

## **WDFW Drought Status Update #10 for 15 May 2015**

Governor Jay Inslee declared a statewide drought emergency today, citing historically low levels of snowpack, receding river flows, and reduced water allocations in the Yakima Basin. For details of the governor's announcement and a link to Ecology's new Interactive Map of Washington's Drought Response, go to [Washington Drought 2015](http://www.kirotv.com/news/news/governor-may-make-drought-declaration-state-washin/nmG8Y/). Here's the story: <http://www.kirotv.com/news/news/governor-may-make-drought-declaration-state-washin/nmG8Y/>

Check out Seattle Public Utility's take on the drought situation at <http://www.king5.com/story/news/local/seattle/2015/05/15/drought-declaration-seattle-water-rates-whittenberg-king-5/27360243/>

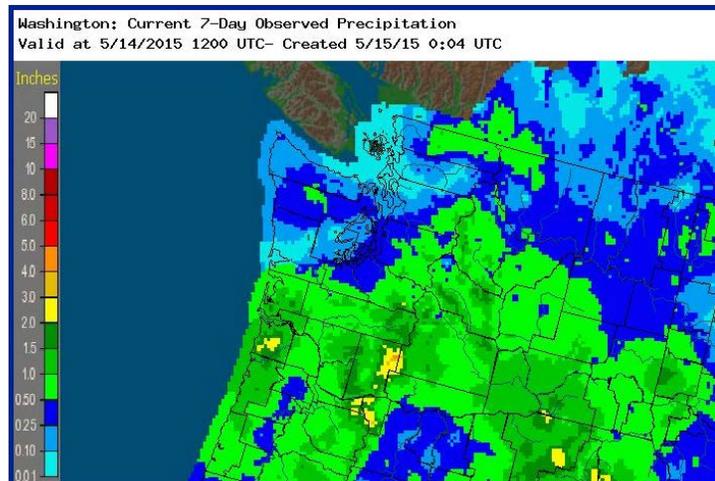
Kelly Cunningham did a great job talking about WDFW drought response at <http://nwsportsmanmag.com/headlines/wdfw-hatchery-managers-begin-planning-drought-conditions/>

### **Precipitation**

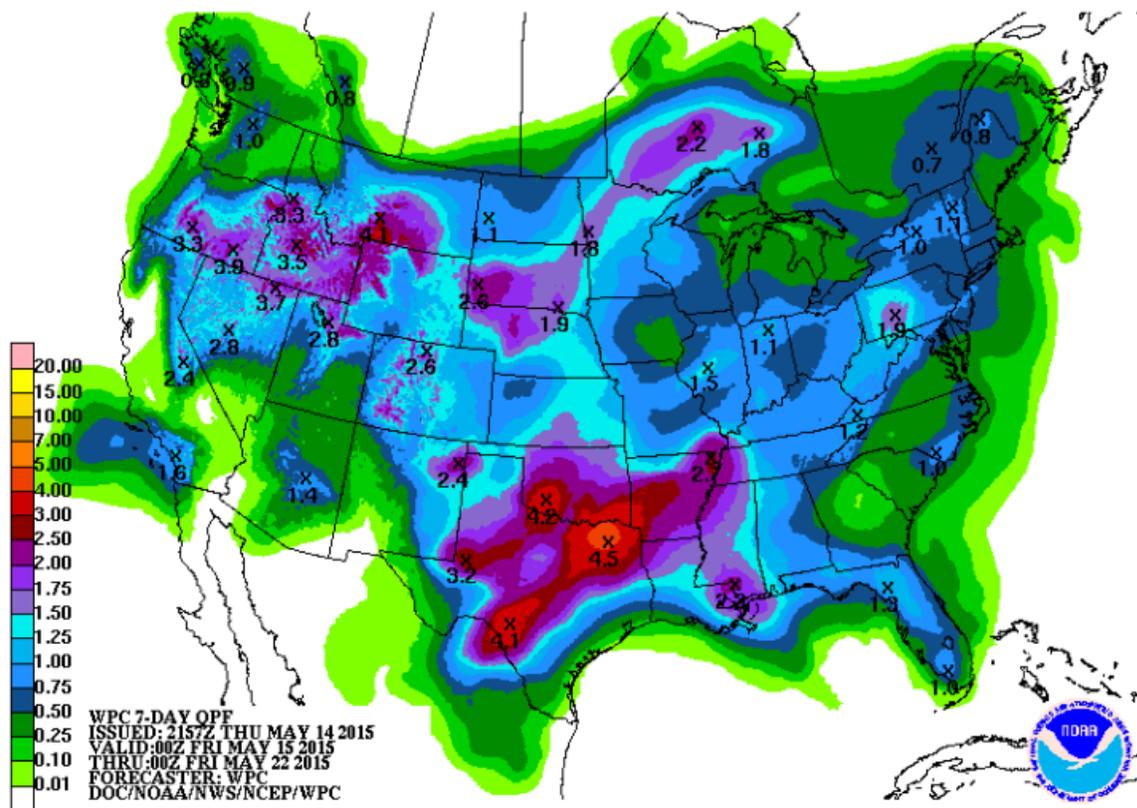
While streamflows across Washington are generally hovering at the low end of historic ranges, the rain this week gave migrating fish a huge boost.

