11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA

San Joaquin River Basin

LOCATION.--Lat 37°53′25″, long 119°58′08″ referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.2, T.1 S., R.18 E., Tuolumne County, CA, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank, 600 ft upstream from mouth, 0.5 mi downstream from powerplant, 0.6 mi downstream from Granite Creek, 0.8 mi northwest of Early Intake, and 6.2 mi west of Mather.

DRAINAGE AREA.--234 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1963 to current year. Prior to October 1965, published as "below Cherry Powerhouse."

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,133.50 ft above NGVD of 1929 (levels by city and county of San Francisco).

REMARKS.--Records poor. Flow regulated by Cherry Lake (station 11277200) 11 mi upstream and Lake Eleanor (station 11277500) 10 mi upstream. Flow diverted, at times, into Cherry Creek Canal (station 11278200) 2 mi upstream from station for domestic use and to supplement flow to Hetch Hetchy Aqueduct. See schematic diagram of Tuolumne River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,500 ft^3/s, Jan. 2, 1997, gage height unknown, on basis of combined peak flow for Cherry Creek near Early Intake (station 11278300) and Dion R. Holm Powerplant, maximum gage height, 25.4 ft, Jan. 3, 1997, from floodmark caused by backwater from Tuolumne River; minimum daily, 1.6 ft^3/s, June 4, 1977.

11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	36	1,170	566	866	644	1,090	1,640	1,710	1,620	3,380	339	775
2	23	627	568	1,000	1,130	1,140	2,040	1,730	1,500	2,800	485	780
3	28	595	573	951	1,120	1,190	2,200	1,930	1,400	2,900	309	607
4	49	312	580	793	1,080	1,170	2,160	2,110	1,400	2,910	410	571
5	216	208	590	716	1,080	1,150	1,920	2,260	1,110	2,950	406	354
6	244	102	660	689	1,080	1,250	1,980	2,480	1,960	2,910	203	58
7	280	103	616	678	1,080	1,430	2,170	2,520	1,960	2,940	274	58
8	320	193	603	668	1,080	1,270	1,950	2,520	2,050	2,750	466	58
9	245	244	635	648	1,070	1,250	1,380	2,210	2,350	2,180	713	58
10	231	396	738	637	1,070	1,270	1,270	1,860	2,900	1,970	709	58
11	251	566	988	638	1,070	1,250	1,350	1,760	3,210	1,790	689	60
12	324	443	1,140	644	1,060	1,230	1,610	1,880	3,830	1,610	743	60
13	318	428	1,350	644	1,070	1,210	1,620	2,140	4,390	1,540	617	58
14	317	136	1,950	638	1,070	1,220	1,590	2,360	4,380	1,330	623	59
15	304	381	2,890	640	1,060	1,230	1,570	2,370	4,550	1,380	717	56
16	250	562	3,690	658	1,090	1,580	1,610	2,040	4,720	1,440	739	41
17	239	567	3,020	673	1,080	1,480	1,790	1,850	4,270	1,410	688	51
18	349	569	2,510	689	1,090	1,590	2,070	1,830	3,830	1,270	749	267
19	319	570	3,420	683	1,140	1,620	2,150	1,680	3,620	1,170	748	274
20	313	582	2,640	680	1,100	1,650	2,220	1,650	3,200	945	612	280
21	304	588	1,750	677	1,080	1,630	2,280	1,780	2,920	1,320	598	166
22	314	590	1,370	679	1,080	1,620	2,100	1,940	2,630	1,390	736	165
23	247	600	1,060	677	1,080	1,620	1,850	1,950	2,690	1,390	744	63
24	292	593	906	670	1,080	1,610	1,730	1,890	2,370	1,380	735	83
25	1,670	581	813	668	1,090	1,600	1,690	1,870	1,800	1,340	695	60
26	3,110	586	804	664	1,080	1,610	1,650	1,910	1,720	1,350	716	72
27	2,920	591	746	670	1,090	1,560	1,650	2,050	1,800	1,300	604	95
28	2,480	589	743	669	1,090	1,480	1,720	1,980	1,790	1,160	598	164
29	1,740	583	1,020	661	---	1,470	1,810	1,850	4,780	1,090	768	165
30	1,690	478	965	664	---	1,480	1,760	1,710	5,080	1,100	765	171
31	1,680	---	813	653	---	1,440	---	1,630	---	681	631	---
Total	21,103	14,533	40,717	21,585	29,934	43,390	54,530	61,450	85,830	55,076	18,829	5,787
Mean	681	484	1,313	696	1,069	1,400	1,818	1,982	2,861	1,777	607	193
Max	3,110	1,170	3,690	1,000	1,140	1,650	2,280	2,520	5,080	3,380	768	780
Min	23	102	566	637	644	1,090	1,270	1,630	1,110	681	203	41
Ac-ft	41,860	28,830	80,760	42,810	59,370	86,060	108,200	121,900	170,200	109,200	37,350	11,480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2011, BY WATER YEAR (WY)

