

Water-Data Report 2010

11370500 Sacramento River at Keswick, CA

Sacramento River Basin

LOCATION.--Lat 40°36'04", long 122°26'36" referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.28, T.32 N., R.5 W., Shasta County, CA, Hydrologic Unit 18020101, on right bank, 0.4 mi upstream from Middle Creek, 0.8 mi downstream from Keswick Dam, 1.6 mi downstream from Keswick, and 10 mi downstream from Shasta Dam.

DRAINAGE AREA.--6,468 mi², excluding Goose Lake Basin.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

CHEMICAL DATA: Water years 1951-94. Published as "near Keswick" in 1951 and 1953, and as "at Keswick Dam, near Keswick" in 1968-69.

BIOLOGICAL DATA: Water years 1979-81.

SPECIFIC CONDUCTANCE: Water years 1978-94.

WATER TEMPERATURE: Water years 1978-94.

SEDIMENT DATA: Water years 1978-94.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 479.81 ft above NGVD of 1929. Prior to Oct. 1, 1939, at site 1.5 mi upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi upstream at datum 15.2 ft higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi downstream.

REMARKS.--Records good. Flow completely regulated by Shasta Lake (station 11370000) beginning Dec. 30, 1943. Minor regulation by Keswick Reservoir since 1950, total capacity, 23,800 acre-ft, operational capacity, 4,170 acre-ft, between normal operating elevations of 579.0 ft and 586.0 ft. No diversion between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11371700), through a tunnel to Spring Creek Powerplant (station 11371600), and then into Keswick Reservoir. See schematic diagrams of upper Sacramento River Basin, and Pit River and McCloud River Basins available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft³/s, Feb. 23, 1940, gage height, 47.2 ft, site and datum then in use, from rating curve extended above 75,000 ft³/s, on basis of peak discharge at Kennet, plus 4,000 ft³/s estimated inflow; minimum observed, 2,730 ft³/s, Aug. 22, 1939. Since regulation by Shasta Dam in 1943, maximum discharge, 81,400 ft³/s, Apr. 1, 1974, gage height, 31.92 ft, maximum gage height, 32.71 ft, Jan. 4, 1997; minimum daily, 154 ft³/s, May 15, 1948.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,310	5,600	3,270	3,360	3,360	3,360	3,240	7,160	10,200	12,100	12,700	8,840
2	6,320	5,560	3,300	3,280	3,270	3,350	3,340	7,270	15,500	11,800	12,800	8,590
3	6,230	5,570	3,290	3,250	3,230	3,420	3,310	7,270	15,900	12,100	13,000	8,550
4	6,050	5,610	3,320	3,240	3,330	3,450	3,240	7,400	15,200	12,100	12,500	8,620
5	6,030	5,440	3,320	3,180	3,590	3,300	3,310	7,380	15,400	12,000	12,400	8,290
6	6,220	5,480	3,330	3,180	3,570	3,210	3,460	7,370	15,400	11,800	12,200	8,160
7	6,240	5,410	3,320	3,180	3,500	3,230	3,570	7,380	15,200	12,100	11,700	8,250
8	6,360	5,420	3,320	3,180	3,350	3,260	3,660	7,380	13,300	12,600	11,200	8,270
9	6,230	5,430	3,340	3,170	3,310	3,310	3,710	7,380	11,200	12,700	11,400	8,190
10	6,210	5,430	3,360	3,150	3,260	3,210	3,740	7,380	10,800	12,800	11,100	8,310
11	6,340	5,240	3,290	3,280	3,270	3,190	3,760	7,450	9,940	12,800	10,800	8,270
12	6,490	5,060	3,260	3,360	3,280	3,310	4,010	7,200	11,000	12,700	10,600	8,070
13	6,540	5,250	3,250	3,410	3,260	3,310	3,980	7,250	10,600	12,800	10,400	7,730
14	6,460	4,990	3,280	3,230	3,250	3,290	3,850	8,030	11,600	12,500	10,100	7,690
15	6,420	4,830	3,340	3,260	3,230	3,240	4,320	8,240	10,800	12,700	10,000	7,560
16	6,370	4,820	3,400	3,260	3,230	3,280	5,040	8,260	10,700	12,600	10,100	7,370
17	6,140	4,590	3,260	3,330	3,200	3,260	4,900	8,150	10,800	12,700	10,200	7,140
18	6,500	4,420	3,310	3,700	3,220	3,300	4,900	8,200	10,800	12,900	10,000	6,960
19	6,480	4,540	3,350	3,880	3,210	3,270	4,900	8,220	10,900	12,800	9,440	6,860
20	6,280	4,370	3,320	5,240	3,250	3,260	4,900	8,330	10,900	12,800	9,290	6,810
21	6,470	4,110	3,260	5,330	3,310	3,270	4,880	8,460	11,000	12,600	9,240	6,820
22	6,320	4,010	3,240	4,650	3,280	3,250	5,620	8,690	11,000	12,800	9,190	6,690
23	6,300	3,880	3,230	4,480	3,270	3,280	5,570	8,520	10,900	12,800	9,310	6,860
24	6,080	3,870	3,180	4,430	3,300	3,310	6,370	8,640	10,900	12,600	9,140	6,780
25	6,050	3,870	3,200	4,710	3,280	3,310	6,440	9,400	10,900	12,500	9,270	6,770
26	5,910	3,770	3,220	4,510	3,450	3,310	6,570	10,300	11,000	12,500	9,090	6,710
27	5,580	3,670	3,300	4,080	3,500	3,300	6,660	11,300	11,300	12,700	8,840	6,780
28	5,590	3,560	3,330	3,860	3,480	3,230	6,550	12,600	11,900	12,600	8,580	6,750
29	5,600	3,410	3,350	3,690	---	3,360	6,530	15,500	12,100	12,800	8,740	6,780
30	5,570	3,330	3,290	3,550	---	3,220	6,470	15,600	12,000	12,800	8,700	6,790
31	5,580	---	3,280	3,450	---	3,240	---	15,500	---	12,700	8,430	---
Total	191,270	140,540	102,110	114,860	93,040	101,890	140,800	277,210	359,140	388,800	320,460	226,260
Mean	6,170	4,685	3,294	3,705	3,323	3,287	4,693	8,942	11,970	12,540	10,340	7,542
Max	6,540	5,610	3,400	5,330	3,590	3,450	6,660	15,600	15,900	12,900	13,000	8,840
Min	5,570	3,330	3,180	3,150	3,200	3,190	3,240	7,160	9,940	11,800	8,430	6,690
Ac-ft	379,400	278,800	202,500	227,800	184,500	202,100	279,300	549,800	712,400	771,200	635,600	448,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1962, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,992	5,603	6,611	10,610	11,700	6,564	6,714	8,212	8,564	9,951	10,030	7,331
Max	8,572	8,970	16,680	32,870	44,170	14,490	21,180	13,400	10,300	11,810	11,870	10,030
(WY)	(1959)	(1958)	(1951)	(1953)	(1958)	(1957)	(1958)	(1948)	(1948)	(1951)	(1958)	(1958)
Min	4,785	4,064	3,726	3,234	3,060	2,546	2,830	5,247	6,437	7,480	7,057	5,239
(WY)	(1948)	(1952)	(1960)	(1962)	(1950)	(1950)	(1950)	(1951)	(1947)	(1947)	(1947)	(1947)

