

Water-Data Report 2013

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 mi².

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 ft³/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 ft³/s, June 4, 1977.

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

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	210	156	1,360	667	665	344	1,150	822	870	239	236	49
2	159	149	2,270	672	616	266	1,200	879	848	233	235	49
3	138	119	2,770	536	561	279	1,040	885	758	77	238	49
4	133	177	1,390	524	545	344	1,020	828	774	234	237	212
5	125	160	825	406	536	323	1,060	781	713	239	290	513
6	45	160	1,170	419	500	317	1,040	767	708	231	283	56
7	99	158	1,000	515	508	299	999	807	721	224	281	53
8	53	158	805	513	517	285	1,010	1,140	1,040	238	281	52
9	142	161	760	498	429	216	1,270	1,180	959	235	273	52
10	137	77	726	499	370	563	1,190	1,190	658	239	232	52
11	140	130	550	490	511	585	1,090	1,190	647	229	239	52
12	159	155	439	391	427	592	1,040	1,270	646	218	237	55
13	41	157	579	385	443	607	1,010	1,060	554	238	247	95
14	185	150	626	459	403	619	890	1,090	534	239	75	52
15	155	154	663	456	515	1,120	1,140	1,320	678	237	237	52
16	159	167	677	454	412	860	1,220	1,150	528	240	236	142
17	144	179	770	453	427	1,240	1,190	1,060	277	65	236	104
18	146	63	1,000	460	370	1,240	1,170	820	270	236	236	88
19	153	38	834	383	394	1,220	1,130	818	111	236	245	97
20	79	23	762	382	424	1,260	1,090	824	266	238	48	124
21	151	23	809	395	447	1,290	965	814	264	237	48	47
22	151	23	1,100	459	418	1,380	1,090	808	228	237	48	41
23	150	22	1,120	457	334	1,380	1,230	758	226	236	47	38
24	149	22	1,200	469	346	1,160	1,230	802	248	239	48	38
25	148	22	1,120	506	351	1,110	1,240	956	221	237	48	38
26	166	22	1,050	485	444	1,130	1,250	955	232	238	48	38
27	60	35	811	642	478	939	1,260	958	231	235	49	109
28	137	189	764	741	340	942	912	831	236	228	49	52
29	167	336	729	692	---	978	1,240	849	236	236	48	51
30	180	752	702	656	---	1,000	1,220	878	226	237	48	113
31	204	---	682	643	---	1,080	---	916	---	65	48	---
Total	4,265	4,137	30,063	15,707	12,731	24,968	33,586	29,406	14,908	6,790	5,151	2,563
Mean	138	138	970	507	455	805	1,120	949	497	219	166	85.4
Max	210	752	2,770	741	665	1,380	1,270	1,320	1,040	240	290	513
Min	41	22	439	382	334	216	890	758	111	65	47	38
Ac-ft	8,460	8,210	59,630	31,150	25,250	49,520	66,620	58,330	29,570	13,470	10,220	5,080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2013, BY WATER YEAR (WY)

