

## **Water Supply Availability Committee/Drought Readiness Council Meeting – January 18, 2023**

Phone Conference – Meeting Notes

### **Attendees**

Ryan Andrews – OWRD (Chair)

Curtis Peetz – OEM

Carrie Boudreau – USGS

Henry Pai – NWRFC

Troy Lindquist – NWS

Larry O’Neill – OCCRI/OSU

Spencer Sawaske – ODFW

Andy Bryant – NWS

Matt Warbritton – NRCS

Peter Cooper – USBR

Kain Shaffer – USBR

Andy Martin – USACE

Steve Parrett – ODEQ

### **Presentations – update on water supply conditions**

#### **Matt Warbritton**

- Snow water equivalent
  - Dec 1 SWE well above normal statewide
  - Jan 17 statewide SWE = 110%
  - Cascades dropped in % of average - shift in storm track favoring southern OR and California recently
  - Station SWE percentiles mostly above 50% statewide in December
  - Many reductions in percentiles - declining rates of accumulation along Cascades and low elevation sites in NE OR
  - Storms are having significant impact in California, Utah, Nevada
  - Eastern sites in Upper Deschutes-Crooked Basin are influencing near normal value
- Precipitation
  - Water year precipitation pretty stable throughout
  - Jan 17 statewide precip = 91% of normal
  - All basins but SE OR (above) near to below average
  - Precip percentiles in northern OR Cascades and NE OR are all below 50%
- SWE vs WY precipitation indicates northern basins have decent SWE but low precip; southern basins good SWE and above average precip
- Soil moisture
  - Quartz Mountain well above average due to rain on snow
  - Silvies recently improved but still fairly dry
  - Clackamas Lake and High Ridge sites fairly average
  - Mt Howard and Schneider Meadows (Wallowas) had fairly average profiles early in water year but have declined to below average
- Water supply forecasts
  - Most flow forecast points are average to above average (upper Deschutes below average)
  - Above average snowpack conditions influence above average forecasts in Klamath

### **Andy Bryant**

- Past 60-day precipitation below to well below average everywhere but NE OR
- Multi-year deficits in central OR (Jefferson and Crook Counties)
- December temperatures below average east of Cascades
- Next 10 days projected as mostly dry with below average temperatures
- Weak to moderate La Nina conditions - projections show neutral conditions for spring/summer
- January through March outlook projects below average temperatures and above average precipitation in northern OR, near equal southern OR
- March through May outlook slightly favors below average temperatures in northern OR and near average precip nearly statewide (above average in NE)

### **Henry Pai**

- Observed runoff to date below to well below average statewide
  - Dry conditions somewhat attributed to cool temperatures on top of below average precipitation
- Forecasts
  - April through September forecast show differing forecasts for Ochoco and Prineville - Prineville attributed to above average snowpack; Ochoco challenging due to reservoir below minimum pool
  - Most of west Cascades range average to below average
  - Klamath Basin ranges between 55% to 99%
  - Crooked near Prineville (92% of average forecasted) - dry 10-day forecast having significant impact on streamflow forecasts
  - Ochoco Creek below Dam near Prineville - difficult to assess due to reservoir levels below minimum pool so relying on manual measurements - basically no inflow into Ochoco since October 1 - forecast at 59% for April through September
  - Willamette R at Salem (forecast at 86%; WY at 72%)
  - Rogue R near Raygold (forecast at 82%; WY at 76%)
  - Umatilla R near Umatilla (forecast at 81%; WY at 74%)
  - Owyhee R at Owyhee Dam (forecast at 96%; WY at 115%) due to increased streamflow and healthy snowpack conditions

### **Larry O'Neill**

- Changes on USDM proposed - reductions in severity in southern and SE OR due to above average precipitation and good snowpack
  - Central Oregon Cascades and south Willamette Valley showing signs of more moderate drought (D1)
  - Drought indicators suggest drought is worsening in north central Oregon
  - National authors improved Curry County - no longer abnormally dry
- Precipitation deficits
  - Percentage precipitation deficit of annual average precipitation for Oct 2019-Sep 2022
  - Values of -100% indicate one full year of missing precipitation
  - 6.1% of Oregon was missing a full year's precipitation over last 3 years

