **Request:** The Honorable Kate Brown, Governor of Oregon, declare a Drought Emergency for all of Harney County under the provisions of ORS 401.055 due to severe and continuing drought conditions beginning at this time and continuing for an unknown period of time; and direct the Oregon Department of Water Resources to make available in Harney County: Temporary Transfers of Water Rights, and Emergency Water Use Permits, and Use of Existing Right Option/Agreement; and other federal and state drought assistance and programs as needed.
- 5) This resolution shall take effect upon its issuance.

DONE AND DATED this 18th day of April, 2018.

HARNEY COUNTY COURT



Pete Runnels, Judge



Mark Owens, Commissioner



Patty Dorroh, Commissioner



ODFW Drought Planning

Drought Readiness Council
5.10.2018

Impacts of Drought on Wildlife



Direct Impacts

- Reduced forage
- Reduction in available water sources
- Increased Wildlife-human conflicts and damage (because of reduced forage)
- Wetland habitat impacts (Amphibians, reptiles and shore and water birds)
- Disease impacts due to concentration of animals around remaining water sources

Indirect Impacts

- Short term habitat loss due to increased wildfire
- Some mortality due to wildfire
- Timing and availability of food sources

Impacts of Drought Fish



Fish Impacts

Direct Impacts

- Elevated water temperatures
 - Native cold water fish effects (salmon, steelhead, trout)
 - Range expansion of invasive species
 - Blue-green algae blooms resulting in depleted oxygen levels
 - Increased stress causing increased susceptibility to disease, parasites, predation
- Reduced Habitat
 - Low stream flows, lake and reservoir pool levels
 - Reduction in accessibility of rearing habitat (shelter and forage)
- Fish mortality

Indirect Impacts

- Reduced salmon and steelhead returns in later years
- Stream sedimentation from removal of vegetation due to wildfire

Some Examples of Effects

- Cold water native fish mortality (Fish kills due to warm water) Willamette, Clackamas, John Day and Deschutes Rivers and some hatcheries.
- Ocean affects as a result of the same weather patterns (algal blooms, domoic acid and low oxygen levels).
- Half of the banner year 500,000+ adult sockeye run in the Columbia were lost.
- White sturgeon mortalities in the reservoirs
- Likely reduced salmon and steelhead runs in future years
- Reduced herds
- Reduced fishing access due to lower water levels (boat ramps)
- Less fishing and hunting opportunities in the future
- Economic affects (especially in rural areas)

ODFW Drought Strategies

**1.
Understand
the local
situation**

**4. Manage
invasive
species**

**2.
Minimize
the stress,
mortality,
and
adverse
harvest**

**5. Manage
ODFW
facilities to
reduce
impacts**

**3. Adjust
opportunity**

**6. Educate
the public**

**7. Predict
and
prepare**

Strategy 1: Understand The Local Situation

Actions:

- Increase “reconnaissance” monitoring of waterbodies and waterways
- Increased monitoring will help ODFW to understand the extent of local drought conditions and the need for additional management actions.

Strategy 2: Minimize Stress, Mortality, And Adverse Harvest Of Native Or Game Fish

Actions:

- Close fisheries during portions of the day or season and/or encourage voluntary fishing reductions.
- Conduct salvage operations to move stranded and stressed native fish to improved habitat.
- Postpone or cancel instream surveys.
- Work with water users to decrease water usage and optimize instream flows.
- Recommend adjustments to in-water work timing.

Strategy 2: Minimize Stress, Adverse Harvest Of Native C

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- Recommend adjustments to in-water wo

Oregon changes Umpqua River fishing Rules due to drought

By NWFN Editorial Staff | Posted in Oregon Fishing News | Top Stories | Posted on 06/24/2015



By Associated Press Published - Jun 23, 2015 at 12:55 PM PDT

ROSEBURG, Ore. (AP) – The Oregon Department of Fish and Wildlife has imposed emergency restrictions to protect steelhead in the mainstem of the Umpqua River due to the drought.

District biologist Greg Huchko said Tuesday flows are 50 percent of normal, and temperatures are approaching lethally warm levels, making fish seek out cooler water at the mouths of tributaries.

Angling is prohibited within 200 feet of the mouths of tributaries from the top of tidewater at Scottsburg Bridge to the confluence of the North and South forks at River Forks boat ramp.

Huchko says the Umpqua is the only river imposing these restrictions.

The department also moved up the start of fall chinook fishing to July 1, giving anglers who filled their annual spring chinook limits a chance to fish again a month earlier.



