



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

JAN 28 2016

VIA ELECTRONIC MAIL

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

During December 2015, 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 December 2015, the average monthly water temperature was 52.2° F at Clear Creek.

Enclosed is the monitoring report for December 2015, under Order No. 90-5. The report contains the following data:

Station	Description
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

Station	Description
Spring Creek Power plant (R-4) “	Water Temperature, daily average, degrees F Turbidity, ntu, monthly Flow, average daily cfs
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

Enclosures

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

Central Valley Operations Office

*Data obtained from the California Data Exchange Center

**Data calculated by the Central Valley Operations Office

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

Water Temperature Data in Degrees F

December 2015

Req. Sampling Frequency - Daily Average (Reading indicates daily average)							Control Pt 12/1 to 12/31			Req. Sampling Frequency - Monthly		
Date	Sta 2 Shd*	Sta 3 Kwk*	Sta 4 Spp**	Sta 5 Ccr**	Sta9 Lws*	Sta10 Nfh*		Sta 6 Dlt***	Sta 7 Mss***	Sta 8 Pmn***		
1	55.4	54.5	54.1	53.4	45.0	42.0						
2	55.4	54.5	54.1	54.0	45.3	44.5						
3	54.9	54.5	53.5	53.7	44.9	45.0						
4	55.1	54.5	53.0	54.2	45.1	45.1						
5	54.7	53.8	52.9	53.4	45.5	45.0						
6	54.5	53.5	53.0	52.9	45.5	44.3						
7	54.1	53.8	52.1	53.5	46.4	44.1						
8	54.0	53.8	51.8	54.1	47.6	45.5		45.9				
9	53.8	53.7	52.3	53.7	48.1	46.8						
10	53.6	53.6	51.8	53.8	47.8	45.9						
11	53.4	53.2	51.8	52.9	47.9	44.6						
12	53.4	52.9	51.8	52.1	47.7	44.3						
13	53.1	52.5	51.9	52.0	47.5	44.4						
14	53.1	52.2	51.7	51.4	47.0	42.9						
15	54.3	51.9	52.3	51.3	47.1	42.7						
16	54.9	51.8	52.1	51.3	47.2	42.9						
17	54.6	52.9	52.0	51.8	47.1	43.8						
18	54.5	53.5	51.0	52.3	46.6	44.0						
19	54.2	53.4	51.5	52.9	46.5	43.8						
20	54.1	53.0	51.3	51.8	45.5	42.1						
21	53.6	53.0	50.4	51.9	45.5	41.2						
22	53.4	52.6	50.5	52.4	46.1	43.1						
23	53.3	52.4	50.4	51.9	45.1	43.9						
24	52.8	52.2	50.7	51.4	45.1	42.1						
25	52.9	52.0	50.3	51.2	45.0	41.6						
26	52.6	51.7	50.3	50.7	44.4	41.6						
27	53.5	51.3	50.2	50.2	44.5	41.1						
28	52.3	51.2	50.0	50.6	44.5	41.6						
29	51.9	51.1	49.9	50.3	44.0	42.1						
30	51.8	51.1	49.6	50.4	43.6	41.8			39.2	43.0		
31	52.0	50.8	49.5	49.7	43.0	41.2						

**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 12/31/2015.**

Cross Channel Gate Operation:

December 1 - 3 closed
 December 4 - 14 open
 December 15 - 31 closed

**Measurements taken by the Northern CA Area Office Personnel
December 2015**

TEMPERATURE				
Sampling Frequency				
Every two weeks May 1 through November 30.				
	Sample 1	Sample 2	Sample 3	Sample 4
	12/8/2015			
Lake Elev	Temperature	Temperature	Temperature	Temperature
MSL	Degrees F	Degrees F	Degrees F	Degrees F
(400 Feet Upstream of Dam)				
	Time: 11:50	Time:	Time:	Time:
625	48.2			
650	49.1			
675	51.1			
700	51.6			
725	52.5			
750	53.5			
775	54.5			
800	55.6			
825	56.5			
850	56.6			
875	56.6			
900	56.6			
925				
950				
975				
1000				
1025				
1050				
Lake Surface	912.14'	56.7		

