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Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

Pacific Northwest Region
Water Supply Update
September 2, 2009

The hottest part of summer is beginning to wind down in the PN Region as we enter September. August brought periods of abnormally hot weather to areas west of the Cascades (Portland and Seattle), but fairly average conditions elsewhere. Several large cold fronts did impact much of Idaho around early and mid-month, with temps barely reaching the 70's in southern Idaho and nearly 2 inches of rain, breaking records in many locations. The fire season in much of the region has been mostly non-existent.

Irrigation demand will continue into September before tapering off later in the month, and wrapping up in October. The below average runoff conditions in eastern Oregon have caused some reservoirs in the Malheur basin to now be out of storage, creating some irrigation shortages. Other basins around the region will have adequate water supplies. Carryover storage in most basins will be slightly less than last year with eastern Oregon projects being the lowest. However, carryover in the upper Snake basin will be the best in a decade, providing a good cushion should drought conditions return this winter.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Streamflow % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	n/a	92	100	47	full
Flathead/Hungry Horse (MT)	n/a	86	91	96	n/a
Crooked (OR)	n/a	89	49	65	n/a
Boise (ID)	n/a	98	82	65	n/a
Payette (ID)	n/a	93	86	64	n/a
Upper Snake (ID)	n/a	110	108	66	n/a
Columbia Basin (Columbia R at the Dalles)	n/a	95	85	n/a	n/a

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Pacific Northwest Region
Water Supply Update
July 8, 2009

Summer has slowly come to the PN Region, with June once again being a cool and unsettled month in many areas, and particularly in southern Idaho and the Upper Snake basin. Rainfall amounts reached 300% to 400% of average in certain locations in the Upper Snake basin, and fell as inflows were receding from snowmelt. The result was a second surge of runoff that required flood control operations at Jackson Lake and Palisades Reservoir, but only minor downstream flooding was noted. The entire Upper Snake system above Milner was able to refill simultaneously for the first time since 1998 (American Falls is typically drafted by the time the upper reservoirs fill). The flood releases also added a good boost to flows all the way down to the Lower Snake River where they provide benefit to ESA listed anadromous fish. In addition, Reclamation will be able to provide the maximum 487,000 acre-feet of flow augmentation water for these fish in 2009; these releases are currently underway.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Streamflow % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	n/a	94	102	94	full
Flathead/Hungry Horse (MT)	n/a	83	92	99	n/a
Crooked (OR)	n/a	93	49	84	n/a
Boise (ID)	n/a	99	82	94	n/a
Payette (ID)	n/a	93	86	94	n/a
Upper Snake (ID)	n/a	114	109	98	n/a
Columbia Basin (Columbia R at the Dalles)	n/a	95	91	n/a	n/a

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Pacific Northwest Region
Water Supply Update
June 3, 2009

Hot temperatures in the second half of May really got the snowmelt rolling in the mountain fed basins in the PN Region. Snow only remains in the very highest elevations. High inflows were captured in the reservoirs thanks to the flood control space that had been made available, and no flooding of concern was noted. The Yakima, Boise, and Payette basin reservoirs are nearing 'final fill', and Hungry Horse and the Upper Snake are still a couple weeks out from their maximum fill. Snowmelt has peaked and is receding, but late season thunderstorms threaten to hold inflows up and are being closely monitored. A potentially significant rain may occur this coming weekend in southern Idaho, and the Boise and Payette reservoirs will not be topped off until the threat passes. Current releases through the city of Boise are 5,200 cfs, with flood stage at 7,000 cfs. No flooding is anticipated at this time.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Forecasted Spring Runoff % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	n/a	94	96	99	full
Flathead/Hungry Horse (MT)	n/a	86	99	87	n/a
Crooked (OR)	n/a	88	60	92	n/a
Boise (ID)	n/a	95	79	97	n/a
Payette (ID)	n/a	91	74	97	n/a
Upper Snake (ID)	n/a	104	99	86	n/a
Columbia Basin (Columbia R at the Dalles)	n/a	95	87	n/a	n/a