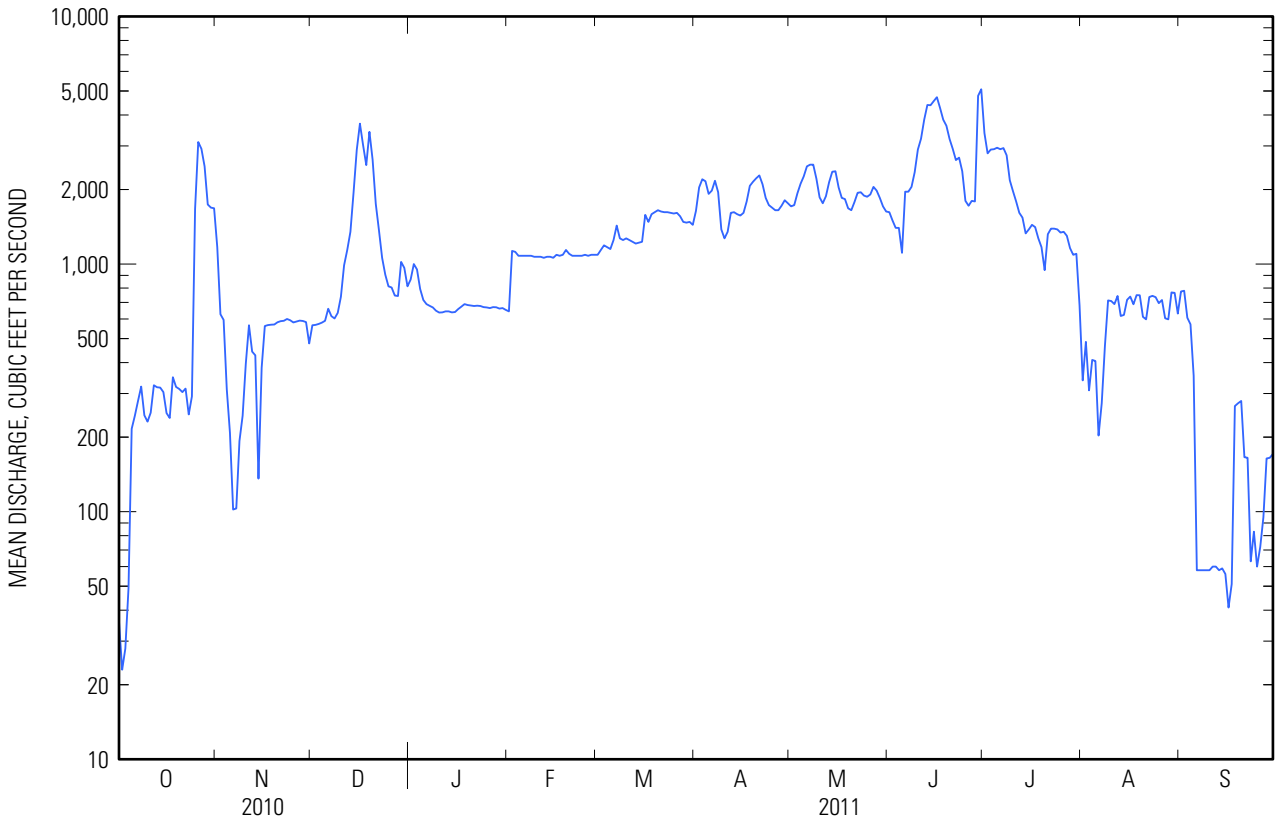
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	376	392	487	655	694	799	916	1,222	1,243	752	491	423
Max	962	1,445	1,394	3,266	1,528	1,497	2,199	3,768	3,728	2,643	1,161	898
(WY)	(1983)	(1984)	(1984)	(1997)	(1986)	(2006)	(1982)	(2005)	(1983)	(1983)	(1983)	(2000)
Min	12.7	14.9	5.56	4.22	3.84	3.71	2.63	2.67	4.08	11.3	25.8	20.4
(WY)	(1994)	(1994)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)

11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1963 - 2011	
Annual total	332,798		452,764			
Annual mean	912		1,240		704	
Highest annual mean					1,437	1983
Lowest annual mean					47.9	1977
Highest daily mean	3,690	Dec 16	5,080	Jun 30	25,500	Jan 2, 1997
Lowest daily mean	23	Oct 2	23	Oct 2	1.6	Jun 4, 1977
Annual seven-day minimum	34	Sep 27	55	Sep 11	2.1	Apr 21, 1977
Maximum peak flow			6,590	Jun 29	33,500	Jan 2, 1997
Maximum peak stage			13.20	Jun 29	[a]25.40	Jan 3, 1997
Annual runoff (ac-ft)	660,100		898,100		510,200	
10 percent exceeds	1,950		2,410		1,350	
50 percent exceeds	600		1,080		613	
90 percent exceeds	205		244		58	

[a] From floodmark caused by backwater from Tuolumne River.



11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--May 2006 to current year.
WATER TEMPERATURE: May 2006 to current year.

INSTRUMENTATION.--Water-temperature recorder since May 2006.

REMARKS.--Water temperature is affected by regulation from Holm Powerhouse. Water-temperature records rated excellent.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum recorded, 22.0 °C, July 15, 2008; minimum recorded 1.2 °C, Dec. 27, 2007.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 20.6 °C, Sept. 8; minimum recorded, 5.1 °C, Mar. 20, 21.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	18.5	16.5	17.3	9.5	8.7	8.9	8.9	8.6	8.7	6.7	6.4	6.5
2	19.6	16.4	17.4	8.9	8.6	8.8	8.8	8.5	8.7	6.7	6.5	6.6
3	18.1	17.2	17.6	8.8	8.5	8.7	8.9	8.7	8.8	6.8	6.4	6.6
4	17.4	14.4	16.7	9.2	8.5	8.9	8.9	8.8	8.8	6.7	6.6	6.7
5	14.4	8.4	8.8	11.0	8.8	9.0	8.9	8.6	8.8	6.8	6.6	6.7
6	9.7	8.2	8.6	10.8	8.8	9.7	8.8	8.3	8.6	6.9	6.7	6.8
7	8.6	8.0	8.4	10.6	8.8	9.2	8.7	8.2	8.5	6.9	6.7	6.8
8	8.6	7.8	8.2	10.5	8.5	8.8	8.8	8.5	8.8	7.0	6.8	6.9
9	8.9	8.1	8.4	8.8	8.2	8.4	8.8	8.6	8.7	6.9	6.8	6.9
10	8.9	8.2	8.5	8.7	8.4	8.6	8.8	8.2	8.6	6.8	6.6	6.7
11	8.9	8.2	8.4	8.8	8.2	8.4	8.5	8.0	8.2	7.0	6.7	6.9
12	8.7	8.0	8.4	8.5	8.0	8.4	8.5	7.9	8.1	7.1	6.9	7.0
13	8.7	8.1	8.4	8.7	8.2	8.5	8.8	7.8	8.0	7.1	6.9	7.0
14	8.7	8.1	8.4	9.0	8.0	8.3	8.9	8.3	8.5	7.0	6.8	7.0
15	8.6	8.1	8.3	8.8	7.7	8.5	9.2	8.2	8.5	7.1	6.9	7.0
16	8.6	8.3	8.5	8.7	8.5	8.6	9.2	8.7	8.9	7.2	7.0	7.1
17	8.7	8.3	8.5	8.7	8.4	8.6	9.3	8.6	8.9	7.2	7.0	7.0
18	8.6	8.0	8.3	8.6	8.4	8.5	8.6	7.6	8.0	7.0	6.8	6.9
19	8.5	8.0	8.3	8.8	8.4	8.6	7.6	6.2	7.0	7.0	6.7	6.8
20	8.5	8.0	8.3	8.9	8.1	8.6	6.3	6.0	6.2	7.0	6.5	6.8
21	8.6	8.1	8.4	9.1	8.2	8.6	6.7	6.2	6.4	6.8	6.5	6.8
22	8.4	8.0	8.3	8.6	8.3	8.4	7.1	6.4	6.6	7.0	6.7	6.9
23	8.6	8.3	8.4	8.7	8.4	8.6	7.4	6.4	6.8	7.0	6.6	6.9
24	10.4	8.4	8.7	8.8	8.1	8.5	7.3	6.8	7.1	6.8	6.6	6.7
25	15.4	8.7	11.1	8.8	8.2	8.6	7.5	7.1	7.3	6.9	6.6	6.7
26	11.4	9.5	10.2	8.8	8.4	8.6	7.3	6.9	7.1	6.9	6.6	6.8
27	10.3	9.1	9.5	8.6	8.3	8.6	7.3	7.1	7.2	6.9	6.6	6.7
28	10.1	9.4	9.6	9.1	8.2	8.7	7.5	7.1	7.3	6.9	6.6	6.7
29	10.2	9.2	9.4	8.7	8.2	8.4	7.1	6.1	6.2	6.9	6.6	6.7
30	9.8	9.3	9.6	8.7	8.4	8.6	6.3	5.6	5.9	6.8	6.5	6.7
31	10.0	8.9	9.4	---	---	---	6.5	6.1	6.2	6.8	6.4	6.6
Max	19.6	17.2	17.6	11.0	8.8	9.7	9.3	8.8	8.9	7.2	7.0	7.1
Min	8.4	7.8	8.2	8.5	7.7	8.3	6.3	5.6	5.9	6.7	6.4	6.5

11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		February			March			April			May	
1	6.8	6.5	6.6	6.2	6.0	6.1	8.5	6.3	6.9	8.6	7.0	7.6
2	7.0	6.5	6.9	6.3	6.1	6.2	7.8	6.6	7.1	9.0	7.3	8.0
3	7.0	6.8	6.8	6.4	6.2	6.3	8.2	6.6	7.1	9.8	7.7	8.4
4	7.0	6.8	6.9	6.3	5.9	6.2	8.4	6.4	7.0	10.0	8.2	8.9
5	7.0	6.8	7.0	6.4	6.1	6.3	9.0	6.8	7.7	10.3	8.8	9.2
6	7.2	7.0	7.1	6.4	6.2	6.3	8.9	6.8	7.5	10.4	9.0	9.2
7	7.1	6.9	7.0	6.2	6.0	6.2	7.3	6.0	6.4	10.1	9.0	9.2
8	7.0	6.8	6.9	6.4	5.9	6.2	6.8	5.7	6.1	9.3	8.3	8.9
9	7.0	6.7	6.8	6.5	6.1	6.4	7.8	5.5	6.3	8.4	7.7	8.2
10	7.1	6.7	6.8	6.6	6.2	6.4	8.9	5.8	6.7	9.0	7.4	8.0
11	7.0	6.8	6.9	6.6	6.3	6.5	9.2	6.6	7.1	9.3	7.6	8.2
12	7.1	6.8	6.9	6.6	6.3	6.5	7.5	6.2	6.6	9.8	8.0	8.7
13	7.1	6.8	6.9	6.5	6.3	6.4	6.9	6.3	6.5	10.4	8.6	9.3
14	7.0	6.8	6.9	6.8	6.4	6.6	7.2	5.8	6.3	9.7	8.8	9.2
15	7.1	6.9	6.9	6.8	6.5	6.7	7.6	6.3	6.9	9.0	7.9	8.4
16	6.9	6.6	6.8	7.2	6.5	6.8	8.2	6.7	7.2	8.4	7.7	7.9
17	6.7	6.5	6.6	6.8	6.0	6.3	8.8	7.1	7.7	7.8	7.5	7.7
18	6.5	6.3	6.4	6.5	5.5	6.2	8.7	7.8	8.2	8.1	7.0	7.5
19	6.3	6.0	6.3	6.1	5.5	5.8	9.2	7.9	8.2	8.6	7.1	7.6
20	6.4	6.2	6.3	6.0	5.1	5.4	8.5	7.9	8.1	9.0	7.3	8.0
21	6.5	6.3	6.3	5.9	5.1	5.4	8.7	7.6	7.9	9.4	7.9	8.4
22	6.5	6.3	6.3	6.3	5.4	5.8	8.0	7.1	7.5	9.6	8.2	8.6
23	6.5	6.3	6.4	6.0	5.4	5.8	7.6	7.2	7.4	9.5	8.2	8.4
24	6.5	6.3	6.4	5.6	5.4	5.6	7.7	7.2	7.3	9.6	8.0	8.5
25	6.4	6.1	6.3	6.0	5.2	5.6	7.8	6.9	7.2	9.0	8.3	8.5
26	6.2	6.0	6.1	5.9	5.6	5.7	7.9	6.4	7.0	9.2	8.0	8.4
27	6.1	5.9	6.0	6.4	5.7	6.0	8.2	6.7	7.3	9.4	8.0	8.7
28	6.2	5.9	6.0	6.7	5.8	6.2	8.5	7.0	7.5	9.1	8.4	8.6
29	---	---	---	6.8	5.8	6.3	8.4	7.0	7.4	8.7	8.1	8.3
30	---	---	---	7.4	5.9	6.4	8.5	7.0	7.6	9.1	7.7	8.4
31	---	---	---	8.1	6.0	6.7	---	---	---	8.9	8.0	8.3
Max	7.2	7.0	7.1	8.1	6.5	6.8	9.2	7.9	8.2	10.4	9.0	9.3
Min	6.1	5.9	6.0	5.6	5.1	5.4	6.8	5.5	6.1	7.8	7.0	7.5

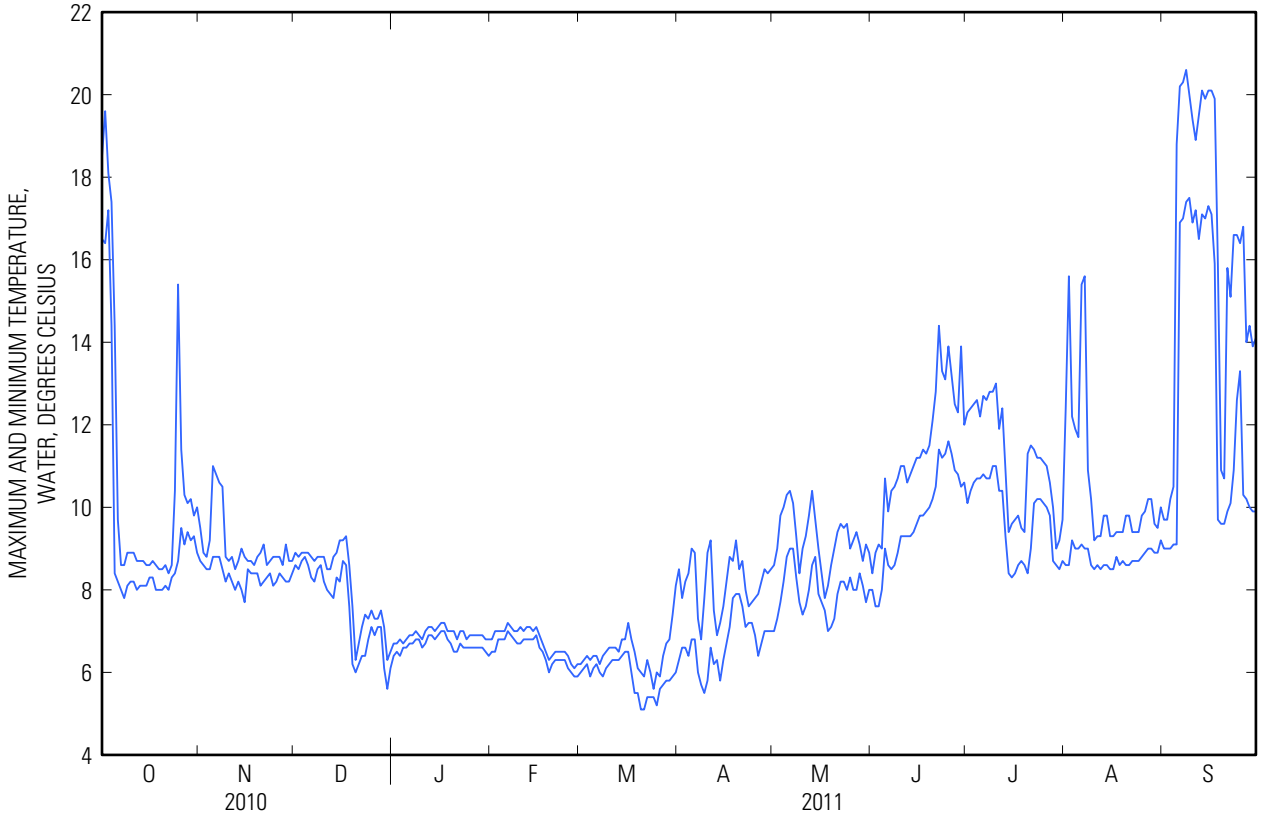
11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		June			July			August			September	
1	8.4	8.0	8.1	12.3	10.1	10.9	12.4	8.6	10.9	9.7	9.0	9.4
2	8.9	7.6	8.2	12.4	10.4	11.2	15.6	8.6	10.0	9.7	9.0	9.4
3	9.1	7.6	8.3	12.5	10.6	10.9	12.2	9.2	11.6	10.2	9.0	9.7
4	9.0	8.0	8.2	12.6	10.7	11.0	11.9	9.0	10.6	10.5	9.1	9.7
5	10.7	9.0	10.0	12.2	10.7	11.1	11.7	9.0	10.2	18.8	9.1	9.9
6	9.9	8.6	8.9	12.7	10.8	11.1	15.4	9.1	12.6	20.2	16.9	18.0
7	10.4	8.5	9.1	12.6	10.7	11.1	15.6	9.0	11.0	20.3	17.0	18.1
8	10.5	8.6	9.4	12.8	10.7	11.3	10.9	9.0	9.5	20.6	17.4	18.5
9	10.7	8.9	9.8	12.8	11.0	11.4	10.2	8.6	8.9	20.0	17.5	18.3
10	11.0	9.3	9.8	13.0	11.0	11.6	9.2	8.5	9.0	19.4	16.9	17.8
11	11.0	9.3	9.7	11.9	10.4	11.0	9.3	8.6	9.1	18.9	17.2	17.7
12	10.6	9.3	9.4	12.4	10.4	11.1	9.3	8.5	8.9	19.5	16.5	17.5
13	10.8	9.3	9.5	10.9	9.3	10.0	9.8	8.6	9.2	20.1	17.1	18.1
14	11.0	9.4	9.7	9.4	8.4	9.2	9.8	8.6	9.2	19.9	17.0	18.1
15	11.2	9.6	9.9	9.6	8.3	9.1	9.3	8.5	9.0	20.1	17.3	18.1
