

11446500 American River at Fair Oaks, CA

Sacramento River Basin

LOCATION.--Lat 38°38'08", long 121°13'36" referenced to North American Datum of 1927, in SE ¼ NE ¼ sec.17, T.9 N., R.7 E., Sacramento County, CA, Hydrologic Unit 18020111, on right bank, 2,100 ft downstream from Nimbus Dam, 2.4 mi east of Fair Oaks, 8.1 mi downstream from South Fork, and at river mile 22.2.

DRAINAGE AREA.--1,888 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1181: 1928 (instantaneous maximum discharge). WSP 1515: 1907 (instantaneous maximum discharge), 1910, 1931 (instantaneous maximum discharge), 1943 (instantaneous maximum discharge). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.53 ft above NGVD of 1929. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.--Records good except for Dec. 15 to Mar. 11, which are rated fair. Flow regulated by Folsom Lake (station 11446200) beginning Feb. 25, 1955. Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom Powerplant re-regulated by Nimbus Reservoir, capacity, 2,800 acre-ft, between normal operating elevations 118.5 and 125.0 ft, and by Nimbus Powerplant. Many diversions upstream from station for irrigation, municipal, and domestic water supply. Diversions for San Juan Suburban Water District, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River Basins. See schematic diagram of lower Sacramento River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s, Nov. 21, 1950, gage height, 31.85 ft, site and datum then in use; minimum, 3.6 ft³/s, Aug. 16, 1924.

Maximum discharge since regulation by Folsom Lake in 1955, 134,000 ft³/s, Feb. 19, 1986, gage height, 27.96 ft; minimum daily, 215 ft³/s, Apr. 20, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on Jan. 10, 1862, reached a stage of 38 ft, datum unknown, from floodmark, verified by comparison with flood crest for 1862 and 1907, at other points; from USGS WSP 843; discharge, 318,000 ft³/s, estimated, from rating curve extended above 163,000 ft³/s.

11446500 American River at Fair Oaks, CA—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e1,050	1,060	1,140	854	764	746	2,030	4,830	3,590	5,280	5,040	2,700
2	1,030	1,060	1,190	855	770	752	2,060	4,670	3,620	5,370	4,650	2,620
3	1,020	1,070	1,180	853	773	764	2,060	4,860	3,610	5,470	4,360	2,630
4	1,030	1,060	1,180	854	774	751	2,050	4,910	3,420	5,510	4,350	2,630
5	1,030	1,060	1,170	867	765	756	2,510	4,890	3,040	5,360	4,110	2,630
6	1,020	1,050	1,170	866	768	761	3,110	4,550	2,520	5,230	4,090	2,630
7	1,020	1,050	1,070	860	766	765	3,200	4,130	2,440	5,210	4,090	2,630
8	1,030	1,060	1,080	859	769	766	3,180	4,170	2,440	5,280	4,090	1,780
9	1,020	1,060	1,010	872	768	762	3,220	4,130	2,440	4,980	4,110	1,760
10	1,020	1,120	961	857	769	764	3,310	3,950	2,030	5,090	4,100	2,100
11	1,030	1,170	977	860	768	758	3,350	4,080	1,970	5,050	3,970	2,100
12	1,030	1,160	953	862	768	1,170	3,340	4,070	1,910	5,010	4,030	2,080
13	1,030	1,160	935	867	773	1,200	3,330	4,160	1,770	5,090	3,780	2,060
14	1,010	1,160	919	805	765	1,170	3,340	4,130	1,770	5,320	3,500	2,070
15	1,020	1,170	837	822	763	1,160	3,350	4,130	1,770	5,060	3,480	1,860
16	1,020	1,170	842	822	768	1,180	3,340	4,010	1,770	5,050	3,220	1,860
17	1,020	1,170	850	801	769	1,180	3,340	4,180	1,760	5,170	3,190	e1,860
18	1,020	1,170	840	813	768	1,180	3,340	4,120	1,720	4,990	3,190	e1,900
19	1,030	1,160	851	820	765	1,180	3,330	3,630	2,370	4,960	3,200	e1,900
20	1,020	1,140	856	702	764	1,180	3,330	3,540	2,930	5,020	3,140	e1,900
21	1,020	1,150	855	697	773	1,170	3,330	3,540	2,960	4,990	3,190	e1,900
22	1,020	1,140	856	733	796	1,160	3,330	3,410	2,960	4,090	3,190	e1,900
23	1,030	1,140	858	738	797	1,170	3,330	3,460	2,940	5,120	3,180	e1,900
24	1,030	1,140	861	786	788	1,170	3,390	3,590	3,500	5,040	3,180	e1,900
25	1,030	1,160	861	788	763	1,170	4,250	3,520	4,070	5,020	3,180	e1,900
26	1,030	1,180	860	782	749	1,540	4,740	3,570	4,370	5,280	3,180	1,910
27	1,040	1,160	860	778	741	1,570	4,690	3,590	4,120	5,100	3,180	1,900
28	1,030	1,190	857	776	743	1,510	4,710	3,500	4,040	5,180	3,180	1,900
29	1,030	1,190	856	770	---	1,500	4,910	3,550	4,130	5,070	3,170	1,900
30	1,050	1,160	856	755	---	1,500	4,890	3,550	4,110	5,100	3,180	1,910
31	1,050	---	855	765	---	1,500	---	3,590	---	5,040	3,180	---
Total	31,860	33,890	29,446	25,139	21,507	33,905	101,690	124,010	86,090	158,530	112,680	62,720
Mean	1,028	1,130	950	811	768	1,094	3,390	4,000	2,870	5,114	3,635	2,091
Max	1,050	1,190	1,190	872	797	1,570	4,910	4,910	4,370	5,510	5,040	2,700
Min	1,010	1,050	837	697	741	746	2,030	3,410	1,720	4,090	3,140	1,760
Ac-ft	63,190	67,220	58,410	49,860	42,660	67,250	201,700	246,000	170,800	314,400	223,500	124,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1954, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	455	1,327	2,504	4,483	5,831	6,647	8,258	8,656	5,149	1,293	342	269
Max	1,430	16,450	17,360	24,290	15,540	24,710	15,640	18,200	17,720	6,336	1,497	813
(WY)	(1905)	(1951)	(1951)	(1909)	(1909)	(1907)	(1907)	(1952)	(1911)	(1906)	(1907)	(1907)
Min	100	85.0	254	284	650	879	1,998	1,488	206	26.8	15.8	24.4
(WY)	(1930)	(1930)	(1906)	(1918)	(1920)	(1924)	(1924)	(1924)	(1924)	(1924)	(1924)	(1924)