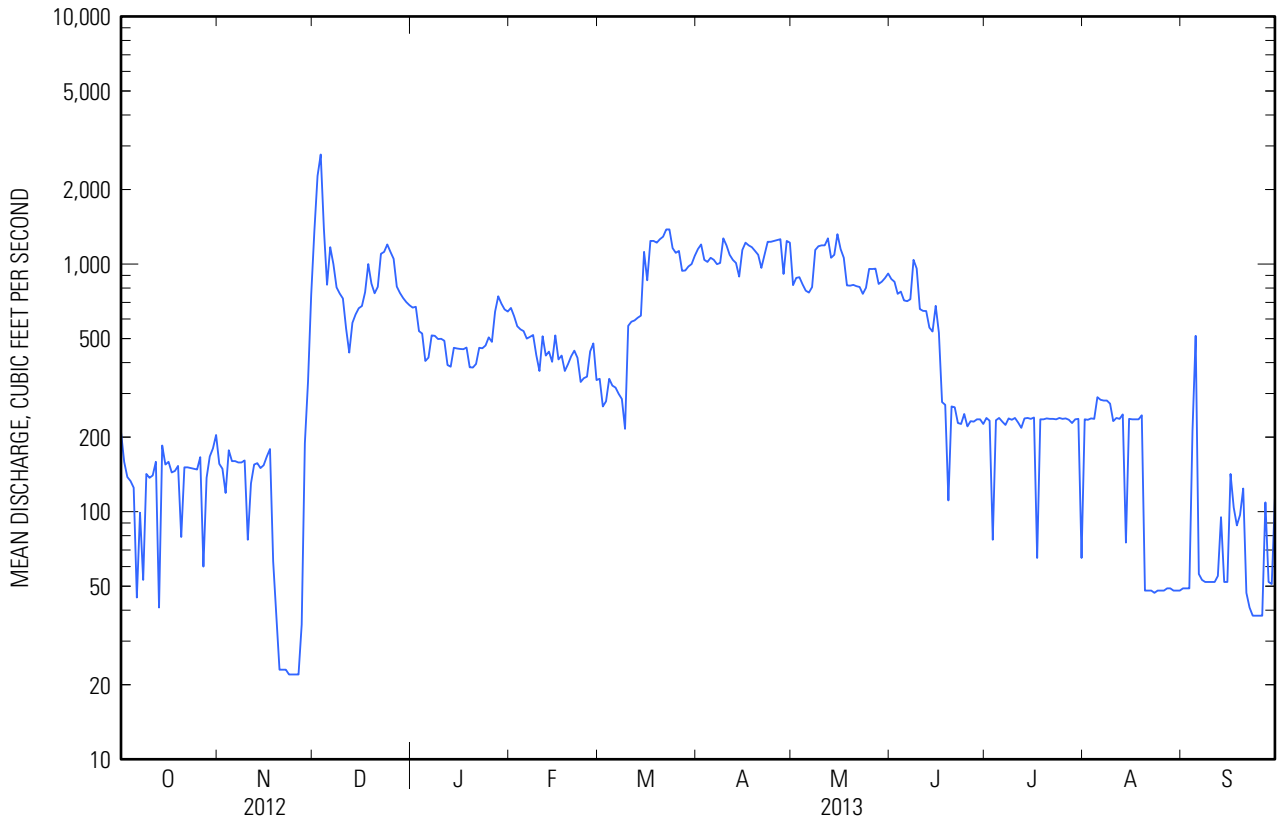
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	368	385	489	640	678	794	930	1,213	1,210	732	478	411
Max	962	1,445	1,394	3,266	1,528	1,497	2,199	3,768	3,728	2,643	1,161	898
(WY)	(1983)	(1984)	(1984)	(1997)	(1986)	(2006)	(1982)	(2005)	(1983)	(1983)	(1983)	(2000)
Min	12.7	14.9	5.56	4.22	3.84	3.71	2.63	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 2012		Water Year 2013		Water Years 1963 - 2013	
Annual total	160,831		184,275			
Annual mean	439		505		694	
Highest annual mean					1,437	1983
Lowest annual mean					47.9	1977
Highest daily mean	2,770	Dec 3	2,770	Dec 3	25,500	Jan 2, 1997
Lowest daily mean	21	Jan 2	22	Nov 23	1.6	Jun 4, 1977
Annual seven-day minimum	21	Jan 2	22	Nov 20	2.1	Apr 21, 1977
Maximum peak flow			3,890	Dec 2	33,500	Jan 2, 1997
Maximum peak stage			11.57	Dec 2	^a 25.40	Jan 3, 1997
Annual runoff (ac-ft)	319,000		365,500		502,800	
10 percent exceeds	1,130		1,130		1,340	
50 percent exceeds	236		385		605	
90 percent exceeds	45		52		56	

^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, 22.5 °C, July 5, 2013; minimum recorded 0.7 °C, Jan. 18, 2012.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 22.5 °C, July 5; minimum recorded, 5.1 °C, Dec. 19.

**TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	10.7	9.1	9.5	10.0	8.2	8.5	10.1	9.4	9.5	7.0	6.8	6.9
2	12.4	9.1	9.5	9.6	8.1	8.5	10.3	9.6	9.8	6.8	6.7	6.8
3	12.7	9.1	9.5	9.2	8.2	8.5	10.1	9.3	9.6	6.8	6.0	6.6
4	12.7	9.1	9.8	8.9	8.1	8.2	9.8	9.0	9.3	6.7	6.0	6.6
5	12.8	9.1	9.9	8.9	8.0	8.3	10.0	9.5	9.8	7.0	6.3	6.8
6	14.9	9.4	13.1	8.9	8.0	8.4	10.0	9.0	9.4	7.1	6.6	6.9
7	13.6	9.2	12.2	8.8	8.1	8.4	9.1	8.3	8.7	6.9	6.5	6.8
8	14.3	9.2	11.9	9.0	7.9	8.2	8.6	7.9	8.2	7.2	6.6	7.0
9	12.1	8.9	9.4	8.3	7.7	8.0	8.6	7.9	8.2	7.4	6.8	7.2
10	11.3	8.8	9.2	9.0	7.5	7.8	8.3	7.9	8.2	7.2	6.7	7.0
11	11.2	8.7	9.1	8.1	6.5	7.5	8.3	7.8	8.0	6.9	6.3	6.6
12	11.7	8.6	8.8	8.2	6.3	7.6	8.1	7.8	8.0	6.4	5.9	6.3
13	14.5	9.3	12.4	8.1	6.7	7.6	8.0	7.5	7.9	6.4	5.8	6.2
14	12.4	8.5	8.8	8.2	6.6	7.7	7.8	7.6	7.7	6.6	5.8	6.3
15	10.9	8.5	8.9	8.0	6.8	7.8	7.7	7.6	7.6	6.7	5.9	6.4
16	10.4	8.6	9.2	8.0	7.8	8.0	7.8	7.5	7.7	6.8	6.1	6.5
17	11.3	8.7	9.2	8.4	8.0	8.2	7.9	7.8	7.9	6.8	6.2	6.6
18	11.4	8.7	9.2	9.6	8.4	9.3	7.8	7.1	7.6	6.9	6.3	6.6
19	10.7	8.6	9.1	10.1	9.0	9.3	7.1	5.1	6.8	6.8	6.3	6.6
20	11.8	8.8	10.2	9.7	8.3	8.7	7.2	6.8	7.0	6.8	6.3	6.6
21	11.6	8.5	8.9	9.4	8.3	8.9	7.5	6.8	7.1	6.9	6.3	6.6
22	10.8	8.5	8.6	9.4	7.8	8.4	7.5	7.0	7.3	6.9	6.4	6.7
23	10.5	8.3	8.6	8.9	7.3	7.8	7.5	6.6	7.2	6.9	6.5	6.8
24	9.5	8.2	8.4	8.5	6.9	7.4	7.5	6.6	7.1	7.0	6.7	6.9
25	9.4	8.2	8.5	8.2	6.6	7.0	7.4	6.9	7.2	7.2	6.9	7.0
26	9.3	8.1	8.4	7.8	6.1	6.6	7.3	6.7	7.0	7.0	6.6	6.7
27	10.7	8.2	9.5	9.6	6.0	6.6	6.9	6.6	6.8	6.6	5.9	6.0
28	10.3	8.3	8.9	8.1	7.9	8.0	7.0	6.5	6.8	6.0	5.2	5.6
29	9.5	8.2	8.4	9.7	8.0	8.1	7.2	7.0	7.1	6.2	5.3	6.0
30	9.6	8.1	8.5	10.0	9.6	9.8	7.1	6.9	7.0	6.5	5.7	6.2
31	9.6	8.1	8.3	---	---	---	6.9	6.6	6.7	6.4	5.9	6.3
Max	14.9	9.4	13.1	10.1	9.6	9.8	10.3	9.6	9.8	7.4	6.9	7.2
Min	9.3	8.1	8.3	7.8	6.0	6.6	6.9	5.1	6.7	6.0	5.2	5.6