16	11.2	9.8	10.1	9.7	8.4	9.1	9.3	8.5	8.9	20.1	17.1	18.0
17	11.4	9.8	10.0	9.8	8.6	9.2	9.4	8.8	9.0	19.9	15.9	17.1
18	11.3	9.9	10.2	9.5	8.7	8.9	9.4	8.6	9.0	15.9	9.7	10.2
19	11.5	10.0	10.4	9.4	8.6	8.8	9.4	8.7	9.0	10.9	9.6	9.9
20	12.1	10.2	10.6	11.3	8.4	9.0	9.8	8.6	9.2	10.7	9.6	9.9
21	12.8	10.5	11.2	11.5	9.0	9.8	9.8	8.6	9.1	15.8	9.9	10.7
22	14.4	11.4	12.1	11.4	10.1	10.7	9.4	8.7	9.0	15.1	10.1	10.8
23	13.3	11.2	11.8	11.2	10.2	10.7	9.4	8.7	9.0	16.6	10.9	14.8
24	13.1	11.3	11.8	11.2	10.2	10.7	9.4	8.7	9.1	16.6	12.6	14.3
25	13.9	11.6	12.5	11.1	10.1	10.6	9.8	8.8	9.1	16.4	13.3	15.4
26	13.2	11.3	12.2	11.0	10.0	10.6	9.9	8.9	9.2	16.8	10.3	15.0
27	12.5	10.9	11.6	10.6	9.8	10.1	10.2	9.0	9.5	14.0	10.2	12.6
28	12.3	10.8	11.7	10.0	8.7	9.5	10.2	9.0	9.5	14.4	10.0	10.7
29	13.9	10.5	11.5	9.0	8.6	8.8	9.6	8.9	9.4	13.9	9.9	10.4
30	12.0	10.6	11.0	9.2	8.5	8.8	9.5	8.9	9.3	14.1	9.9	10.4
31	---	---	---	9.7	8.7	9.2	10.0	9.2	9.3	---	---	---
Max	14.4	11.6	12.5	13.0	11.0	11.6	15.6	9.2	12.6	20.6	17.5	18.5
Min	8.4	7.6	8.1	9.0	8.3	8.8	9.2	8.5	8.9	9.7	9.0	9.4