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SUMMARY STATISTICS

	Water Years 1905 - 1954	
Annual mean	3,752	
Highest annual mean	7,896	1907
Lowest annual mean	731	1924
Highest daily mean	132,000	Nov 21, 1950
Lowest daily mean	4.6	Jul 29, 1924
Annual seven-day minimum	4.8	Jul 29, 1924
Maximum peak flow	180,000	Nov 21, 1950
Maximum peak stage	31.85	Nov 21, 1950
Annual runoff (ac-ft)	2,718,000	
10 percent exceeds	9,980	
50 percent exceeds	1,420	
90 percent exceeds	216	

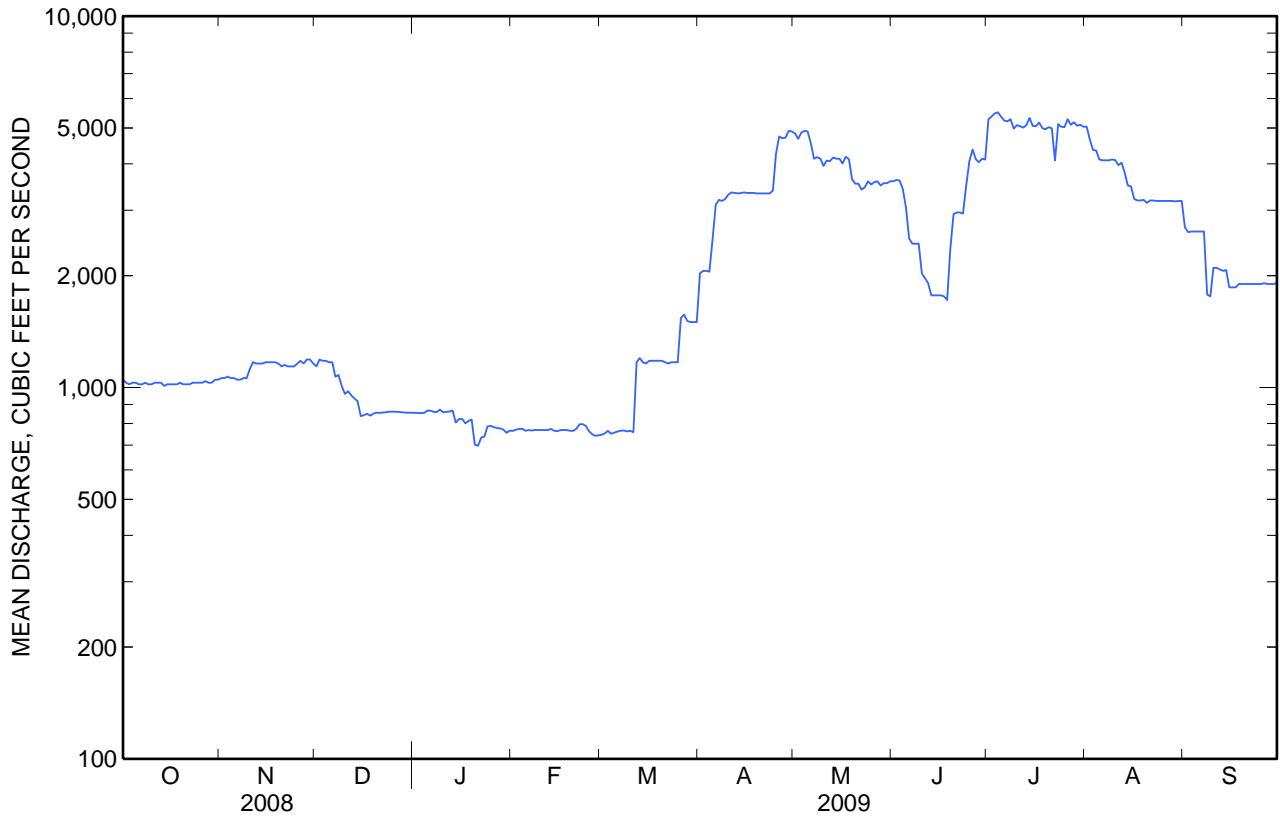
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,888	2,298	3,693	5,145	5,399	4,864	4,343	4,330	3,797	3,624	2,724	2,197
Max	4,102	11,700	19,360	31,780	31,140	19,340	19,060	14,270	9,828	10,710	4,500	4,014
(WY)	(1970)	(1984)	(1965)	(1997)	(1986)	(1983)	(2006)	(1995)	(1983)	(1995)	(1983)	(1998)
Min	284	272	252	350	408	273	258	520	1,135	869	855	602
(WY)	(1978)	(1978)	(1978)	(1962)	(1991)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)

SUMMARY STATISTICS

	Calendar Year 2008	Water Year 2009	Water Years 1956 - 2009
Annual total	544,751	821,467	
Annual mean	1,488	2,251	3,685
Highest annual mean			8,854
Lowest annual mean			778
Highest daily mean	4,400	Jun 11	5,510
Lowest daily mean	837	Dec 15	697
Annual seven-day minimum	847	Dec 15	747
Maximum peak flow			6,270
Maximum peak stage			7.93
Annual runoff (ac-ft)	1,081,000	1,629,000	2,669,000
10 percent exceeds	3,190	4,840	7,500
50 percent exceeds	1,060	1,720	2,460
90 percent exceeds	977	769	970

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-07, 1951-58, 1960-79, 1999 to current year.

CHEMICAL DATA: Water years 1906-07, 1951-58, 1960-63.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: March 1951 to September 1958, November 1959 to January 1979, October 1998 to current year.

INSTRUMENTATION.--Water-temperature recorder March 1951 to September 1958, November 1959 to January 1979, and since October 1998. Water-temperature probe was relocated 300 ft upstream on May 10, 2001, to obtain more representative stream temperatures.

REMARKS.--Water-temperature records rated excellent. Water temperature is affected by upstream releases from Nimbus Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: (1951-55) Maximum recorded, 27.0°C, July 27, Aug. 3, 1954; minimum recorded, 3.5°C, Oct. 30, 31, 1954.

Extremes since construction of Folsom Dam beginning in February 1955: Maximum recorded, 26.0°C, Sept. 28, 1961; minimum recorded, 0.0°C, Nov. 25-29, 1957.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 20.2°C, Oct. 1, 3; minimum recorded, 8.4°C, Jan. 29-31, Feb. 13.