At right is a recap of the past 7 days' precipitation; below are the precipitation totals for the 60 hours ending 5pm May 14.

Location	Inches
Quillayute (Forks)	0.08
SeaTac Airport	0.34
Yakima	0.62
Walla Walla	1.64
Spokane Intl. Airport	0.28



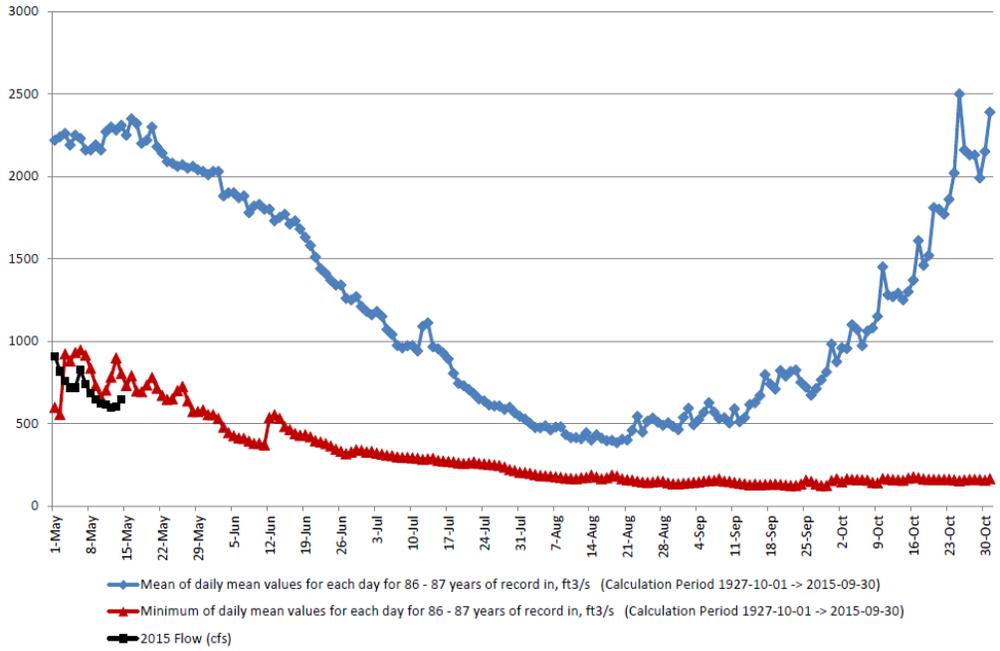
Next week's precipitation forecast (through May 22) also looks good for fish and crops:



