



Water-Data Report 2009

11425500 Sacramento River at Verona, CA

Sacramento River Basin

LOCATION.--Lat 38°46'28", long 121°35'50" referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.25, T.11 N., R.3 E., Sutter County, CA, Hydrologic Unit 18020109, on left bank, 1.3 mi southeast of Verona, 1.5 mi downstream from Feather River, 6.2 mi east of Knights Landing, and at mile 19.1 upstream from Sacramento.

DRAINAGE AREA.--21,251 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.

REVISED RECORDS.--WDR CA-77-4: Drainage area; WDR CA-2005: 1997 (instantaneous maximum discharge). WRD US-2007: 1997.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 40.050 ft above NGVD of 1929. Datum of gage is 3.00 ft below NGVD of 1929. May 1926 to Sept. 30, 1987, at site 0.5 mi upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 ft³/s, flow begins over Fremont Weir, 3.5 mi upstream on right bank, into Yolo Bypass (station 11453000). See schematic diagram of lower Sacramento River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft³/s, Jan. 2, 1997, gage height, 42.09 ft, maximum gage height, 42.11 ft, Feb. 20, 1986, site then in use; minimum daily, 304 ft³/s, July 23, 24, 1931.

11425500 Sacramento River at Verona, 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	8,630	9,700	7,360	9,930	9,570	28,500	10,600	10,200	10,500	13,800	16,100	13,200
2	8,560	11,700	7,480	9,500	9,190	27,300	10,300	10,900	10,400	14,300	16,200	12,800
3	8,530	12,700	7,390	9,290	9,010	36,200	10,300	12,200	e10,500	14,700	16,200	13,200
4	8,700	13,000	7,360	9,030	9,370	45,500	10,900	15,400	e11,100	15,300	15,500	13,400
5	8,830	12,900	7,370	9,220	9,530	49,200	12,200	20,300	11,600	15,900	14,300	13,100
6	8,770	12,500	7,310	9,010	9,320	47,100	12,500	28,400	11,900	16,200	13,800	12,500
7	8,820	11,800	7,340	8,690	9,090	40,900	12,400	28,100	12,700	16,100	13,100	12,200
8	8,730	10,800	7,390	8,630	8,930	33,300	12,400	25,100	13,300	16,100	13,000	11,900
9	8,430	10,600	7,410	8,600	9,030	28,300	12,300	21,800	13,500	16,000	12,900	12,000
10	8,160	10,200	7,450	8,370	8,970	24,900	12,700	18,500	12,900	16,100	13,000	12,000
11	8,040	9,870	7,560	8,270	9,400	21,600	13,200	15,900	12,000	16,200	12,900	11,700
12	7,910	9,700	7,710	8,320	9,710	18,900	13,600	14,400	11,200	16,500	12,800	11,700
13	7,960	9,540	7,870	8,040	9,910	17,000	13,800	12,800	10,700	16,700	12,800	11,900
14	8,040	9,460	7,900	7,810	11,200	15,600	13,500	11,600	10,200	16,800	12,900	11,900
15	7,900	9,300	8,220	7,750	12,700	14,700	13,100	10,700	9,810	16,800	12,900	11,800
16	7,350	9,220	8,360	7,710	14,000	13,900	12,700	10,300	9,530	e16,700	12,900	11,600
17	7,280	8,910	e8,400	7,600	21,900	13,500	12,300	10,700	9,060	e15,600	12,700	11,300
18	7,180	8,380	e8,400	7,430	31,600	14,300	11,800	11,100	9,140	15,800	12,600	11,200
19	7,410	7,990	e8,420	7,310	35,400	16,100	11,100	11,500	8,930	16,100	12,700	10,900
20	7,500	7,760	e8,400	7,300	35,600	15,200	11,000	11,400	9,030	16,200	12,900	10,600
21	7,260	7,570	e8,410	7,220	31,200	14,100	10,900	11,000	9,100	16,100	13,100	10,200
22	7,190	7,450	e8,650	e7,640	26,600	13,500	10,400	10,600	8,940	15,800	13,300	10,000
23	7,320	7,340	9,300	8,220	26,800	13,000	9,980	10,500	8,930	14,800	13,400	9,790
24	7,350	7,340	9,410	8,790	38,400	12,600	9,730	10,600	9,580	13,200	13,100	9,500
25	7,180	7,460	10,200	9,210	42,400	12,200	9,990	10,700	9,860	14,900	12,700	9,270
26	7,040	7,540	11,400	10,700	42,600	11,700	10,700	10,900	9,860	15,100	12,800	9,010
27	7,160	7,550	14,000	13,300	38,500	11,400	10,800	11,100	9,530	15,200	13,000	8,740
28	7,550	7,490	13,200	12,900	32,700	11,200	10,900	10,200	10,600	15,500	13,200	8,580
29	7,830	7,430	11,600	11,600	---	11,100	10,600	9,940	11,900	15,800	13,400	8,650
30	7,970	7,310	10,600	10,600	---	10,900	10,300	9,950	12,900	16,000	13,400	8,580
31	8,320	---	10,200	10,000	---	10,700	---	10,500	---	16,200	13,300	---
Total	244,900	280,510	272,070	277,990	562,630	654,400	347,000	427,290	319,200	486,500	416,900	333,220
Mean	7,900	9,350	8,776	8,967	20,090	21,110	11,570	13,780	10,640	15,690	13,450	11,110
Max	8,830	13,000	14,000	13,300	42,600	49,200	13,800	28,400	13,500	16,800	16,200	13,400
Min	7,040	7,310	7,310	7,220	8,930	10,700	9,730	9,940	8,930	13,200	12,600	8,580
Ac-ft	485,800	556,400	539,700	551,400	1,116,000	1,298,000	688,300	847,500	633,100	965,000	826,900	660,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1943, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,623	8,493	17,140	28,130	33,500	35,320	34,370	24,600	12,750	3,943	2,603	4,242
Max	7,816	23,510	41,690	56,930	57,860	57,700	55,330	53,730	33,480	9,176	5,036	5,895
(WY)	(1939)	(1938)	(1938)	(1941)	(1942)	(1938)	(1938)	(1938)	(1938)	(1938)	(1938)	(1938)
Min	3,462	3,923	5,968	7,819	11,730	13,860	5,932	3,103	1,872	497	846	2,960
(WY)	(1933)	(1933)	(1937)	(1937)	(1933)	(1931)	(1931)	(1931)	(1931)	(1931)	(1931)	(1934)

