

**Western Area Power Administration
Hydro Conditions and Purchase Power Report
July 2015**

Western-Wide

	Generation (Megawatt-Hours)				Purchase Power Expenses (Dollars)		
	Projected Dry	Most Probable	Average	Actual	Projected Dry	Most Probable	Actual
Oct 14	1,826,532	1,977,668	1,886,361	1,959,502	\$8,123,479	\$4,518,858	\$8,098,109
Nov 14	1,678,876	1,878,130	1,730,985	1,779,466	\$8,874,069	\$5,574,443	\$11,491,469
Dec 14	1,400,852	1,466,433	1,741,762	1,495,299	\$25,598,065	\$19,898,668	\$14,331,279
Jan 15	1,582,275	1,685,555	1,858,893	1,772,024	\$21,978,980	\$17,467,062	\$15,702,191
Feb 15	1,394,573	1,413,966	1,708,390	1,455,474	\$19,588,891	\$18,262,214	\$13,244,067
Mar 15	1,864,152	1,820,595	1,906,554	1,862,739	\$11,564,400	\$12,466,384	\$8,028,129
Apr 15	2,110,829	2,225,796	2,143,336	2,025,729	\$5,743,735	\$3,508,301	\$4,723,440
May 15	2,236,720	2,352,849	2,616,795	2,175,381	\$2,800,825	\$1,217,038	\$2,677,808
Jun 15	2,262,474	2,393,989	2,699,771	2,215,962	\$3,213,271	\$2,965,229	\$2,464,656
Jul 15							
Aug 15							
Sep 15							
Total	16,357,283	17,214,981	18,292,846	16,741,576	\$107,485,715	\$85,878,197	\$80,761,149

Actual generation as a percentage of average: 92%

Western Area Power Administration (Western) generated a total of 16,742 gigawatt-hours during October through June of fiscal year 2015, or 92 percent of the average. Total purchase power expenses for the same period were \$80,761,149.

The following pages indicate Western’s Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (Megawatt-Hours)				Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Projected Dry	Most Probable	Actual
Oct 14	0.20	0.30	408.80	636.00	15.01	12.29	248,012	338,348	382,430	357,465	\$6,704,081	\$2,989,589	\$3,353,763
Nov 14	1.80	3.90	510.71	420.00	14.91	11.93	230,952	308,547	388,155	337,735	\$7,549,826	\$4,237,967	\$5,504,854
Dec 14	5.10	7.80	474.22	465.00	14.86	11.54	270,310	408,665	437,962	473,595	\$7,692,571	\$1,952,432	\$1,405,094
Jan 15	8.70	9.40	363.30	449.00	14.98	11.15	355,138	405,825	457,394	474,003	\$4,412,679	\$2,266,923	\$1,523,337
Feb 15	12.20	11.70	362.24	464.00	15.99	11.02	265,647	301,110	390,580	322,910	\$5,024,221	\$3,790,958	\$3,744,097
Mar 15	15.80	12.60	391.67	543.00	16.77	10.91	272,465	304,805	390,170	353,115	\$5,517,603	\$4,342,357	\$3,876,509
Apr 15	19.60	10.50	665.00	539.00	16.74	10.84	250,695	328,527	397,861	332,925	\$3,468,325	\$1,662,291	\$1,968,191
May 15	19.90	8.30	1,059.34	1,431.00	16.30	11.49	320,070	383,522	501,886	450,972	\$2,044,585	\$460,798	\$172,668
Jun 15	9.00	0.30	2,339.33	2,570.00	16.00	13.09	337,289	400,213	585,467	400,213	\$2,301,440	\$603,666	\$95,862
Jul 15													
Aug 15													
Sep 15													
Total							2,550,579	3,179,561	3,931,905	3,502,934	\$44,715,330	\$22,306,980	\$21,644,374

Actual generation as a percentage of average: 89%

Lake/Reservoir Levels

Lake Powell's elevation was 3,614 feet at the end of June, about 86 feet from maximum reservoir level and about 124 feet from the minimum generation level. Based on the current forecast, Lake Powell's elevation will end water year (WY) 2015 near 3,604 feet with approximately 12.15 million acre-feet (MAF) in storage or 50 percent of capacity.

Weather and Other Conditions

A dry winter in the Colorado River Basin reduced inflow estimates for Lake Powell, but wet conditions in May and June increased runoff projections to about 92 percent of the April through July average.

Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (Megawatt-Hours)				Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Projected Dry	Most Probable	Actual
Oct 14	0.20	0.30	58.00	68.00	20.53	12.27	294,250	294,250	380,500	272,691	\$0	\$109,870	\$106,819
Nov 14	1.80	3.90	54.00	44.00	20.57	12.41	325,000	372,000	363,500	357,310	\$10,239	\$22,472	\$23,998
Dec 14	5.10	7.80	75.00	56.00	20.69	12.77	286,750	290,400	373,900	251,260	\$294,966	\$120	\$534,300
Jan 15	8.70	9.40	93.00	72.00	20.84	13.01	411,100	411,100	398,400	428,462	\$0	\$0	\$39,296
Feb 15	12.20	11.70	110.00	89.00	20.86	12.99	352,400	319,250	391,500	335,602	\$0	\$0	\$8,661
Mar 15	15.80	12.60	105.00	57.00	20.66	12.69	543,600	526,100	531,400	560,224	\$57,626	\$94,756	\$166,762
Apr 15	19.60	10.50	85.00	26.00	20.49	12.20	601,550	601,750	571,800	583,186	\$0	\$0	\$7,714
May 15	19.90	8.30	60.00	26.00	20.61	12.03	555,600	530,800	573,200	466,936	\$0	\$0	\$212,462
Jun 15	9.00	0.30	26.87	15.00	20.83	11.93	479,650	471,300	538,800	458,404	\$163,991	\$300,890	\$467,114
Jul 15													
Aug 15													
Sep 15													
Total							3,849,900	3,816,950	4,123,000	3,714,075	\$526,822	\$528,108	\$1,567,126

Actual generation as a percentage of average: 90%

Lake/Reservoir Levels

Lake Mead's elevation was 1,075 feet at the end of June, about 145 feet below full storage level and about 25 feet from the minimum generation level.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. Due to significantly above-average precipitation experienced during May, the probability that Lake Mead will be operating under the Shortage Criteria for WY 2016 is now negligible.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (Megawatt-Hours)				Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Projected Dry	Most Probable	Actual
Oct 14			139.20	200.80	3.84	4.47	99,021	102,458	83,694	91,560			\$2,257,085
Nov 14			121.40	129.20	3.87	4.47	60,006	60,146	82,089	55,233			\$3,178,702
Dec 14			97.90	139.40	3.83	4.47	89,969	90,045	103,710	88,510			\$2,294,873
Jan 15	407.20	427.80	96.20	129.40	3.80	4.47	106,726	106,906	113,597	102,961	\$2,614,295	\$2,606,695	\$2,203,620
Feb 15	808.10	739.20	95.00	128.60	3.80	4.51	85,735	86,024	102,200	79,516	\$2,054,163	\$2,042,763	\$1,780,322
Mar 15	1,065.10	994.40	158.40	199.30	3.83	4.56	96,042	108,706	120,988	103,860	\$2,128,149	\$1,645,549	\$1,726,554
Apr 15	1,341.70	1,016.80	253.10	257.80	3.85	4.60	125,443	138,545	140,995	128,526	\$1,707,570	\$1,278,170	\$1,464,159
May 15	301.50	355.20	694.10	758.20	4.18	5.21	190,340	198,107	198,626	166,491	\$180,000	\$180,000	\$1,022,010
Jun 15			1,109.20	1,462.30	4.76	5.69	263,985	259,220	243,234	223,790	\$180,000	\$180,000	\$630,617
Jul 15													
Aug 15													
Sep 15													
Total							1,117,266	1,150,155	1,189,133	1,040,447	\$8,864,178	\$7,933,178	\$16,557,942

Actual generation as a percentage of average: 87%

Lake/Reservoir Content

The overall reservoir content at the end of June was 120 percent of average.

Weather and Other Conditions

The latest National Weather Service forecast calls for temperatures in the August through October period to be just as likely above as below normal in the Loveland Area Projects area, while precipitation is more likely to be above normal. The Bureau of Reclamation is now forecasting total spring reservoir inflows will be below average in the North Platte Basin, above average for the Colorado-Big Thompson Project, and well above average in the Bighorn Basin.