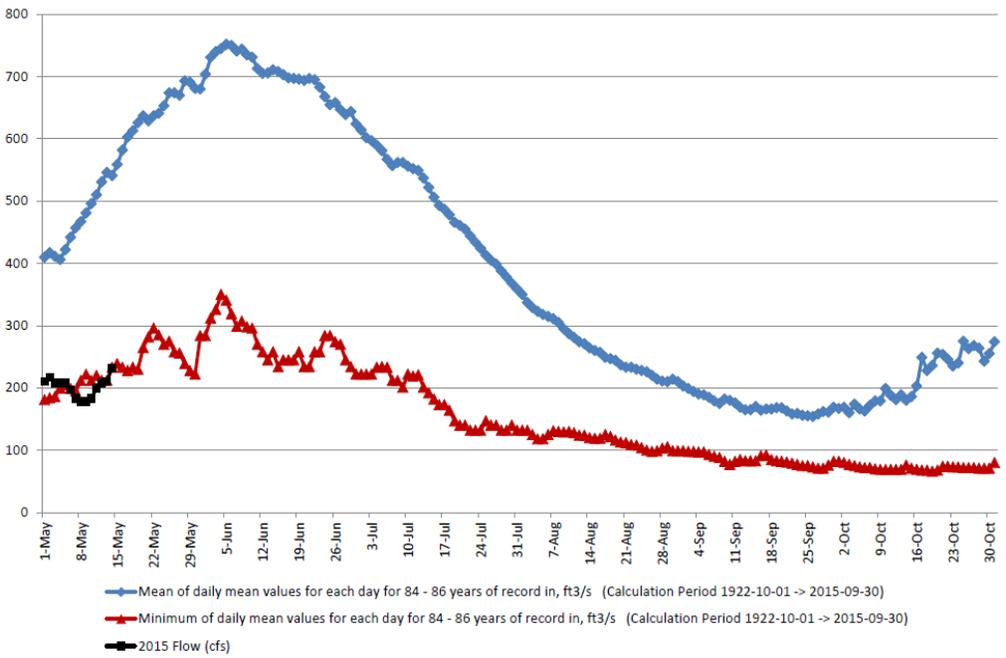
***Hydrograph Sampler:***

I chose six stream gauges to help us understand how flows are progressing this year. Blue line represents the average daily flows for the period of record; red line shows the minimums of daily flows in the period of record, and the black line depicts 2015 flows. These flows are through May 14, 2015. Comments and suggestions always welcomed!

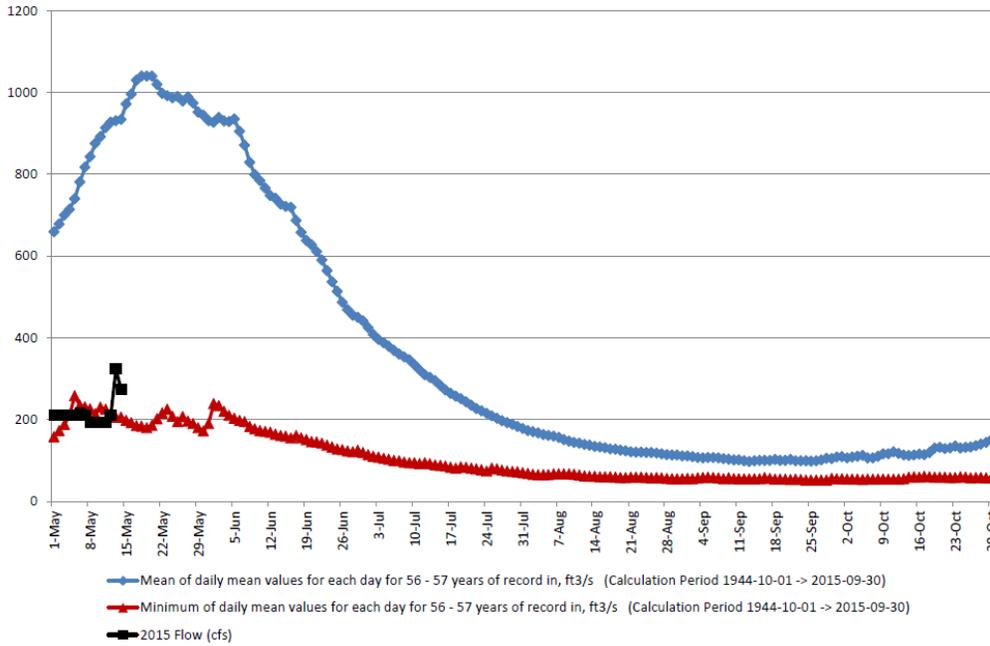
**Stillaguamish R near Arlington, WA**  
USGS 12167000