11425500 Sacramento River at Verona, CA—Continued

SUMMARY STATISTICS

Water Years 1930 - 1943		
Annual mean	17,470	
Highest annual mean	31,300	1938
Lowest annual mean	6,286	1931
Highest daily mean	76,900	Feb 8, 1942
Lowest daily mean	304	Jul 23, 1931
Annual seven-day minimum	313	Jul 18, 1931
Maximum peak flow	79,200	Mar 1, 1940
Maximum peak stage	41.20	Mar 1, 1940
Annual runoff (ac-ft)	12,650,000	
10 percent exceeds	50,700	
50 percent exceeds	8,620	
90 percent exceeds	2,680	

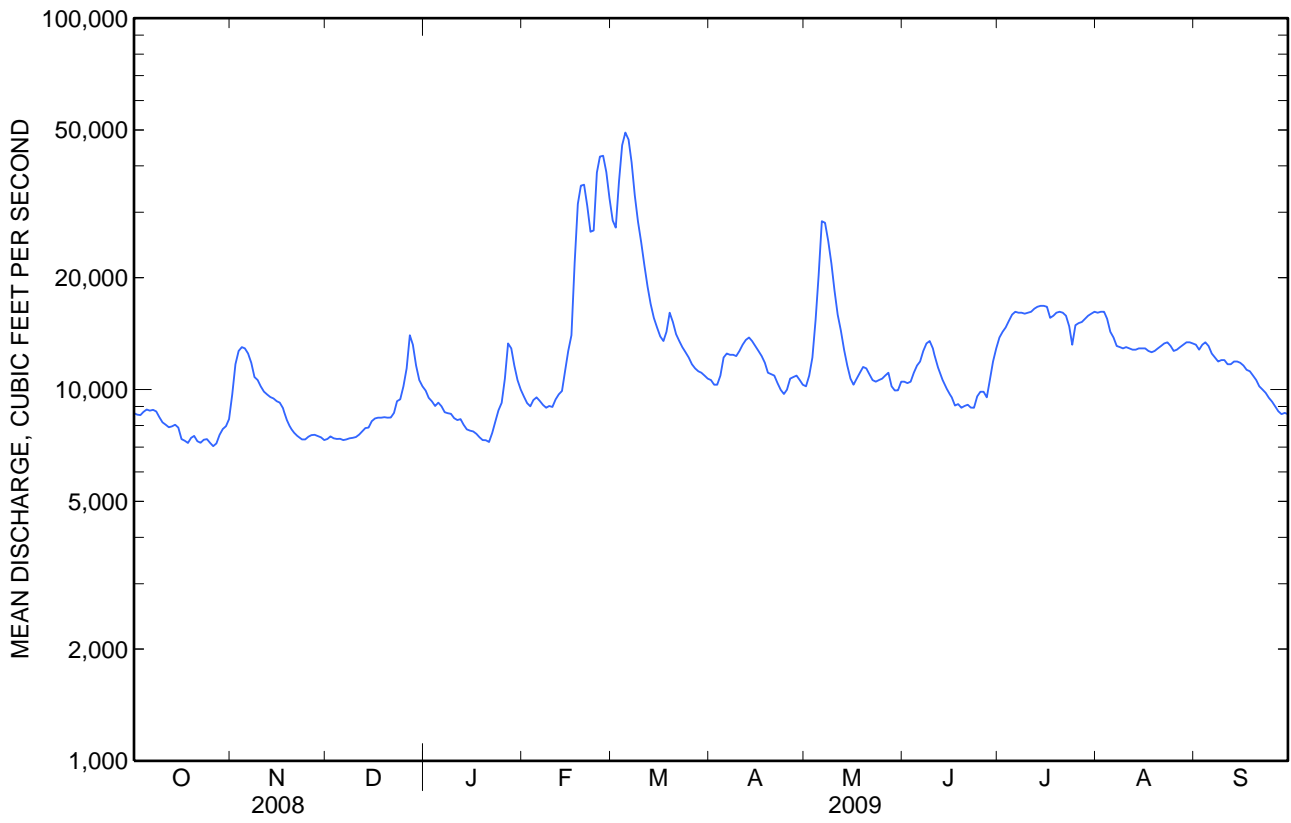
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,490	13,470	22,140	29,790	33,910	31,650	24,360	20,030	14,540	12,380	12,530	12,880
Max (WY)	24,920 (1963)	43,300 (1974)	64,470 (1984)	72,110 (1997)	70,030 (1998)	71,340 (1983)	65,970 (2006)	51,600 (1952)	45,560 (1998)	24,550 (1983)	21,400 (1983)	22,110 (1971)
Min (WY)	4,725 (1978)	5,987 (1993)	6,586 (1960)	8,561 (1991)	7,591 (1991)	6,731 (1977)	6,188 (1977)	5,118 (1992)	4,858 (1992)	4,848 (1947)	5,385 (1947)	6,300 (1977)

SUMMARY STATISTICS

	Calendar Year 2008	Water Year 2009	Water Years 1946 - 2009
Annual total	4,508,550	4,622,610	
Annual mean	12,320	12,660	19,780
Highest annual mean			39,150 1983
Lowest annual mean			7,178 1977
Highest daily mean	41,200 Jan 30	49,200 Mar 5	95,600 Jan 3, 1997
Lowest daily mean	7,040 Oct 26	7,040 Oct 26	3,590 Jun 24, 1992
Annual seven-day minimum	7,210 Oct 21	7,210 Oct 21	3,960 Jun 22, 1992
Maximum peak flow		49,500 Mar 5	102,000 Jan 2, 1997
Maximum peak stage		28.25 Mar 5	42.11 Feb 20, 1986
Annual runoff (ac-ft)	8,943,000	9,169,000	14,330,000
10 percent exceeds	19,600	16,300	45,500
50 percent exceeds	10,600	10,900	13,600
90 percent exceeds	7,570	7,560	7,700

11425500 Sacramento River at Verona, CA—Continued



11425500 Sacramento River at Verona, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1969-70, 1980, 1996-98, 2008 to current year.

CHEMICAL DATA: Water years 1952, 1969-70, 1996-98.

SEDIMENT DATA: Water years 1980, 1996-98.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1995 to September 1998, April 2008 to current year.

WATER TEMPERATURE: October 1995 to September 1998, February 2008 to current year.

TURBIDITY: March 2008 to current year.

INSTRUMENTATION.--Water-quality monitor near left bank, October 1995 to September 1998, and since Feb. 13, 2008.

REMARKS.--Values do not represent entire channel due to poor mixing from multiple inputs to the river upstream of gage location. Condition verified by cross-sectional profiles. Interruption in record due to sensor fouling, probe out of water, and equipment failure.

Specific conductance records are rated good except for Oct. 22, 23, Nov. 2, 3, Nov. 30 to Dec. 1, Apr. 29, 30, which are rated fair; and Nov. 4-7, which are rated poor.