Photo cred: John Gussman

Strategy 3. Adjust Fishing Opportunity To Prevent “Wasting” Of Game Fish

Actions:

- Liberalize fishery for a limited period (e.g., remove size and bag limits).
- Adjust the timing or location of hatchery fish stocking.

Strategy 4. Take Advantage Of Drought Outcomes To Manage Invasive Species

Actions:

- Conduct eradication actions for invasive fish species
- Recommend to land managers that native plants be actively used to rehabilitate habitat after wildfires

Strategy 5. Manage ODFW Facilities To Reduce Impacts Of Drought

Actions:

- Decrease water usage and maximize instream flows (formally, with OWRD) according to facility-specific *Emergency Water Conservation and Curtailment Plans*
- Avoid using machinery, including vehicles, where fire-prone natural fuels (such as grasses) are present
- Move species to avoid impacts

Strategy 6. Educate The Public About Actions They Can Take

Actions:

- Distribute advisories and work with media to educate public on risks, voluntary actions, and management changes that are applicable during drought

Strategy 7: Predict, Prepare and Prioritize

Actions:

- ODFW engaging in partnerships to understand and model cold water resources (e.g., EPA's Columbia River Cold Water Refuges Project)



Illustration of potential cold water refuges along the Columbia River Migration Corridor.

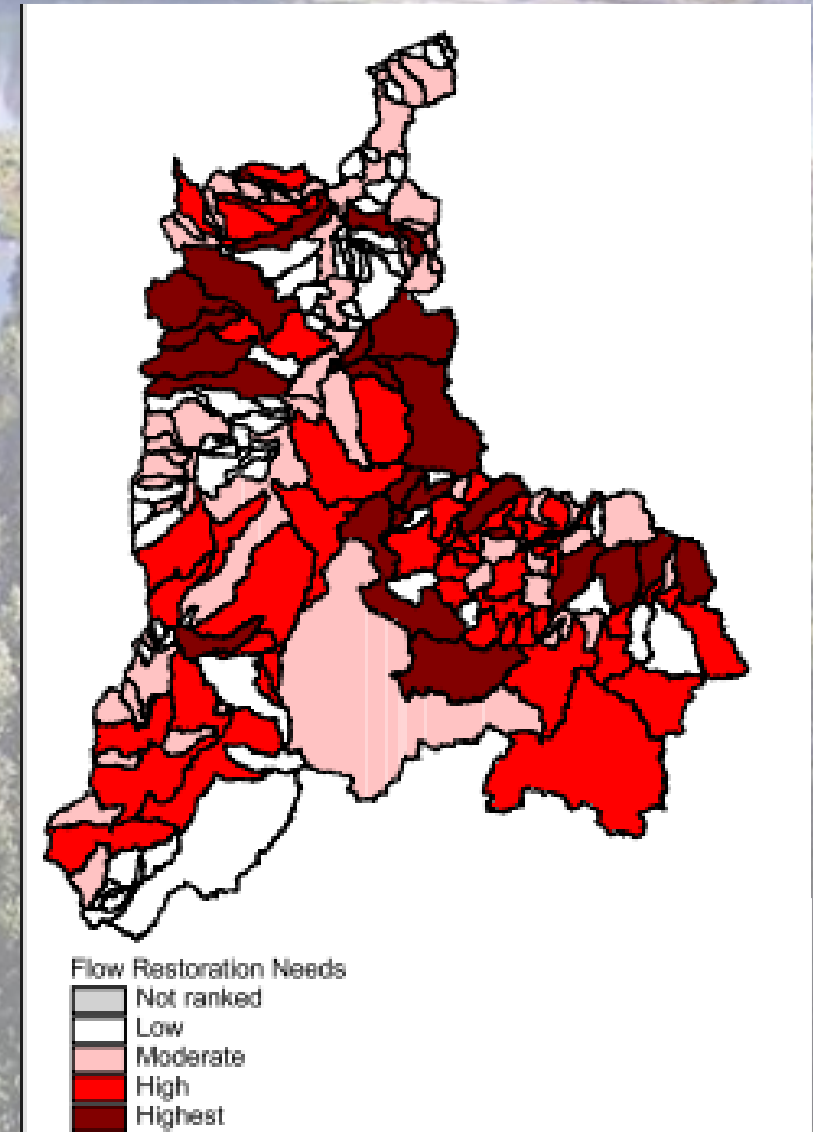
Strategy 7: Predict, Prepare and Prioritize

Actions:

- ODFW working with partners to develop a framework to evaluate the impacts of climate change on stream temperature and flow, relate these changes to an inventory of species habitat needs and life stage tolerances, to identify flow and restoration priority areas and evaluate future instream water needs
- Two phases:
 - Statewide framework, existing data (2018-2019)
 - Down-scaled regional approach, new data (2020 and beyond)
- Next steps: Workshop late summer 2018 to develop methodologies and framework with agency partners, academics and water practitioners

