



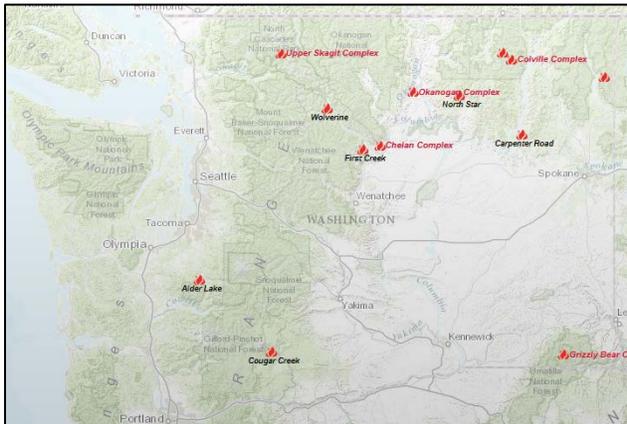
# Drought Status Update #24 August 28, 2015

Note: This material is intended for, and contains elements of special interest to, WDFW agency staff. Non-agency readers or anyone having questions about the context, clarity, or content for items in this update should contact the author, WDFW Drought Response Lead Teresa Scott at (360) 902-2713 [teresa.scott@dfw.wa.gov](mailto:teresa.scott@dfw.wa.gov)

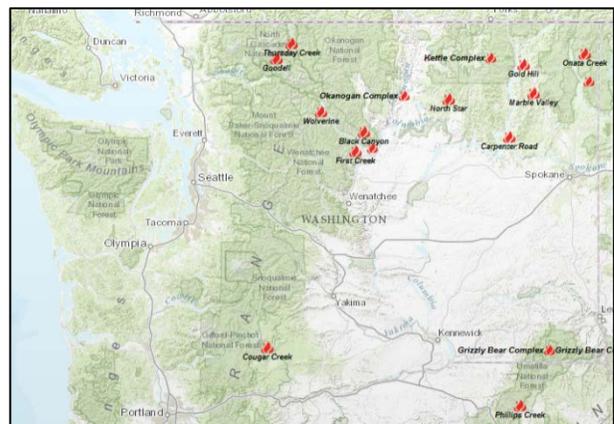
Rains and lower temperatures are forecasted for this weekend and next week. Some stream flows appear to be steady at their lowest level for the year, having achieved that low about a month earlier than normal. Some streamflows are even starting to increase - again, about a month early. But it's important not to let the near-term forecast overshadow the continuing message about longer-term outlook: Climate predictions for fall 2015 and into spring/summer 2016 are for warmer- and drier-than-normal conditions, so take heed! The [weekly update by the Office of the State Climatologist](#) provides a nice exposé on September precipitation and temperatures in previous years.

## Extreme Weather and Wildfire

### This Week:

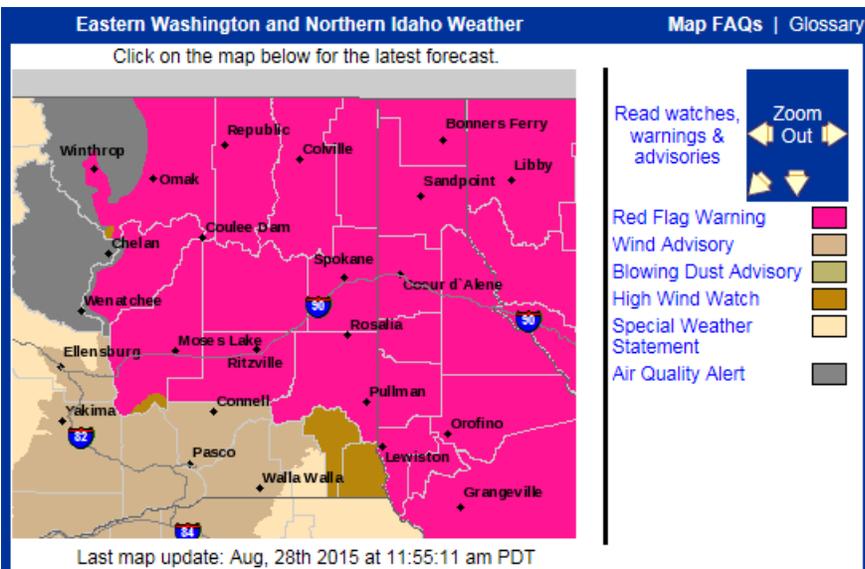
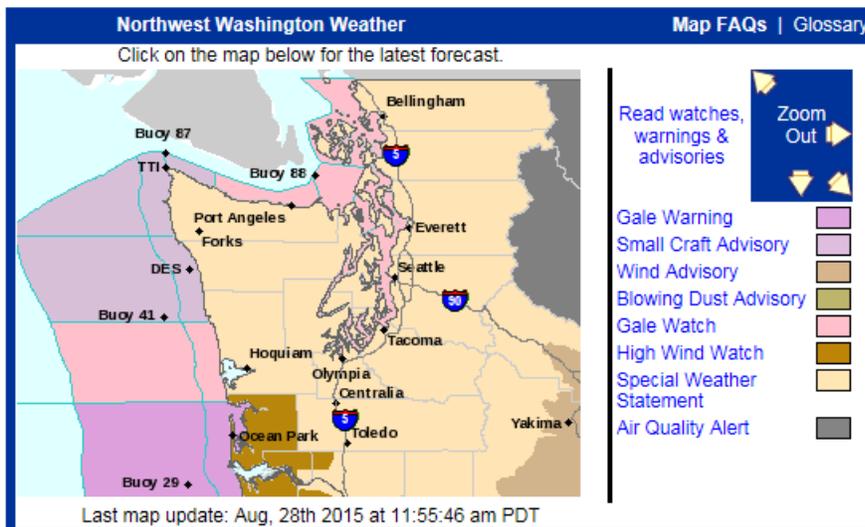


### Last Week:



Governor Jay Inslee has a web page titled [Washington Wildfire Resources](#) with links to wildfire status updates and other resources. Social media updates are available on #waWILDFIRE . This week's map from the [Northwest Interagency Coordination Center](#) shows fewer fires in Washington, but we know that's because several have merged. [Inciweb](#) shows 19 fires in Washington – again, this site underrepresents new or small fires being fought using local resources.

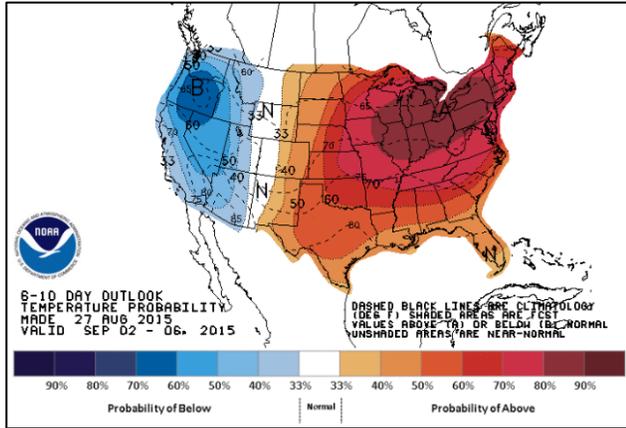
[NWS Severe Weather Hazards](#) through Saturday evening are below. Eastern Washington is in for high winds starting Saturday morning through Saturday evening. The NWS Red Flag warning is for high winds and low relative humidity on Saturday. [CHECK THIS LINK DAILY](#) to see the situation as it unfolds through the week!



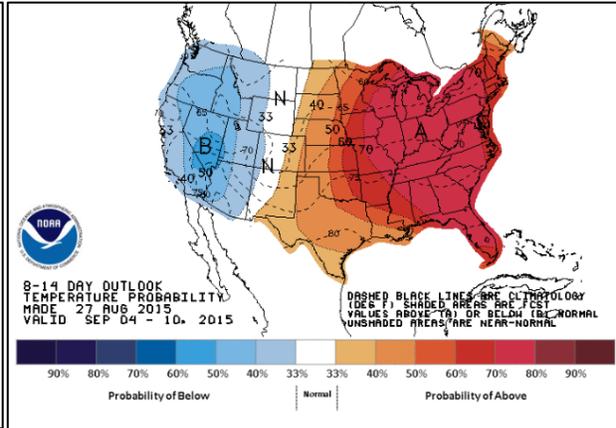
## Temperature Forecasts

The [6-10 day temperature outlook](#) shows the forecaster's confidence (probability) that the observed temperature will be in the range of one of three possible categories - below (B), normal (N), or above (A) based on the 30-year climatology record of 1981-2010. The 6-10 day temperature outlook is for **below-normal** temperatures throughout Washington (and California)! The [8-to-14 day temperature outlook](#) looks similar to the 6-10 day forecast: Cooler and cool (relatively speaking).

6-10 day forecast on 8/27 for Sep 2 through 6

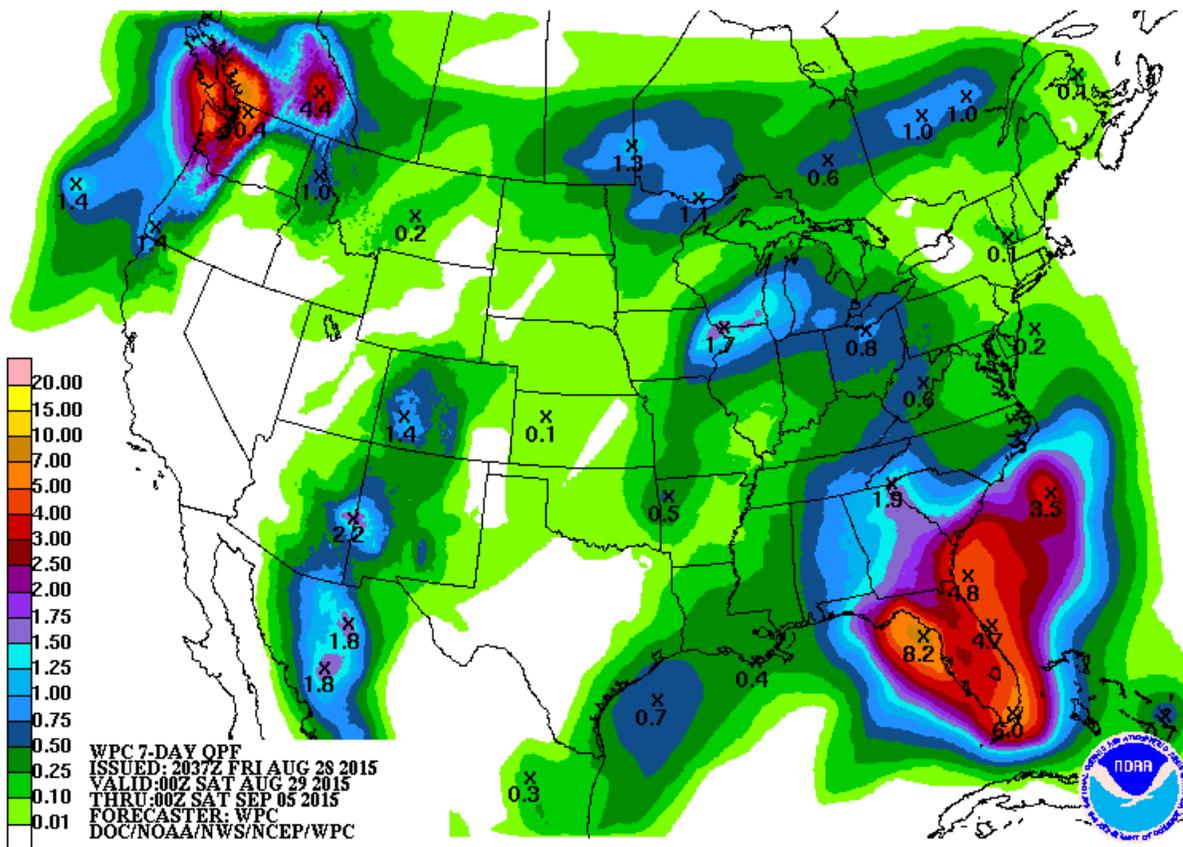


8-14 day forecast on 8/27 for Sep 4 through 10



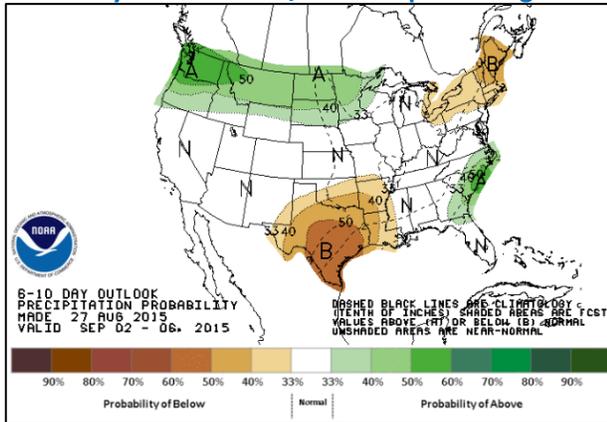
### Precipitation Forecasts

One to **five** inches of [precipitation](#) is expected Western Washington and Cascade Mountains over the next seven days (below), with some precipitation expected in the mountains of Eastern Washington and some heavy rains in the B.C. Columbia headwaters.