	Max	Min	Median
Year Maximum	20.6	17.5	18.5
Year Minimum	5.6	5.1	5.4

11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued



11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
[ft, feet; °C, degrees Celsius]

Sample date-time	Tempera-ture, water, °C (00010)	Depth to bottom at sample location, ft (81903)	Sampling depth, ft (00003)	Stream width, ft (00004)	Location in cross section, distance from left bank looking down-stream, ft (00009)
08-24-2011 1517	9.5	3.00	.60	88.0	4.00
08-24-2011 1518	9.5	3.00	2.40	88.0	4.00
08-24-2011 1520	9.5	1.80	1.08	88.0	13.0
08-24-2011 1523	9.5	3.60	.72	88.0	22.0
08-24-2011 1524	9.5	3.60	2.88	88.0	22.0
08-24-2011 1525	9.5	2.40	1.44	88.0	31.0
08-24-2011 1527	9.5	1.80	1.08	88.0	40.0
08-24-2011 1529	9.5	2.40	1.44	88.0	49.0
08-24-2011 1531	9.5	2.10	1.26	88.0	58.0
08-24-2011 1533	9.5	2.80	.56	88.0	67.0
08-24-2011 1534	9.5	2.80	2.24	88.0	67.0
08-24-2011 1535	9.5	4.30	.86	88.0	76.0
08-24-2011 1536	9.5	4.30	3.44	88.0	76.0
08-24-2011 1538	9.5	5.30	1.06	88.0	85.0
08-24-2011 1539	9.5	5.30	4.24	88.0	85.0
09-07-2011 1432	19.6	.55	.33	35.0	1.80
09-07-2011 1433	19.6	.50	.30	35.0	5.30
09-07-2011 1434	19.6	1.20	.72	35.0	8.80
09-07-2011 1435	19.5	1.80	1.08	35.0	12.3
09-07-2011 1436	19.5	1.40	.84	35.0	15.8
09-07-2011 1437	19.5	1.74	1.04	35.0	19.3
09-07-2011 1438	19.5	2.00	1.20	35.0	22.8
09-07-2011 1439	19.5	2.20	1.32	35.0	26.3
09-07-2011 1440	19.5	1.35	.81	35.0	29.8
09-07-2011 1441	19.5	.90	.54	35.0	33.3

Note: Instantaneous discharge at the mean time of cross-sectional measurements: Aug. 24, 765 ft^3/s; Sept. 7, 59 ft^3/s.