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

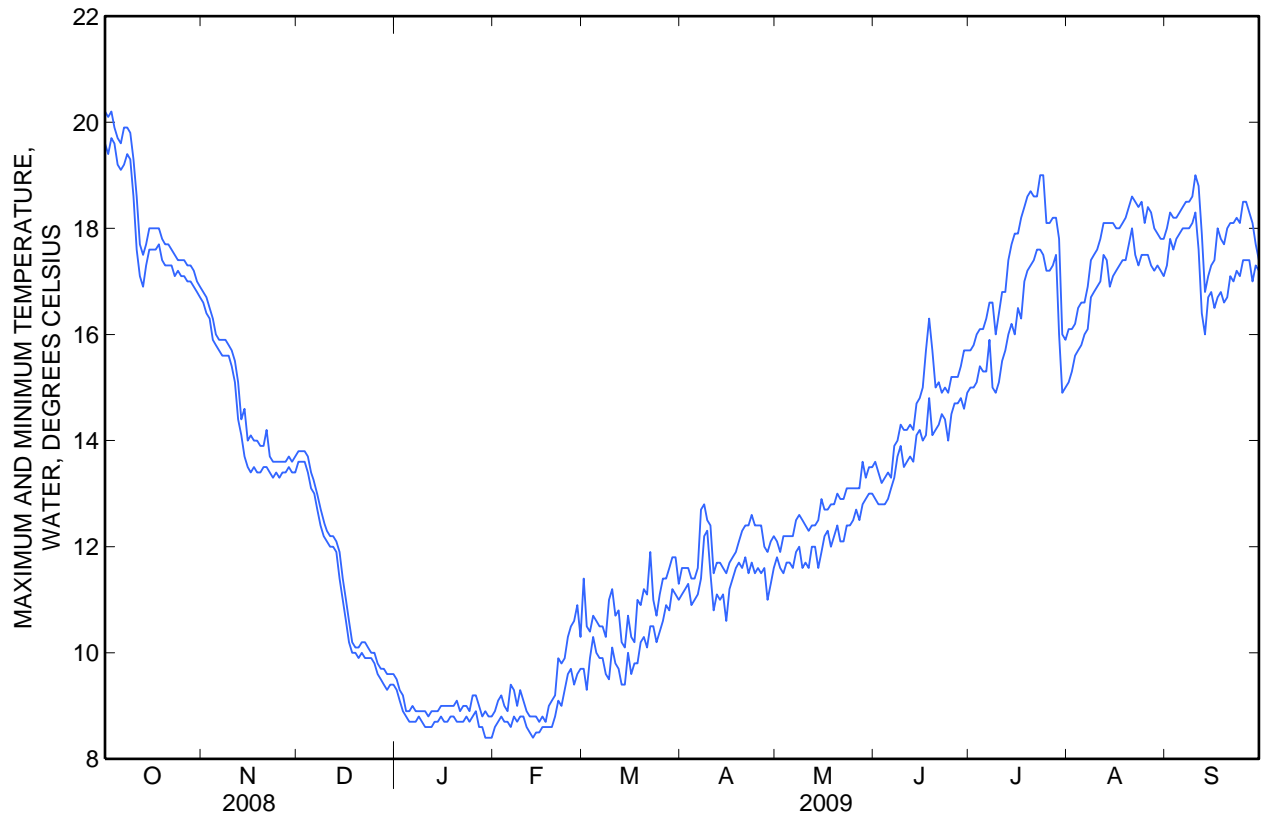
Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	20.2	19.6	16.8	16.6	13.8	13.6	9.5	9.3	8.9	8.6	11.4	9.7
2	20.1	19.4	16.7	16.4	13.8	13.6	9.3	9.1	9.1	8.7	10.5	9.3
3	20.2	19.7	16.5	16.3	13.8	13.6	9.2	8.9	9.2	8.8	10.4	9.9
4	19.9	19.6	16.3	15.9	13.7	13.4	8.9	8.8	9.0	8.7	10.7	10.3
5	19.7	19.2	16.0	15.8	13.4	13.1	8.9	8.7	8.9	8.7	10.6	10.0
6	19.6	19.1	15.9	15.7	13.2	13.0	9.0	8.7	9.4	8.6	10.5	9.9
7	19.9	19.2	15.9	15.6	13.0	12.7	8.9	8.7	9.3	8.8	10.5	9.9
8	19.9	19.4	15.9	15.6	12.7	12.4	8.9	8.8	9.0	8.7	10.3	9.6
9	19.8	19.3	15.8	15.6	12.5	12.2	8.9	8.7	9.3	8.8	11.0	9.5
10	19.3	18.6	15.7	15.4	12.3	12.1	8.9	8.6	9.1	8.8	11.2	10.1
11	18.6	17.6	15.5	15.1	12.2	12.0	8.8	8.6	8.9	8.6	10.7	9.8
12	17.7	17.1	15.1	14.4	12.2	12.0	8.9	8.6	8.8	8.5	10.8	9.7
13	17.5	16.9	14.4	14.1	12.1	11.9	8.9	8.7	8.8	8.4	10.2	9.4
14	17.7	17.3	14.6	13.7	11.9	11.4	8.9	8.7	8.8	8.5	10.1	9.4
15	18.0	17.6	14.0	13.5	11.4	11.0	9.0	8.8	8.7	8.5	10.7	10.0
