



# United States Department of the Interior

BUREAU OF RECLAMATION  
Central Valley Operations Office  
3310 El Camino Avenue, Suite 300  
Sacramento, California 95821

IN REPLY  
REFER TO:

CVO-400  
WTR-4.10

**MAR 21 2016**

VIA ELECTRONIC EMAIL

Ms. Barbara Evoy  
Deputy Director, Division of Water Rights  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812

Subject: Monitoring and Reporting Program on Water Rights Order No. 90-5 (Water Rights)

Dear Ms. Evoy:

For the month of February, the temperature control point was set at Clear Creek, per the recommendation of the Sacramento River Temperature Task Group.

During February 2016, the average daily water temperature compliance of 57.0° F or less was met at the Clear Creek compliance point on the Sacramento River. During the month of February 2016, the average monthly water temperature was 48.8° F at Clear Creek.

Enclosed is the monitoring report for February 2016, under Order No. 90-5. The report contains the following data:

<b>Station</b>	<b>Description</b>
Shasta Inlets (R-1) “	Water Temperature Profile Turbidity, monthly, ntu
Shasta Dam (R-2) “	Water Temperature, daily average, degrees F Turbidity, ntu, monthly
Shasta Dam (R-2a)	Flow, average daily, cfs
Keswick (R-3) “	Water Temperature, daily average, degrees F Turbidity, ntu, monthly
Keswick (R-3a)	Flow, average daily, cfs
Spring Creek Power plant (R-4) “	Water Temperature, daily average, degrees F Turbidity, ntu, monthly Flow, average daily cfs

<b>Station</b>	<b>Description</b>
Jellys Ferry (R-5) (Control Point)	Water Temperature, daily average, degrees F Turbidity, ntu, monthly
Sacramento at Delta (R-6)	Water Temperature, monthly, degrees F Turbidity, ntu, monthly
McCloud (R-7) “	Water Temperature, monthly, degrees F Turbidity, ntu, monthly
Pit River (R-8) “	Water Temperature, monthly, degrees F Turbidity, ntu, monthly
Lewiston (R-9)	Water Temperature, daily average, degrees F
Lewiston (R-9a)	Flow, average daily, cfs

Please contact Ms. Thuy Washburn at 916-979-2193, should you have any questions regarding this data.

Sincerely,



Elizabeth Kiteck  
Chief Water Operations

Enclosure

cc: Mr. Kenneth Emanuel  
Division of Water Rights  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812  
(w/encl)



**Measurements taken by the Northern CA Area Office Personnel  
February 2016**

<b>TEMPERATURE</b>						
Sampling Frequency						
Every two weeks May 1 through November 30.						
Lake Elev	Sample 1	Sample 2	Sample 3	Sample 4		
MSL	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F
	2/9/2016					
	Time: 15:00	Time:	Time:	Time:	Time:	Time:
625	45.4					
650	45.4					
675	45.5					
700	45.5					
725	45.6					
750	45.8					
775	46.0					
800	46.2					
825	46.6					
850	47.1					
875	48.4					
900	48.7					
925	48.9					
950	49.5					
975	50.1					
1000						
1025						
1050						
Lake Surface	984.31' - 51.6					

<b>TURBIDITY</b>						
Sampling Frequency						
Monthly, except weekly May 1 through Sep 30, when turbidity at Station 2 is equal to or greater than 10 NTU						
Lake Elev	Sample 1	Sample 2	Sample 3	Sample 4		
MSL	Turbidity ntu	Turbidity ntu	Turbidity ntu	Turbidity ntu	Turbidity ntu	Turbidity ntu
	2/9/2016					
	Time: 15:00	Time:	Time:	Time:	Time:	Time:
625	3.7					
650	3.7					
675	3.7					
700	3.8					
725	3.6					
750	2.9					
775	2.6					
800	4.6					
825	3.3					
850	2.6					
875	2.4					
900	2.4					
925	2.3					
950	2.4					
975	2.3					
1000						
1025						
1050						
Lake Surface	984.31' - 2.0					

Central Valley Operations Office  
 Measurements taken by the Northern CA Area Office Personnel

**Summary of Turbidity and Dissolved Oxygen Water Sampling  
 February 2016**

Turbidity Measurements, NTU

Sampling Frequency

Monthly, except weekly from May 1 through September 30, when turbidity at Station 2 is equal to or greater than 10 NTU.

Station

	R-2	R-3a	R-4	R-5	R-6	R-7	R-8
	Shasta Dam		Spring	Clear Creek			
	Discharge	Keswick	Creek PP	Control Point	Sacramento	McCloud	Pit
Day	at Bridge	Discharge	Discharge	2/1 to 2/29	River (DLT)	River	River
2	3.5		1.9				
3				5.1			
8		3.7					
17					2.1		
18							11.4
24				4.4			
25						1.3	
29		3.7					

Dissolved Oxygen, mg/l

Sampling Frequency

Every two weeks from May 1 through September 30; samples to be taken before 1000 hours.