TURBIDITY				
Sampling Frequency				
Monthly, except weekly May 1 through Sep 30, when turbidity at Station 2 is equal to or greater than 10 NTU				
	Sample 1	Sample 2	Sample 3	Sample 4
	12/8/2015			
Lake Elev	Turbidity	Turbidity	Turbidity	Turbidity
MSL	ntu	ntu	ntu	ntu
(400 Feet Upstream of Dam)				
	Time: 11:50	Time:	Time:	Time:
625	2.2			
650	1.3			
675	1.3			
700	1.4			
725	1.1			
750	1.0			
775	0.8			
800	0.7			
825	0.6			
850	0.5			
875	0.6			
900	0.5			
925				
950				
975				
1000				
1025				
1050				
Lake Surface	912.14'	0.4		

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GENERATION RELEASE, CFS

WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,701	4,248	4,120	3,597	4,233	3,150	2,511	3,604	3,756
2	5,680	4,351	4,236	4,508	3,349	3,288	3,219	3,129	3,404
3	5,648	5,011	4,236	4,508	3,349	3,288	3,219	3,129	3,404
4	5,222	4,048	4,236	4,508	3,349	3,288	3,219	3,129	3,404
5	5,649	4,740	4,236	4,508	3,349	3,288	3,219	3,129	3,404
6	5,732	4,341	4,236	4,508	3,349	3,288	3,219	3,129	3,404
7	6,419	4,456	4,236	4,508	3,349	3,288	3,219	3,129	3,404
8	6,374	4,480	4,236	4,508	3,349	3,288	3,219	3,129	3,404
9	5,750	4,508	4,236	4,508	3,349	3,288	3,219	3,129	3,404
10	5,635	4,975	4,236	4,508	3,349	3,288	3,219	3,129	3,404
11	5,559	4,165	4,236	4,508	3,349	3,288	3,219	3,129	3,404
12	6,084	4,206	4,236	4,508	3,349	3,288	3,219	3,129	3,404
13	5,843	4,281	4,236	4,508	3,349	3,288	3,219	3,129	3,404
14	5,619	4,308	4,236	4,508	3,349	3,288	3,219	3,129	3,404
15	4,995	4,018	4,236	4,508	3,349	3,288	3,219	3,129	3,404
16	5,560	3,170	4,236	4,508	3,349	3,288	3,219	3,129	3,404
17	5,747	4,073	4,236	4,508	3,349	3,288	3,219	3,129	3,404
18	5,165	3,737	4,236	4,508	3,349	3,288	3,219	3,129	3,404
19	5,503	3,900	4,236	4,508	3,349	3,288	3,219	3,129	3,404
20	6,131	3,685	4,236	4,508	3,349	3,288	3,219	3,129	3,404
21	4,776	3,481	4,236	4,508	3,349	3,288	3,219	3,129	3,404
22	4,020	3,554	4,236	4,508	3,349	3,288	3,219	3,129	3,404
23	4,646	3,593	4,236	4,508	3,349	3,288	3,219	3,129	3,404
24	4,441	4,062	4,236	4,508	3,349	3,288	3,219	3,129	3,404
25	4,711	4,045	4,236	4,508	3,349	3,288	3,219	3,129	3,404
26	4,218	3,492	4,236	4,508	3,349	3,288	3,219	3,129	3,404
27	4,444	3,605	4,236	4,508	3,349	3,288	3,219	3,129	3,404
28	3,627	3,796	4,236	4,508	3,349	3,288	3,219	3,129	3,404
29	4,538	3,572	4,236	4,508	3,349	3,288	3,219	3,129	3,404
30	4,774	3,771	4,236	4,508	3,349	3,288	3,219	3,129	3,404
31	4,687	2,974	4,236	4,508	3,349	3,288	3,219	3,129	3,404
TOTAL	162,898	121,672	105,521	3,404	4,295	2,222	3,627	3,170	2,222
MEAN	5,255	4,056	3,404	4,295	2,222	3,627	3,170	2,222	2,222
MAX	6,419	5,011	4,295	4,295	4,295	4,295	4,295	4,295	4,295
MIN	3,627	3,170	2,222	2,222	2,222	2,222	2,222	2,222	2,222

