



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 08 2017

VIA ELECTRONIC MAIL

Mr. Les Grober
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 Mr. Grober:

For the month of February 2017, the temperature control point was set at Balls Ferry, per the June 2016, Sacramento River Temperature Plan.

During February 2017, the average daily water temperature compliance of 56.0 °F or less was met at the Balls Ferry compliance point on the Sacramento River. During the month of February 2017, the average monthly water temperature was 48.0 °F at Balls Ferry.

Enclosed is the monitoring report for February 2017, 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
Control Point (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. Randi Field at 916-979-2066, should you have any questions regarding this data.

Sincerely,



Elizabeth Kiteck
Chief, Water Operations Division

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
February 2017**

Req. Sampling Frequency - Daily Average (Reading indicates daily average)							Req. Sampling Frequency - Monthly		
Date	Sta 2 Shd*	Sta 3 Kwk*	Sta 4 Spp**	Sta 5 Bsf**	Sta9 Lws*		Sta 6 Dit***	Sta 7 Mss***	Sta 8 Pmn***
1	47.1	47.1	45.5	47.2	43.5				
2	46.9	47.0	45.5	47.2	43.8				
3	46.6	47.0	45.6	47.9	44.1				
4	46.3	46.9	45.7	48.1	44.4				
5	46.4	46.8	45.7	47.8	44.5				
6	47.5	46.9	45.8	48.4	44.7				
7	46.9	47.4	45.9	49.8	44.9		46.0		
8	46.5	47.0	45.8	49.1	44.6				
9	46.4	47.5	46.0	50.3	45.0				
10	48.1	47.6	46.2	49.4	45.3				
11	47.4	47.4	46.5	48.1	44.8				
12	47.2	47.4	46.9	47.7	44.6				
13	47.0	47.1	46.7	47.5	45.0				
14	46.8	46.8	46.6	47.1	44.9				
15	46.9	46.9	46.8	47.2	45.4				
16	47.0	47.2	46.7	48.0	45.9				
17	47.0	47.1	46.8	47.7	45.6				
18	47.3	47.4	47.7	48.6	46.0				
19	47.1	47.1	46.9	47.9	45.8				
20	46.7	47.3	46.8	48.4	46.2				
21	46.8	47.1	47.0	48.6	46.4				
22	47.0	47.1	47.3	47.5	45.8				45.8
23	47.0	47.1	47.5	47.2	45.1				
24	47.1	47.2	47.6	47.2	45.2				
25	47.2	47.3	47.7	47.5	45.7				
26	47.2	47.3	47.5	47.4	45.4				
27	47.2	47.3	47.5	47.4	45.0				
28	47.2	47.3	47.3	47.5	45.1			43.1	

Control Point: 2/1-2/28 BSF @ 56.0 DAT

Cross Channel Gate Operation:
February 01-28 closed

**Measurements taken by the Northern CA Area Office Personnel
February 2017**

TEMPERATURE					
Sampling Frequency Every two weeks May 1 through November 30.					
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
	2/16/2017				
Lake Elev	Temperature	Temperature	Temperature	Temperature	Temperature
MSL	Degrees F	Degrees F	Degrees F	Degrees F	Degrees F
(400 Feet Upstream of Dam)					
	Time: 10:20				
625	44.3				
650	44.2				
675	44.2				
700	44.2				
725	44.2				
750	44.2				
775	44.4				
800	44.5				
825	44.9				
850	44.9				
875	45.2				
900	46.1				
925	46.7				
950	47.6				
975	47.9				
1000	48.0				
1025	48.1				
1050	48.1				
Lake Surface	48.1 @ 1053.49'				

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	Sample 5
	2/16/2017				
Lake Elev	Turbidity	Turbidity	Turbidity	Turbidity	Turbidity
MSL	ntu	ntu	ntu	ntu	ntu
(400 Feet Upstream of Dam)					
	Time: 10:20				
625	86.8				
650	81.6				
675	78.8				
700	73.8				
725	67.5				
750	59.3				
775	53.1				
800	57.1				
825	60.0				
850	57.4				
875	57.1				
900	28.7				
925	17.3				
950	7.0				
975	5.6				
1000	5.1				
1025	5.3				
1050	5.0				
Lake Surface	4.4 @ 1053.49'				