Water temperature records rated excellent.

Turbidity records rated fair except for Oct. 25, 26, Nov. 15, 16, Dec. 8-12, Dec. 27 to Jan. 6, Feb. 17 to Mar. 4, Mar. 6, Apr. 16, 17, May 5-18, 21-26, and July 7, 12-15, 21-24, which are rated poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 249 microsiemens, Sept. 12, 2009; minimum recorded, 59 microsiemens, July 25, 1996.

WATER TEMPERATURE: Maximum recorded, 25.8°C, July 8, 9, 2008; minimum recorded, 6.0°C, Jan. 14, 15, 1997.

TURBIDITY: Maximum recorded, 190 FNU, Mar. 3, 2009; minimum recorded, 2.6 FNU, Aug. 5, 2008.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 249 microsiemens, Sept. 12; minimum recorded, 80 microsiemens, May 31.

WATER TEMPERATURE: Maximum recorded, 24.8°C, June 24; minimum recorded, 6.4°C, Dec. 17.

TURBIDITY: Maximum recorded, 190 FNU, Mar. 3; minimum recorded, 3.5 FNU, Oct. 8, 12, 13.

11425500 Sacramento River at Verona, CA—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

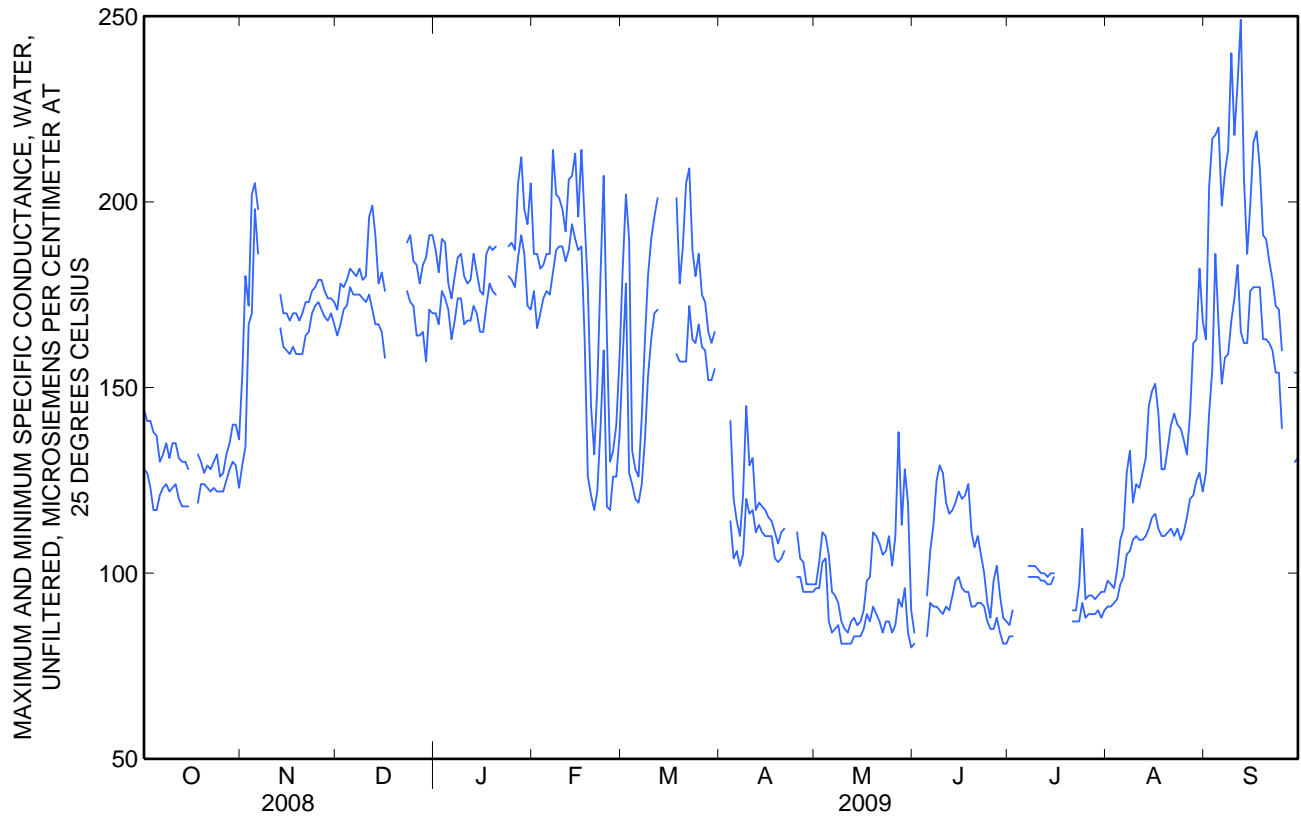
Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	144	128	153	129	171	164	187	170	186	176	182	158
2	141	127	180	134	178	167	181	167	186	166	202	178
3	141	123	172	167	177	171	190	176	182	170	190	127
4	138	117	202	170	179	172	189	174	183	174	133	124
5	137	117	205	198	182	177	178	171	186	176	128	120
6	130	121	198	186	181	175	174	163	186	175	126	119
7	132	123	---	---	180	175	180	168	214	181	142	124
8	135	124	---	---	182	175	185	174	202	187	163	136
9	131	122	---	---	179	174	186	174	201	188	180	153
10	135	123	---	---	180	173	180	167	198	188	190	163
11	135	124	---	---	196	175	178	168	192	184	196	170
12	131	120	---	---	199	171	179	168	206	187	201	171
13	130	118	175	166	191	167	186	172	207	194	---	---
14	130	118	170	161	178	167	181	170	213	190	---	---
15	128	118	170	160	181	165	176	165	196	187	---	---
16	---	---	168	159	176	158	175	165	214	188	---	---
17	---	---	170	161	---	---	186	172	195	163	---	---
18	132	119	170	159	---	---	188	178	177	126	201	159
19	130	124	168	159	---	---	187	176	145	121	178	157
20	127	124	170	159	---	---	188	175	132	117	188	157
21	129	123	173	164	---	---	---	---	150	122	205	157
22	128	122	173	165	---	---	---	---	180	139	209	172
23	130	123	176	170	189	176	---	---	207	160	187	163
24	132	122	177	172	191	173	188	180	164	118	180	162
25	126	122	179	173	184	172	189	179	130	117	186	167
26	127	122	179	171	183	164	187	177	133	126	175	161
27	132	125	176	169	178	164	205	185	140	126	173	160
28	135	128	174	168	183	165	212	191	158	137	165	152
29	140	130	174	170	185	157	198	186	---	---	162	152
30	140	129	173	167	191	171	194	172	---	---	165	155
31	136	123	---	---	191	170	205	171	---	---	---	---
Month	---	---	---	---	---	---	---	---	214	117	---	---