16	18.0	17.6	14.1	13.4	11.0	10.6	9.0	8.7	8.8	8.6	10.3	9.6
17	18.0	17.6	14.0	13.5	10.6	10.2	9.0	8.7	8.7	8.6	10.2	9.8
18	18.0	17.7	14.0	13.4	10.2	10.0	9.0	8.8	9.0	8.6	11.0	9.8
19	17.8	17.4	13.9	13.4	10.1	10.0	9.0	8.8	9.1	8.6	10.9	10.2
20	17.7	17.3	13.9	13.5	10.1	9.9	9.1	8.7	9.2	8.8	11.2	10.3
21	17.7	17.3	14.2	13.5	10.2	10.0	8.9	8.7	9.9	9.1	11.1	10.1
22	17.6	17.3	13.7	13.4	10.2	9.9	9.0	8.7	9.8	9.0	11.9	10.5
23	17.5	17.1	13.6	13.3	10.1	9.9	9.0	8.8	9.9	9.3	11.0	10.5
24	17.4	17.2	13.6	13.4	10.0	9.9	8.9	8.7	10.3	9.6	10.7	10.2
25	17.4	17.1	13.6	13.3	10.0	9.8	9.2	8.8	10.5	9.7	11.1	10.4
26	17.4	17.1	13.6	13.4	9.8	9.6	9.2	8.9	10.6	9.4	11.4	10.6
27	17.3	17.0	13.6	13.4	9.7	9.5	9.0	8.6	10.9	9.6	11.4	10.9
28	17.3	17.0	13.7	13.5	9.7	9.4	8.8	8.6	10.3	9.7	11.6	10.8
29	17.2	16.9	13.6	13.4	9.6	9.3	8.9	8.4	---	---	11.8	11.2
30	17.0	16.8	13.7	13.4	9.6	9.4	8.8	8.4	---	---	11.8	11.1
31	16.9	16.7	---	---	9.6	9.4	8.8	8.4	---	---	11.3	11.0
Month	20.2	16.7	16.8	13.3	13.8	9.3	9.5	8.4	10.9	8.4	11.9	9.3

11446500 American River at Fair Oaks, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	11.6	11.1	12.1	11.8	13.6	12.9	15.7	15.0	16.1	15.1	18.0	17.3
2	11.6	11.2	11.9	11.6	13.4	12.8	15.8	15.0	16.1	15.3	18.3	17.8
3	11.6	11.3	12.2	11.5	13.2	12.8	16.0	15.1	16.2	15.6	18.2	17.6
4	11.4	10.9	12.2	11.7	13.3	12.8	16.1	15.4	16.5	15.7	18.2	17.8
5	11.4	11.0	12.2	11.7	13.4	12.9	16.1	15.3	16.6	15.8	18.3	17.9
6	11.6	11.1	12.2	11.6	13.3	13.1	16.3	15.3	16.6	16.0	18.4	18.0
7	12.7	11.4	12.5	11.9	13.9	13.3	16.6	15.9	16.9	16.1	18.5	18.0
8	12.8	12.2	12.6	12.0	14.0	13.7	16.6	15.0	17.4	16.7	18.5	18.0
9	12.5	12.3	12.5	11.6	14.3	13.9	16.0	14.9	17.5	16.8	18.6	18.1
10	12.4	11.5	12.4	11.7	14.2	13.5	16.4	15.1	17.6	16.9	19.0	18.3
11	11.5	10.8	12.3	11.6	14.2	13.6	16.8	15.5	17.8	17.0	18.8	17.6
12	11.7	11.1	12.4	12.0	14.3	13.7	16.8	15.7	18.1	17.5	17.9	16.4
13	11.7	11.0	12.4	12.0	14.2	13.6	17.4	16.0	18.1	17.4	16.8	16.0
14	11.6	11.1	12.5	11.6	14.7	14.1	17.7	16.2	18.1	16.9	17.1	16.7
15	11.5	10.6	12.9	11.9	14.8	14.2	17.9	16.0	18.1	17.1	17.3	16.8
16	11.7	11.2	12.7	12.2	15.0	14.0	17.9	16.5	18.0	17.2	17.4	16.5
17	11.8	11.4	12.7	12.3	15.7	14.1	18.2	16.3	18.0	17.3	18.0	16.7
18	11.9	11.6	12.8	12.0	16.3	14.8	18.4	17.0	18.1	17.4	17.8	16.8
19	12.1	11.7	12.8	12.2	15.7	14.1	18.6	17.2	18.2	17.4	17.7	16.6
20	12.3	11.6	13.0	12.4	15.0	14.2	18.7	17.3	18.4	17.7	18.0	16.7
21	12.4	11.8	12.9	12.1	15.1	14.3	18.6	17.4	18.6	18.0	18.1	17.1
22	12.4	11.5	12.9	12.1	14.9	14.5	18.6	17.6	18.5	17.5	18.1	17.0
23	12.6	11.7	13.1	12.4	15.0	14.4	19.0	17.6	18.4	17.3	18.2	17.2
24	12.4	11.5	13.1	12.4	14.9	14.0	19.0	17.5	18.5	17.5	18.1	17.1
25	12.4	11.6	13.1	12.5	15.2	14.5	18.1	17.2	18.1	17.5	18.5	17.4
26	12.4	11.5	13.1	12.7	15.2	14.7	18.1	17.2	18.4	17.5	18.5	17.4
27	12.0	11.6	13.1	12.5	15.2	14.7	18.2	17.3	18.3	17.3	18.3	17.4
28	11.9	11.0	13.6	12.8	15.4	14.8	18.2	17.5	18.0	17.2	18.1	17.0
29	12.1	11.3	13.3	12.9	15.7	14.6	17.8	16.0	17.9	17.3	17.7	17.3
30	12.2	11.6	13.5	13.0	15.7	14.9	16.0	14.9	17.8	17.2	17.4	17.2
31	---	---	13.5	13.0	---	---	15.9	15.0	17.8	17.1	---	---
Month	12.8	10.6	13.6	11.5	16.3	12.8	19.0	14.9	18.6	15.1	19.0	16.0