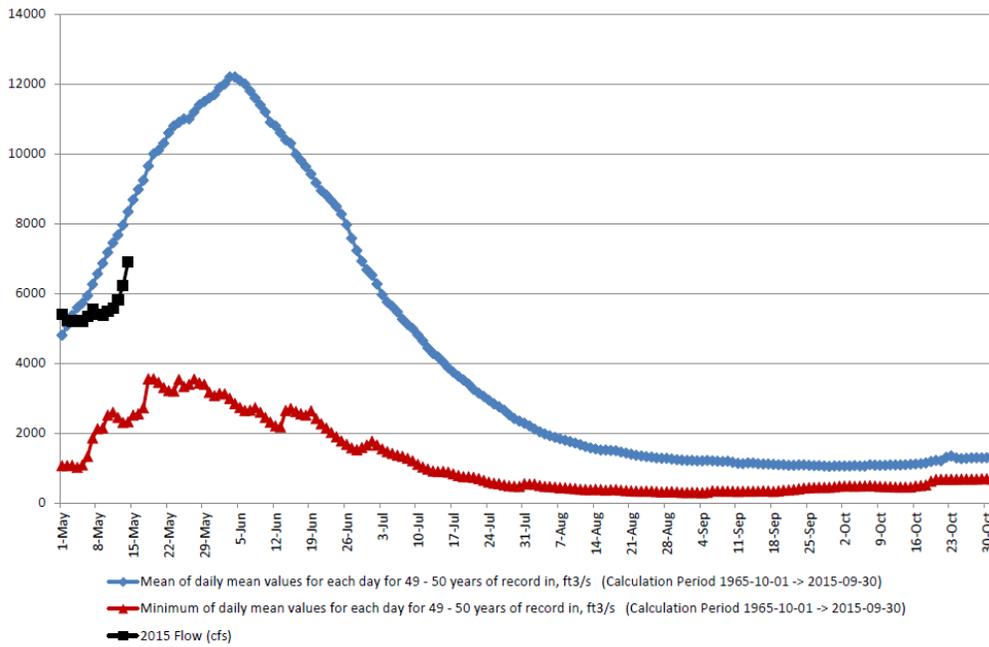
**Dungeness R Above Diversions**  
USGS 12048000