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Pacific Northwest Region
Water Supply Update
May 13, 2009

May started out with wet weather in the Pacific Northwest, but has turned dry and cool. In fact, the entire spring can be summed up as "changeable weather"; no single pattern seems to set up for more than a few days in a row. Snowmelt in the mountain basins is coming off in small surges, thanks to several warm days always being followed by a cold spell. This cyclical pattern is forecast to repeat again over the next week (hot this weekend, cool by midweek). The increased percentages for snowpack in this report do not reflect additional accumulations, but rather the delay in the freshet. While not conducive to getting high elevation snow to melt, the weather has resulted in low irrigation demands. Thanks to good carryover storage from last year, water supplies will be adequate in 2009 even if runoff comes in below average, although supplies will be tight in the Malheur and Owyhee basins. Flood control space is available in the Upper Snake, Payette, Boise, Yakima, and Flathead basins, but no significant flood control operations are anticipated in the Region at this time.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Forecasted Spring Runoff % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	101	95	96	93	full
Flathead/Hungry Horse (MT)	104	90	99	75	n/a
Crooked (OR)	n/a	88	60	96	n/a
Boise (ID)	92	95	79	82	n/a
Payette (ID)	104	93	74	77	n/a
Upper Snake (ID)	117	107	99	76	n/a
Columbia Basin (Columbia R at the Dalles)	n/a	96	87	n/a	n/a

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Pacific Northwest Region
Water Supply Update
April 22, 2009

March was a generous month for the Pacific Northwest in terms of water supply. Significant precipitation fell throughout the region, shoring up snowpack and leading to April 1 runoff forecasts much improved over those in March. April weather has primarily been cool and showery, with the exception being this week which brought record temperatures to some locations. Snowmelt runoff is beginning to get underway in earnest in the mountain basins; runoff in the lower and mid elevations is beginning to recede. More cool unsettled weather is forecast to return. Thanks to good carryover storage from last year, water supplies will be adequate in 2009 even if runoff comes in below average, although supplies will be tight in the Malheur and Owyhee basins. Flood control releases are being made in the Upper Snake and Payette basins to reserve space for the coming runoff, but no significant flood control operations are anticipated in the Region at this time.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Forecasted Spring Runoff % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	85	91	97	84	full
Flathead/Hungry Horse (MT)	85	87	99	72	n/a
Crooked (OR)	70	88	81	93	n/a
Boise (ID)	75	91	80	72	n/a
Payette (ID)	79	86	82	69	n/a
Upper Snake (ID)	101	104	99	81	n/a
Columbia Basin (Columbia R at the Dalles)	89	94	87	n/a	n/a

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Pacific Northwest Region
Water Supply Update
March 18, 2009

Late February and March finally brought a return to wetter conditions for the Pacific Northwest, after a very dry period extending back to the middle of January or longer. Snowpack percentages had dropped into the 60% to 70% range, but thanks to several significant storm cycles they have rebounded to the 80% to 90% range. Maximum snowpack for the season typically occurs around April 1; after that, spring rain (or lack of it) plays a large role in determining final water supplies. Thanks to good carryover storage from last year, water supplies will be adequate in 2009 even if runoff comes in below average. One area of exception is the Malheur basin in Eastern Oregon, which will have a very tight supply once again unless a wet spring occurs. No significant flood control operations are anticipated in the Region at this time. The forecast for the next 2 weeks calls for fairly benign spring like weather, with showers throughout the inland regions.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Forecasted Spring Runoff % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	81	90	81	77	n/a
Flathead/Hungry Horse (MT)	88	87	93	70	n/a
Crooked (OR)	90	89	61	68	n/a
Boise (ID)	83	90	70	60	n/a
Payette (ID)	84	86	79	65	n/a
Upper Snake (ID)	94	98	93	81	n/a
Columbia Basin (Columbia R at the Dalles)	89	89	80	n/a	n/a