- 21.9% of Oregon missing 80% of full year's precipitation
- Crook County calendar year precipitation for 2022 well below average relative to 1981-2010; not many recharge years over past 10 or so years
- Prineville WYTD precipitation below average; last year above normal at this point; May is typically one of wetter months
- SPEI
  - Crook County SPEI shows long term drought over 36-month period - well below previous worst on record
  - Jefferson County similar story just slightly less severe - below average precipitation in 2022; accruing deficit over past decade or so
  - Jefferson SPEI show short (12-month) and longer-term (24-36 month) drought
- GRACE 1-meter soil moisture showing historical dryness throughout most of Jefferson and nearly all of Crook Counties
- 2022 was 10th warmest statewide; 40th driest since 1895 (91.8% of 1901-2000 average)
- Mostly experiencing new record highs rather than record lows
- Statewide SPEI for 2022 about -0.5; gets worse over 24- and 36-month periods

### **Carrie Boudreau**

- 28-day average streamflow mostly average in western and NE OR; increased from last month
- 7-day average shows some reduction in southern Willamette Valley compared to 28-day
- John Day R at Service Creek firmly average
- Meacham Creek above average
- Metolius R lower end of average, just below average
- Deschutes R near Culver below average
- Crooked R below Opal Springs well below average
- Wilson R near Tillamook upper end of average
- Siletz R at Siletz above average
- Chetco R well above average
- Big Butte Creek near Mcleod below to well below average
- Upper Klamath Lake elevation approaching highest of past 10+ years
- Klamath R at Keno well below average
- Link R at Klamath Falls well below average
- Donner Und Blitzen R well above average
- Owyhee R nr Rome firmly average

### **Ryan Andrews**

- Received official drought declaration request under ORS 536 from Jefferson County
  - Crook County declared locally and likely to seek ORS 536 declaration soon
- December streamflow somewhat variable across state ranging from well below average to average (min = Crook County at 30%, max = Deschutes at 130%)
- Water year streamflow well below average throughout most of state with exceptions in South Coast and Umatilla Basins (min = Grande Ronde at 51%, max = Umatilla at 122%)
- 28-day streamflow percentiles mostly average statewide

- Comparison with 7-day averages show declines in southern Willamette Valley and parts of NE OR
- West Fork Hood River well below average streamflow over water year to date
- Rock Creek (Powder Basin) set record low flow throughout most of December
- Grande Ronde R bl Clear Creek below average over past seven days
- Crooked R ab Prineville at 37% of average over water year, some increase recently

### **Kain Shaffer**

- Most reservoirs releasing winter minimums to continue filling
- Flood risk management operations ongoing at Scoggins
- Inflows increased at most facilities with wet weather
- Much below normal storage content in the southern, central, and southeastern basins (Rogue, Deschutes, Crooked, Malheur, Powder, Owyhee), but did see storage increases this month
- Above normal and higher storage content than WY2022 in northern basins (Unity, McKay, Scoggins)
- January 1 runoff forecasts came in near average to slightly below average
- Owyhee contents slightly below last year at this time
- Warm Springs hovering around historical low - inflows increased but well below average; similar in Beulah and Bully Creek
- Unity above average storage for this time of year
- Phillips near historical low and forecast is just below average
- Upper Deschutes reservoirs (Wickiup, Crane Prairie, Crescent Lake) below median storage contents (around 10th percentile); slightly above last water year at this time
- Prineville Reservoir setting record minimum storage contents - even below last water year at this time; forecast below average
- Ochoco receiving essentially no inflow - stagnant storage contents well below average
- Haystack Reservoir was emptied for maintenance purposes (re-reg reservoir)
- Rogue River benefitted from atmospheric rivers; increases in flows
- McKay above median

### **Andy Martin**

- Willamette not storing any water for storage purposes - below rule curves everywhere
- Transitioning from active flood risk management near end of December to rule curve management - holding minimum conservation levels until refill season at beginning of February
- Southern Willamette Valley - Harrisburg is first control point for regulating southern reservoirs - had two peaks approach bankfull conditions end of December - stored water to protect from reaching bankfull - released storage incurred during atmospheric river events - now expect to see lower flows in general along middle fork Willamette and southern part of Valley
- Stored a lot of water in Detroit Reservoir due to concerns with downstream flooding - back down to minimum pool
- Lost Creek in Rogue storing wintertime water supply (about 47% full)

- Slightly above rule curve in Applegate - near normal January regulated storage (1% above; 40% full)

### **Discussion**

- Much of Crooked Basin modeled SWE is high elevation - aligning with high elevation SNOTEL sites showing well above average, but low elevation area lacks modeled snowpack coverage
  - Consideration for future SNOTEL site at mid or low elevation in Crooked Basin
- Is surface runoff soaking into soil above Ochoco Lake? Ochoco Creek and Mill Creek showing much more streamflow than inflow into lake
  - NWRFC Ochoco deep soil bucket (affecting baseflow) is out of simulated calibration range for end of January values
- Discussed Jefferson and Crook County drought declaration requests under ORS 536
- Next meeting proposed February 15