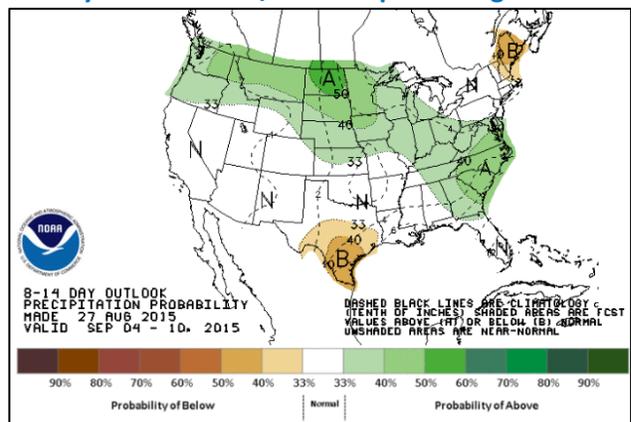


The [6-to-10 day probability of precipitation](#) is above-normal statewide, and this carries through to the [8-to-14-day precipitation probability outlook](#).

6-10 day forecast on 8/27 for Sep 2 through 6



8-14 day forecast on 8/27 for Sep 4 through 10

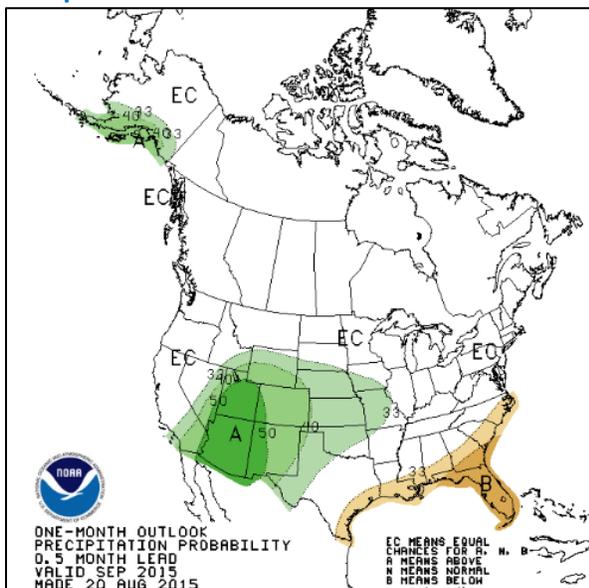


## Climate Predictions

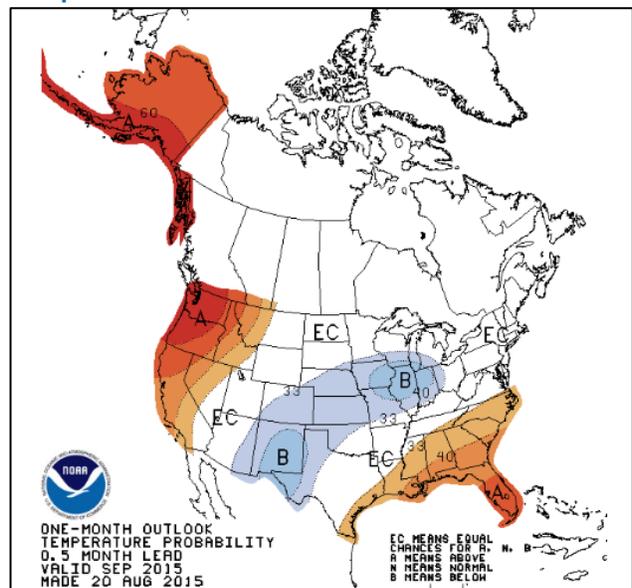
Lest we become complacent because of the favorable (for fish) change in weather over the next two weeks, please keep in mind the following [seasonal climate outlooks](#) for the rest of 2015 and into 2016.

Let's start with the September 2015 forecast. It's times like these when we need to be mindful of the difference between climate forecasting and weather forecasting, right? I read this as normal rain, but higher than normal temperatures. I'm pretty sure this rain statistic is averaged over the whole month, so does that mean we will get all of September's rain next week? It's worth considering as we plan our fish centric activities for the rest of fall.

8/20 forecast for September 2015  
Precipitation

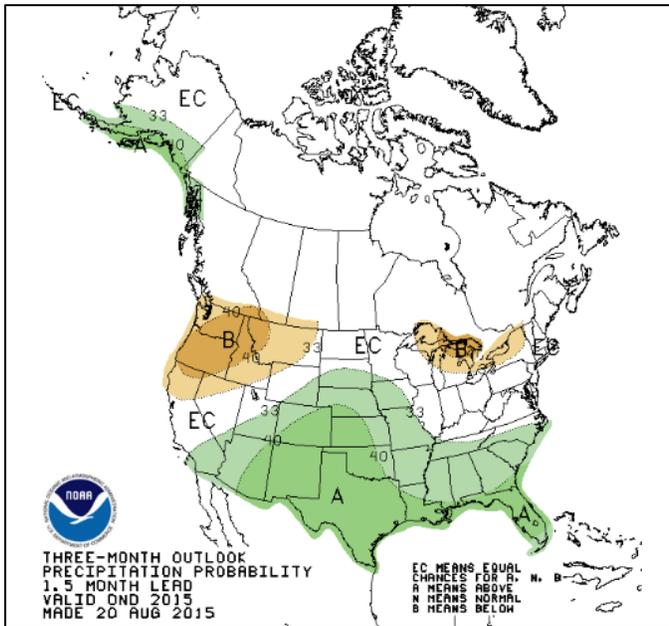


8/20 forecast for September 2015  
Temperature

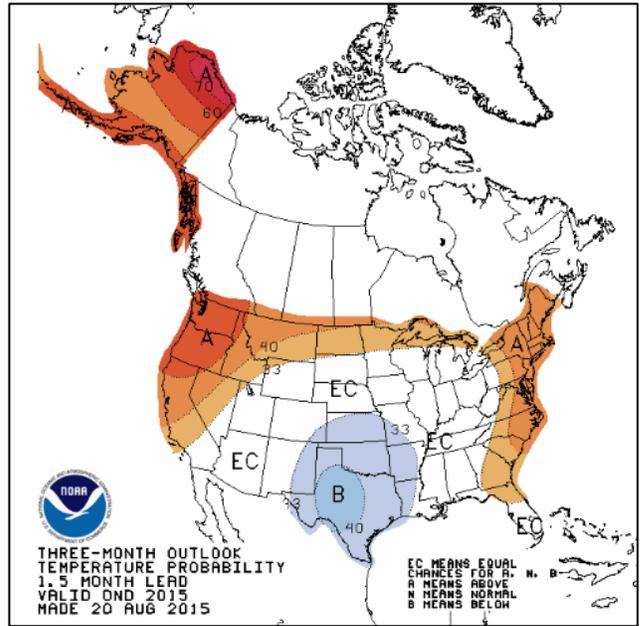


Here are the forecasts for the rest of 2015 (below). Back to warmer and drier than normal.

8/20 forecast for Oct-Nov-Dec 2015  
Precipitation

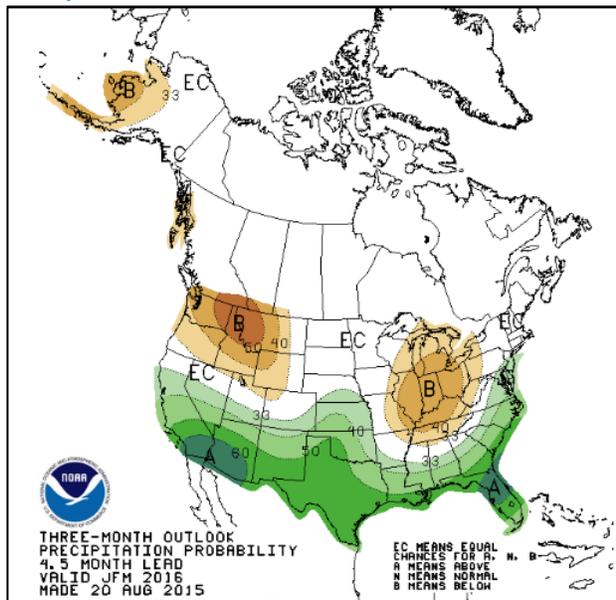


8/20 forecast for Oct-Nov-Dec 2015  
Temperature

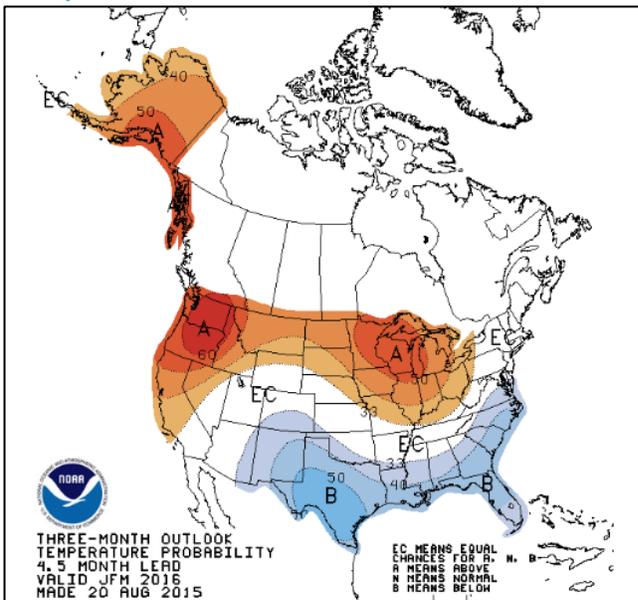


Forecasts for early 2016 seem generally consistent with the fall - warmer and drier:

8/20 forecast for Jan-Feb-Mar 2016  
Precipitation

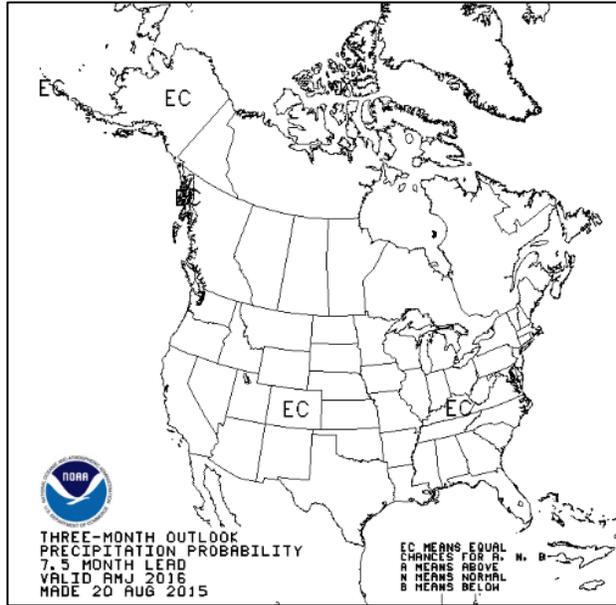


8/20 forecast for Jan-Feb-Mar 2016  
Temperature

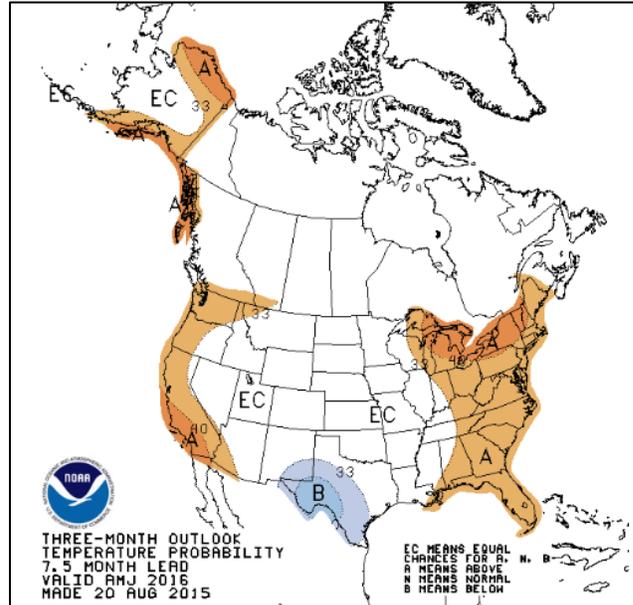


And for April, May, and June 2016, conditions look to be warmer than normal, with normal precipitation. The precipitation forecast for this period is my favorite: “EC” means “equal chance,” which means “equal chance of above- or below- normal precipitation.”