11425500 Sacramento River at Verona, CA—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 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	---	---	97	96	84	81	86	83	98	91	163	127
2	---	---	103	96	---	---	90	83	97	91	204	143
3	---	---	111	103	---	---	---	---	96	92	217	155
4	141	114	110	104	---	---	---	---	101	93	218	186
5	120	104	105	87	94	83	---	---	109	97	220	167
6	114	106	95	84	106	92	---	---	112	99	199	151
7	110	102	94	85	113	91	102	99	127	105	208	158
8	121	105	92	86	125	91	102	99	133	106	214	159
9	145	120	87	81	129	90	102	99	119	109	240	168
10	129	116	85	81	127	89	101	99	124	110	218	174
11	131	117	84	81	119	91	100	98	123	109	232	183
12	117	111	87	81	116	90	100	98	127	109	249	165
13	119	113	88	83	117	94	99	97	131	110	206	162
14	118	111	86	83	119	98	100	97	145	112	186	162
15	117	110	87	83	122	99	100	99	149	115	199	176
16	115	110	90	85	120	96	---	---	151	116	216	177
17	114	110	98	89	121	95	---	---	143	112	219	177
18	111	104	99	87	124	95	---	---	128	110	209	177
19	108	103	111	91	111	91	---	---	128	110	191	163
20	111	104	110	89	107	91	---	---	134	111	190	163
21	112	106	108	87	110	92	90	87	140	112	184	162
22	---	---	105	84	105	92	90	87	143	110	179	160
23	---	---	106	87	100	91	97	87	140	112	172	154
24	---	---	110	87	92	87	112	92	139	109	171	154
25	111	99	102	84	88	85	93	88	136	111	160	139
26	104	99	110	86	98	85	94	89	132	115	---	---
27	103	95	138	93	102	88	94	89	143	120	---	---
28	97	95	113	91	94	84	93	89	162	121	---	---
29	97	95	128	96	88	81	94	90	163	125	154	130
30	97	95	119	84	87	81	95	88	182	127	154	131
31	---	---	90	80	---	---	95	90	168	122	---	---
Month	---	---	138	80	---	---	---	---	182	91	---	---

11425500 Sacramento River at Verona, CA—Continued



11425500 Sacramento River at Verona, CA—Continued

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

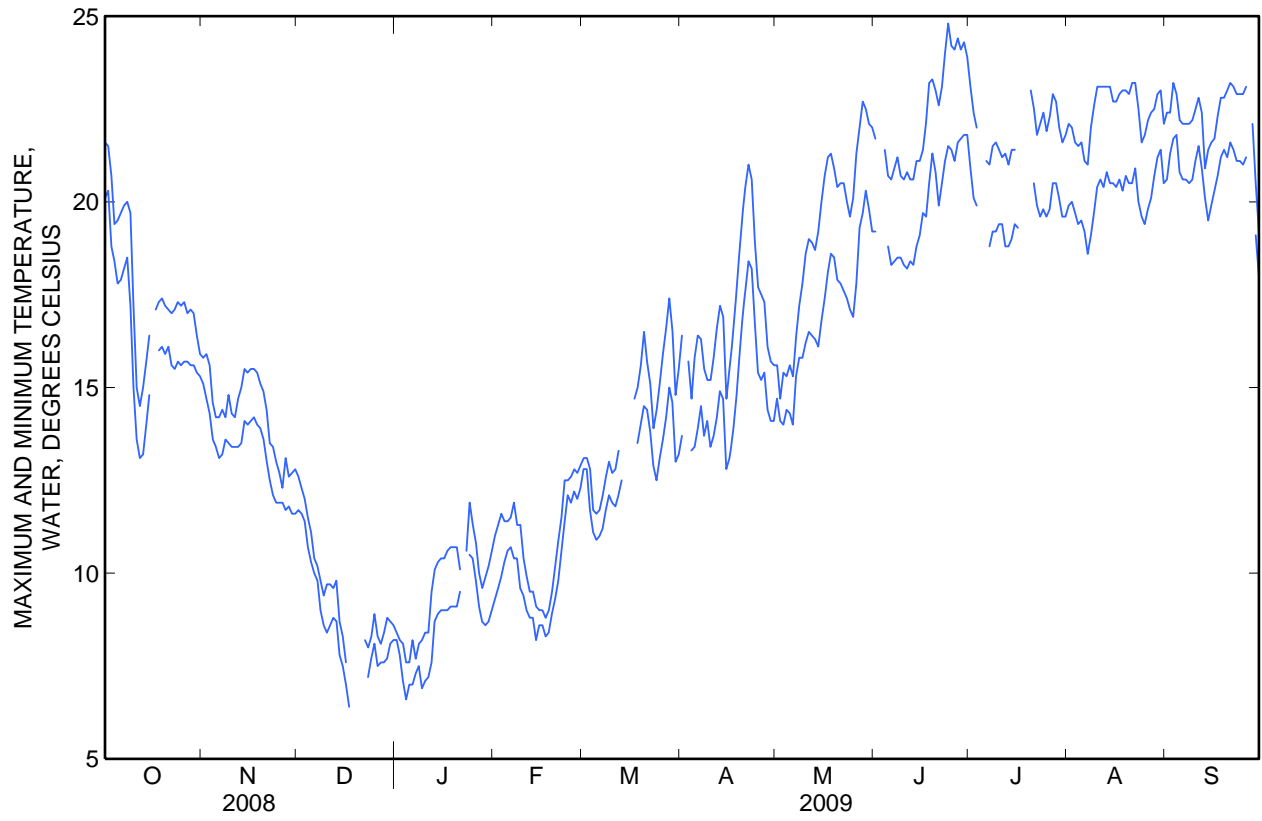
Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	21.6	20.1	15.8	15.1	12.6	11.7	8.4	8.2	11.0	9.3	13.1	12.8
2	21.5	20.3	15.9	14.7	12.3	11.6	8.2	7.8	11.3	9.6	13.1	12.8
3	20.7	18.8	15.6	14.3	12.0	11.4	8.1	7.1	11.6	9.9	12.8	11.7
4	19.4	18.4	14.6	13.6	11.5	10.7	7.6	6.6	11.4	10.3	11.7	11.1
5	19.5	17.8	14.2	13.4	11.1	10.3	7.6	7.0	11.4	10.6	11.6	10.9
6	19.7	17.9	14.2	13.1	10.4	10.0	8.2	7.0	11.5	10.7	11.7	11.0
7	19.9	18.2	14.4	13.2	10.2	9.8	7.7	7.3	11.9	10.4	12.1	11.2
8	20.0	18.5	14.2	13.6	9.8	9.0	8.1	7.5	11.3	10.4	12.6	11.7
9	19.7	17.2	14.8	13.5	9.4	8.6	8.2	6.9	11.3	9.6	13.0	12.1
10	17.2	15.0	14.3	13.4	9.7	8.4	8.4	7.1	10.4	9.4	12.7	11.9
11	15.0	13.6	14.2	13.4	9.7	8.6	8.4	7.2	9.9	9.0	12.8	11.8
12	14.5	13.1	14.7	13.4	9.6	8.8	9.5	7.6	9.5	8.8	13.3	12.1
13	15.0	13.2	15.0	13.5	9.8	8.7	10.1	8.7	9.5	8.8	---	12.5
14	15.7	14.0	15.5	14.1	8.7	7.8	10.3	8.9	9.1	8.2	---	---
15	16.4	14.8	15.4	14.0	8.3	7.5	10.4	9.0	9.0	8.6	---	---
16	---	---	15.5	14.1	7.6	7.0	10.4	9.0	9.0	8.6	---	---
17	17.1	---	15.5	14.2	---	6.4	10.6	9.0	8.8	8.3	14.7	---
18	17.3	16.0	15.4	14.0	---	---	10.7	9.1	9.0	8.4	15.0	13.5
19	17.4	16.1	15.1	13.9	---	---	10.7	9.1	9.5	8.9	15.6	14.0
20	17.2	15.9	14.9	13.6	---	---	10.7	9.1	10.2	9.3	16.5	14.5
21	17.1	16.1	14.4	13.0	---	---	10.1	9.5	10.9	9.8	15.7	14.4
22	17.0	15.6	13.5	12.5	8.2	---	---	---	11.5	10.6	15.1	13.8
23	17.1	15.5	13.4	12.1	8.0	7.2	10.6	---	12.5	11.4	13.9	12.9
24	17.3	15.7	13.0	11.9	8.3	7.7	11.9	10.5	12.5	12.1	14.4	12.5
25	17.2	15.6	12.7	11.9	8.9	8.1	11.3	10.4	12.6	11.9	15.1	13.1
26	17.3	15.7	12.3	11.9	8.3	7.5	10.8	9.8	12.8	12.2	15.9	13.6
27	17.0	15.7	13.1	11.7	8.1	7.6	10.0	9.1	12.7	12.0	16.6	14.2
28	17.1	15.6	12.6	11.8	8.4	7.6	9.6	8.7	12.9	12.3	17.4	15.0
29	17.0	15.6	12.7	11.6	8.8	7.7	9.9	8.6	---	---	16.5	14.6
30	16.4	15.4	12.8	11.6	8.7	8.1	10.2	8.7	---	---	14.8	13.0
31	15.9	15.3	---	---	8.6	8.2	10.6	9.0	---	---	15.5	13.2
Month	---	---	15.9	11.6	---	---	---	---	12.9	8.2	---	---

11425500 Sacramento River at Verona, 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	16.4	13.7	15.6	14.7	21.7	19.2	23.1	20.9	22.1	19.9	22.4	20.6
2	---	---	14.7	14.1	---	---	22.4	20.1	22.0	20.0	22.4	21.3
3	15.7	---	15.4	14.0	---	---	22.0	19.9	21.6	19.7	23.2	21.7
4	14.7	13.3	15.3	14.4	21.4	---	---	---	21.5	19.4	22.9	21.8
5	15.8	13.4	15.6	14.3	20.7	18.8	---	---	21.6	19.5	22.2	20.8
6	16.4	13.9	15.3	14.0	20.6	18.3	21.1	---	21.1	19.2	22.1	20.6
7	16.3	14.5	16.4	15.3	20.9	18.4	21.0	18.8	21.0	18.6	22.1	20.6
8	15.5	13.7	17.2	15.8	21.2	18.5	21.5	19.2	22.0	19.1	22.1	20.5
9	15.2	14.1	17.8	15.8	20.7	18.5	21.6	19.2	22.6	19.7	22.2	20.6
10	15.2	13.4	18.6	16.2	20.6	18.3	21.4	19.4	23.1	20.4	22.5	21.1
11	15.8	13.7	19.0	16.5	20.8	18.2	21.2	19.4	23.1	20.6	22.8	21.5
12	16.6	14.2	18.9	16.4	20.6	18.4	21.3	18.8	23.1	20.4	22.4	20.9
13	17.2	14.9	18.7	16.3	20.6	18.3	21.0	18.8	23.1	20.8	20.9	20.1
14	16.9	14.7	19.2	16.1	21.1	18.8	21.4	19.0	23.1	20.5	21.4	19.5
15	14.7	12.8	20.0	16.8	21.1	19.1	21.4	19.4	22.7	20.5	21.6	19.9
16	15.5	13.1	20.7	17.4	21.4	19.7	---	19.3	22.7	20.4	21.7	20.3
17	16.3	13.7	21.2	18.1	22.1	19.6	---	---	22.9	20.6	22.3	20.7
18	17.4	14.6	21.3	18.6	23.2	20.5	---	---	23.0	20.3	22.8	21.2
19	18.6	15.7	20.9	18.5	23.3	21.3	---	---	23.0	20.7	22.8	21.4
20	19.5	16.7	20.4	17.9	23.0	20.8	23.0	---	22.9	20.5	23.0	21.2
21	20.4	17.6	20.5	17.8	22.6	19.9	22.5	20.5	23.2	20.5	23.2	21.6
22	21.0	18.4	20.5	17.6	23.1	20.5	21.8	19.9	23.2	20.9	23.1	21.4
23	20.6	18.2	20.0	17.4	24.0	21.1	22.1	19.6	22.5	20.0	22.9	21.1
24	18.9	16.7	19.6	17.1	24.8	21.5	22.4	19.8	21.6	19.6	22.9	21.1
25	17.7	15.4	20.1	16.9	24.2	21.4	21.9	19.6	21.8	19.4	22.9	21.0
26	17.5	15.2	21.3	17.8	24.1	21.1	22.3	19.8	22.2	19.8	23.1	21.2
27	17.3	15.4	22.0	19.3	24.4	21.6	22.9	20.5	22.4	20.1	---	---
28	16.1	14.4	22.7	19.7	24.1	21.7	22.7	20.5	22.5	20.7	22.1	---
29	15.7	14.1	22.5	20.3	24.3	21.8	22.0	20.1	22.9	21.2	20.5	19.1
30	15.6	14.1	22.1	19.8	23.9	21.8	21.6	19.6	23.0	21.4	19.2	18.0
31	---	---	22.0	19.2	---	---	21.8	19.6	22.1	20.5	---	---
Month	---	---	22.7	14.0	---	---	---	---	23.2	18.6	---	---