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

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	6.5	6.0	6.3	7.2	6.5	6.7	9.2	8.3	8.9	13.8	7.7	8.1
2	6.6	6.3	6.5	7.5	6.7	6.9	9.0	7.7	8.5	13.9	7.8	8.2
3	6.6	6.3	6.4	7.1	7.0	7.0	9.3	7.7	8.5	13.2	7.9	8.3
4	6.7	6.3	6.5	7.2	6.7	6.9	9.1	7.8	8.3	14.0	7.6	8.0
5	6.8	6.4	6.6	7.3	6.7	6.9	9.0	7.8	8.5	11.9	7.6	7.7
6	6.7	6.3	6.5	7.1	6.6	6.8	9.0	7.7	8.4	12.1	7.4	7.5
7	6.6	6.2	6.3	6.8	6.5	6.7	9.0	7.7	8.4	10.4	7.3	7.7
8	6.5	6.1	6.3	6.9	6.2	6.6	8.8	7.5	8.1	8.5	7.5	7.7
9	6.3	5.9	6.1	7.3	6.1	6.6	8.2	7.2	7.8	8.2	7.6	7.9
10	6.4	5.8	6.1	7.0	6.5	6.6	8.5	7.2	7.8	8.5	7.9	8.3
11	6.5	5.9	6.2	7.1	6.6	6.7	9.0	7.7	8.3	8.6	8.1	8.4
12	6.5	5.9	6.2	7.2	6.7	6.9	9.2	7.7	8.3	9.3	8.3	8.6
13	6.6	6.0	6.3	7.3	6.8	7.0	9.4	7.9	8.6	12.7	8.7	9.9
14	6.8	6.1	6.4	7.4	6.9	7.1	9.4	8.2	9.1	12.3	8.9	9.6
15	6.8	6.3	6.5	7.2	6.9	7.0	9.1	7.8	8.3	11.6	8.7	9.0
16	6.8	6.3	6.5	7.6	7.0	7.2	8.6	7.5	7.7	8.7	7.9	8.4
17	6.9	6.3	6.5	7.3	7.0	7.2	8.3	7.1	7.6	8.2	7.8	8.0
18	6.8	6.3	6.5	7.2	6.9	7.2	8.8	7.3	7.9	8.6	7.9	8.2
19	6.6	6.2	6.5	7.3	7.0	7.2	8.6	7.5	8.0	8.6	7.9	8.3
20	6.6	6.2	6.3	7.5	7.3	7.3	8.8	7.5	8.1	9.7	7.8	8.4
21	6.7	6.1	6.4	7.7	7.2	7.6	8.8	7.8	8.4	9.7	7.8	8.4
22	6.9	6.2	6.4	8.1	7.0	7.4	9.1	7.8	8.3	9.7	7.7	8.3
23	6.9	6.3	6.4	7.6	6.9	7.3	9.0	7.8	8.1	8.4	7.4	8.0
24	6.8	6.2	6.4	7.4	7.0	7.1	8.3	7.8	8.2	8.4	7.4	7.9
25	7.0	6.3	6.5	7.2	6.9	7.0	8.3	7.8	8.2	8.4	7.4	7.7
26	6.8	6.2	6.6	7.3	7.0	7.1	8.4	7.8	8.2	8.0	7.5	7.7
27	6.9	6.4	6.5	7.4	7.0	7.2	8.5	7.9	8.3	8.0	7.4	7.7
28	7.0	6.3	6.6	7.5	7.1	7.3	9.3	8.3	8.9	8.4	7.5	8.0
29	---	---	---	7.7	7.2	7.5	9.2	8.0	8.4	8.4	7.6	8.0
30	---	---	---	8.1	7.5	7.8	8.7	7.9	8.2	9.2	7.6	8.1
31	---	---	---	8.5	7.9	8.2	---	---	---	9.6	8.0	8.5
Max	7.0	6.4	6.6	8.5	7.9	8.2	9.4	8.3	9.1	14.0	8.9	9.9
Min	6.3	5.8	6.1	6.8	6.1	6.6	8.2	7.1	7.6	8.0	7.3	7.5