**8/20 forecast for April-May-June 2016  
Precipitation**



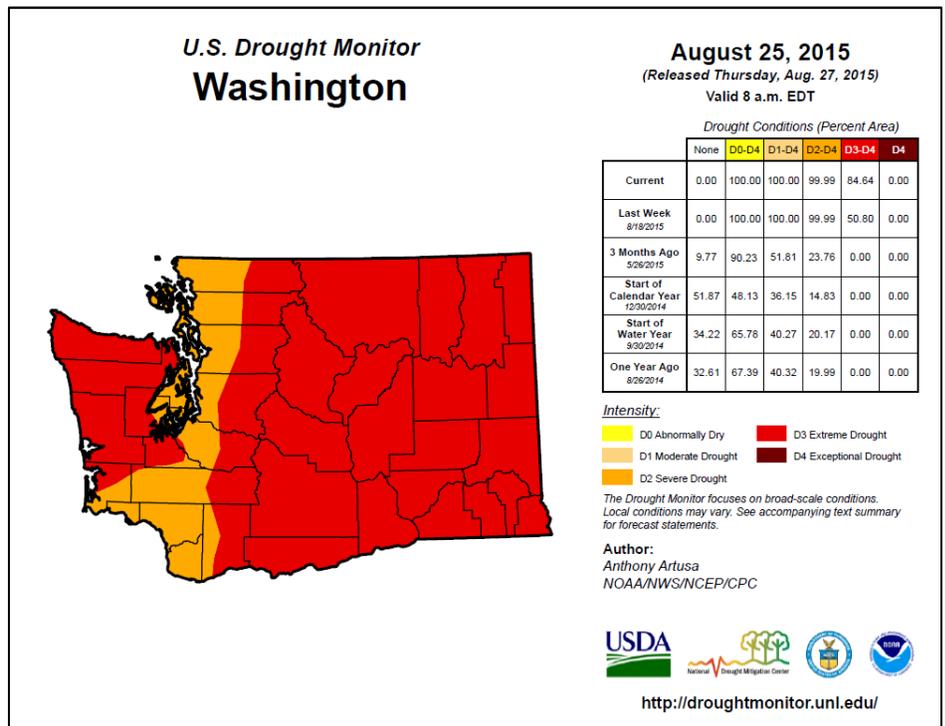
**8/20 forecast for April-May-June 2016  
Temperature**



**Federal Drought Status**

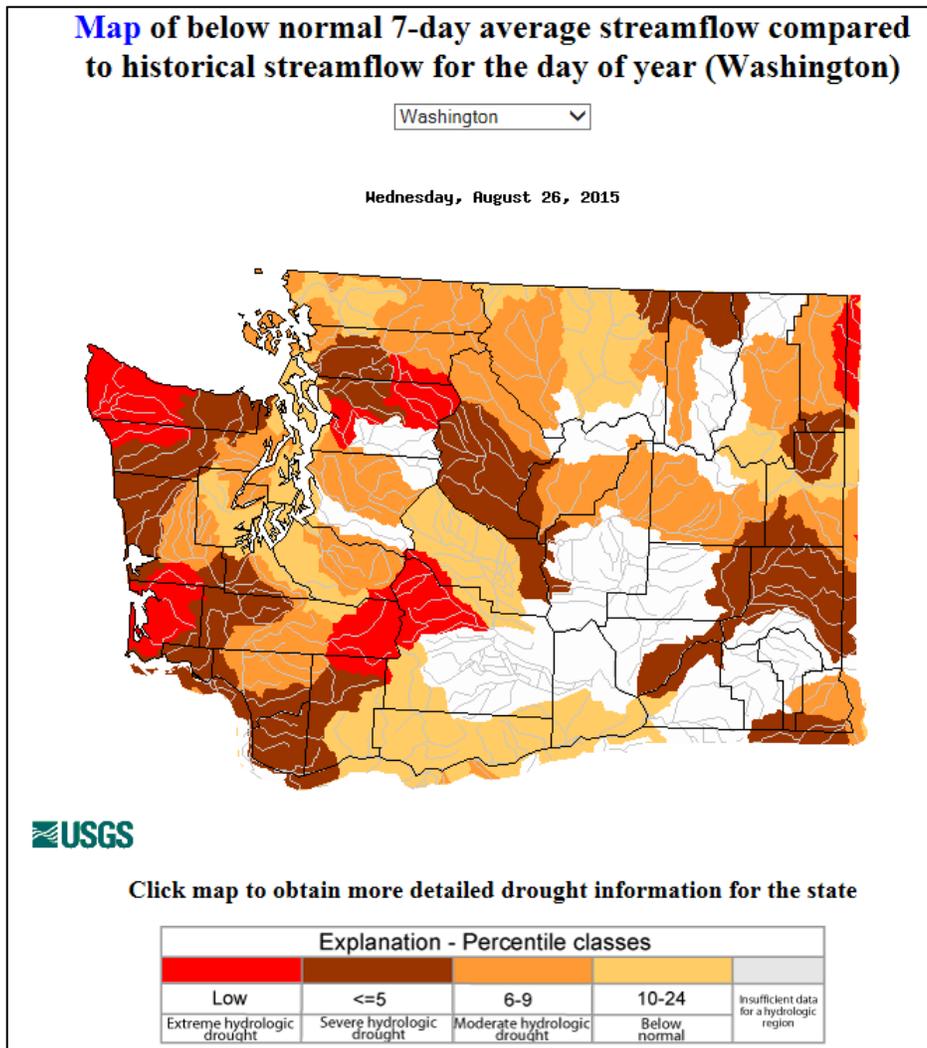
The [U.S. Drought Portal](#) provides the weekly drought status for the nation (below). Find out more about U.S. Department of Agriculture disaster status and relief programs at the [USDA Disaster Assistance](#) web page. The total area of Washington in Extreme Drought Category D-3 expanded 34 percent this week.

Many farmers suffering crop losses in the statewide drought are now eligible for low interest emergency loans from the U.S. Department of Agriculture. [2015 United States Department of Agriculture Drought Disaster Updates](#). [Small Business Administration](#) offers low interest drought disaster loans in 35 Washington counties to small businesses, small agricultural cooperatives, small aquaculture businesses, and non-profit organizations of all sizes.



## Stream Flows

This USGS figure showing [stream gauges with below normal streamflow](#) for 7 days or more (below) provides the best overview of Washington conditions this week.



## Selected Washington Streamflows Table

The table gives a quick visual reference for daily flows as a percent of normal for this date in the historic record. We selected 43 out of a total of 254 flow gauges in Washington as a subjectively representative sample of Washington conditions. The first column shows the gauge location, the second column shows today's stream flow readings, the third column shows today's flows as a percentage of average flows for this date throughout the period of record, column four shows the (previous) minimum flow for this date, and the fifth column shows in what year that minimum occurred.

Thirteen of our select set of 43 locations set record lows on August 27, 2015. Low flow records are occurring marginally less frequently as we move into the traditional low-flow periods for Washington streams. [Statewide streamflows](#) are available from USGS.

<b>Selected Washington Streamflows for 43 out of 254 gauges in Washington</b>	<b>Today's Flow (cfs)</b>	<b>Percent of average for this date in the record</b>	<b>Min Flow (cfs)</b>	<b>Min Yr</b>
Mf Nooksack River Near Deming, Wa	159	49%	107	1994
Nooksack River At Ferndale, Wa	1,190	63%	919	2009
Skagit River Near Concrete, Wa	5,660	61%	4,120	1973
Sauk River At Darrington, Wa	407	49%	450	1928
Cascade River At Marblemount, Wa	280	41%	392	2009
Nf Stillaguamish River Near Arlington, Wa	163	31%	144	1938
Snoqualmie River Near Carnation, Wa	438	39%	367	1973
Skykomish River Near Gold Bar, Wa	300	25%	419	2003
Issaquah Creek Near Mouth Near Issaquah, Wa	15	44%	13	2003
Cedar River Below Diversion Near Landsburg, Wa	87	57%	86	1995
Cedar River At Renton, Wa	120	62%	41	1958
Big Soos Creek Above Hatchery Near Auburn, Wa	25	76%	20	2003
Green River Near Auburn, Wa	266	87%	220	1969
South Prairie Creek At South Prairie, Wa	22	26%	29	1967
Puyallup River At Puyallup, Wa	1,460	75%	618	1973
Nisqually River At Mckenna, Wa	493	100%	32	1961
Deschutes River Near Rainier, Wa	21	50%	21	1992
Nf Skokomish R Bl Staircase Rpds Nr Hoodspport, Wa	29	22%	49	1930
Dungeness River Near Sequim, Wa	84	38%	98	2005
Hoko River Near Sekiu, Wa	8	21%	12	1985
Calawah River Near Forks, Wa	39	23%	47	1992
Hoh River At Us Highway 101 Near Forks, Wa	529	46%	518	2009
Satsop River Near Satsop, Wa	208	60%	167	1994
Chehalis River Near Grand Mound, Wa	92	33%	93	1951
Naselle River Near Naselle, Wa	13	23%	20	1958
Cowlitz River Below Mayfield Dam, Wa	3,740	148%	1,250	1940
Cowlitz River At Packwood, Wa	289	42%	374	1992
Lewis River At Ariel, Wa	867	63%	275	1931
White Salmon River Near Underwood, Wa	482	72%	376	1994
Klickitat River Above West Fork Near Glenwood, Wa	75	64%	58	1994
Walla Walla River Near Touchet, Wa	20	77%	3	1961
Tucannon River Near Starbuck, Wa	51	81%	24	1931
Grande Ronde River At Troy, Or	417	53%	408	1994
Yakima River At Kiona, Wa	3,440		753	1994
American River Near Nile, Wa	35	48%	35	1944
Crab Creek At Irby, Wa	1	9%	0	1973
Wenatchee River At Plain, Wa	308	35%	322	2005
Methow River Near Pateros, Wa	240	45%	230	1970
Okanogan River At Malott, Wa	539	42%	318	2003

Okanogan River At Oroville, Wa	218	37%	100	1944
Spokane River At Spokane, Wa	733	46%	522	2003
Colville River At Kettle Falls, Wa	35	40%	15	1931
Pend Oreille River Below Box Canyon Near Ione, Wa	3,380	28%	5,380	1973

## ***Real-Time Water Temperature from USGS and Ecology***

USGS Real Time temperature stations in Washington are not as numerous as their streamflow cousins, but are still helpful to stream watchers and fish managers.. Follow this link to see the [Real Time Temperature Stations map](#) for Washington. Below is a table showing Thursday's [water temperature at all Washington gauges](#) having that attribute, in degrees C. Colors represent relative value with darkest green being lowest and darkest orange being highest within this dataset. Twenty-three of 65 temperature gauges in Washington are registering at or higher than the lethal threshold for salmon; there were 29 last week. Note that this sample of gauges is heavily weighted by stations at Columbia-Snake hydropower facilities, so statistics like *percent-of-Washington-gauges* would not be representative of overall status in Washington.

<b>WATER TEMPERATURE FOR 65 GAUGES IN WASHINGTON ON AUGUST 27, 2015</b>	<b>DEGREES C</b>
Nf Skokomish R Bl Staircase Rpds Nr Hoodspoint, Wa	19.4
White River At Headworks Ab Flume Nr Buckley, Wa	14.7
White River At R Street Near Auburn, Wa	17.7
Lake Tapps Diversion At Dieringer, Wa	14.6
Puyallup River At Puyallup, Wa	10.6
Duwamish River At Golf Course At Tukwila, Wa	18.9
Cedar River Near Cedar Falls, Wa	13.1
Cedar River At Cedar Falls, Wa	19.5
Cedar River Below Diversion Near Landsburg, Wa	13.8
Cedar River At Renton, Wa	17.8
South Fork Sultan River Near Sultan, Wa	14.6
Sultan River Below Diversion Dam Near Sultan, Wa	15.3
North Fork Tolt River Near Carnation, Wa	11.6
South Fork Tolt River Near Index, Wa	13.7
South Fork Tolt River Near Carnation, Wa	15.7
Sf Tolt River Bl Regulating Basin Nr Carnation, Wa	15.5
Nf Stillaguamish East Pooled Slide Area Nr Oso, Wa	6.4
Skagit River At Newhalem, Wa	15
Skagit River At Marblemount, Wa	15.7
Nf Nooksack River Bl Cascade Creek Nr Glacier, Wa	11.3
Sf Nooksack River At Saxon Bridge, Wa	17.7
Nooksack River At North Cedarville, Wa	14.2
Boundary Reservoir At Forebay Nr Metaline Falls	21.7
Pend Oreille River At International Boundary	21.8
Columbia River At Bridgeport, Wa	19.8
Ninemile Creek Near Oroville, Wa	N/A
Osoyoos Lake Near Oroville, Wa	23.1
Okanogan River At Oroville, Wa	22.1

Similkameen River Near Nighthawk, Wa	17.4
Okanogan River Near Tonasket, Wa	19.7
Okanogan River At Malott, Wa	20.6
Okanogan River Nr Wakefield Br South Of Malott, Wa	20.1
Andrews Creek Near Mazama, Wa	13.3
Methow River Near Mouth Near Pateros, Wa	18.9
Wells Powerplant Headwater Near Pateros, Wa	19.1
Wells Powerplant Headwater Near Pateros, Wa	18.9
Wells Powerplant Headwater Near Pateros, Wa	18.9
Columbia River Below Hwy 395 Bridge At Pasco, Wa	20.8
Snake River Bl Mcduff Rapids At China Gardens, Id	22.5
Snake River Near Anatone, Wa	22.2
North Fork Clearwater River At Ahsahka, Id	7.7
Clearwater River Nr Peck Id	9.7
Clearwater River Nr Peck Id	9
Clearwater River Near Lewiston, Id	11
Lower Granite Lk Forebay At Lower Granite Dam, Wa	20
Snake River (Right Bank) Bl Lower Granite Dam, Wa	19.4
Lake Bryan Forebay At Little Goose Dam, Wa	20.1
Snake River Below Little Goose Dam, Wa	20.5
Lake H G West Forebay At Lower Monumental Dam, Wa	20.6
Snake River Below Lower Monumental Dam, Wa	20.6
Lake Sacajawea Forebay At Ice Harbor Dam, Wa	20.9
Snake River Bl Goose Island Bl Ice Harbor Dam, Wa	21.4
Columbia River At McNary Dam Lock Nr Umatilla, Or	21
Columbia River Below McNary Dam Near Umatilla, Or	21.1
Columbia River At The Dalles, Or	21.7
Columbia River, Right Bank, At Washougal, Wa	21.3
Columbia River At The Dalles Dam Forebay, Wa	21.6
Columbia River At Bonneville Dam Forebay, Wa	21.3
Columbia River At Cascade Island, Wa	21.3
Columbia River, Right Bank, Near Cliffs, Wa	21.4
Columbia River At John Day Dam Navigation Lock, Wa	21.4

Most Puget Sound streams are still cool, with the Green, Cedar, and SF Nooksack all in the upper teens. Temperatures above 20 degrees C are still occurring along the mainstem Columbia and Snake Rivers and the Okanogan and Pend Oreille.