**Klickitat River above West Fork near Glenwood, WA  
Gauge 14107000**

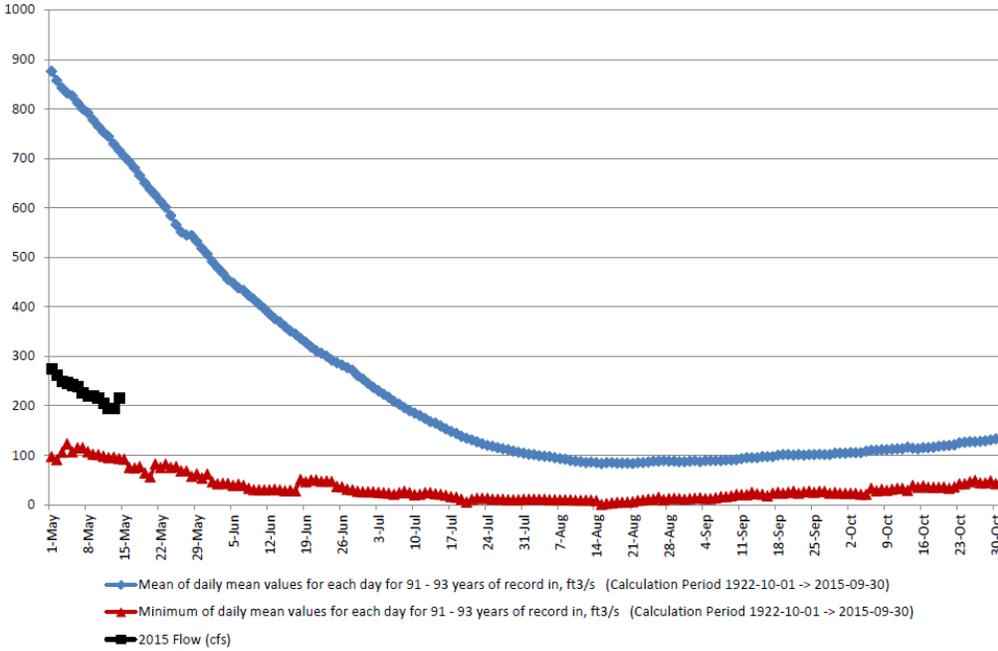


**Okanogan R near Mallott, Wa  
Gauge 12447200**



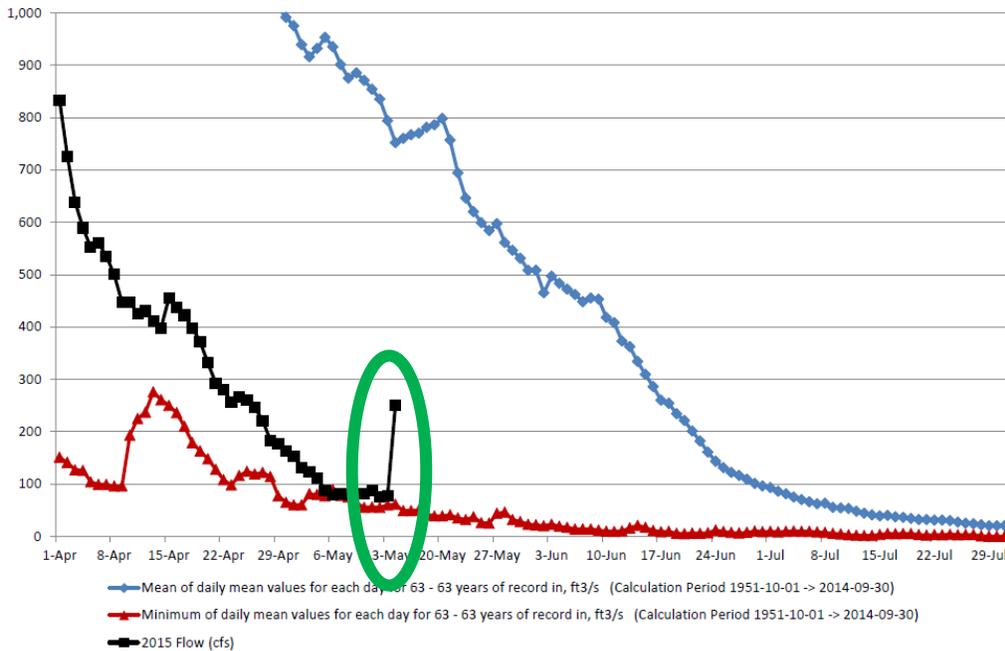
Consistent with forecasts, the Okanogan is in a lot better condition than most other Washington streams. Let's hope it stays that way!

**Colville R at Kettle Falls, Wa  
Gauge 12409000**



Similarly, northeastern Washington streams are doing relatively better than most Washington streams. Who knew we would want to celebrate “not setting minimum flow records?”

**Walla Walla near Touchet  
Gauge 14018500**



See below for more about Walla Walla.

Columbia River mainstem flows are deteriorating rapidly as the spring progresses. Northwest Fishletter reported this week that the Columbia River Technical Management Team set a May 1 target flow at McNary Dam of 180 kcfs. Normally, the hydro BiOp calls for spring flows in the range of 220-260 kcfs. <http://www.newsdata.com/fishletter/346/8story.html>

### ***Selected Washington Streamflows Table***

The first column shows the gauge location, the second column shows today's stream flow readings, and the third column shows today's flows as a percentage of average flows for this date throughout the period of record.

<b>Selected Washington Streamflows</b>	<b>May 15, 2015</b>	
	Today's Flow (cfs) <b>Red means record low</b>	Percent of average for this date in the record
MF NOOKSACK RIVER NEAR DEMING, WA	298	44%
NOOKSACK RIVER AT FERNDALE, WA	2,530	52%
SKAGIT RIVER NEAR CONCRETE, WA	13,600	67%
SAUK RIVER AT DARRINGTON, WA	1,580	43%
CASCADE RIVER AT MARBLEMOUNT, WA	1,100	59%
NF STILLAGUAMISH RIVER NEAR ARLINGTON, WA	641	28%
SNOQUALMIE RIVER NEAR CARNATION, WA	1,950	38%
SKYKOMISH RIVER NEAR GOLD BAR, WA	2,140	31%
ISSAQUAH CREEK NEAR MOUTH NEAR ISSAQUAH, WA	93	98%
CEDAR RIVER BELOW DIVERSION NEAR LANDSBURG, WA	285	46%
CEDAR RIVER AT RENTON, WA	324	44%
BIG SOOS CREEK ABOVE HATCHERY NEAR AUBURN, WA	81	77%
GREEN RIVER NEAR AUBURN, WA	555	30%
SOUTH PRAIRIE CREEK AT SOUTH PRAIRIE, WA	130	49%
PUYALLUP RIVER AT PUYALLUP, WA	2,290	58%
NISQUALLY RIVER AT MCKENNA, WA	640	51%
DESCHUTES RIVER NEAR RAINIER, WA	107	66%
NF SKOKOMISH R BL STAIRCASE RPDS NR HOODSPORT, WA	127	19%
DUNGENESS RIVER NEAR SEQUIM, WA	251	46%
HOKO RIVER NEAR SEKIU, WA	67	45%
CALAWAH RIVER NEAR FORKS, WA	269	41%
HOH RIVER AT US HIGHWAY 101 NEAR FORKS, WA	1,170	58%
SATSOP RIVER NEAR SATSOP, WA	630	53%
CHEHALIS RIVER NEAR GRAND MOUND, WA	1,110	81%
NASELLE RIVER NEAR NASELLE, WA	98	46%
COWLITZ RIVER BELOW MAYFIELD DAM, WA	3,050	41%
COWLITZ RIVER AT PACKWOOD, WA	1,100	38%