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

**Summary of Turbidity and Dissolved Oxygen Water Sampling
 February 2017**

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					
	Discharge	Keswick	Creek PP		Sacramento	McCloud	Pit	
Day	at Bridge	Discharge	Discharge	Clear Creek	River (DLT)	River	River	
3				16.8				
7					60.0			
7			4.2					
8	24.2							
15		40.0						
22							72.0	
28						4.2		

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	
	Shasta Dam			Hour
	Discharge	Keswick		Time Sample
Day	at Bridge	Discharge	Clear Creek	Taken
3			13.7	10:25
8	12.0			10:05
15		15.3		10:10

Control Point: 2/1-2/28 BSF @ 56.0 DAT

SHASTA LAKE, DAM AND POWERPLANT

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GENERATION RELEASE, CFS

WATER YEAR OCTOBER 2016 TO SEPTEMBER2017

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6,289	4,929	4,122	5,765	18,164							
2	6,463	4,805	4,181	5,467	18,257							
3	6,942	4,257	4,630	4,764	18,708							
4	6,469	4,132	4,570	3,401	18,806							
5	6,546	3,985	4,123	3,865	18,609							
6	5,865	4,666	4,054	4,285	18,763							
7	4,953	4,429	4,088	8,401	18,923							
8	6,060	4,387	4,979	11,517	17,804							
9	6,069	3,948	5,086	9,821	15,665							
10	5,860	3,670	4,720	9,158	15,331							
11	6,325	4,016	4,126	12,026	17,378							
12	6,275	4,279	3,453	18,778	17,716							
13	5,812	4,781	3,964	17,022	18,573							
14	6,180	4,605	3,960	18,722	18,464							
15	5,544	4,948	1,657	18,490	18,653							
16	6,164	5,005	2,446	18,236	18,669							
17	6,027	4,610	2,801	18,215	19,050							
18	5,192	4,023	2,871	17,665	19,430							
19	4,812	4,247	2,656	17,799	18,887							
20	5,304	4,378	3,422	18,125	18,688							
21	5,789	4,357	7,632	18,065	18,948							
22	5,733	4,673	7,859	18,584	19,369							
23	5,549	4,642	9,317	18,517	19,679							
24	5,367	4,159	9,866	17,848	19,804							
25	4,817	4,461	9,186	18,354	19,768							
26	4,817	4,341	9,346	17,930	19,346							
27	4,791	4,427	8,207	18,390	19,604							
28	4,057	4,238	8,682	18,457	19,393							
29	3,861	4,423	9,191	18,487								
30	5,475	4,779	8,429	18,146								
31	4,387		7,462	18,566								
TOTAL	173,794	132,600	171,086	442,866	519,849							
MEAN	5,606	4,420	5,519	14,286	18,566							
MAX	6,942	5,005	9,866	18,778	19,804							
MIN	3,861	3,670	1,657	3,401	15,331							

WATER YEAR TOTALS

TOTAL	1,440,196	
DAILY MEAN	9,538	
DAILY MAX	19,804	02/24/2017
DAILY MIN	1,657	12/15/2016

KESWICK DAM, RESERVOIR, AND POWERPLANT

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TOTAL RELEASE, CFS

WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,368	4,950	4,816	6,179	21,870							
2	7,366	5,147	4,832	5,978	21,947							
3	7,349	5,023	4,842	5,304	22,318							
4	7,021	4,831	4,840	4,756	22,445							
5	7,013	4,841	4,841	4,776	22,619							
6	6,764	4,841	4,841	4,792	27,729							
7	6,751	4,841	4,838	9,531	25,848							
8	6,756	4,840	4,835	13,032	21,361							
9	6,751	4,854	4,840	13,339	17,284							
10	6,510	4,866	4,839	13,479	38,612							
11	6,505	4,866	4,837	16,048	49,030							
12	6,537	4,866	4,841	32,098	59,280							
13	6,545	4,865	4,840	32,404	67,438							
14	6,542	4,863	4,842	32,383	73,966							
15	6,519	4,779	4,997	32,056	65,398							
16	6,515	4,865	4,946	31,833	46,123							
17	6,519	4,866	4,889	31,987	53,728							
18	6,232	4,864	4,891	28,724	45,624							
19	6,222	4,866	4,890	25,912	45,427							
20	6,225	4,862	4,870	25,968	26,418							
21	5,770	4,865	9,706	26,456	29,828							
22	5,495	4,864	9,852	25,898	57,422							
23	5,493	4,864	9,753	25,617	66,552							
24	5,444	4,866	9,762	25,936	68,035							
25	5,346	4,861	9,760	25,424	68,631							
26	4,888	4,814	9,762	26,751	68,906							
27	4,887	4,815	9,825	26,226	68,287							
28	4,889	4,810	9,839	22,215	68,444							
29	4,889	4,816	9,836	21,646								
30	4,864	4,816	8,527	21,790								
31	4,864		7,175	21,762								
TOTAL	190,839	145,987	201,004	640,300	1,270,570							
MEAN	6,166	4,866	6,484	20,655	45,378							
MAX	7,368	5,147	9,862	32,404	73,966							
MIN	4,864	4,779	4,816	4,756	17,284							