Ecology's [Flow Monitoring Network](#) provides water temperature monitoring at several Ecology and co-op stations. Definitely check out whether there is an Ecology gauge in your area and spend a little time looking at the information. Data for the Lake Washington Ship Canal can be found [here](#).

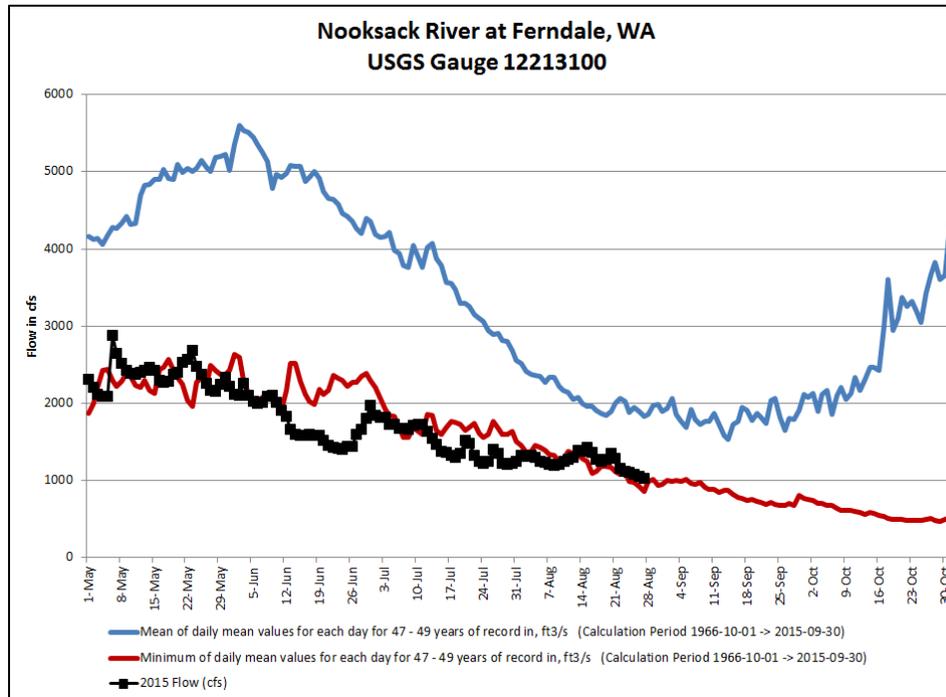
## Drought Impacts to Fish and Wildlife

WDFW's latest drought news regarding fishing and hydraulic projects closures and restrictions can be found at <http://wdfw.wa.gov/conservation/drought/>.

### Nooksack River

Looks like recent rain perked flows a bit in the Nooksack. On the Nooksack, Ecology has actively curtailed 9 water rights as of today. WDFW announced August 27<sup>th</sup> some fishing closures in the Nooksack forks and tributaries. Read more at

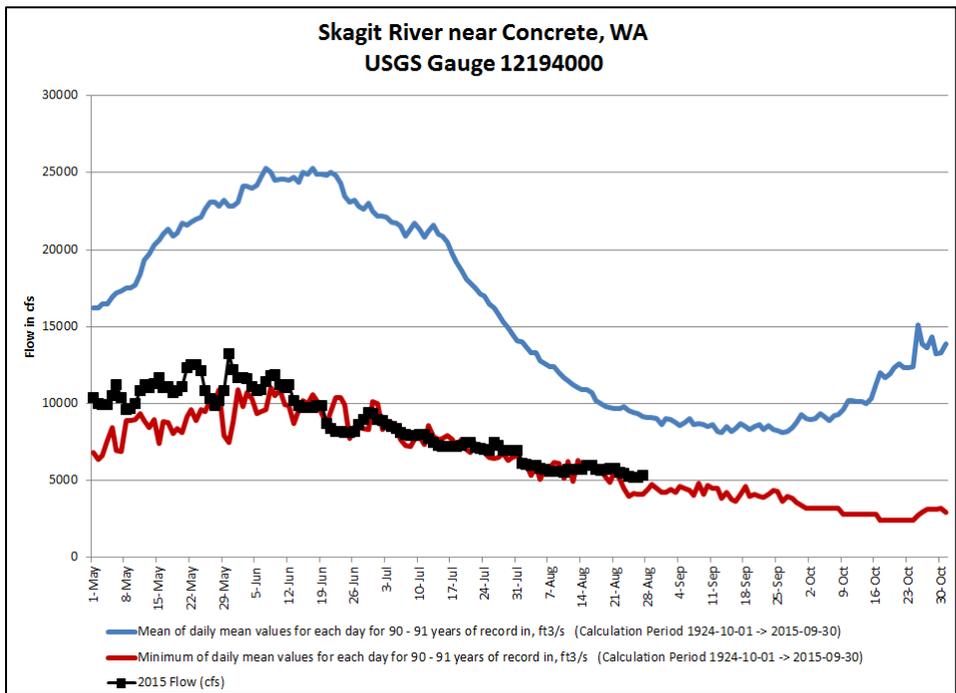
<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=1664>.



### Skagit River

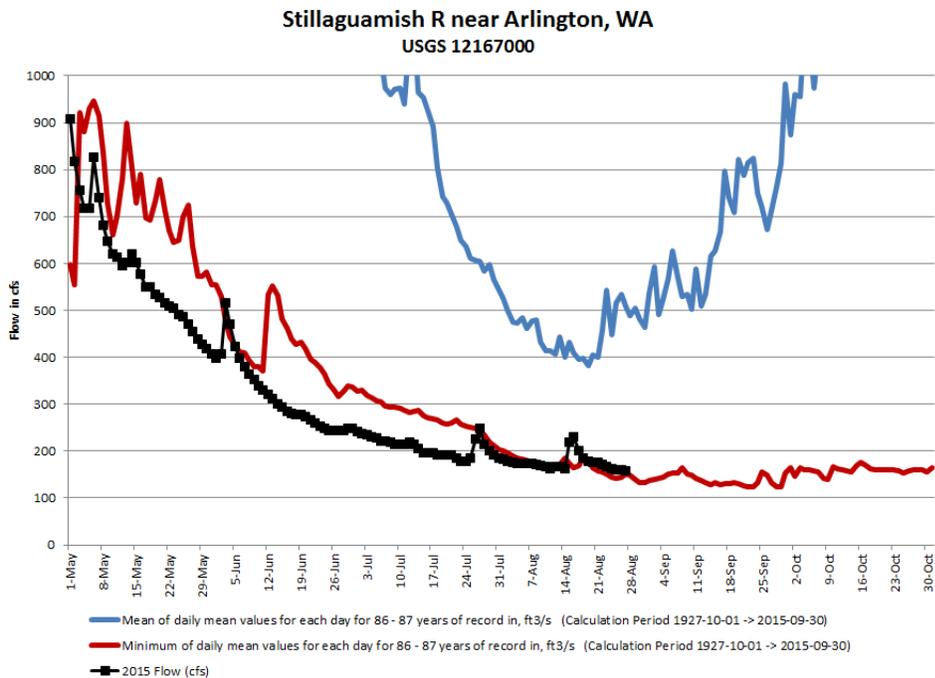
Skagit flows reflect continued compliance with FERC license outflows for the Baker and Ross projects. Ecology has sent 3 letters warning water users of potential for curtailment. Areas of the Sauk River have been closed to fishing; read more at

<https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=1663>.



## Stillaguamish

Again, recent rains provided a small increase in flow.

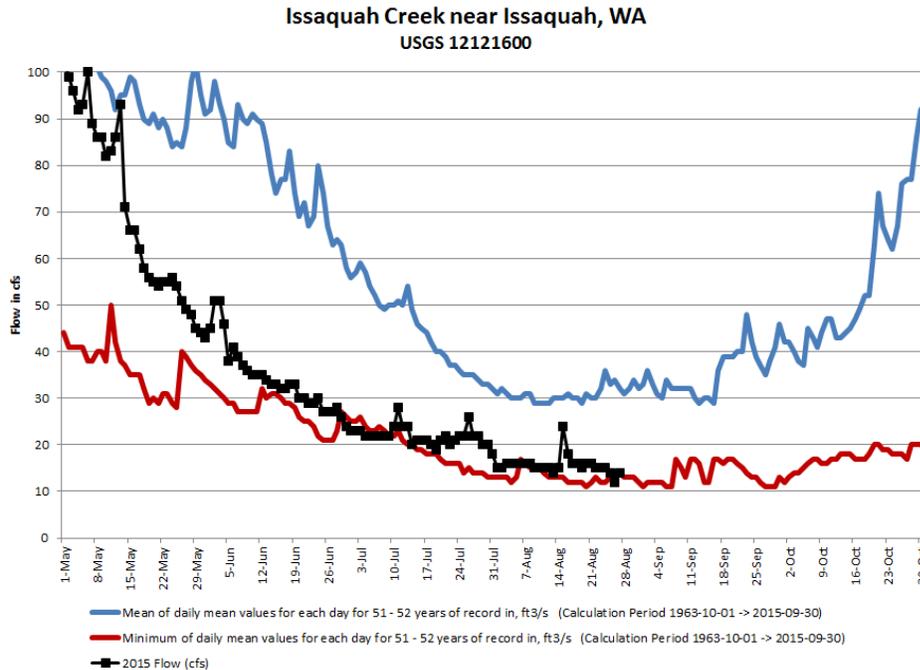


## Snohomish

Snoqualmie River fishing hours have been restricted; read more at <https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=1665>.

## Lake Washington/Cedar

Issaquah Creek flows are declining. Conditions at the hatchery are holding.



### King County Flow and Temperature Conditions August 17-23

Following are excerpts from correspondent Curtis DeGasperi from King County Department of Natural Resources and Parks. King County presents weekly summaries on King County river and creek flows and temperatures. Request data and/or get on the distribution list for this information at [Jim.Simmonds@kingcounty.gov](mailto:Jim.Simmonds@kingcounty.gov)

Washington Department of Fish and Wildlife announced limitations August 14 on various activities in rivers, including limits on aquatic plant removal and suction dredging. In King County, the Raging River is closed to all aquatic plant removal (except hand pulling) and suction dredging activities. The South Fork Skykomish River from Sunset Falls upstream and all tributaries also has limitations in place for aquatic plant removal and suction dredging.

### WATER SUPPLY STATUS

- Seattle, Everett, Tacoma, and the Cascade Water Alliance continue a second stage – voluntary reduction – of their water shortage response plans and are asking customers to help by voluntarily reducing water use by 10 percent. More information available here <http://www.seattle.gov/util/MyServices/Water/AbouttheWaterSystem/WaterSupply/index.htm> and here <http://www.savingwater.org/>.
- As of August 17, Seattle Public Utilities (SPU) reports that they are making operational changes and activating supplementary water supplies. The combined reservoir storage of Chester Morse Lake, Masonry Pool, Lake Youngs and South Fork Tolt Reservoir remains well below the long term average for this time of the year.

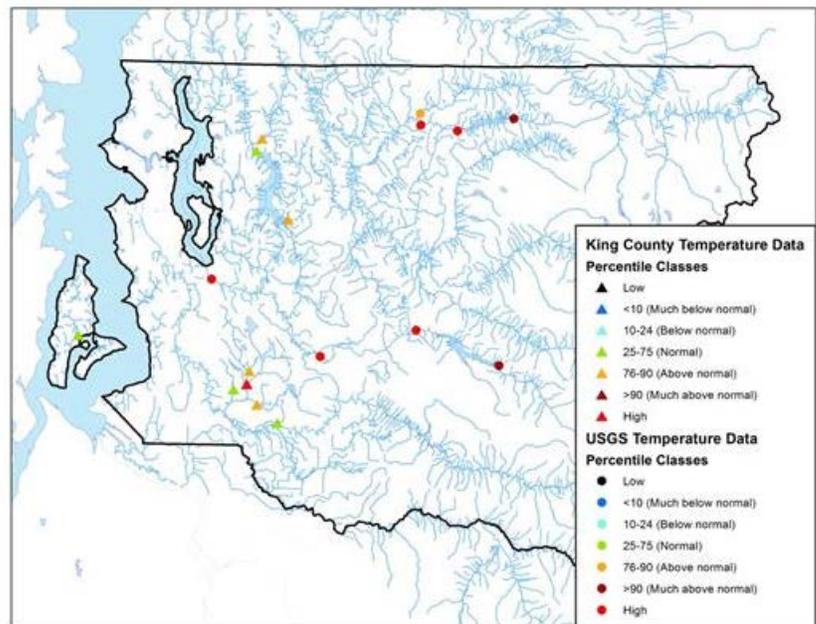
- Seattle Public Utilities, along with the cities of Everett and Tacoma, announced August 26<sup>th</sup> that in the last two weeks, the region has collectively cut back on its water use by 10 percent, hitting the goal set by the utilities two weeks ago. The three cities ask customers to please keep up their efforts to reduce water use.