Station

	R-2	R-3	R-5	Hour
	Shasta Dam			Time Sample
	Discharge	Keswick	Clear Creek	Taken
Day	at Bridge	Discharge		
	No Requirement October through April.			

**Temperature Control Point:**

56.0 degrees at Clear Creek from 4/1/2015 to 4/17/2015.

58.0 degrees at Clear Creek from 4/18/2015 to 5/14/2015.

56.0 degrees at Clear Creek from 5/15/2015 to 6/4/2015.

Target 57.0 degrees not to exceed 58.0 degrees at Clear Creek from 6/5/2015 to 2/29/2016.

**QG**  
**GENERATION RELEASE, CFS**  
**WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,701	4,248	4,120	2,851	1,110							
2	5,680	4,351	3,597	2,573	1,133							
3	5,648	5,011	4,233	2,570	2,192							
4	5,222	4,048	3,150	2,693	2,234							
5	5,649	4,740	2,511	2,020	2,166							
6	5,732	4,341	3,604	2,058	2,086							
7	6,419	4,456	3,756	2,175	2,413							
8	6,374	4,480	4,236	2,223	3,037							
9	5,750	4,508	3,565	2,199	3,452							
10	5,635	4,975	3,349	2,245	3,326							
11	5,559	4,165	3,288	2,621	2,713							
12	6,084	4,206	3,219	2,790	2,322							
13	5,843	4,281	3,129	1,760	2,756							
14	5,619	4,308	3,404	1,382	2,851							
15	4,995	4,018	3,847	1,851	2,723							
16	5,560	3,170	4,295	1,753	2,361							
17	5,747	4,073	4,139	827	2,110							
18	5,165	3,737	3,327	1,070	1,901							
19	5,503	3,900	3,626	1,098	3,150							
20	6,131	3,685	3,497	962	2,982							
21	4,776	3,481	2,724	109	3,242							
22	4,020	3,554	3,411	400	2,364							
23	4,646	3,593	3,556	762	2,668							
24	4,441	4,062	3,346	764	2,590							
25	4,711	4,045	3,848	867	2,725							
26	4,218	3,492	2,388	1,993	3,106							
27	4,444	3,605	2,222	1,784	2,704							
28	3,627	3,796	3,235	1,072	2,653							
29	4,538	3,572	2,967	1,077	3,002							
30	4,774	3,771	2,958	491								
31	4,687		2,974	393								
<b>TOTAL</b>	<b>162,898</b>	<b>121,672</b>	<b>105,521</b>	<b>49,433</b>	<b>74,072</b>							
<b>MEAN</b>	<b>5,255</b>	<b>4,056</b>	<b>3,404</b>	<b>1,595</b>	<b>2,554</b>							
<b>MAX</b>	<b>6,419</b>	<b>5,011</b>	<b>4,295</b>	<b>2,851</b>	<b>3,452</b>							
<b>MIN</b>	<b>3,627</b>	<b>3,170</b>	<b>2,222</b>	<b>109</b>	<b>1,110</b>							

**WATER YEAR TOTALS**

TOTAL	513,596
DAILY MEAN	3,379
DAILY MAX	6,419
DAILY MIN	109

10/07/2015  
01/21/2016

QT

TOTAL RELEASE, CFS

WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	6,542	5,068	3,995	3,121	2,974								
2	6,544	4,685	3,996	3,121	2,973								
3	6,545	4,698	3,993	3,121	2,970								
4	6,543	4,702	3,997	3,119	2,969								
5	6,545	4,704	4,058	3,076	2,972								
6	6,544	4,704	4,208	3,080	2,994								
7	6,544	4,701	4,211	3,091	2,996								
8	6,536	4,704	4,213	3,086	2,992								
9	6,505	4,702	4,204	3,078	3,012								
10	6,534	4,701	4,161	3,051	3,067								
11	6,510	4,697	4,190	3,064	3,070								
12	6,511	4,505	4,192	3,065	3,051								
13	6,509	4,288	4,139	3,068	3,052								
14	6,506	4,290	4,137	3,033	3,055								
15	6,510	4,150	4,156	3,088	3,054								
16	6,509	3,953	4,162	3,120	3,055								
17	6,506	3,944	4,171	3,013	3,055								
18	6,498	4,039	4,171	2,994	3,050								
19	6,652	4,081	4,172	2,970	3,054								
20	6,188	4,035	4,171	2,981	3,055								
21	5,913	4,053	4,170	2,974	3,057								
22	5,732	4,054	4,153	2,973	3,052								
23	5,472	4,061	3,889	2,932	3,066								
24	5,467	4,054	3,632	2,961	3,092								
25	5,388	4,044	3,335	3,045	3,119								
26	5,164	4,017	3,079	3,047	3,121								
27	5,164	4,012	3,082	3,046	3,118								
28	5,166	4,005	3,092	3,046	3,119								
29	5,168	3,996	3,133	3,063	3,119								
30	4,866	3,996	3,101	3,044									
31	4,803		3,103	2,999									
<b>TOTAL</b>	<b>188,584</b>	<b>129,643</b>	<b>120,466</b>	<b>94,470</b>	<b>88,333</b>								
<b>MEAN</b>	<b>6,083</b>	<b>4,321</b>	<b>3,886</b>	<b>3,047</b>	<b>3,046</b>								
<b>MAX</b>	<b>6,652</b>	<b>5,068</b>	<b>4,213</b>	<b>3,121</b>	<b>3,121</b>								
<b>MIN</b>	<b>4,803</b>	<b>3,944</b>	<b>3,079</b>	<b>2,932</b>	<b>2,969</b>								
<b>WATER YEAR TOTALS</b>													
			<b>TOTAL</b>										<b>621,496</b>
			<b>DAILY MEAN</b>										<b>4,089</b>
			<b>DAILY MAX</b>										<b>6,652</b>
			<b>DAILY MIN</b>										<b>2,932</b>
													<b>10/19/2015</b>
													<b>01/23/2016</b>

**LEWISTON DAM, LAKE, AND JUDGE FRANCIS CARR POWERPLANT**

QR

RELEASE TO RIVER, CFS

**WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	439	331	313	305	305							
2	439	321	305	305	305							
3	439	321	305	305	305							
4	436	323	305	305	305							
5	449	323	305	305	305							
6	466	323	305	305	305							
7	468	324	305	305	305							
8	464	323	305	305	305							
9	467	308	305	305	305							
10	468	300	305	305	305							
11	464	300	305	305	305							
12	465	299	305	305	305							
13	467	296	305	305	305							
14	467	296	305	305	305							
15	467	295	305	305	305							
16	467	297	305	305	305							
17	467	305	305	305	305							
18	467	326	305	305	305							
19	467	323	305	305	305							
20	426	326	305	305	305							
21	346	328	305	305	305							
22	309	327	305	305	305							
23	301	325	305	305	305							
24	301	325	305	305	305							
25	303	327	305	305	305							
26	305	326	305	305	305							
27	305	325	305	305	305							
28	309	327	305	305	305							
29	318	328	305	305	305							
30	318	327	305	305	305							
31	319		305	305								
<b>TOTAL</b>	<b>12,593</b>	<b>9,525</b>	<b>9,463</b>	<b>9,455</b>	<b>8,845</b>							
<b>MEAN</b>	<b>406</b>	<b>318</b>	<b>305</b>	<b>305</b>	<b>305</b>							
<b>MAX</b>	<b>468</b>	<b>331</b>	<b>313</b>	<b>305</b>	<b>305</b>							
<b>MIN</b>	<b>301</b>	<b>295</b>	<b>305</b>	<b>305</b>	<b>305</b>							

WATER YEAR TOTALS

TOTAL	49,881
DAILY MEAN	328
DAILY MAX	468 10/07/2015
DAILY MIN	295 11/15/2015



**WHISKEYTOWN DAM, LAKE, AND SPRING CREEK POWERPLANT**

**QG**

**GENERATION RELEASE, CFS**

**WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	756	344	69	14	1,708							
2	669	353	16	14	1,480							
3	670	14	35	14	1,147							
4	593	14	1,064	14	144							
5	667	22	1,612	430	16							
6	589	30	14	1,011	14							
7	458	42	50	346	14							
8	375	33	109	656	14							
9	807	16	14	14	19							
10	788	34	45	14	514							
11	14	86	36	771	731							
12	511	87	22	351	348							
13	535	19	216	900	14							
14	571	17	361	1,220	189							
15	677	52	14	685	369							
16	811	18	14	207	342							
17	270	227	15	733	285							
18	597	24	277	792	14							
19	654	17	15	703	189							
20	664	57	14	1,960	247							
21	409	21	550	2,467	191							
22	865	20	401	1,325	360							
23	609	15	495	1,306	485							
24	803	16	71	753	40							
25	632	23	103	1,640	14							
26	800	14	14	1,362	14							
27	729	25	14	2,047	389							
28	788	14	14	1,903	273							
29	214	14	16	1,401	14							
30	188	15	14	2,144								
31	185		14	2,112								
<b>TOTAL</b>	<b>17,898</b>	<b>1,683</b>	<b>5,718</b>	<b>29,309</b>	<b>9,578</b>							
<b>MEAN</b>	<b>577</b>	<b>56</b>	<b>184</b>	<b>945</b>	<b>330</b>							
<b>MAX</b>	<b>865</b>	<b>353</b>	<b>1,612</b>	<b>2,467</b>	<b>1,708</b>							
<b>MIN</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>							

**WATER YEAR TOTALS**

<b>TOTAL</b>	<b>64,186</b>
<b>DAILY MEAN</b>	<b>422</b>
<b>DAILY MAX</b>	<b>2,467</b>
<b>DAILY MIN</b>	<b>14</b>
	<b>01/21/2016</b>
	<b>10/11/2015</b>