LEWIS RIVER AT ARIEL, WA	2,400	48%
WHITE SALMON RIVER NEAR UNDERWOOD, WA	778	50%
KLICKITAT RIVER ABOVE WEST FORK NEAR GLENWOOD, WA	262	28%
WALLA WALLA RIVER NEAR TOUCHET, WA	194	26%
TUCANNON RIVER NEAR STARBUCK, WA	127	40%
GRANDE RONDE RIVER AT TROY, OR	2,800	38%
YAKIMA RIVER AT KIONA, WA	3,670	69%
AMERICAN RIVER NEAR NILE, WA	242	39%
CRAB CREEK AT IRBY, WA	11	23%
WENATCHEE RIVER AT PLAIN, WA	3,260	56%
METHOW RIVER NEAR PATEROS, WA	4,410	91%
OKANOGAN RIVER AT MALOTT, WA	6,910	83%
OKANOGAN RIVER AT OROVILLE, WA	1,110	97%
SPOKANE RIVER AT SPOKANE, WA	4,010	23%
COLVILLE RIVER AT KETTLE FALLS, WA	226	32%
PEND OREILLE RIVER BELOW BOX CANYON NEAR IONE, WA	19,600	42%

### ***Yakima:***

Here's what Roza Irrigation District's canal looks like since the start of their May 11 shutdown. Roza is hoping to save water for late-season irrigation.

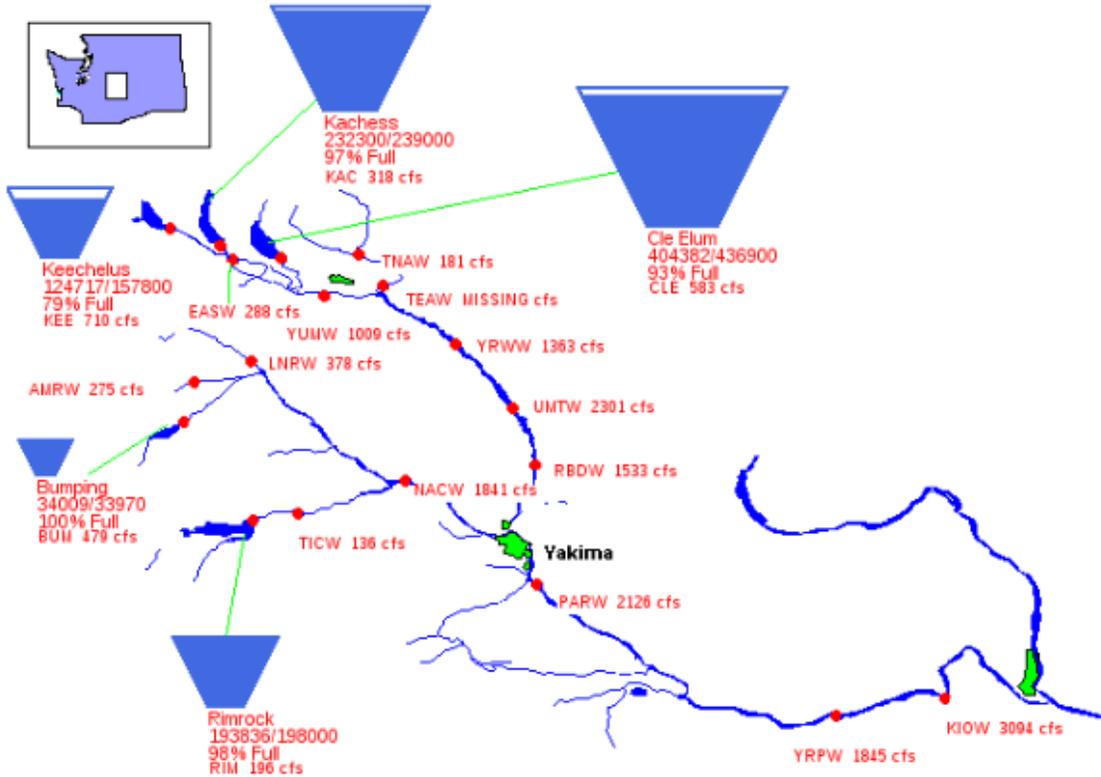
Both Walla Walla and Yakima benefitted from pulse flows that preceded this week's rains. Pulse flows in the Yakima occurred when Bureau of Reclamation, at the request of fishery managers, released extra flows from reservoirs. We are still awaiting official analyses of the fisheries pulse-flow last week, but Joel Hubble of Reclamation reports a

marked increase in smolt passage for steelhead and wild age-1 and age-0 Chinook at Chandler in response to last week's pulse flow event. Another update of the total water supply in the Yakima is expected on Monday – stay tuned for a Yakima update. Below is the “teacup” reservoir diagram for today; Keechelus volume is down to 79%; Cle Elum down to 93%.