## FLOW AND TEMPERATURE STATUS

- 8 of 16 rivers and 6 of 24 creeks with over 15 years of flow data and real-time data delivery had the lowest flows ever recorded for the week. Conversely and unexpectedly, 14 of these same 24 creeks had flows that were typical for the week.

- 5 of 15 rivers/streams with over 15 years of temperature data and real-time data delivery had the highest temperatures ever recorded for the week, and another 7 of these 15 were at least higher than typical for the week. Maximum daily temperatures in the Cedar River (below the reservoir and at Renton), Little Soos, and Bear Creek were between 20 degrees C and 22 degrees C.

### TEMPERATURE



- The level of Lakes Washington and Union for the past week was the third lowest on record. The temperatures at the Fish Ladder were the second highest on record (2004-2015), dropping below 2004 maximum daily temperatures.
- Lake Sammamish elevation data from USGS shows that Lake Sammamish levels are tied with 2003 for the lowest recorded for the week since the Marymoor weir was modified in 1999 to improve anadromous fish passage at low flows.

## ECOLOGICAL IMPACTS

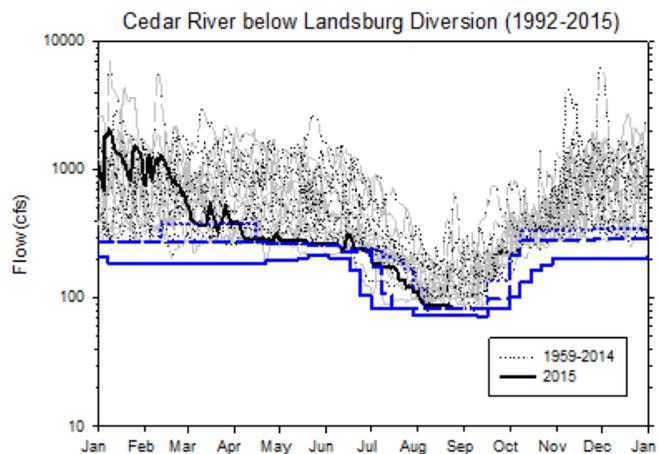
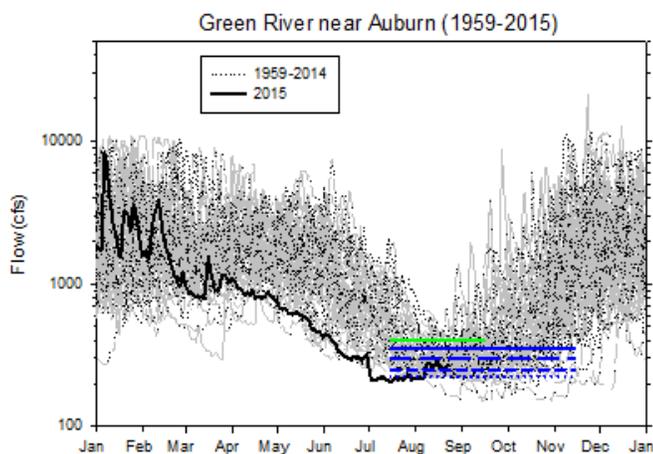
- Data collected by the Muckleshoot Tribe show that about 3,100 adult Chinook salmon and about 34,000 sockeye salmon had migrated past the Ballard Locks into the Lake Washington watershed as of August 24. This is about 41% of the 10-year average Chinook return by August 24 and about 27% of the 10-year average sockeye return by August 24. Over the past 10 years, most of the sockeye run had passed the Ballard Locks by August 24.
- Low flows and high temperatures may hinder adult salmon from reaching upstream spawning grounds. Temperatures above 20 to 21 degrees C are generally considered to be a migratory barrier to migration. Pink salmon in Alaska have shown increased mortality

above 17 degrees C combined with lower than typical dissolved oxygen. Temperatures between 20 degrees C and 23 degrees C can cause thermal stress to many salmonids and increase disease outbreaks and infection, while temperatures above 23 degrees C can cause substantial health impacts or mortality to many salmonids. Low flows also decrease available wetted habitat for spawning and rearing, limit food availability, and increase predation.

- Starting in mid-August, over 600,000 pink salmon are projected to return to the Green/Duwamish and over 1.6 million pink salmon are projected to return to the Snohomish River.

## REGULATORY AND LEGAL CONSIDERATIONS

- Flow in the Snoqualmie River is lower than the minimum instream flow established by Washington Administrative Code, which allows the state to curtail withdrawals by holders of junior water rights.
- Flows in the Green River are higher than instream flows required during drought years for Tacoma Public Utilities to withdraw water from the Green River using its primary water right claim under agreements with the Muckleshoot Tribe, but are below the minimum instream flow for Tacoma Public Utilities to withdraw water from the Green River with its second diversion water right claim.

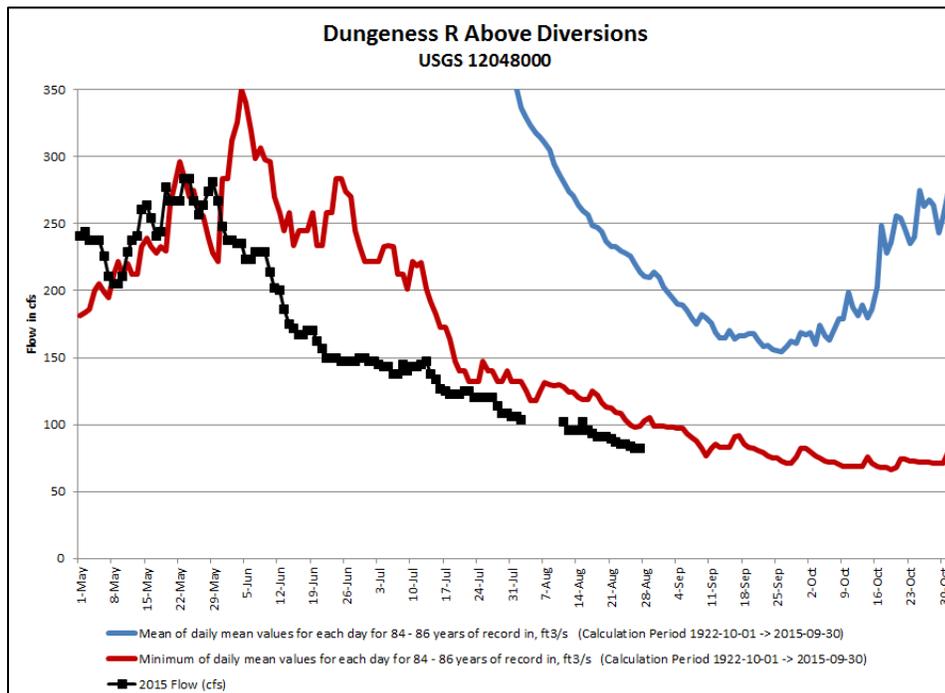


- Flows in the Cedar River are higher than the normal minimum flow required by the Habitat Conservation Plan to be maintained by Seattle Public Utilities during normal years.
- Flows in the White River were generally higher last week than the minimum flow required by the Habitat Conservation Plan to be maintained by Cascade Water Alliance.

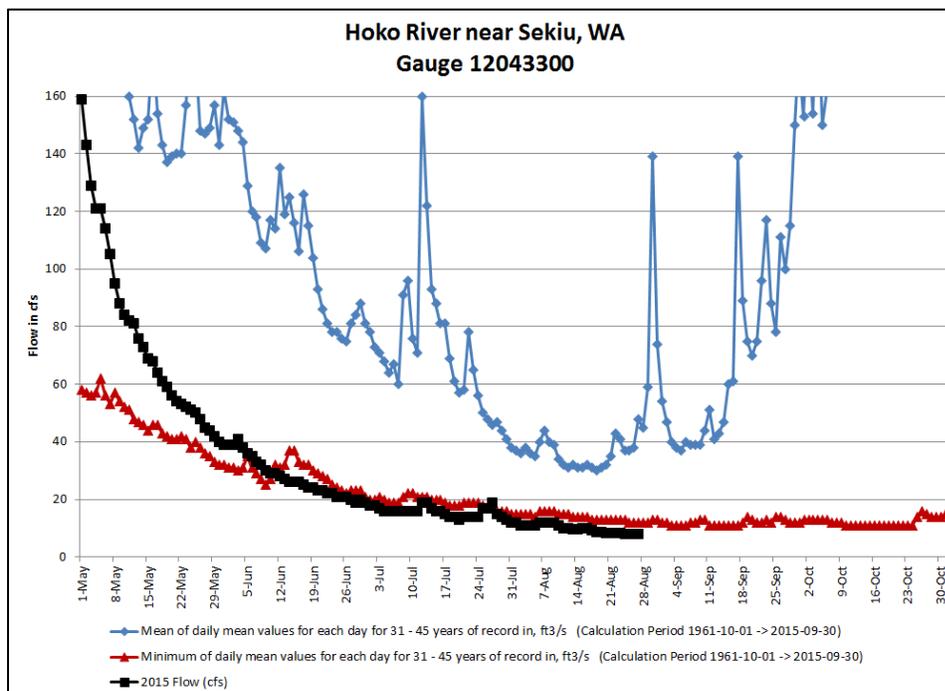
Many thanks to Curtis for sharing this information with us!

## Dungeness

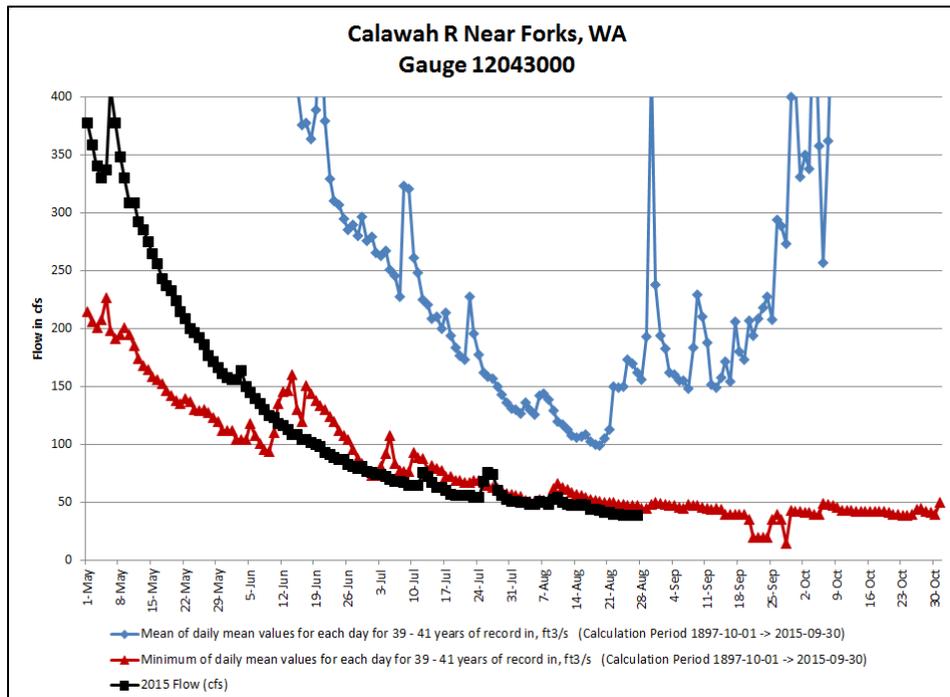
Flows show a continued downward trend. Irrigators traditionally cease diversions for the season on September 15.



Hoko continues to show record low flows.



Calawah R values give us an indication of conditions in the Bogachiel, Dickey, Sol Duc, and Quillayute Rivers.