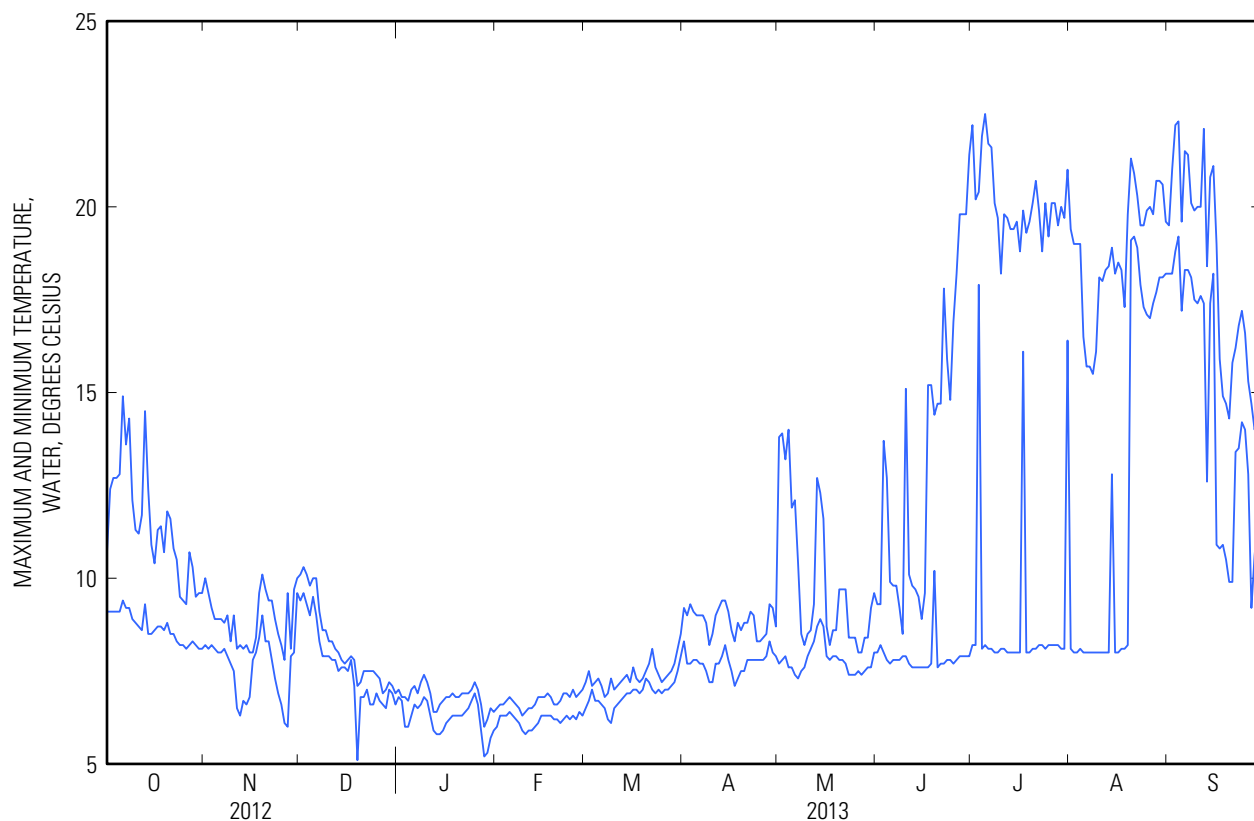
11278400 Cherry Creek below Dion R. Holm Powerplant, near Mather, CA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	9.3	8.0	8.8	22.2	8.2	19.9	19.4	8.1	16.9	19.5	18.2	18.8
2	9.3	8.2	8.9	20.2	8.2	19.2	19.0	8.0	16.5	21.0	18.2	19.0
3	13.7	8.0	8.7	20.4	17.9	18.6	19.0	8.0	16.2	22.2	18.8	19.6
4	12.7	7.8	8.3	21.9	8.1	18.8	19.0	8.1	16.2	22.3	19.2	20.1
5	9.9	7.7	8.6	22.5	8.2	19.0	16.5	8.0	12.1	19.6	17.2	18.4
6	9.8	7.8	8.6	21.7	8.1	18.7	15.7	8.0	12.4	21.5	18.3	19.1
7	9.8	7.8	8.6	21.6	8.1	18.0	15.7	8.0	12.3	21.4	18.3	19.3
8	9.2	7.8	8.1	20.1	8.0	17.8	15.5	8.0	12.3	20.1	18.1	19.0
9	8.5	7.9	8.1	19.7	8.0	17.3	16.1	8.0	14.9	19.9	17.5	18.5
10	15.1	7.9	8.4	18.2	8.1	16.9	18.1	8.0	15.4	20.0	17.4	18.4
11	10.1	7.7	8.7	19.8	8.1	17.0	18.0	8.0	15.6	20.0	17.6	18.4
12	9.8	7.6	9.2	19.7	8.0	17.0	18.3	8.0	15.8	22.1	17.4	18.3
13	9.7	7.6	8.6	19.4	8.0	16.9	18.4	8.0	15.2	18.4	12.6	15.8
14	9.5	7.6	8.6	19.4	8.0	16.6	18.9	12.8	16.4	20.8	17.4	18.8
15	8.9	7.6	8.2	19.6	8.0	16.8	18.2	8.0	16.1	21.1	18.2	19.1
16	9.6	7.6	8.5	18.8	8.0	16.8	18.5	8.0	15.7	19.0	10.9	12.3
17	15.2	7.6	11.3	19.9	16.1	17.6	18.3	8.1	16.2	15.9	10.8	12.2
18	15.2	7.7	11.5	19.3	8.0	17.0	17.3	8.1	16.2	14.9	10.9	13.6
19	14.4	10.2	13.2	19.6	8.0	16.9	19.8	8.2	16.0	14.7	10.5	13.8
20	14.7	7.6	11.6	20.1	8.1	17.2	21.3	19.1	20.3	14.3	9.9	11.1
21	14.7	7.7	11.6	20.7	8.1	18.0	20.9	19.2	19.9	15.8	9.9	14.8
22	17.8	7.7	14.4	19.9	8.2	18.4	20.3	18.9	19.4	16.2	13.4	14.6