**Bureau of Reclamation, Pacific Northwest Region  
Major Storage Reservoirs in the Yakima River Basin**

05/14/2015

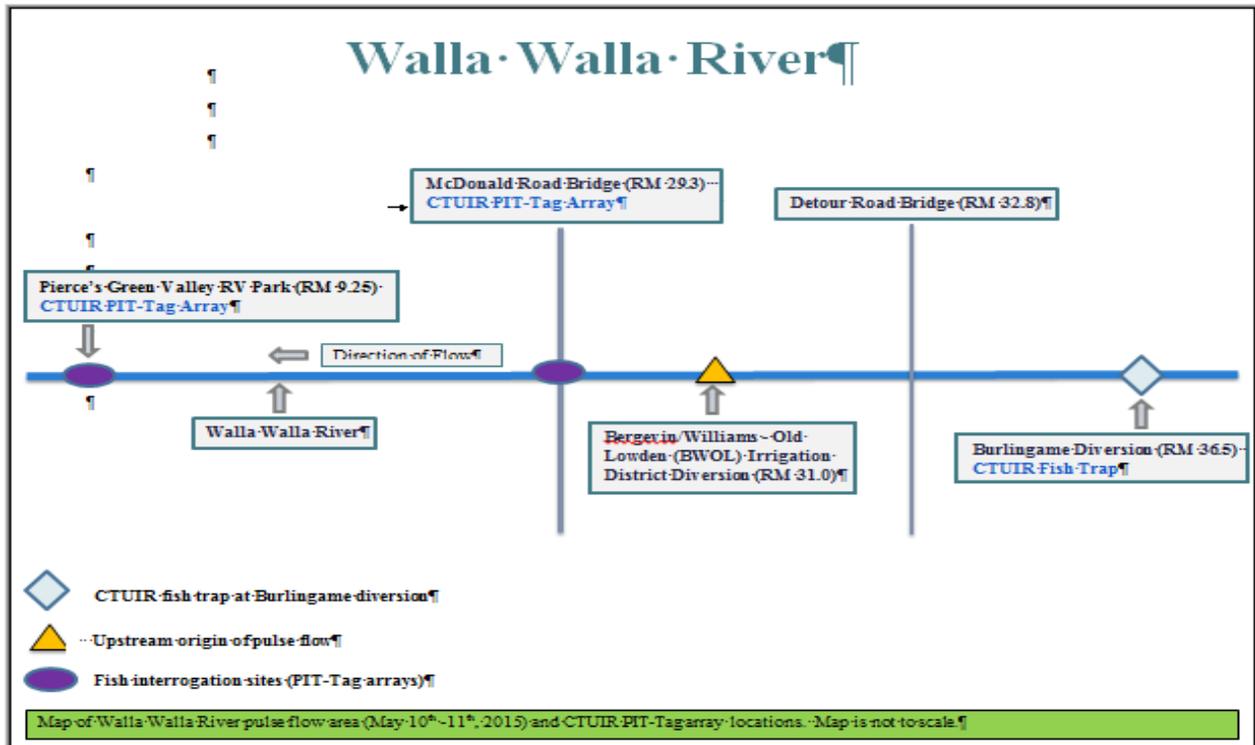


PROVISIONAL DATA - SUBJECT TO CHANGE!