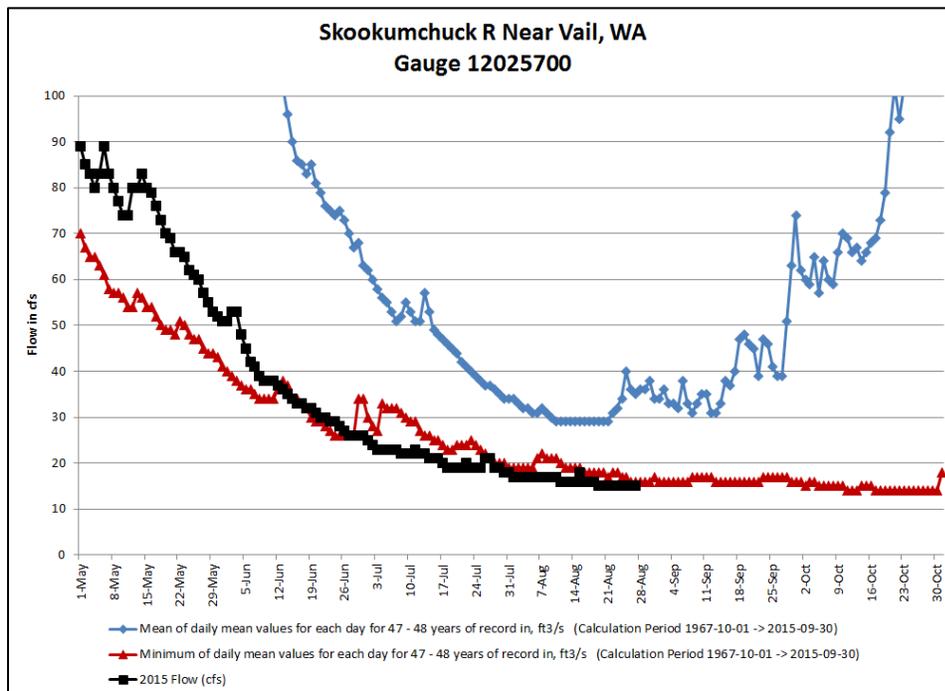


## Chehalis Basin

Ecology has actively curtailed 93 water users and issued one compliance order as of today.

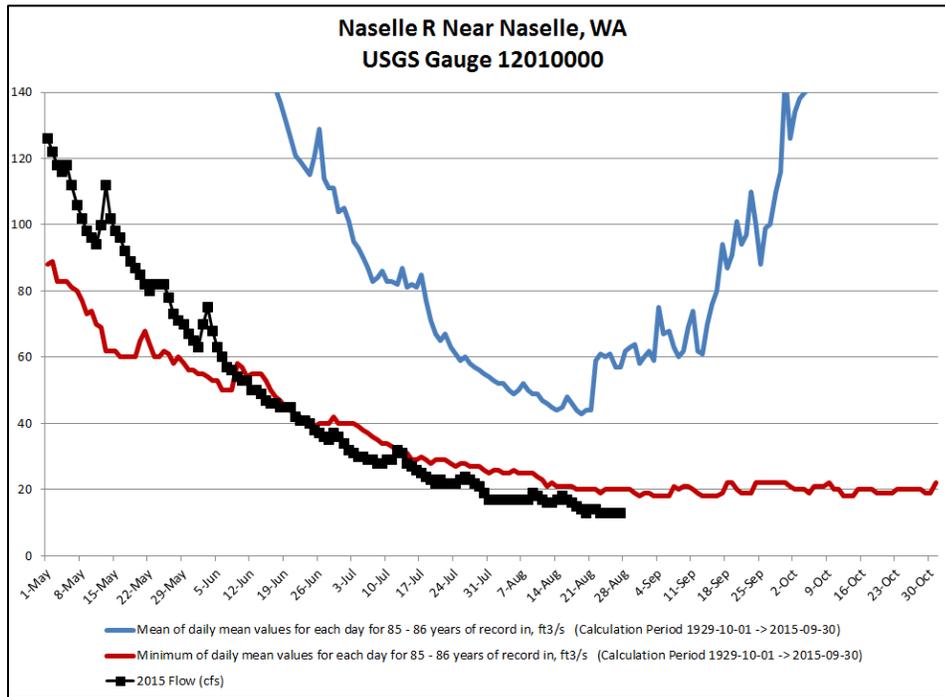
### Skookumchuck:

Flows in the figure below represent inflow to the Skookumchuck Reservoir. Records low flows continue.

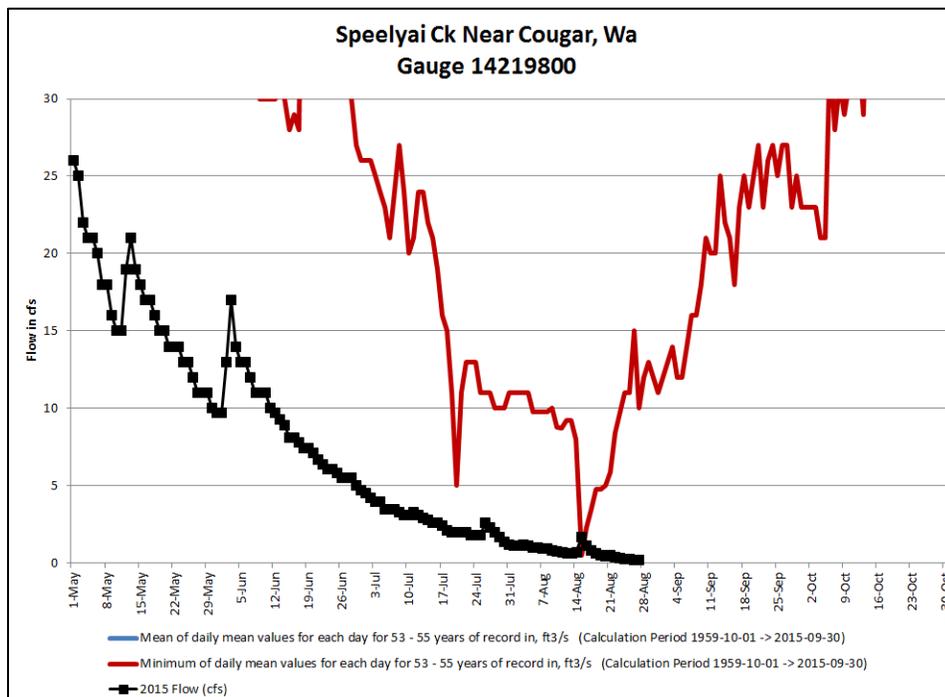


## Southwest Region

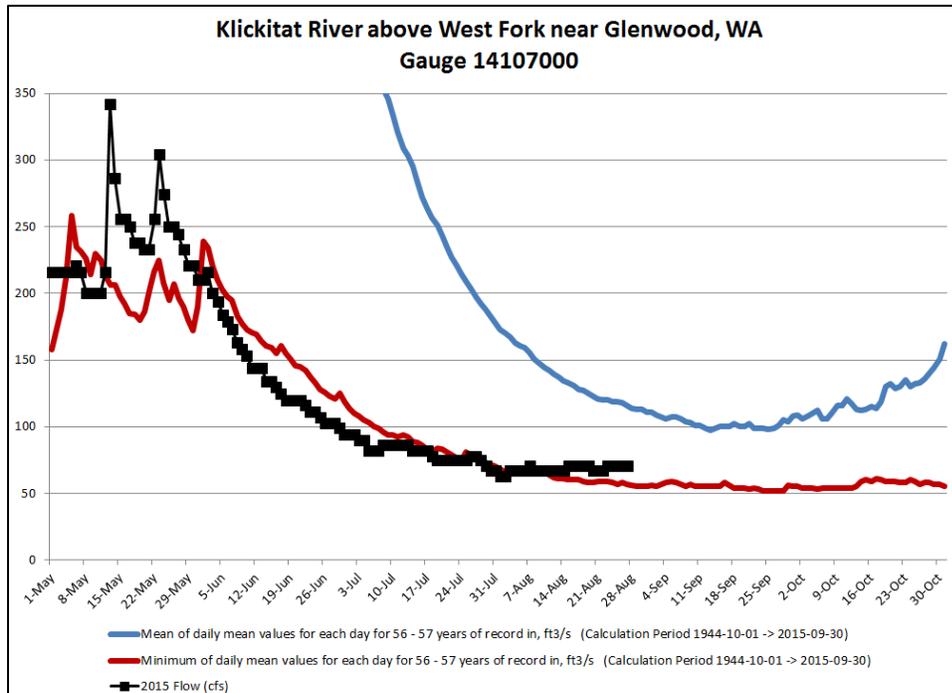
Naselle River continues to show record low flows.



Speelyai Creek rate of decline is slowing and total flow is down to less than 1 cfs.



Looks like Upper Klickitat has indeed “bottomed out.” But will it hold through the fall?.



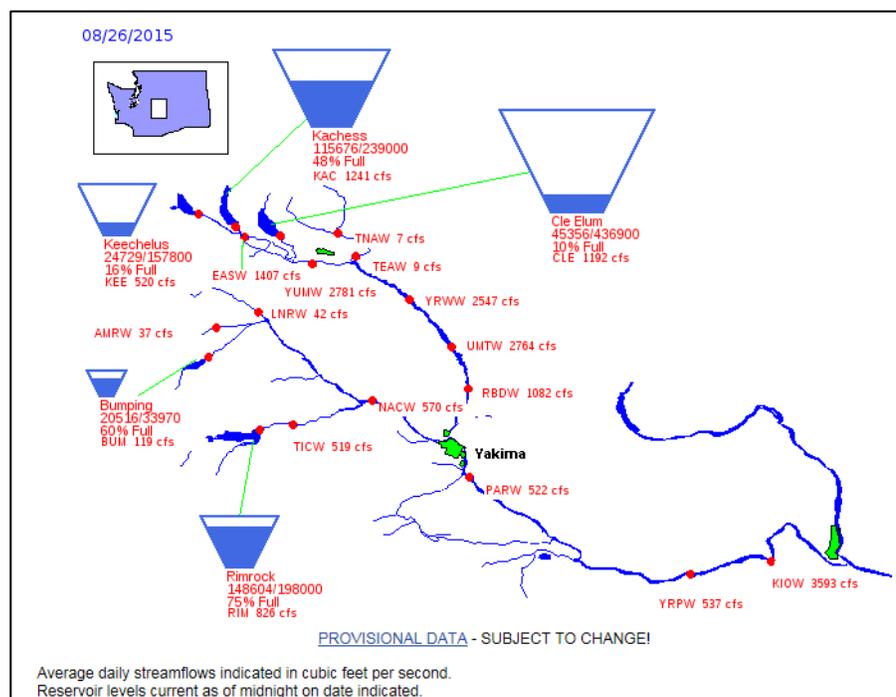
## Yakima

The Reclamation Teacup Diagram for Yakima Basin shows Lake Keechelus volume down to 16%, Kachess down to 48%, and Cle Elum down to 10%. Bumping is at 60% of full, and Rimrock is 75% full. Storage is 68.7% of average (1981-2010).

Cle Elum outflow will be reduced to around 125cfs starting the 27<sup>th</sup>. Flows in the Easton reach will continue to

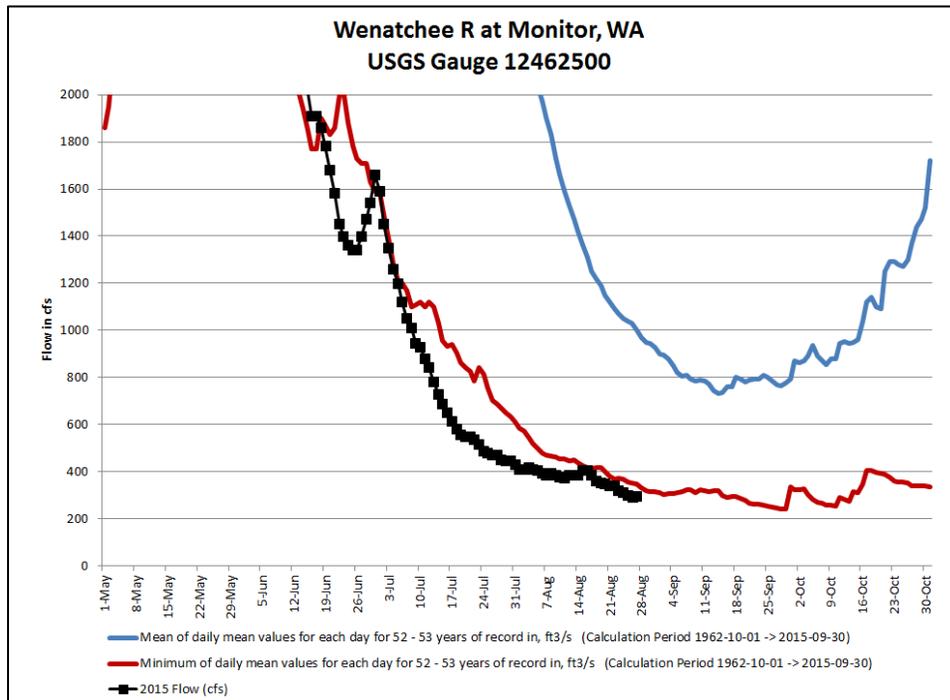
rise a bit until next week when Reclamation will begin ramping down the Easton and Keechelus reaches to achieve spawning flows. Flows in the Tieton River will remain in the 500 to 800 cfs range for the next few days. Tieton River flows will begin rising next week. Inflow to the five reservoirs is 70%, releases from the five are 79% and major canal diversions are 69% of average for August 27<sup>th</sup>.

Yakima water right curtailments by Ecology total 18 post-1805 rights, 55 Teanaway users, 32 Teanaway second-notice users, and 74 users on the Cowiche as of today.