11425500 Sacramento River at Verona, CA—Continued



11425500 Sacramento River at Verona, CA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	9.1	5.0	6.1	10	6.2	7.5	---	---	---	19	14	16
2	9.6	4.6	6.4	---	---	---	8.6	5.1	5.9	32	13	14
3	8.4	4.4	5.9	---	---	---	9.4	5.1	5.9	16	13	14
4	8.4	4.9	6.6	---	---	---	6.6	5.0	5.9	21	12	13
5	8.9	5.6	7.0	---	---	---	9.3	5.2	5.8	13	12	12
6	8.8	5.9	7.4	---	---	---	8.4	4.2	5.4	15	12	13
7	---	---	---	---	---	---	6.5	4.4	4.8	23	13	14
8	---	3.5	---	---	---	---	6.7	4.5	5.0	15	13	14
9	8.7	3.8	5.6	---	---	---	5.5	4.3	4.8	21	12	14
10	8.0	3.8	5.3	---	---	---	7.2	4.3	4.7	22	12	13
11	7.3	3.6	4.7	---	---	---	6.1	4.5	5.0	18	12	12
12	8.2	3.5	4.3	---	---	---	7.5	4.3	5.4	18	12	12
13	7.6	3.5	4.4	8.5	6.0	6.8	7.4	5.1	6.0	17	12	13
14	7.3	3.8	4.6	8.6	5.0	6.6	14	4.9	6.1	16	12	13
15	8.4	3.8	4.7	9.4	4.9	6.3	7.3	5.4	5.9	14	12	13
16	---	---	---	10	5.1	5.9	12	5.5	6.6	14	11	13
17	---	---	---	---	---	---	---	---	---	16	12	13
18	---	---	---	---	---	---	---	---	---	15	11	13
19	---	---	---	8.2	5.1	6.2	---	---	---	18	12	13
20	---	---	---	10	5.1	6.4	---	---	---	21	12	13
21	---	---	---	9.6	6.4	7.5	---	---	---	14	12	12
22	---	---	---	11	7.1	8.5	---	---	---	---	---	---
23	---	---	---	---	---	---	32	21	27	---	---	---
24	5.7	4.0	4.9	---	---	---	32	16	19	---	---	---
25	6.4	3.6	4.9	---	---	---	26	16	19	---	---	---
26	5.8	3.8	4.6	---	---	---	31	18	26	---	---	---
27	---	---	---	---	---	---	31	20	24	---	---	---
28	---	---	---	---	---	---	30	22	24	---	---	---
29	---	---	---	---	---	---	38	22	27	---	---	---
30	---	---	---	---	---	---	32	18	25	---	---	---
31	11	4.3	5.2	---	---	---	25	15	18	24	15	18
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

11425500 Sacramento River at Verona, CA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

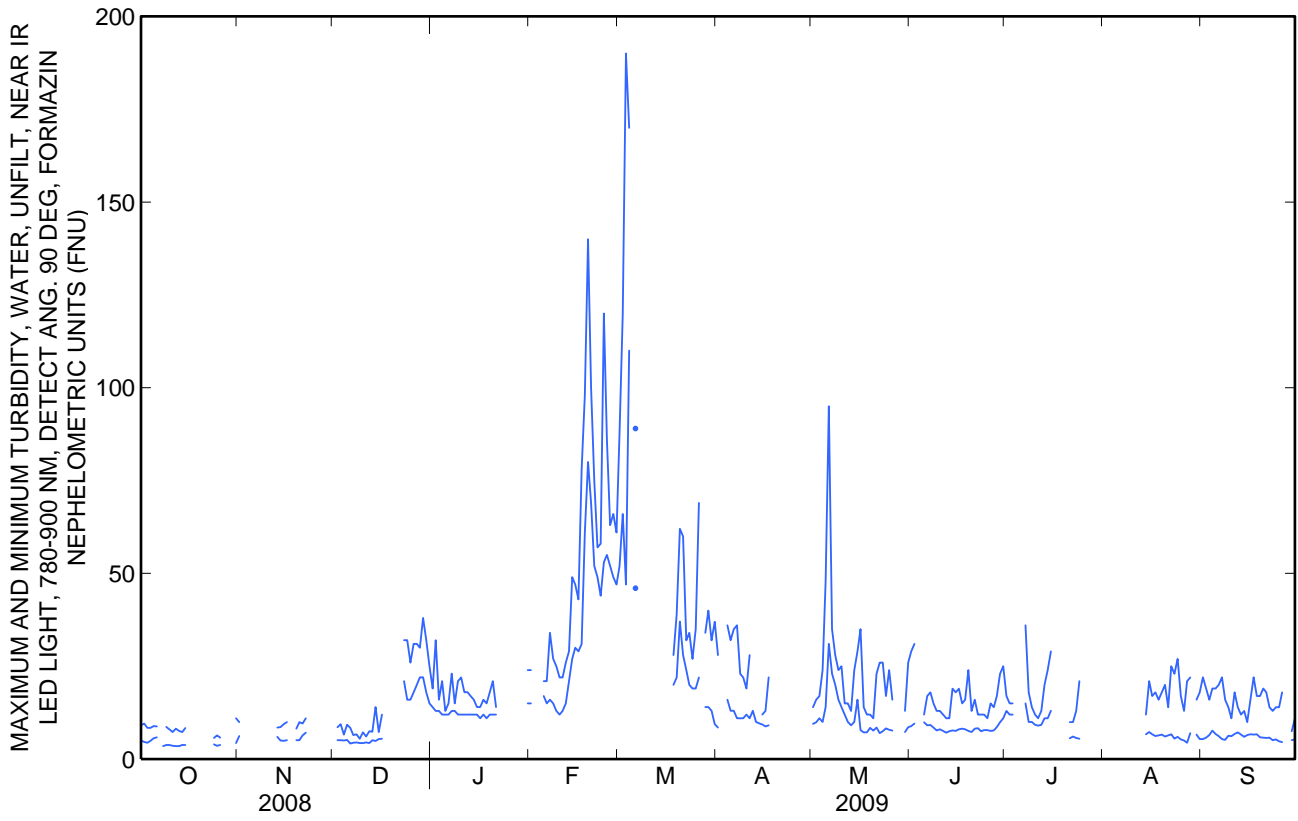
Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	24	15	17	88	52	66	28	8.5	11	14	9.5	11
2	---	---	---	120	66	100	---	---	---	16	9.9	13
3	---	---	---	190	47	130	---	---	---	17	11	13
4	---	---	---	170	110	140	36	16	24	24	10	12
5	21	17	19	---	---	---	32	13	19	48	14	15
6	21	15	18	89	46	77	35	13	20	95	31	50
7	34	16	19	---	---	---	36	11	14	35	23	28
8	27	15	18	---	---	---	23	11	13	28	20	24
9	25	13	16	---	---	---	22	11	13	24	16	20
10	22	12	14	---	---	---	19	12	13	25	14	17
11	22	13	14	---	---	---	28	11	14	15	12	13
12	26	15	18	---	---	---	---	13	---	15	10	12
13	29	21	24	---	---	---	---	10	---	13	9.1	11
14	49	27	42	---	---	---	---	9.6	---	24	10	18
15	47	30	35	---	---	---	12	9.3	11	29	16	22
16	43	29	31	---	---	---	13	8.8	10	35	7.8	28
17	78	31	48	---	---	---	22	9.1	11	14	7.2	8.8
18	98	61	83	28	20	22	---	---	---	12	7.2	8.4
19	140	80	100	39	22	30	---	---	---	12	8.4	9.5
20	100	69	81	62	37	47	---	---	---	11	7.7	9.5
21	75	52	61	60	28	35	---	---	---	23	8.5	10
22	57	49	52	32	24	28	---	---	---	26	7.0	12
23	58	44	50	34	20	26	---	---	---	26	7.5	9.0
24	120	53	86	27	19	21	---	---	---	17	8.3	11
25	86	55	64	35	19	23	---	---	---	24	7.9	12
26	63	52	57	69	22	34	---	---	---	16	7.7	10
27	66	49	57	---	---	---	---	---	---	---	---	---
28	61	47	49	34	14	17	---	---	---	---	---	---
29	---	---	---	40	14	19	---	---	---	---	---	---
30	---	---	---	32	13	16	---	---	---	13	7.3	8.9
31	---	---	---	37	9.4	14	---	---	---	26	8.6	12
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