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SUMMARY STATISTICS

Water Years 1946 - 1962		
Annual mean	8,141	
Highest annual mean	13,910	1958
Lowest annual mean	5,364	1950
Highest daily mean	75,800	Feb 21, 1958
Lowest daily mean	2,360	Mar 15, 1950
Annual seven-day minimum	2,440	Mar 9, 1950
Maximum peak flow	78,800	Feb 21, 1958
Maximum peak stage	31.55	Feb 21, 1958
Annual runoff (ac-ft)	5,898,000	
10 percent exceeds	11,600	
50 percent exceeds	7,000	
90 percent exceeds	3,720	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,303	6,855	8,950	10,890	12,650	10,940	8,919	10,680	11,760	12,980	11,520	8,258
Max (WY)	10,290 (1984)	23,430 (1974)	27,340 (1974)	41,600 (1997)	40,420 (1998)	47,170 (1983)	29,270 (2006)	17,410 (1995)	15,590 (1998)	15,550 (2004)	14,700 (1998)	11,800 (1971)
Min (WY)	3,431 (1978)	3,182 (1993)	2,847 (1978)	3,258 (1993)	3,268 (1990)	2,869 (1991)	3,096 (1991)	6,953 (1992)	7,342 (1992)	7,754 (1992)	8,070 (1992)	4,564 (1977)

SUMMARY STATISTICS

	Calendar Year 2009	Water Year 2010	Water Years 1964 - 2010
Annual total	2,461,480	2,456,380	
Annual mean	6,744	6,730	10,050
Highest annual mean			18,230 1974
Lowest annual mean			5,390 1992
Highest daily mean	12,900 Jul 22	15,900 Jun 3	79,700 Mar 31, 1974
Lowest daily mean	3,180 Dec 24	3,150 Jan 10	2,360 Mar 17, 1989
Annual seven-day minimum	3,230 Dec 21	3,180 Jan 4	2,460 Mar 12, 1989
Maximum peak flow		16,400 May 31	81,400 Apr 1, 1974
Maximum peak stage		16.53 May 31	32.71 Jan 4, 1997
Instantaneous low flow			154 May 15, 1948
Annual runoff (ac-ft)	4,882,000	4,872,000	7,282,000
10 percent exceeds	12,200	12,500	14,900
50 percent exceeds	6,220	6,050	8,360
90 percent exceeds	3,280	3,260	3,920

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