Water-Data Report 2013

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 mi^2, 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 ft^3/s, Feb. 23, 1940, gage height, 47.2 ft, site and datum then in use, from rating curve extended above 75,000 ft^3/s, on basis of peak discharge at Kennet, plus 4,000 ft^3/s estimated inflow; minimum observed, 2,730 ft^3/s, Aug. 22, 1939. Since regulation by Shasta Dam in 1943, maximum discharge, 81,400 ft^3/s, Apr. 1, 1974, gage height, 31.92 ft, maximum gage height, 32.71 ft, Jan. 4, 1997; minimum daily, 2,360 ft^3/s, Mar. 15, 1950.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,520	6,240	4,580	4,700	4,460	3,730	5,750	11,000	11,900	15,100	12,800	7,640
2	6,530	6,260	5,230	4,700	4,450	3,940	5,840	11,100	11,900	14,800	12,300	7,630
3	6,520	6,280	4,760	4,610	4,350	3,780	5,890	11,000	11,900	15,200	12,500	7,640
4	6,280	6,300	4,740	4,600	4,280	3,780	5,960	11,100	11,900	15,500	12,500	7,650
5	6,260	6,280	4,820	4,600	4,380	3,740	5,950	11,100	11,900	15,200	12,400	7,690
6	6,270	6,110	4,740	4,600	4,400	3,740	5,900	11,100	13,600	15,300	12,500	7,750
7	6,270	5,640	4,740	4,610	4,460	3,840	5,880	12,100	14,000	15,400	11,900	7,780
8	6,060	5,580	4,730	4,550	4,360	4,910	5,890	12,000	14,000	15,400	11,700	7,790
9	6,020	5,610	4,590	4,470	4,360	4,880	5,900	12,000	13,900	14,800	11,600	7,630
10	6,040	5,590	4,690	4,500	4,270	4,890	5,880	12,000	14,000	15,000	11,700	7,590
11	6,050	5,580	4,540	4,610	4,080	4,970	5,880	12,000	14,000	15,000	11,800	7,680
12	6,030	5,580	4,540	4,620	4,040	4,780	5,840	12,000	14,000	15,000	12,100	7,820
13	6,030	5,690	4,520	4,610	3,960	4,860	5,510	12,100	14,000	14,800	12,100	7,680
14	6,040	5,890	4,520	4,500	3,860	4,980	5,590	12,000	14,300	14,300	12,200	7,680
15	6,040	5,680	4,550	4,490	3,870	4,970	5,620	11,800	14,400	14,600	12,200	7,510
16	6,020	5,890	4,540	4,440	3,870	4,800	5,610	11,900	14,700	14,800	11,400	7,420
17	6,020	5,930	4,570	4,430	3,870	4,610	5,610	11,700	14,300	14,700	10,500	7,420
18	6,020	5,750	4,540	4,430	3,880	4,490	6,150	11,700	13,700	14,800	10,600	7,440
19	6,250	5,540	4,550	4,430	3,900	4,490	6,660	11,700	14,300	14,600	10,700	7,650
20	6,260	5,640	4,540	4,430	3,890	4,410	7,030	11,800	14,000	14,800	10,700	7,490
21	6,260	5,450	4,750	4,470	3,880	4,240	7,060	13,000	14,100	14,900	10,800	7,490
22	6,250	5,120	4,890	4,490	3,890	4,020	7,520	12,800	14,000	14,800	10,300	7,050
23	6,290	4,910	5,090	4,490	3,890	3,990	8,570	13,000	14,100	14,900	9,750	7,020
24	6,320	4,880	4,900	4,510	3,880	3,990	9,260	12,800	14,100	14,900	9,800	7,170
25	6,330	4,880	4,870	4,480	3,890	3,940	10,500	12,800	15,400	14,900	9,260	7,290
26	6,340	4,890	4,880	4,490	3,910	4,030	11,000	12,400	15,700	14,900	8,910	7,290
27	6,360	4,800	4,830	4,490	3,920	3,940	11,000	12,500	15,400	14,900	8,920	6,770
28	6,160	4,720	4,750	4,480	3,910	4,030	11,100	12,500	15,200	13,900	8,460	6,630
29	6,190	4,710	4,740	4,500	---	5,660	11,000	12,500	15,300	13,500	8,330	6,430
30	6,200	4,780	4,690	4,460	---	5,900	11,000	12,000	15,300	13,600	7,690	6,560
31	6,220	---	4,710	4,460	---	5,920	---	12,000	---	13,500	7,630	---
Total	192,450	166,200	146,130	140,250	114,160	138,250	216,350	371,500	419,300	457,800	336,050	222,280
Mean	6,208	5,540	4,714	4,524	4,077	4,460	7,212	11,980	13,980	14,770	10,840	7,409
Max	6,530	6,300	5,230	4,700	4,460	5,920	11,100	13,000	15,700	15,500	12,800	7,820
Min	6,020	4,710	4,520	4,430	3,860	3,730	5,510	11,000	11,900	13,500	7,630	6,430
Ac-ft	381,700	329,700	289,800	278,200	226,400	274,200	429,100	736,900	831,700	908,000	666,600	440,900