11425500 Sacramento River at Verona, CA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	29	8.9	14	17	13	14	---	---	---	22	5.4	8.0
2	31	9.6	14	15	12	14	---	---	---	19	5.8	8.9
3	---	---	---	15	12	13	---	---	---	16	6.5	11
4	---	---	---	---	---	---	---	---	---	19	7.7	11
5	12	9.9	11	---	---	---	---	---	---	19	6.8	10
6	17	9.1	10	---	---	---	---	---	---	20	6.2	9.2
7	18	9.2	12	36	15	16	---	---	---	22	5.4	9.9
8	15	8.5	10	18	10	14	---	---	---	16	5.2	7.3
9	13	7.7	9.5	14	10	11	---	---	---	14	6.3	7.6
10	13	8.0	9.5	12	9.2	10	---	---	---	11	6.2	7.7
11	12	7.6	8.8	11	9.0	10	---	---	---	18	6.8	8.5
12	11	7.1	8.2	13	9.2	10	---	---	---	14	7.2	9.2
13	11	7.5	8.7	20	11	13	---	---	---	12	6.6	8.0
14	19	7.7	8.8	24	11	17	12	6.7	8.4	13	6.0	7.5
15	18	7.6	8.8	29	13	20	21	7.3	9.8	10	6.5	7.7
16	19	8.0	10	---	---	---	17	6.7	9.3	16	6.7	8.5
17	15	8.2	9.1	---	---	---	18	6.2	9.0	22	6.6	8.1
18	16	8.0	8.9	---	---	---	16	6.4	8.7	17	6.7	8.0
19	24	7.6	8.9	---	---	---	18	6.6	9.1	17	5.9	8.2
20	13	7.3	8.9	---	---	---	20	6.1	9.5	19	5.8	7.4
21	16	8.2	9.6	10	5.6	6.7	14	6.4	9.6	18	5.7	7.0
22	12	8.3	9.4	10	6.1	6.9	25	6.7	9.8	14	5.8	7.2
23	12	7.5	8.8	13	5.7	7.2	23	5.5	9.6	13	5.1	6.8
24	12	7.8	9.1	21	5.5	7.3	27	6.0	8.4	14	5.3	6.6
25	11	7.8	8.9	---	---	---	17	5.3	8.5	14	4.8	6.3
26	15	7.6	9.1	---	---	---	13	5.0	8.9	18	4.6	6.5
27	14	7.7	9.3	---	---	---	21	4.4	7.9	---	---	---
28	17	8.6	10	---	---	---	22	7.0	11	---	---	---
29	23	9.9	11	---	---	---	---	---	---	7.5	5.1	6.3
30	25	11	14	---	---	---	16	6.6	10	11	5.3	6.2
31	---	---	---	---	---	---	18	5.4	8.3	---	---	---
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

11425500 Sacramento River at Verona, CA—Continued



11425500 Sacramento River at Verona, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 5

Date	Time	Specific conductance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Turbid- ity, IR LED light, det ang 90 deg, FNU (63680)	DepthTo bottom at sample loca- tion, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
Oct								
30...	1112	139	15.8	6.0	3.00	2.40	550	28.0
30...	1113	139	15.8	6.1	3.00	.60	550	28.0
30...	1114	141	15.8	6.4	10.4	8.30	550	83.0
30...	1115	142	15.8	6.3	10.4	2.10	550	83.0
30...	1116	148	15.8	7.6	9.60	7.70	550	138
30...	1117	150	15.8	7.5	9.60	1.90	550	138
30...	1118	176	15.8	9.9	10.0	8.00	550	193
30...	1119	177	15.8	10	10.0	2.00	550	193
30...	1121	181	15.9	11	9.70	7.80	550	248
30...	1122	183	15.9	10	9.70	1.90	550	248
30...	1123	186	15.9	13	11.0	8.80	550	303
30...	1124	186	15.9	12	11.0	1.80	550	303
30...	1125	182	15.9	13	11.4	9.10	550	358
30...	1126	184	15.9	12	11.4	2.30	550	358
30...	1127	180	15.9	12	8.80	7.00	550	413
30...	1128	179	15.9	11	8.80	1.80	550	413
30...	1129	180	15.9	12	6.50	5.20	550	468
30...	1130	180	15.9	10	6.50	1.30	550	468
30...	1131	179	15.9	10	5.50	4.40	550	523
30...	1132	179	15.9	10	5.50	1.10	550	523

Note: Instantaneous discharge at the mean time of cross-sectional measurement: Oct. 30, 7,940 ft³/s.