WATER YEAR TOTALS

TOTAL	390,091
DAILY MEAN	4,240
DAILY MAX	6,419
DAILY MIN	2,222
	10/07/2015
	12/27/2015

UNITED STATES DEPARTMENT OF THE INTERIOR
 U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA
KESWICK DAM, RESERVOIR, AND POWERPLANT

RUN DATE: January 13, 2016

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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									
2	6,544	4,685	3,996									
3	6,545	4,698	3,993									
4	6,543	4,702	3,997									
5	6,545	4,704	4,058									
6	6,544	4,704	4,208									
7	6,544	4,701	4,211									
8	6,536	4,704	4,213									
9	6,505	4,702	4,204									
10	6,534	4,701	4,161									
11	6,510	4,697	4,190									
12	6,511	4,505	4,192									
13	6,509	4,288	4,139									
14	6,506	4,290	4,137									
15	6,510	4,150	4,156									
16	6,509	3,953	4,162									
17	6,506	3,944	4,171									
18	6,498	4,039	4,171									
19	6,652	4,081	4,172									
20	6,188	4,035	4,171									
21	5,913	4,053	4,170									
22	5,732	4,054	4,153									
23	5,472	4,061	3,889									
24	5,467	4,054	3,632									
25	5,388	4,044	3,335									
26	5,164	4,017	3,079									
27	5,164	4,012	3,082									
28	5,166	4,005	3,092									
29	5,168	3,996	3,133									
30	4,866	3,996	3,101									
31	4,803		3,103									
TOTAL	188,584	129,643	120,466									
MEAN	6,083	4,321	3,886									
MAX	6,652	5,068	4,213									
MIN	4,803	3,944	3,079									

WATER YEAR TOTALS

TOTAL	438,693
DAILY MEAN	4,768
DAILY MAX	6,652
DAILY MIN	3,079
	10/19/2015
	12/26/2015

UNITED STATES DEPARTMENT OF THE INTERIOR
 U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA
LEWISTON DAM, LAKE, AND JUDGE FRANCIS CARR POWERPLANT

RUN DATE: January 13, 2016

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									
2	439	321	305									
3	439	321	305									
4	436	323	305									
5	449	323	305									
6	466	323	305									
7	468	324	305									
8	464	323	305									
9	467	308	305									
10	468	300	305									
11	464	300	305									
12	465	299	305									
13	467	296	305									
14	467	296	305									
15	467	295	305									
16	467	297	305									
17	467	305	305									
18	467	326	305									
19	467	323	305									
20	426	326	305									
21	346	328	305									
22	309	327	305									
23	301	325	305									
24	301	325	305									
25	303	327	305									
26	305	326	305									
27	305	325	305									
28	309	327	305									
29	318	328	305									
30	318	327	305									
31	319	305	305									
TOTAL	12,593	9,525	9,463									
MEAN	406	318	305									
MAX	468	331	313									
MIN	301	295	305									

WATER YEAR TOTALS

TOTAL	31,581
DAILY MEAN	343
DAILY MAX	468 10/07/2015
DAILY MIN	295 11/15/2015

UNITED STATES DEPARTMENT OF THE INTERIOR
 U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA
WHISKEYTOWN DAM, LAKE, AND SPRING CREEK POWERPLANT

RUN DATE: January 13, 2016

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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									
2	669	353	16									
3	670	14	35									
4	593	14	1,064									
5	667	22	1,612									
6	589	30	14									
7	458	42	50									
8	375	33	109									
9	807	16	14									
10	788	34	45									
11	14	86	36									
12	511	87	22									
13	535	19	216									
14	571	17	361									
15	677	52	14									
16	811	18	14									
17	270	227	15									
18	597	24	277									
19	654	17	15									
20	664	57	14									
21	409	21	550									
22	865	20	401									
23	609	15	495									
24	803	16	71									
25	632	23	103									
26	800	14	14									
27	729	25	14									
28	788	14	14									
29	214	14	16									
30	188	15	14									
31	185	14	14									
TOTAL	17,898	1,683	5,718									
MEAN	577	56	184									
MAX	865	353	1,612									
MIN	14	14	14									

WATER YEAR TOTALS

TOTAL	25,299
DAILY MEAN	275
DAILY MAX	1,612 12/05/2015
DAILY MIN	14 10/11/2015