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Pacific Northwest Region
Water Supply Update
February 5, 2009

Since the last update in early December, the PN Region was hit with a period of very heavy precipitation near the end of the year, creating a myriad of problems such as heavy flooding in Washington (including the Yakima basin), mudslides, and avalanches that closed many mountain passes. Despite the negatives, it did allow the Region's mountain snowpacks to catch up to average after starting out so slowly. Unfortunately, the wet weather has been followed by almost a month of high pressure which has shunted the storm track away from the Pacific Northwest. Snowpack percentages have dropped off again and are typically in the 75 to 85% of average range. Roughly 40% of the winter is still to come, so any range of outcomes is still possible. The two week forecast calls for a slow breakdown of the high pressure and a return to a more active pattern.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Forecasted Spring Runoff % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	71	93	93	75	n/a
Flathead/Hungry Horse (MT)	83	83	102	75	n/a
Crooked (OR)	70	78	75	60	n/a
Boise (ID)	79	88	80	54	n/a
Payette (ID)	77	81	82	62	n/a
Upper Snake (ID)	94	100	95	69	n/a
Columbia Basin (Columbia River at the Dalles)	n/a	77	86	n/a	n/a

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Pacific Northwest Region
Water Supply Update
December 10, 2008

Winter is off to a very late and foreboding start for the Pacific Northwest, with very little snow in the mountains as we head into mid-December. Typically, about 15% to 20% of the April 1 snowpack is on the ground by December 1, with an additional 20-25% added in December, so the lack of snow thus far is definitely reason to worry. Ski resorts are nowhere close to opening. The deficits can be made up, but will require above average precipitation as we move forward. A major arctic blast is forecast to hit the entire region beginning this weekend and lasting all next week. Snow will accompany the storm, but amounts may be limited due to the northern origin of the stormtrack, which tends to be drier. The federal power system will be heavily relied upon to meet electrical demands next week, but is well positioned to do so with no power emergencies anticipated. The first runoff forecasts for 2009 will be available after January 1.

	Snowpack % of avg	**Water Year Precipitation % of avg**	**Forecasted Spring Runoff % of avg**	**Reservoir Storage % full**	**Allocations**
Yakima (WA)	15	78	Below avg	57	n/a
Flathead/Hungry Horse (MT)	47	72	Below avg	80	n/a
Crooked (OR)	0	55	Below avg	56	n/a
Boise (ID)	32	65	Below avg	48	n/a
Payette (ID)	34	61	Below avg	60	n/a
Upper Snake (ID)	60	81	Below avg	54	n/a
Columbia Basin (Columbia R at the Dalles)	n/a	77	Below avg	n/a	n/a

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Pacific Northwest Region
Water Supply Update
November 6, 2008

The Pacific Northwest finally appears to be entering winter. After a pleasant second half of October, November has ushered in a cooler and wetter pattern with moderate precipitation in western Washington and Oregon, and snow beginning to fall in the higher terrain. This trend is forecast to continue over the next 10 days. Reservoir carryover storage is generally good in most basins. The exceptions are reservoirs in the Malheur and Owyhee basins of eastern Oregon, which did not refill completely in 2008 and used most of their storage.

	WY 2009 Precipitation % of avg	WY 2009 Runoff % of avg	Reservoir Storage % full	Allocations
Yakima (WA)	86	75	40	full
Flathead/Hungry Horse (MT)	64	77	80	n/a
Crooked (OR)	109	50	57	n/a
Boise (ID)	125	86	43	n/a
Payette (ID)	91	86	58	n/a
Upper Snake (ID)	116	106	44	n/a
Columbia Basin (Columbia R at the Dalles)	94	91	n/a	n/a

Note: Water year precipitation and runoff refer to water year 2009, and is too early in the season to establish meaningful trends. Runoff percentages reflect observed runoff since October 2008, rather than forecasted runoff.