11425500 Sacramento River at Verona, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 5

Date	Time	Specific conductance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Turbid- ity, IR LED light, det ang 90 deg, FNU (63680)	DepthTo bottom at sample loca- tion, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
Jan								
06...	1139	170	7.4	14	2.50	2.00	530	27.0
06...	1140	170	7.4	14	2.50	.50	530	27.0
06...	1141	171	7.3	14	10.5	8.40	530	80.0
06...	1142	172	7.4	14	10.5	2.10	530	80.0
06...	1143	176	7.3	15	11.0	8.80	530	133
06...	1144	174	7.3	14	11.0	2.20	530	133
06...	1145	197	7.3	16	12.0	9.60	530	186
06...	1146	197	7.3	15	12.0	2.40	530	186
06...	1147	214	7.3	16	12.0	9.60	530	239
06...	1148	214	7.3	15	12.0	2.40	530	239
06...	1149	207	7.2	16	12.0	9.60	530	292
06...	1150	209	7.2	15	12.0	2.40	530	292
06...	1151	200	7.2	14	10.0	8.00	530	345
06...	1152	200	7.2	14	10.0	2.00	530	345
06...	1153	199	7.2	13	8.50	6.80	530	398
06...	1154	199	7.2	13	8.50	1.70	530	398
06...	1155	199	7.2	13	6.80	5.40	530	451
06...	1156	199	7.2	13	6.80	1.40	530	451
06...	1157	199	7.2	13	5.00	4.00	530	504
06...	1158	199	7.3	12	5.00	1.00	530	504

Note: Instantaneous discharge at the mean time of cross-sectional measurement: Jan. 6, 8,860 ft³/s.

11425500 Sacramento River at Verona, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 3 of 5

Date	Time	Specific conductance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Turbid- ity, IR LED light, det ang 90 deg, FNU (63680)	DepthTo bottom at sample loca- tion, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
Jun								
30...	1513	82	23.0	10	4.20	3.40	550	27.0
30...	1514	82	23.0	10	4.20	.80	550	27.0
30...	1515	82	22.9	11	10.4	8.30	550	82.0
30...	1516	83	22.9	11	10.4	2.10	550	82.0
30...	1517	84	22.9	12	13.8	11.0	550	137
30...	1518	84	22.9	12	13.8	2.80	550	137
30...	1519	90	23.0	13	14.0	11.2	550	192
30...	1520	89	23.0	12	14.0	2.80	550	192
30...	1521	110	23.3	13	12.2	9.80	550	247
30...	1522	114	23.4	12	12.2	2.40	550	247
30...	1523	140	23.7	12	11.2	9.00	550	302
30...	1524	134	23.7	12	11.2	2.20	550	302
30...	1526	157	24.0	12	14.0	11.2	550	357
30...	1527	157	24.0	11	14.0	2.80	550	357
30...	1528	163	24.1	10	11.4	9.10	550	412
30...	1529	163	24.1	9.6	11.4	2.30	550	412
30...	1530	164	24.2	9.4	10.0	8.00	550	467
30...	1531	164	24.2	9.2	10.0	2.00	550	467
30...	1532	165	24.3	9.3	8.50	6.80	550	522
30...	1533	165	24.2	9.8	8.50	1.70	550	522

Note: Instantaneous discharge at the mean time of cross-sectional measurement: June 30,
13,000 ft³/s.

11425500 Sacramento River at Verona, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 4 of 5

Date	Time	Specific conductance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Turbid- ity, IR LED light, det ang 90 deg, FNU (63680)	DepthTo bottom at sample loca- tion, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
Aug								
13...	1353	118	21.8	3.2	3.00	2.40	540	27.0
13...	1354	118	21.8	3.3	3.00	.60	540	27.0
13...	1355	120	21.7	3.9	11.4	9.10	540	81.0
13...	1356	120	21.7	3.9	11.4	2.30	540	81.0
13...	1357	125	21.7	5.2	14.4	11.5	540	135
13...	1358	124	21.7	4.6	14.4	2.90	540	135
13...	1359	147	22.0	8.0	13.6	10.9	540	189
13...	1400	146	22.0	7.6	13.6	2.70	540	189
13...	1401	185	22.2	14	11.2	9.00	540	243
13...	1402	191	22.3	12	11.2	2.20	540	243
13...	1403	198	22.2	19	11.1	8.90	540	297
13...	1404	198	22.2	16	11.1	2.20	540	297
13...	1405	194	22.2	17	12.2	9.80	540	351
13...	1406	194	22.2	15	12.2	2.40	540	351
13...	1407	194	22.2	18	9.90	8.00	540	405
13...	1408	194	22.2	17	9.90	2.00	540	405
13...	1409	194	22.2	16	8.30	6.60	540	459
13...	1410	194	22.2	14	8.30	1.70	540	459
13...	1411	194	22.3	15	5.40	4.30	540	513
13...	1412	194	22.3	14	5.40	1.10	540	513

Note: Instantaneous discharge at the mean time of cross-sectional measurement: Aug. 13,
12,700 ft³/s.

11425500 Sacramento River at Verona, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 5 of 5

Date	Time	Specific conductance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Turbid- ity, IR LED light, det ang 90 deg, FNU (63680)	DepthTo bottom at sample loca- tion, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
Sep								
09...	1514	171	21.9	5.3	3.80	3.00	560	28.0
09...	1515	171	21.9	5.6	3.80	.80	560	28.0
09...	1516	162	21.8	6.1	12.7	10.2	560	84.0
09...	1517	164	21.8	5.7	12.7	2.50	560	84.0
09...	1518	165	21.6	7.3	12.1	9.70	560	140
09...	1520	160	21.7	6.2	12.1	2.40	560	140
09...	1521	179	21.5	8.8	13.4	10.7	560	196
09...	1522	180	21.5	8.6	13.4	2.70	560	196
09...	1523	204	21.1	14	12.5	10.0	560	252
09...	1524	206	21.2	13	12.5	2.50	560	252
09...	1525	209	20.9	15	13.0	10.4	560	308
09...	1526	209	21.0	13	13.0	2.60	560	308
09...	1527	206	20.8	16	12.3	9.80	560	364
09...	1528	207	20.8	16	12.3	2.50	560	364
09...	1529	205	20.8	15	9.80	7.80	560	420
09...	1530	205	20.8	12	9.80	2.00	560	420
09...	1531	204	20.8	14	8.00	6.40	560	476
09...	1532	204	20.8	13	8.00	1.60	560	476
09...	1533	203	20.8	12	7.00	5.60	560	532
09...	1534	204	20.8	12	7.00	1.40	560	532

Note: Instantaneous discharge at the mean time of cross-sectional measurement: Sept. 9,
11,900 ft³/s.