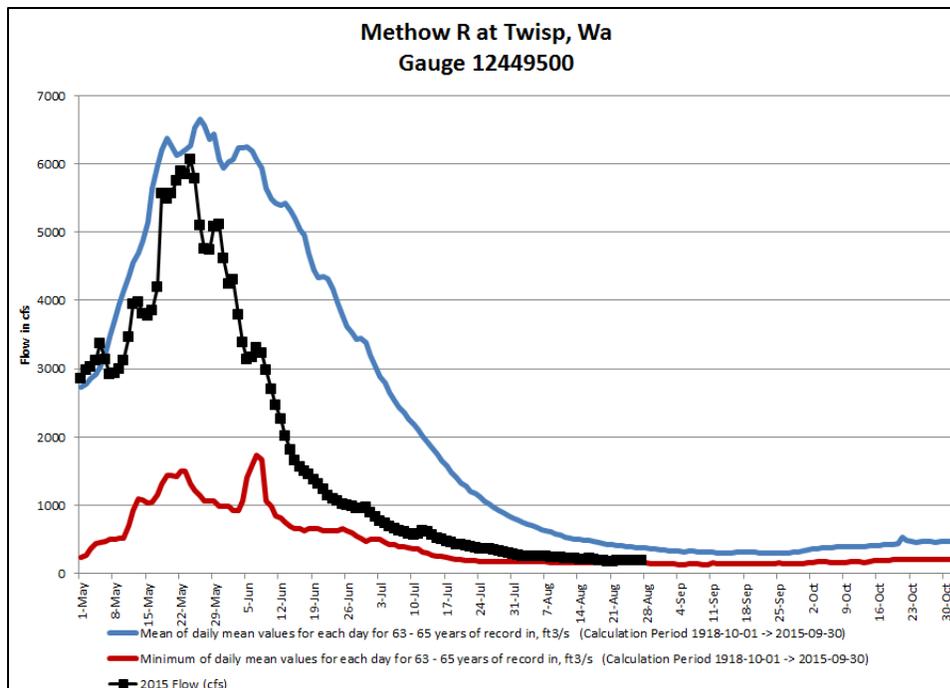


## North Central Washington

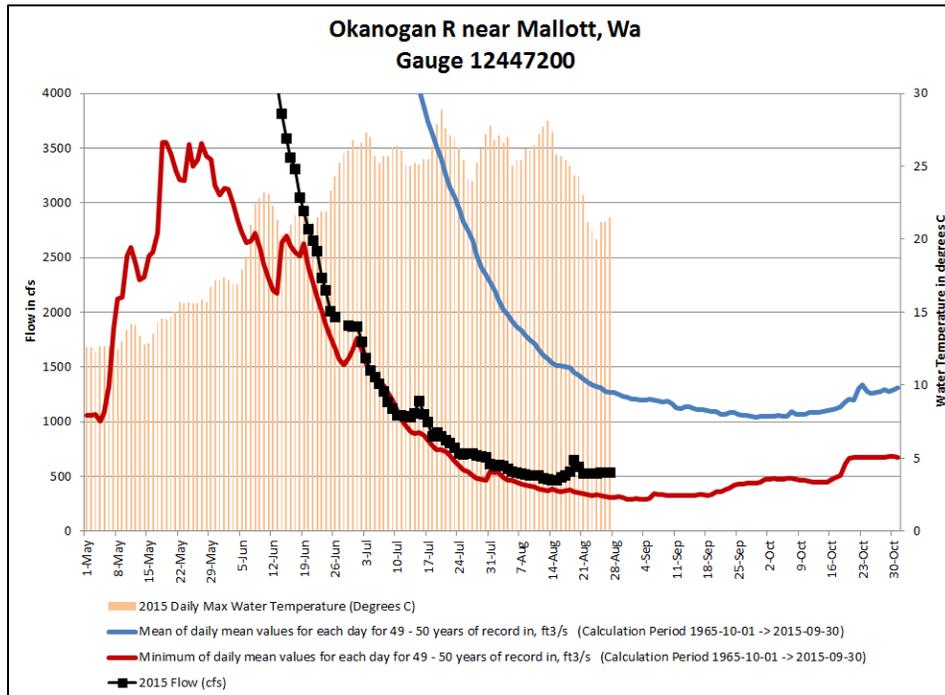
I've been watching Wenatchee River flows for several years and the July-August flows this year have been dropping in an alarmingly precipitous manner. Ecology has curtailed 91 Wenatchee basin water users.



We have moved on to the Methow River gauge at Twisp so we can continue to track flows into the fall. Flow is tracking with its historic hydrograph and low base flows, just like its upstream mate but with volumes slightly higher. Ecology has curtailed 70 water users in the Methow.

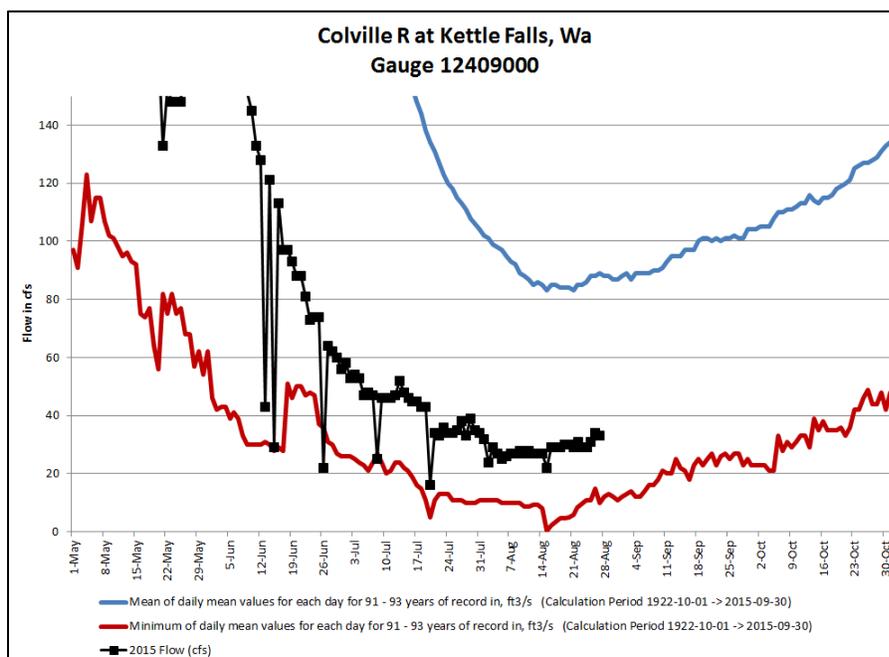


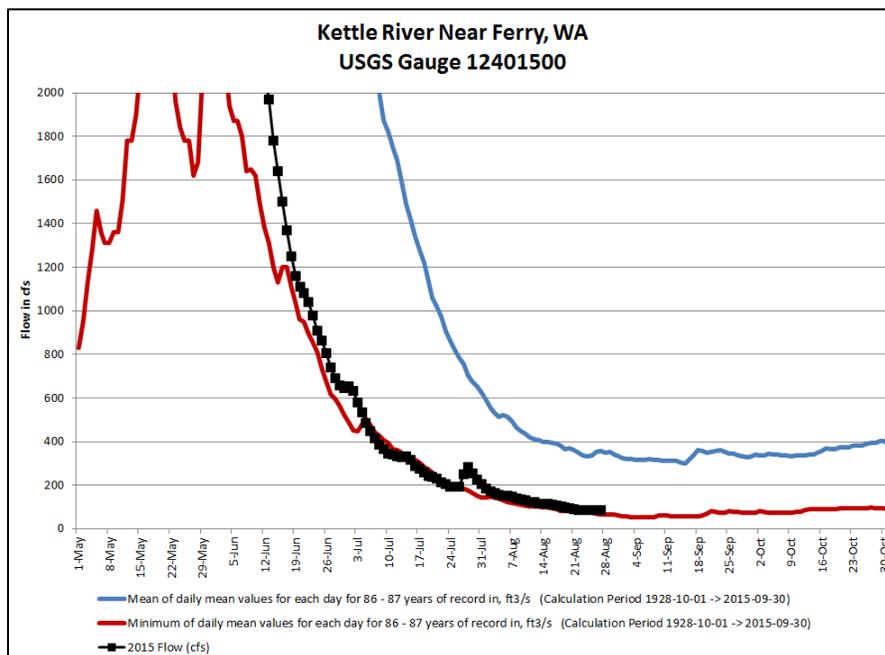
Okanogan River flows continue to rise in discharge and lower in temperature. We will watch what the temperatures do over the next week. Ecology has curtailed 101 water users in the Okanogan/Similkameen basins, with one compliance order active.



## Spokane, Northeast, and Southeast Washington

Colville River (below) appears to be increasing in accordance with its customary hydrograph. Kettle River flows (also below) are low and appear to be leveling off. Ecology has curtailed 55 water users in the Colville Basin, 140 in the Little Spokane Basin, 84 in the Walla Walla/Touchet basins, 15 in Tucannon/Asotin basins, and 41 elsewhere in the eastern region. There are also 34 compliance orders active in this region.





## Snake & Columbia Rivers

Grand Coulee Reservoir is at 1,278.9 feet (8-23-15) and has drafted 2.3 feet over the last week. Outflows at Grand Coulee have ranged between 100.9 and 127.1 Kcfs over the last week. Dworshak Reservoir is currently at an elevation of 1,539.3 feet (8-23-15) and drafted 4.5 feet over the last week. Outflows have ranged between 5.2 and 5.8 Kcfs over the last week. The BiOp summer flow target (starting June 21<sup>st</sup>) is 50Kcfs at Lower Granite Dam; flows averaged 26.8 Kcfs since June 21<sup>st</sup>, and 18.9 Kcfs over the last week. The summer BiOp target at McNary Dam (which began July 1<sup>st</sup>) is 200Kcfs; McNary has averaged 143.3 Kcfs since July 1<sup>st</sup>, and 151.0 Kcfs over the past week. Many thanks to Dave Benner at Fish Passage Center who shares this report on reservoir operations and river flows each week.

## WDFW Headquarters Drought Response Activity

Staff drought resources are available on the WDFW shared drive at <S:\All Agency\Shared Projects\DROUGHT 2015>.

## Drought-related Hatchery Actions for the week of August 24-August 27

REGION	FACILITY (SPECIES)	MORTALITY (% PRODUCTION)	COMMENTS
2	Carlton Ponds	0 this week 0 cum. (0% cum.)	Grant County PUD to follow up on water right meeting with Okanogan County
3	Naches Hatchery	0 this week 0 cum. (0% cum.)	Construction should begin next week for the hatchery re-use system. The well project is still moving forward with a plan to drill one well and use the results to determine next steps.
4	Bellingham (Rainbow Trout)	0 this week 5,760 cum. (80% cum.)	

4	Issaquah (Coho)	0 this week 6,728 cum. (1% cum.)	
4	Soos Creek (Summer Steelhead)	0 this week 41,308 cum. (60% cum.)	
4	Soos Creek (Coho)	0 this week 172,963 cum. (21% cum.)	
5	Grays River (Steelhead)	0 this week 150,300 cum. (93% cum.)	
5	North Toutle (Coho)	0 this week 101,746 (76% cum.)	
5	Washougal (Coho)	0 this week 37,000 cum. (2% cum.)	
6	Forks Creek (Steelhead)	0 this week 14,489 cum. (24% cum.)	
6	Lake Aberdeen (Steelhead)	0 this week 64,903 cum. (22% cum.)	
6	Naselle (Steelhead)	0 new 64,989 cum. (22% cum.)	
6	Naselle (Coho)	0 new 639,646 cum. (44% cum.)	
6	Voights Creek (Coho)	0 new 347,000 cum. (44% cum.)	

### Drought-related fishery actions for the week of 8/24-8/27

- Effective July 18: Sturgeon fisheries, including catch-and-release, closed Bonneville Dam upstream in the Columbia River, the lower Snake River, and adjacent tributaries.
- Effective July 18: “Hoot-Owl” restrictions put in place in 8 rivers in Region 1, 2 rivers in Region 3, 4 rivers in Region 4, and 2 rivers in Region 5.
- Trout, salmon, and steelhead fishery closures in table below (**new closures this week in bold red**). Over 60 streams have closures or “hoot-owl” restrictions that related to drought conditions.
- A map of drought closures and restrictions is provided on the last page of this report.