11446500 American River at Fair Oaks, CA—Continued



11446500 American River at Fair Oaks, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Date	Time	Temperature, water, deg C (00010)	DepthTo bottom at sample location, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking downstrm ft from l bank (00009)
Aug						
18...	0924	17.6	5.50	4.40	280	266
18...	0925	17.6	5.50	1.10	280	266
18...	0928	17.6	8.30	6.60	280	252
18...	0929	17.6	8.30	1.66	280	252
18...	0933	17.5	12.0	9.60	280	224
18...	0934	17.5	12.0	2.40	280	224
18...	0938	17.5	11.5	9.20	280	196
18...	0939	17.5	11.5	2.30	280	196
18...	0941	17.5	11.0	8.80	280	168
18...	0942	17.5	11.0	2.20	280	168
18...	0944	17.5	12.7	10.2	280	140
18...	0945	17.5	12.7	2.50	280	140
18...	0947	17.5	14.6	11.7	280	112
18...	0948	17.5	14.6	2.90	280	112
18...	0950	17.5	16.1	12.9	280	84.0
18...	0951	17.5	16.1	9.70	280	84.0
18...	0952	17.6	16.1	3.20	280	84.0
18...	0955	17.5	16.5	13.2	280	56.0
18...	0956	17.5	16.5	9.90	280	56.0
18...	0957	17.5	16.5	3.30	280	56.0
18...	1000	17.5	10.0	8.00	280	28.0
18...	1001	17.5	10.0	2.00	280	28.0

Note: Instantaneous discharge at mean time of cross-sectional measurements: Aug. 18, 3,220 ft³/s.