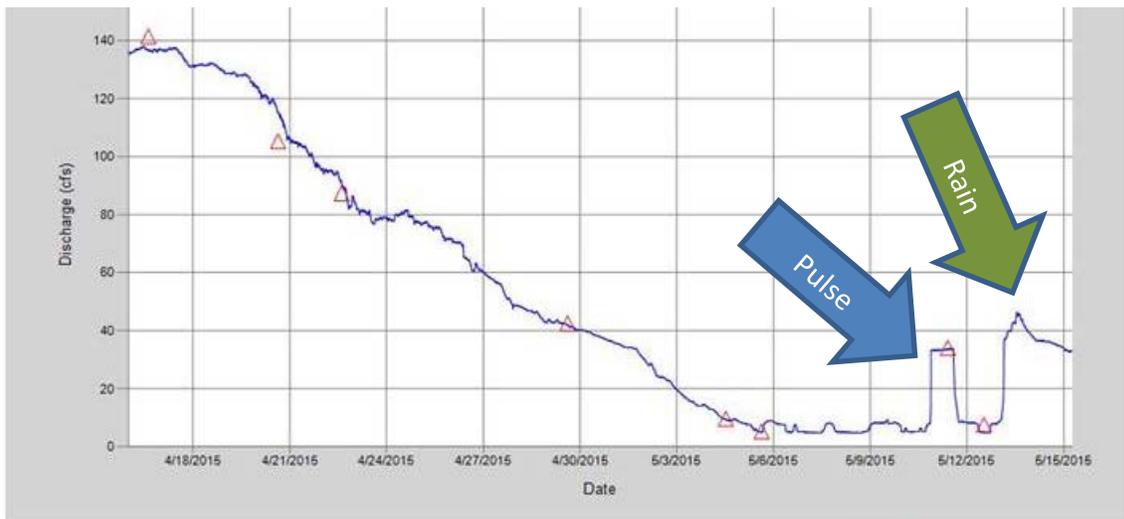
Average daily streamflows indicated in cubic feet per second.  
Reservoir levels current as of midnight on date indicated.

***Walla Walla***

In the Walla Walla, a pulsed flow of about 30 cfs was initiated by irrigators of the Bergevin/ Williams-- Old Lowden (BWOL) Irrigation District from midnight Sunday May 10 through about 3pm Monday May 11. Following the pulse was a rain-caused freshet of about 40 cfs; both measured at McDonald Road Bridge (RM 29.3; see below). Here's a line drawing of the relative locations of PIT arrays, trap, diversions, and bridges in the lower Walla Walla:



The pulse originated at the BWOL diversion upstream from McDonald Road bridge. The pulse, and subsequent natural spike, can be seen on the hydrograph below. Between May 6 and the start of the pulse late May 10, a total of two adult salmon had been trapped at the CTUIR site. On May 11-13, in the aftermath of the pulse, 27 additional fish were trapped, including hatchery and wild spring chinook, 3 ESA-listed steelhead, and two bull trout.



Jonathan Kohr and Robert Granger of the Water Science Team, along with Eric Hartwig of Ecology and Chris Hyland of the Walla Walla Partnership, are still working with irrigators to achieve more pulses in the Walla Walla (as needed) before the end of peak migration in early June. This team created a framework that that helps fish without severe sacrifice by irrigators. Many thanks to Jonathan, Robert and Eric!



Above: Downstream from the BWOL diversion during the pulse.

Below: Downstream from the diversion after the pulse (diversion dam is back in-place).



### ***State Drought Process***

Drought has been declared statewide, so work turns from determining where hardship is likely to occur to actually implementing drought remediation. The Water Supply Availability Committee (experts) committee will continue to meet monthly throughout spring, summer, and fall to share observations as drought conditions continue to unfold.

### ***Links***

Ecology Drought Watch 2015: <http://www.ecy.wa.gov/drought/index.html>

Office of the State Climatologist now offers a weekly drought update for Washington State: <http://www.climate.washington.edu/events/2015drought/>

State departments of Health and Agriculture have posted drought web pages:

<http://agr.wa.gov/PestFert/natresources/Drought.aspx>

<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/HotTopics#2015drought>

Pacific Northwest Drought Portal:

<http://www.drought.gov/drought/regional-programs/pacific/pacific-northwest-home>

NOAA El Nino Portal: <http://www.elnino.noaa.gov/>

Great water supply and drought links: <http://www.ecy.wa.gov/programs/WR/ws/wtrsuply.html>

Monthly and Seasonal climate outlooks:

[http://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/churchill.php](http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.php)

Northwest River Forecast Center Water Supply: <http://www.nwrfc.noaa.gov/ws/>

Real time stream data for Washington: <http://waterdata.usgs.gov/wa/nwis/rt>

USGS Washington Water Science Center: [http://wa.water.usgs.gov/water\\_issues/watercensus.htm](http://wa.water.usgs.gov/water_issues/watercensus.htm)

Nationwide drought information is available at <http://www.drought.gov>

Thanks for the rain-dancing! Keep it coming!

Teresa Scott Water Resource Policy Coordinator  
Washington Department of Fish and Wildlife  
[teresa.scott@dfw.wa.gov](mailto:teresa.scott@dfw.wa.gov) 360-902-2713