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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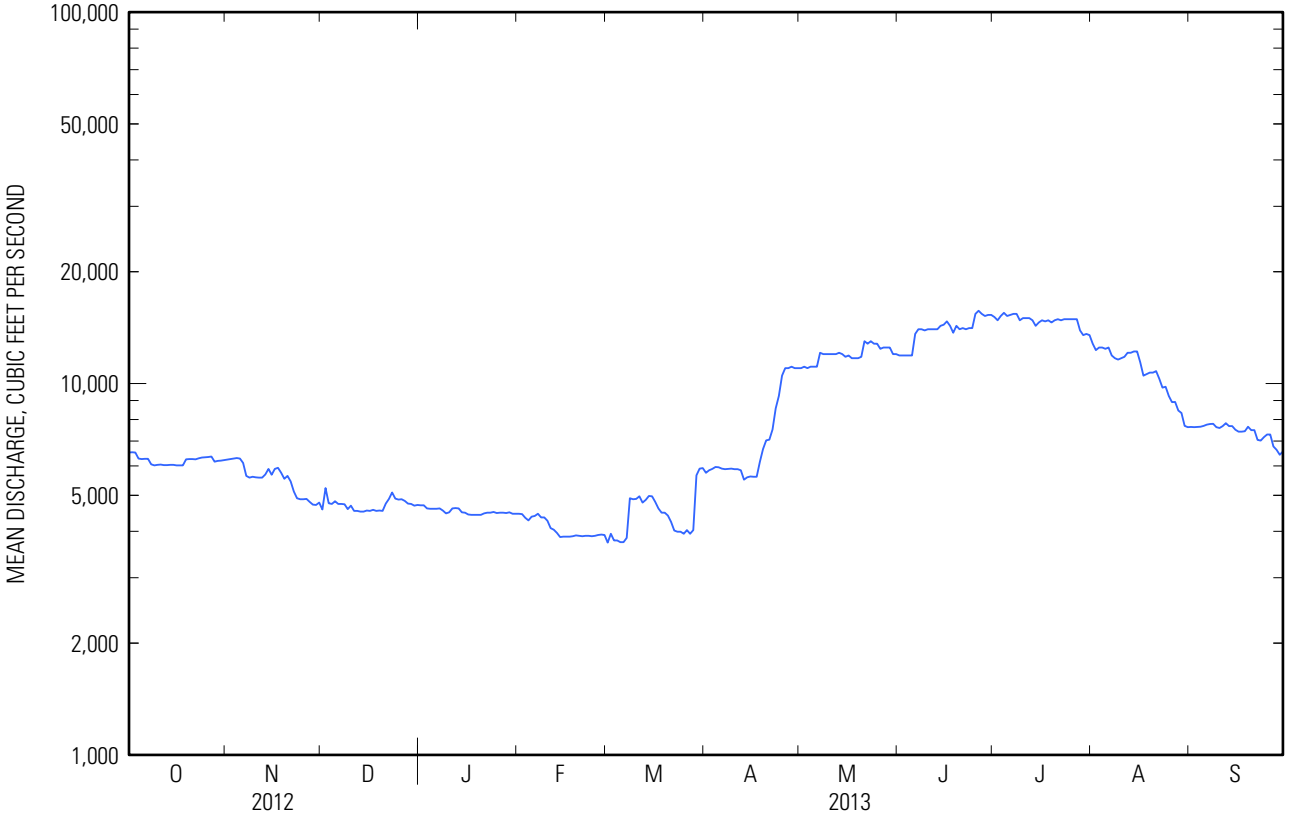
SUMMARY STATISTICS

	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 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,330	6,820	8,832	10,590	12,140	10,890	8,867	10,630	11,820	13,050	11,540	8,268
Max	10,290	23,430	27,340	41,600	40,420	47,170	29,270	17,410	15,590	15,550	14,700	11,800
(WY)	(1984)	(1974)	(1974)	(1997)	(1998)	(1983)	(2006)	(1995)	(1998)	(2004)	(1998)	(1971)
Min	3,431	3,182	2,847	3,258	3,268	2,869	3,096	6,953	7,342	7,754	8,070	4,564
(WY)	(1978)	(1993)	(1978)	(1993)	(1990)	(1991)	(1991)	(1992)	(1992)	(1992)	(1992)	(1977)

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1964 - 2013	
Annual total	2,748,500		2,920,720			
Annual mean	7,510		8,002		9,977	
Highest annual mean					18,230	1974
Lowest annual mean					5,390	1992
Highest daily mean	15,300	Jul 10	15,700	Jun 26	79,700	Mar 31, 1974
Lowest daily mean	3,060	Apr 8	3,730	Mar 1	2,360	Mar 17, 1989
Annual seven-day minimum	3,120	Apr 2	3,790	Mar 1	2,460	Mar 12, 1989
Maximum peak flow			16,300	Jun 26	81,400	Apr 1, 1974
Maximum peak stage			16.45	Jun 26	32.71	Jan 4, 1997
Instantaneous low flow					154	May 15, 1948
Annual runoff (ac-ft)	5,452,000		5,793,000		7,228,000	
10 percent exceeds	14,800		14,300		14,900	
50 percent exceeds	6,030		6,260		8,300	
90 percent exceeds	3,680		4,360		3,950	

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