WATER YEAR TOTALS

TOTAL	2,448,700	
DAILY MEAN	16,217	
DAILY MAX	73,966	02/14/2017
DAILY MIN	4,756	01/04/2017

UNITED STATES DEPARTMENT OF THE INTERIOR
 U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA

RUN DATE: March 1, 2017

LEWISTON DAM, LAKE, AND JUDGE FRANCIS CARR POWERPLANT

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RELEASE TO RIVER, CFS

WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	466	313	310	306	290							
2	461	320	311	307	290							
3	440	319	307	310	291							
4	440	317	304	315	291							
5	448	316	306	312	291							
6	450	316	305	313	292							
7	450	314	306	313	298							
8	446	302	306	318	296							
9	447	311	306	318	296							
10	449	303	308	316	312							
11	463	304	309	314	320							
12	465	304	308	316	318							
13	455	302	308	315	315							
14	451	321	308	320	324							
15	447	311	313	324	333							
16	445	310	311	327	334							
17	408	313	311	324	335							
18	330	314	312	326	334							
19	301	313	309	326	339							
20	301	312	307	326	338							
21	300	313	303	324	335							
22	302	311	306	326	334							
23	305	309	308	325	337							
24	306	307	308	334	338							
25	305	311	307	333	330							
26	317	313	306	317	293							
27	321	311	307	317	290							
28	309	311	306	317	326							
29	308	311	307	313								
30	309	310	307	290								
31	308		306	290								
TOTAL	11,953	9,342	9,536	9,832	8,820							
MEAN	386	311	308	317	315							
MAX	466	321	313	334	339							
MIN	300	302	303	290	290							

WATER YEAR TOTALS

TOTAL	49,483
DAILY MEAN	328
DAILY MAX	466 10/01/2016
DAILY MIN	290 01/30/2017

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

RUN DATE: March 1, 2017

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GENERATION RELEASE, CFS

WATER YEAR OCTOBER 2016 TO SEPTEMBER 2017

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	746	18	14	15	2,665							
2	349	14	293	223	3,047							
3	276	530	14	602	2,256							
4	454	481	14	859	2,033							
5	309	519	14	25	1,680							
6	808	14	62	14	1,487							
7	1,036	14	220	683	2,028							
8	398	31	215	1,255	2,004							
9	292	471	16	3,051	1,108							
10	292	654	130	3,570	2,697							
11	365	183	14	3,354	3,004							
12	417	180	414	866	2,117							
13	380	23	393	1,641	1,928							
14	14	166	583	444	2,495							
15	362	35	2,090	854	1,143							
16	417	86	2,161	190	1,315							
17	658	164	1,723	422	1,250							
18	1,086	170	1,674	1,069	14							
19	802	193	1,821	702	1,130							
20	730	135	703	1,405	2,702							
21	295	14	519	1,482	2,415							
22	16	336	475	719	2,484							
23	14	511	122	857	2,156							
24	14	238	315	1,272	2,104							
25	14	311	152	819	2,096							
26	19	171	200	1,322	3,615							
27	191	280	1,049	1,116	3,767							
28	14	344	353	997	3,505							
29	14	14	164	2,235								
30	14	14	82	2,514								
31	989		25	2,320								
TOTAL	11,785	6,314	16,024	36,897	60,245							
MEAN	380	210	517	1,190	2,162							
MAX	1,086	654	2,161	3,570	3,767							
MIN	14	14	14	14	14							

WATER YEAR TOTALS

TOTAL	131,265	
DAILY MEAN	869	
DAILY MAX	3,767	02/27/2017
DAILY MIN	14	10/14/2016