REGION	RIVER	CURRENT FISHERY	RULE	RATIONALE
1	North Fork Touchet above Spangler Creek (7/18)	Trout	Closed	Extreme low flows. Protect adult spring Chinook and juvenile steelhead
1	South Fork Touchet (7/18)	Trout	Closed	
1	Wolf Fork (Touchet) (7/18)	Trout	Closed	
1	Asotin Creek and tributaries (7/18)	Trout	Closed	
1	Kettle River (7/18)	Redband Trout	Closed	Extreme low flows and high

				temperatures; reports of fish mortality. Protect redband trout.
1	Mill Creek (Walla Walla Co.) from Bennington Dam to State Line midnight (8/14)	All species	closed 2:00 p.m. to midnight	Low water flows and higher than normal water temperatures
2	Wenatchee River from mouth to Icicle River Road Bridge (7/18)	Spring Chinook	Closed	Low flow and high temperature; protect ESA-listed steelhead and Chinook; allow passage of sockeye to Lake Wenatchee for escapement.
2	Icicle River from mouth to 500' downstream of Leavenworth Hatchery (7/18)	Spring Chinook	Closed	Protect ESA-listed steelhead and Chinook.
2	Lake Wenatchee (7/18) Open to sockeye (7/30) Lake Wenatchee closed to sockeye (8/12)	Sockeye	Closed to Chinook, steelhead, bull trout.	Protect ESA-listed Chinook.
2	Columbia River from Rocky Reach Dam upstream to Chief Joseph Dam (7/27)	Summer Chinook, Sockeye, Gamefish	No Sockeye Retention	Ensure adequate sockeye spawners.
2	Okanogan River from the Hwy 97 bridge upstream to Zosel Dam (7/18)	Summer Chinook, Sockeye, Gamefish	Salmon Closed Gamefish Open	High temperature. Protect ESA-listed steelhead and wild summer Chinook
2	Similkameen River mouth upstream to Enloe Dam (7/18)	Summer Chinook, Sockeye	Closed	
3	Ahtanum Creek (7/18)	Trout	Closed	Extreme low flow and high temperature. Protect ESA-listed juvenile steelhead and ESA-listed bull trout.
3	Little Naches River (7/18)	Trout	Closed	Extreme low flow and high temperature. Protect isolated adult spring Chinook and ESA-listed juvenile steelhead.
3	Teanaway River (7/18)	Trout	Closed	Extreme low flow and high temperature. Protect isolated adult spring Chinook, ESA-listed bull trout, and ESA-listed juvenile steelhead.
3	Yakima River from I-82 Bridge at Union Gap to the South Cle Elum Bridge (8/14)	All game fish	Closed 2:00 p.m. until midnight	Low water flows and higher than normal water temperatures
3	Swauk Creek and all tributaries downstream of Williams Creek (8/14)	All game fish	Closed 2:00 p.m. until midnight	Low water flows and higher than normal water temperatures
3	Swauk Creek and all tributaries upstream of Williams Creek (8/14)	All game fish	Closed	Low water flows and higher than normal water temperatures
3	Williams Creek and all tributaries (8/14)	All game fish	Closed	Low water flows and higher than normal water

				temperatures
3	American River from mouth to Hwy. 410 Bridge downstream of the USFS Hell's Crossing Campground & upstream of the Mesatchee Creek Trail crossing at river mile 15.8 (8/14)	All game fish	Closed	Low water flows and higher than normal water temperatures
4	Raging River (7/18)	Trout	Closed	Extreme low flow and high temperature. Protect ESA-listed juvenile steelhead.
4	Skykomish River (7/18)	Summer Steelhead, Trout	Closed, except Near Reiter Ponds Hatchery	Extreme low flow and high temperature. Protect isolated and concentrated ESA-listed adult Chinook, juvenile and adult steelhead.
4	Wallace River (7/18)	Trout	Closed	Extreme low flow and high temperature. Meet adult Chinook broodstock needs at hatchery.
4	Stillaguamish River upstream of Marine Drive (7/18)	Summer Steelhead, Trout	Closed	Extreme low flow and high temperature. Protect isolated and concentrated ESA-listed adult Chinook, juvenile and adult steelhead, and bull trout.
4	<b>Snoqualmie River: From the mouth to Snoqualmie Falls – Closed to fishing daily from (9/1)</b>	<b>All species</b>	<b>Closed 2:00 p.m. until one hour before official sunrise.</b>	<b>Low water flows and higher than normal water temperatures</b>
4	<b>North Fork Nooksack from the mouth to Nooksack Falls. All tributaries draining into the North Fork Nooksack from the mouth to Nooksack Falls. The Middle Fork Nooksack from mouth to the City of Bellingham Diversion Dam. All tributaries draining into the Middle Fork Nooksack from the mouth to the Diversion Dam. The mainstem Nooksack from Slater Road to the forks. South Fork Nooksack (Whatcom Co.) From the mouth to Skookum Creek, and from Wanlick Creek to headwaters including Wanlick and all tributaries.</b>	<b>All species</b>	<b>Closed</b>	<b>Low water flows and higher than normal water temperatures</b>
	<b>Sauk River (Skagit/Snohomish Co.) From the mouth of the Suiattle</b>	<b>All species</b>	<b>Closed</b>	<b>Low water flows and higher than normal water temperatures</b>

	<p><b>River to the Forks, closed to fishing.</b></p> <p><b>The North Fork Sauk from mouth to the North Fork Fall, closed to fishing.</b></p> <p><b>The South Fork Sauk from the mouth to Elliot Creek, closed to fishing.</b></p>			
4	Buck, Downey, and Sulpher creeks (tributaries to Suiattle River) (7/18)	Trout	Closed	Extreme low flow. Protect isolated and concentrated ESA-listed adult Chinook,
5	East Fork Lewis River from Lewisville Park downstream (7/18)	Steelhead, Trout	Closed	High temperature. Protect ESA-listed adult summer steelhead.
5	Washougal River from Mt. Norway Bridge downstream (7/18)	Steelhead, Trout	Closed	High temperature. Protect ESA-listed adult summer steelhead.
6	Bogachiel River (Clallam Co.) and all tributaries outside Olympic National Park (8/1)	All species	Closed	Low water and higher than normal water temperatures are causing a delay in migration and increased stress on wild salmon returning to the Quillayute system, making them more vulnerable to fishing pressure. The Quileute Tribe has also closed its fishery for two weeks, and will re-assess the situation at that time. These closures are needed to protect wild Chinook and coho salmon.
6	Calawah River (Clallam Co.) and all tributaries outside Olympic National Park (8/1)	All species	Closed	
6	Dickey River (Clallam Co.) and all tributaries outside Olympic National Park	All species	Closed	
6	Sol Duc River (Clallam Co.) and all tributaries outside Olympic National Park (8/1)	All species	Closed	
6	Quillayute River (Clallam Co.) from the confluence of the Sol Duc and Bogachiel Rivers downstream 475 yards to fluorescent orange paint on rocks (8/1)	All species	Closed	
6	Big Quilcene effective Aug. 16 From the mouth to Highway 101 (8/16)	Salmon	Closed	Low water flows and higher than normal water temperatures
6	Newaukum and all tributaries (8/11)	All species	Closed	Low water flows and higher than normal water temperatures
6	Clearwater River and all tributaries. (8/10)	All species	Closed	Low water flows and higher than normal water temperatures
6	Tributaries of the Queets River (Matheny Creek and the Salmon River outside Olympic National Park and the Quinault Reservation. (8/10)	All species	Closed	Low water flows and higher than normal water temperatures
6	Black River – All species From the mouth upstream to Black Lake (8/12)	All species	Closed	Low water flows and higher than normal water temperatures

6	Nisqually River from the mouth to Military Tank Crossing Bridge. (8/20)	All species	Closed 2:00 p.m. to one hour before official sunrise	Higher than normal water temperatures
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## *News Clips*

### [Federal firefighting funds will run out soon](#)

King 5 - August 28, 2015

### [Some hunts may go up in smoke](#)

The Lewiston Tribune - August 27, 2015

### [Once Wildfire Danger Passes, Visitors Can Help Economic Recovery](#)

KPLU - August 28, 2015

### [By Air And Ground, Tour Of Washington Wildfires Reveals Destruction, Unpredictability](#)

NW Public Radio - August 28, 2015

### [Hunters, hikers must be flexible during wild wildfire season](#)

Spokesman Review - August 28, 2015

### [Fire danger closes some land in SW Washington](#)

The Daily News - August 27, 2015

### [Scientists, tribe study shrinking Washington state glacier](#)

The Bellingham Herald - August 27, 2015

### [What's The Deal With Dam Removals?](#)

Kuow - August 27, 2015

### [OUTDOORS: Expected rainfall should help fishing, hunting efforts](#)

Peninsula Daily News (AP) - August 27, 2015

### [Fish project on Cle Elum Dam celebrates groundbreaking](#)

Yakima Herald Republic - August 27, 2015

### [Q&A: The Wildfire-Climate-Change Connection](#)

OPB - August 27, 2015

### [Smoke grounds aircraft battling some Washington wildfires](#)

Yakima Herald - August 27, 2015

### [Low-pressure system this weekend may provide relief to fire-stricken areas](#)

Spokesman Review - August 27, 2015

### [Drought, wildfires combine to impact region's wildlife](#)

Spokesman Review - August 27, 2015

### [Animated map: How the wildfires in North Central Washington have grown over time](#)

Seattle Times - August 27, 2015

### [There Aren't Enough Firefighters to Stop America's West From Burning](#)

Bloomberg - August 27, 2015

### [Drought Becomes Deadly For Olympic Peninsula's Hatchery Fish](#)

KPLU News for Seattle and the Northwest - August 27, 2015

### [Popular hunting and outdoor recreation spots are closed throughout the region due to wildfires](#)

The Spokesman-Review - August 27, 2015

### [The pink salmon just keep coming](#)

HeraldNet.com - August 27, 2015

### [Why we have such damaging wildfires this summer](#)

The Seattle Times - August 26, 2015

### [The return of high anxiety](#)

Methow Valley News - August 26, 2015

### [OUTDOORS: Dry conditions likely to impact archery deer season](#)

Peninsula Daily News (AP) - August 26, 2015

### [Drought Could Kill Off Many of the West Coast's Fish](#)

Smithsonian - August 27, 2015

### [As Big Game Seasons Near, Hunters Are Advised To Check On Access](#)

NW Sportsman - August 26, 2015  
[Firefighters Make Progress On Nation's No. 1 Priority Wildfire](#)  
OPB - August 26, 2015  
[State: Just say 'no' to going in slimy water](#)  
Chinook Observer - August 25, 2015  
[Hauling in a real-life kraken: Giant squid snagged by Oak Harbor middle schooler a rare find](#)  
Whidbey News-Times - August 26, 2015  
[UW biologist spots rare nautilus for the first time in 3 decades](#)  
Seattle Times - August 26, 2015  
[Threats impacting forest health](#)  
Science - August 26, 2015  
[Denver Post cans outdoors columnist, ends traditional hunting-fishing coverage](#)  
Spokesman Review - August 26, 2015  
[NOAA awards grant funding to boost coastal and ocean resilience](#)  
NOAA - August 25, 2015  
[Complex in North Cascades growing, carrying heavy smoke](#)  
Seattle Times - August 25, 2015  
[Firefighters Proclaim 'Great Progress' On Washington Fires](#)  
OPB - August 25, 2015  
[Marblemount hatchery doing better than most](#)  
Goskagit.com - August 25, 2015  
[The big fish story everyone is missing in the Western drought](#)  
The Washington Post - August 24, 2015  
[Toxins hit lakes, shellfish](#)  
Port Townsend & Jefferson County Leader - August 25, 2015  
[Legislature takes heat for squeezed fire budgets](#)  
Seattle Times - August 25, 2015  
[Environmental mess involves massive dead birds in Oregon, Washington states](#)  
WKTV.com - August 25, 2015  
[Wildfire Shuts Down Hydropower On The Skagit River. What You Need To Know](#)  
OPB - August 25, 2015  
[Spokane's searing summer sets records for heat, dry](#)  
The Spokesman-Review - August 25, 2015  
[Okanogan Complex now largest wildfire in state history](#)  
King 5 - August 24, 2015  
[Cougar Creek fire near Mount Adams grows another 5,000](#)  
Yakima Herald - August 24, 2015  
[Proliferation of 'grassoline' fueling Washington wildfires](#)  
Seattle Times - August 24, 2015  
[Volunteers survey sea stars to monitor devastating disease](#)  
HeraldNet.com - August 24, 2015  
[We can't prevent fires, but we can learn to live with them](#)  
HeraldNet.com - August 23, 2015  
[Wildfires continue to march across dry West](#)  
Capital Press - August 22, 2015  
[Obama Declares Emergency As 875,000 Acres Burn In Northwest](#)  
OPB - August 21, 2015

## ***Links***

### [Ecology's "Washington Drought 2015"](#)

Ecology Dam Safety web page [Wildfire Impacts on Dams](#)

Washington State Climatologist [weekly drought update for Washington State](#).

Drought web pages for State departments of [Health](#) and [Agriculture](#)

National Integrated Drought Information System [Pacific Northwest Drought Portal](#)

NOAA [El Nino Portal](#)

[NOAA's Climate Prediction Center](#)

[Northwest River Forecast Center Water Supply](#)

USGS [Real time stream data for Washington](#)

U.S. Army Corps of Engineers [Seattle District Reservoir Control Center](#)

[Rich Landers Outdoors Blog](#) Spokesman Review – ongoing

[Concerns mount as drought deepens](#) Columbian Special Project July 11, 2015

## ***For Further Information:***

Drought-related staff resources are available on the "S" drive at [S:\All Agency\Shared Projects\DROUGHT 2015](#). Contact WDFW Drought Coordinator Teresa Scott at [teresa.scott@dfw.wa.gov](mailto:teresa.scott@dfw.wa.gov) or (360) 902-2713 with questions and suggestions.

A map of drought closures and restrictions is provided on the next page.

