

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 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.

11370500 Sacramento River at Keswick, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,630	6,720	3,720	3,390	3,310	3,530	4,850	9,160	9,380	12,500	12,300	9,250
2	6,730	6,680	3,670	3,320	3,300	3,700	4,720	9,260	9,310	12,500	12,200	8,710
3	6,620	6,510	3,770	3,270	3,290	3,510	4,570	9,240	9,480	12,300	12,300	8,110
4	6,530	5,980	3,840	3,220	3,300	3,460	4,580	9,410	9,730	12,500	12,200	8,100
5	6,570	5,840	3,700	3,260	3,310	3,410	4,570	9,490	9,780	12,500	12,100	8,150
6	6,570	5,650	3,700	3,280	3,320	3,410	4,610	8,650	9,860	12,500	12,000	8,130
7	6,680	5,410	3,690	3,260	3,310	3,400	4,810	7,770	9,950	12,500	12,200	8,400
8	6,700	5,510	3,730	3,250	3,320	3,400	5,570	7,630	9,830	12,500	11,800	8,100
9	6,700	5,350	3,700	3,250	3,310	3,410	5,580	7,600	9,970	12,600	11,600	8,160
10	6,800	5,130	3,700	3,260	3,320	3,400	5,680	7,540	9,960	12,600	11,600	8,420
11	6,890	5,200	3,730	3,250	3,360	3,410	5,720	7,710	9,960	12,800	11,500	8,420
12	6,980	5,120	3,700	3,260	3,300	3,390	5,660	7,700	9,910	12,600	11,300	8,290
13	6,210	4,970	3,700	3,260	3,380	3,410	5,720	7,720	10,100	12,600	11,400	7,800
14	6,510	4,600	3,700	3,270	3,410	3,410	5,690	8,540	10,500	12,500	11,200	7,210
15	6,650	4,430	3,700	3,260	3,610	3,420	5,750	8,940	10,600	12,400	10,800	7,310
16	7,080	4,290	3,700	3,260	3,660	3,680	5,720	9,130	10,400	12,500	10,800	7,380
17	7,620	4,130	3,690	3,250	3,580	3,670	6,200	9,040	10,100	12,600	10,600	7,060
18	7,470	4,100	3,710	3,250	3,470	3,520	6,690	8,920	10,400	12,600	10,600	6,720
19	7,510	3,960	3,740	3,240	3,390	3,480	6,680	8,830	10,600	12,500	10,600	6,820
20	7,520	3,750	3,730	3,260	3,360	3,460	6,630	9,000	10,500	12,500	10,500	6,950
21	7,580	3,720	3,720	3,270	3,340	3,460	6,630	9,060	10,500	12,600	10,500	6,650
22	7,590	3,680	3,710	3,270	3,590	3,430	6,880	9,030	10,800	12,900	10,100	6,720
23	7,570	3,620	3,710	3,270	3,720	3,440	7,130	8,890	11,000	12,500	10,200	6,890
24	7,460	3,660	3,760	3,230	3,770	3,430	7,380	8,880	11,400	12,600	9,990	6,630
25	7,640	3,760	3,810	3,220	3,500	3,420	7,630	8,850	11,700	12,500	10,100	6,230
26	7,590	3,680	3,760	3,220	3,410	3,430	7,810	8,860	12,200	12,500	10,300	6,210
27	7,790	3,620	3,710	3,270	3,400	3,420	8,130	9,030	11,900	12,700	10,100	6,200
28	7,720	3,670	3,710	3,300	3,380	3,400	8,280	9,130	11,900	12,900	9,560	6,250
29	7,520	3,610	3,710	3,290	---	3,410	8,720	9,110	11,900	12,600	9,590	6,300
30	7,600	3,650	3,710	3,290	---	3,440	8,890	9,080	12,200	12,600	9,220	6,270
31	7,140	---	3,540	3,300	---	3,460	---	9,240	---	12,400	9,130	---
Total	220,170	140,000	115,170	101,250	95,720	107,220	187,480	270,440	315,820	389,400	338,390	221,840
Mean	7,102	4,667	3,715	3,266	3,419	3,459	6,249	8,724	10,530	12,560	10,920	7,395
Max	7,790	6,720	3,840	3,390	3,770	3,700	8,890	9,490	12,200	12,900	12,300	9,250
Min	6,210	3,610	3,540	3,220	3,290	3,390	4,570	7,540	9,310	12,300	9,130	6,200
Ac-ft	436,700	277,700	228,400	200,800	189,900	212,700	371,900	536,400	626,400	772,400	671,200	440,000

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)

11370500 Sacramento River at Keswick, CA—Continued

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 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,305	6,902	9,072	11,050	12,850	11,100	9,011	10,720	11,750	12,990	11,550	8,273
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 2008	Water Year 2009	Water Years 1964 - 2009
Annual total	2,595,150	2,502,900	
Annual mean	7,091	6,857	10,120
Highest annual mean			18,230
Lowest annual mean			5,390
Highest daily mean	13,400	Jun 23	12,900
Lowest daily mean	3,180	Mar 26	3,220
Annual seven-day minimum	3,240	Mar 22	3,250
Maximum peak flow			13,600
Maximum peak stage		15.42	Jul 24
Instantaneous low flow			32.71
Annual runoff (ac-ft)	5,147,000	4,965,000	7,334,000
10 percent exceeds	12,400	12,200	15,000
50 percent exceeds	7,030	6,650	8,420
90 percent exceeds	3,390	3,310	3,980

11370500 Sacramento River at Keswick, CA—Continued