23	15.9	7.8	14.8	18.8	8.2	17.5	19.5	17.9	18.6	16.8	13.5	14.6
24	14.8	7.8	13.9	20.1	8.1	16.6	19.5	17.3	18.1	17.2	14.2	15.2
25	16.9	7.7	13.9	19.2	8.2	17.9	19.9	17.1	17.9	16.6	14.0	14.9
26	18.2	7.8	15.5	20.1	8.2	17.6	20.0	17.0	18.0	15.3	12.8	13.8
27	19.8	7.9	16.0	20.1	8.2	18.3	19.8	17.4	18.2	14.7	9.2	11.8
28	19.8	7.9	17.6	19.5	8.2	17.7	20.7	17.7	18.3	14.0	10.6	11.9
29	19.8	7.9	18.0	20.0	8.1	17.8	20.7	18.1	18.9	14.4	11.6	12.7
30	21.4	7.9	17.3	19.7	8.1	17.4	20.6	18.1	18.9	13.1	9.4	10.2
31	---	---	---	21.0	16.4	17.7	19.6	18.2	18.9	---	---	---
Max	21.4	10.2	18.0	22.5	17.9	19.9	21.3	19.2	20.3	22.3	19.2	20.1
Min	8.5	7.6	8.1	18.2	8.0	16.6	15.5	8.0	12.1	13.1	9.2	10.2

	Max	Min	Median
Year Maximum	22.5	19.2	20.3
Year Minimum	6.0	5.1	5.6

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



CROSS SECTION ANALYSES
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
 [ft, feet; °C, degrees Celsius]

Sample date-time	Temperature, 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 downstream, ft (00009)
11-29-2012 1545	9.9	1.02	0.61	35.0	1.80
11-29-2012 1546	9.9	1.03	.62	35.0	5.30
11-29-2012 1547	10.0	.95	.57	35.0	8.80
11-29-2012 1548	10.0	1.76	1.06	35.0	12.3
11-29-2012 1549	9.9	2.08	1.25	35.0	15.8
11-29-2012 1550	9.9	1.52	.91	35.0	19.3
11-29-2012 1551	9.9	1.80	1.08	35.0	22.8
11-29-2012 1552	9.8	2.10	1.26	35.0	26.3
11-29-2012 1553	9.8	1.90	1.14	35.0	29.8
11-29-2012 1554	9.8	1.24	.74	35.0	33.3

Note: Instantaneous discharge at the mean time of cross-sectional measurements:
 Nov. 29, 256 ft³/s.