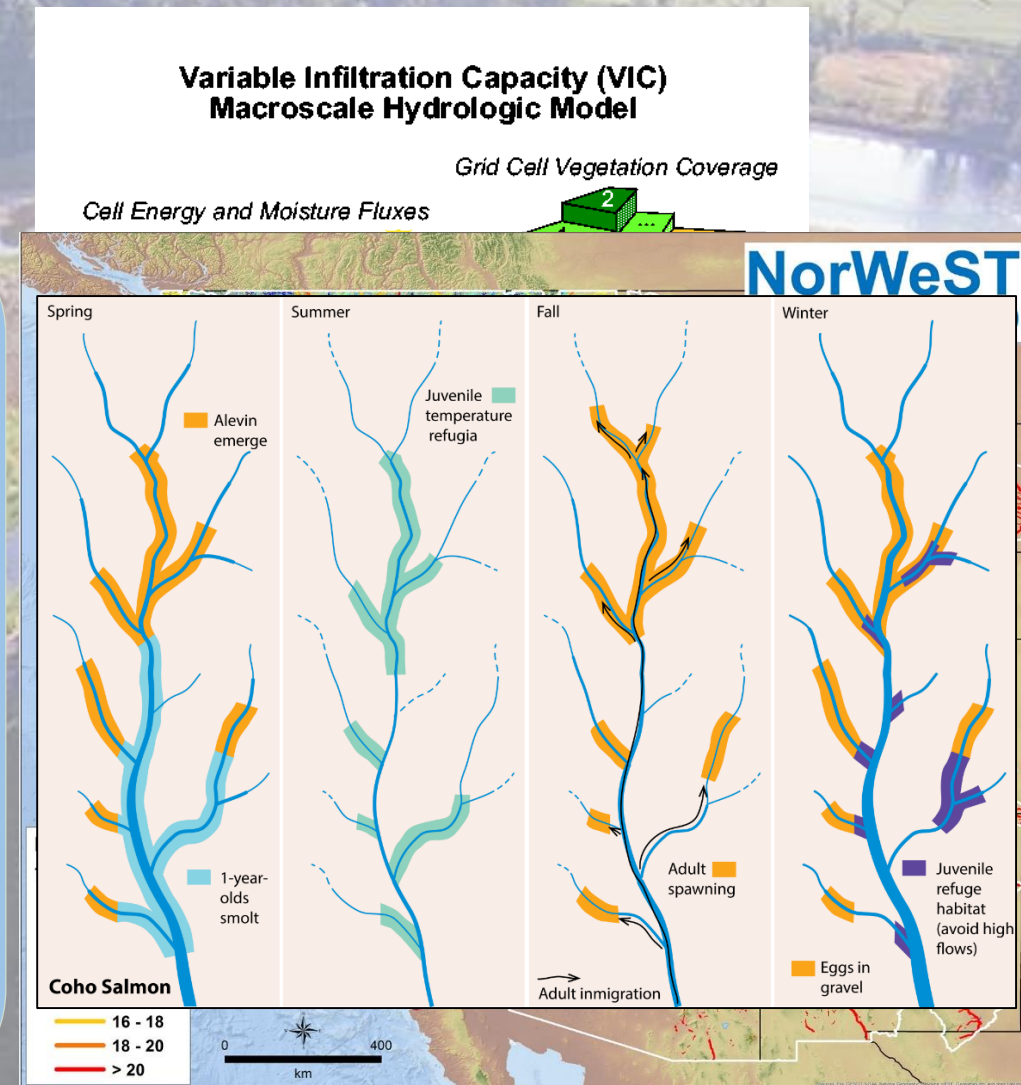
Current criteria used to prioritize (20+ years old)

- Fish resources, e.g. # native salmonid species
- Habitat integrity, e.g. development pressure
- Risk, e.g. T&S species, instream flow protection
- Water resources, e.g. # months IWR not met
- Fish restoration optimism, e.g. potential for fish recovery



Concepts for new framework

- Instream flow data statewide
- Thermal regime data statewide
- Species by rarity index
- Species distribution maps with climate projections
- Management scenarios



Next steps: Workshop late summer 2018 to develop methodologies and framework

A photograph of a forest stream with moss-covered rocks and a waterfall. The water is flowing over the rocks, creating a soft, blurred effect. The surrounding vegetation is dense and green, with ferns and other plants visible. The overall scene is a vibrant, natural landscape.

Questions?

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ODFW Water Program Manager
anna.p.stevenson@state.or.us