Note: Rocky Mountain Region (RMR)-related snowpack either is not measured or is relatively insignificant during the months of June through December. In addition, RMR does not project purchase power expenses for the months of October through December.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (Megawatt-Hours)				Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Projected Dry	Most Probable	Actual
Oct 14			329.00	263.00	5.61	2.49	161,181	106,181	163,000	115,957	\$1,419,398	\$1,419,398	\$2,380,441
Nov 14	5.26	1.00	404.00	281.00	5.56	2.40	99,417	69,417	104,000	75,640	\$1,314,004	\$1,314,004	\$2,396,084
Dec 14	4.94	5.00	1,014.00	1,450.00	6.06	3.66	69,042	0	143,000	13,282	\$1,252,191	\$1,252,191	\$2,458,218
Jan 15	5.80	4.00	954.00	508.00	6.39	3.89	0	0	163,000	23,872	\$1,508,460	\$1,508,460	\$2,077,046
Feb 15	9.00	5.00	997.00	1,232.00	6.92	4.93	0	14,968	195,000	29,080	\$1,363,440	\$1,363,440	\$1,800,319
Mar 15	15.00	2.00	1,330.00	412.00	7.56	5.01	115,340	100,340	207,000	40,197	\$1,506,498	\$1,506,498	\$1,974,521
Apr 15	10.00	1.00	1,245.00	341.00	7.95	4.91	171,316	231,316	288,000	126,768	\$567,840	\$567,840	\$1,283,377
May 15			1,203.00	301.00	7.91	4.42	246,135	336,135	442,000	230,955	\$576,240	\$576,240	\$1,270,668
Jun 15			739.00	251.00	7.44	3.97	337,065	457,065	440,000	295,101	\$567,840	\$567,840	\$1,271,064
Jul 15													
Aug 15													
Sep 15													
Total							1,199,496	1,315,422	2,145,000	950,852	\$10,075,912	\$10,075,912	\$16,911,739

Actual generation as a percentage of average: 44%

Lake/Reservoir Content

Accumulated inflow for the water year to date is 76 percent of average for Trinity, 72 percent for Shasta, 38 percent for Folsom, and 35 percent for New Melones. The overall reservoir content at the end of June was 53 percent of average.

Weather and Other Conditions

As of May 8, the State of California water year type declaration was "critical" based upon the May 1 conditions 50 percent exceedence forecast. As of July 23, the cumulative precipitation was 36.73 inches or 73 percent of average for the Northern Sierra Eight Station Index.

Note: Sierra Nevada Region (SNR)-related snowpack is either is not measured or is relatively insignificant during the months of May through October. SNR's average projection of generation is taken from the latest modeling using the update to its customers' "Green Book," and SNR does not project purchase power expenses for dry conditions.

Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (Megawatt-Hours)				Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Projected Dry	Most Probable	Actual
Oct 14	0.09	0.00	8,092.00	10,685.90	55.94	59.74	1,024,068	1,136,432	876,737	1,121,829	\$0	\$0	\$0
Nov 14	1.20	0.30	7,411.00	8,616.60	54.83	58.09	963,501	1,068,021	793,241	953,548	\$0	\$0	\$387,831
Dec 14	3.80	3.90	6,468.00	6,229.90	54.23	57.97	684,781	677,324	683,190	668,651	\$16,358,337	\$16,693,924	\$7,638,795
Jan 15	7.10	7.30	6,658.00	6,786.10	53.94	58.03	709,312	761,724	726,502	742,726	\$13,443,547	\$11,084,984	\$9,858,892
Feb 15	10.30	9.70	6,291.00	6,679.80	54.25	58.60	690,792	692,614	629,110	688,365	\$11,147,066	\$11,065,054	\$5,910,668
Mar 15	12.90	11.50	8,226.00	7,837.90	56.02	59.12	836,705	780,645	656,996	805,343	\$2,354,524	\$4,877,224	\$283,782
Apr 15	15.80	10.70	8,061.00	9,554.70	56.91	55.89	961,825	925,659	744,680	854,325	\$0	\$0	\$0
May 15	15.10	9.10	9,699.00	9,287.30	58.18	60.04	924,575	904,285	901,082	860,028	\$0	\$0	\$0
Jun 15	6.60	2.30	11,819.00	11,339.70	60.38	61.93	844,485	806,191	892,270	838,454	\$0	\$1,312,834	\$0
Jul 15													
Aug 15													
Sep 15													
Total							7,640,042	7,752,893	6,903,808	7,533,269	\$43,303,473	\$45,034,020	\$24,079,968

Actual generation as a percentage of average: 109%

Lake/Reservoir Content

As of July 8, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 96.4 percent and 100 percent full, respectively.

Weather and Other Conditions

June was another wet month with runoff of 6.82 MAF or 125 percent of normal. The July forecast runoff above Sioux City for 2015 is 26.6 MAF or 105 percent of normal, which is a large increase from last month's forecast of 22.5 MAF. The increased runoff will provide additional energy for the fall and winter months and allow the Missouri River system to start 2016 with full reservoirs.

Note: The Upper Great Plains Region reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation.