



United States Department of the Interior

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

JUL 07 2016

IN REPLY
REFER TO:

CVO-400
WTR-4.10

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

During April 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 April 2016, the average monthly water temperature was 53.6° F at Clear Creek.

Enclosed is the monitoring report for April 2016, 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
Spring Creek Power plant (R-4) “	Water Temperature, daily average, degrees F Turbidity, ntu, monthly Flow, average daily cfs

Station	Description
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
April 2016

Req. Sampling Frequency - Daily Average (Reading indicates daily average)						Control Pt 4/1 to 4/30	Req. Sampling Frequency - Monthly		
Date	Sta 2 Shd*	Sta 3 Kwk*	Sta 4 Spp**	Sta 5 Ccr**	Sta 9 Lws*		Sta 6 Dlt***	Sta 7 Mss***	Sta 8 Pmn***
1	49.6	51.4	50.3	52.8	51.2				
2	49.5	51.7	50.5	53.1	51.6				
3	49.8	51.6	50.5	53.3	51.6				
4	50.0	51.8	50.4	53.2	51.7				
5	50.9	51.6	50.5	52.9	51.9				
6	50.7	51.9	50.7	53.4	52.5				
7	50.3	52.8	50.7	54.2	52.9				
8	50.0	53.0	50.7	54.5	53.5				
9	49.5	52.4	50.2	53.4	53.3				
10	49.5	52.0	50.7	53.0	53.1				
11	49.6	51.3	50.1	52.7	53.5				
12	50.0	51.1	50.6	52.0	53.7				
13	49.9	51.4	50.8	52.5	52.5		48.0		
14	49.8	51.5	51.1	51.8	51.2				
15	50.4	51.6	51.6	52.7	52.3				
16	50.9	51.7	51.9	53.2	52.8				
17	50.5	52.1	52.2	53.7	53.0				
18	51.4	52.7	52.4	54.3	53.4				54.8
19	50.9	53.2	52.7	54.6	53.9				
20	50.5	53.2	52.8	54.9	54.3				
21	50.6	53.2	53.0	54.4	52.6				
22	51.0	53.0	53.2	53.3	53.0				
23	51.3	52.0	53.2	53.8	53.0				
24	50.7	52.5	52.8	53.7	52.3				
25	52.0	52.7	52.5	53.7	51.8				
26	51.7	52.8	52.7	53.5	51.2			48.4	
27	51.5	53.6	52.9	54.5	50.3				
28	51.6	53.6	53.1	55.1	49.1				
29	52.0	53.7	53.4	55.1	48.9				
30	52.6	54.0	53.6	55.2	49.4				

Control Point: 58.0 degrees at Clear Creek from 4/1/2016 to 4/30/2016.

Cross Channel Gate Operation:
 April 1-30 closed

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

TEMPERATURE					
Sampling Frequency					
Every two weeks May 1 through November 30.					
Lake Elev	Sample 1	Sample 2	Sample 3	Sample 4	
MSL	4/7/2016	4/21/2016			
	Temperature	Temperature	Temperature	Temperature	Temperature
	Degrees F	Degrees F	Degrees F	Degrees F	Degrees F
	(400 Feet Upstream of Dam)				
	Time: 1000	Time: 1325	Time:	Time:	Time:
625	45.6	45.6			
650	45.6	45.6			
675	45.6	45.7			
700	45.7	45.7			
725	45.8	45.8			
750	46.0	46.0			
775	46.3	46.3			
800	46.6	46.7			
825	47.0	47.0			
850	47.4	47.4			
875	47.8	47.8			
900	48.2	48.1			
925	48.4	48.4			
950	48.7	48.8			
975	49.1	49.3			
1000	50.6	50.4			
1025	57.9	57.1			
1050	59.0	63.2			
Lake Surface	1050.24' @ 59.0	1054.48' @ 63.6			

TURBIDITY					
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	4/7/2016	4/21/2016			
	Turbidity	Turbidity	Turbidity	Turbidity	Turbidity
	ntu	ntu	ntu	ntu	ntu
	(400 Feet Upstream of Dam)				
	Time: 1000	Time: 1325	Time:	Time:	Time:
625	6.9	6.1			
650	6.7	6.1			
675	6.8	5.9			
700	6.7	5.9			
725	6.8	5.6			
750	6.6	5.4			
775	5.9	4.8			
800	5.3	4.2			
825	4.9	3.9			
850	5.0	3.9			
875	4.8	3.5			
900	4.4	3.2			
925	4.1	2.7			
950	3.2	1.9			
975	2.5	1.9			
1000	2.5	1.4			
1025	2.7	0.6			
1050	2.5	0.3			
Lake Surface	1050.24' @ 2.5	1054.48' @ 0.2			

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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	5,701	4,248	4,120	2,851	1,110	2,381	4,584					
2	5,680	4,351	3,597	2,573	1,133	2,353	3,474					
3	5,648	5,011	4,233	2,570	2,192	1,546	5,461					
4	5,222	4,048	3,150	2,693	2,234	2,223	4,787					
5	5,649	4,740	2,511	2,020	2,166	2,079	4,678					
6	5,732	4,341	3,604	2,058	2,086	1,179	5,062					
7	6,419	4,456	3,756	2,175	2,413	2,407	5,124					
8	6,374	4,480	4,236	2,223	3,037	975	4,644					
9	5,750	4,508	3,565	2,199	3,452	1,198	3,622					
10	5,635	4,975	3,349	2,245	3,326	833	4,799					
11	5,559	4,165	3,288	2,621	2,713	560	3,401					
12	6,084	4,206	3,219	2,790	2,322	401	4,462					
13	5,843	4,281	3,129	1,760	2,756	551	4,229					
14	5,619	4,308	3,404	1,382	2,851	445	4,694					
15	4,995	4,018	3,847	1,851	2,723	1,262	4,492					
16	5,560	3,170	4,295	1,753	2,361	1,880	4,442					
17	5,747	4,073	4,139	827	2,110	3,097	4,760					
18	5,165	3,737	3,327	1,070	1,901	17,515	4,887					
19	5,503	3,900	3,626	1,098	3,150	17,239	4,468					
20	6,131	3,685	3,497	962	2,982	16,388	4,826					
21	4,776	3,481	2,724	109	3,242	17,088	4,025					
22	4,020	3,554	3,411	400	2,364	17,034	4,535					
23	4,646	3,593	3,556	762	2,668	14,719	4,982					
24	4,441	4,062	3,346	764	2,590	13,787	4,781					
25	4,711	4,045	3,848	867	2,725	11,638	4,818					
26	4,218	3,492	2,388	1,993	3,106	9,849	4,708					
27	4,444	3,605	2,222	1,784	2,704	6,758	4,508					
28	3,627	3,796	3,235	1,072	2,653	4,247	4,550					
29	4,538	3,572	2,967	1,077	3,002	4,327	4,381					
30	4,774	3,771	2,958	491		5,232	4,757					
31	4,687		2,974	393		5,651						
TOTAL	162,898	121,672	105,521	49,433	74,072	187,342	136,941					
MEAN	5,255	4,056	3,404	1,595	2,554	6,043	4,565					
MAX	6,419	5,011	4,295	2,851	3,452	17,515	5,461					
MIN	3,627	3,170	2,222	109	1,110	401	3,401					

WATER YEAR TOTALS

TOTAL	837,879
DAILY MEAN	3,934
DAILY MAX	17,515 03/18/2016
DAILY MIN	109 01/21/2016

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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	3,121	2,974	3,118	4,991					
2	6,544	4,685	3,996	3,121	2,973	3,118	4,881					
3	6,545	4,698	3,993	3,121	2,970	3,119	4,834					
4	6,543	4,702	3,997	3,119	2,969	3,091	4,840					
5	6,545	4,704	4,058	3,076	2,972	3,163	4,728					
6	6,544	4,704	4,208	3,080	2,994	3,161	4,588					
7	6,544	4,701	4,211	3,091	2,996	3,163	4,594					
8	6,536	4,704	4,213	3,086	2,992	3,109	4,587					
9	6,505	4,702	4,204	3,078	3,012	3,025	4,582					
10	6,534	4,701	4,161	3,051	3,067	3,091	4,588					
11	6,510	4,697	4,190	3,064	3,070	4,219	4,588					
12	6,511	4,505	4,192	3,065	3,051	4,514	4,612					
13	6,509	4,288	4,139	3,068	3,052	4,609	4,659					
14	6,506	4,290	4,137	3,033	3,055	4,504	4,645					
15	6,510	4,150	4,156	3,088	3,054	4,598	4,648					
16	6,509	3,953	4,162	3,120	3,055	4,692	4,644					
17	6,506	3,944	4,171	3,013	3,055	4,692	4,647					
18	6,498	4,039	4,171	2,994	3,050	18,000	4,648					
19	6,652	4,081	4,172	2,970	3,054	18,874	4,648					
20	6,188	4,035	4,171	2,981	3,055	18,591	4,650					
21	5,913	4,053	4,170	2,974	3,057	18,537	4,667					
22	5,732	4,054	4,153	2,973	3,052	18,558	4,669					
23	5,472	4,061	3,889	2,932	3,066	16,063	4,667					
24	5,467	4,054	3,632	2,961	3,092	13,226	4,669					
25	5,388	4,044	3,335	3,045	3,119	10,631	4,669					
26	5,164	4,017	3,079	3,047	3,121	8,552	4,589					
27	5,164	4,012	3,082	3,046	3,118	7,136	4,659					
28	5,166	4,005	3,092	3,046	3,119	4,890	4,717					
29	5,168	3,996	3,133	3,063	3,119	4,885	4,720					
30	4,866	3,996	3,101	3,044		4,936	4,743					
31	4,803		3,103	2,999		4,942						
TOTAL	188,584	129,643	120,466	94,470	88,333	230,807	140,401					
MEAN	6,083	4,321	3,886	3,047	3,046	7,445	4,680					
MAX	6,652	5,068	4,213	3,121	3,121	18,874	4,991					
MIN	4,803	3,944	3,079	2,932	2,969	3,025	4,582					

WATER YEAR TOTALS

TOTAL	992,704
DAILY MEAN	4,661
DAILY MAX	18,874 03/19/2016
DAILY MIN	2,932 01/23/2016

LEWISTON DAM, LAKE, AND JUDGE FRANCIS CARR POWERPLANT

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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	305	316					
2	439	321	305	305	305	303	315					
3	439	321	305	305	305	305	315					
4	436	323	305	305	305	305	314					
5	449	323	305	305	305	304	318					
6	466	323	305	305	305	305	314					
7	468	324	305	305	305	305	316					
8	464	323	305	305	305	305	317					
9	467	308	305	305	305	337	319					
10	468	300	305	305	305	305	317					
11	464	300	305	305	305	316	323					
12	465	299	305	305	305	316	331					
13	467	296	305	305	305	313	330					
14	467	296	305	305	305	312	320					
15	467	295	305	305	305	310	331					
16	467	297	305	305	305	316	330					
17	467	305	305	305	305	321	330					
18	467	326	305	305	305	320	325					
19	467	323	305	305	305	319	325					
20	426	326	305	305	305	319	324					
21	346	328	305	305	305	319	572					
22	309	327	305	305	305	320	488					
23	301	325	305	305	305	319	484					
24	301	325	305	305	305	318	484					
25	303	327	305	305	305	313	1,024					
26	305	326	305	305	305	312	1,383					
27	305	325	305	305	305	311	1,988					
28	309	327	305	305	305	314	1,594					
29	318	328	305	305	305	315	2,126					
30	318	327	305	305	305	315	2,946					
31	319		305	305		314						
TOTAL	12,593	9,525	9,463	9,455	8,845	9,711	19,519					
MEAN	406	318	305	305	305	313	651					
MAX	468	331	313	305	305	337	2,946					
MIN	301	295	305	305	305	303	314					

WATER YEAR TOTALS

TOTAL	79,111
DAILY MEAN	371
DAILY MAX	2,946 04/30/2016
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: May 3, 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	14	1,708	304	28					
2	669	353	16	14	1,480	450	14					
3	670	14	35	14	1,147	482	19					
4	593	14	1,064	14	144	116	15					
5	667	22	1,612	430	16	342	15					
6	589	30	14	1,011	14	687	27					
7	458	42	50	346	14	1,081	18					
8	375	33	109	656	14	1,761	14					
9	807	16	14	14	19	2,061	893					
10	788	34	45	14	514	1,908	18					
11	14	86	36	771	731	1,775	1,124					
12	511	87	22	351	348	1,888	18					
13	535	19	216	900	14	1,988	14					
14	571	17	361	1,220	189	1,964	14					
15	677	52	14	685	369	1,999	14					
16	811	18	14	207	342	1,930	14					
17	270	227	15	733	285	2,062	14					
18	597	24	277	792	14	2,043	14					
19	654	17	15	703	189	2,131	14					
20	664	57	14	1,960	247	2,133	14					
21	409	21	550	2,467	191	2,136	14					
22	865	20	401	1,325	360	2,141	14					
23	609	15	495	1,306	485	2,100	14					
24	803	16	71	753	40	380	14					
25	632	23	103	1,640	14	179	14					
26	800	14	14	1,362	14	160	14					
27	729	25	14	2,047	389	261	14					
28	788	14	14	1,903	273	704	14					
29	214	14	16	1,401	14	154	14					
30	188	15	14	2,144	14	14	14					
31	185	14	14	2,112	45							
TOTAL	17,898	1,683	5,718	29,309	9,578	37,379	2,455					
MEAN	577	56	184	945	330	1,206	82					
MAX	865	353	1,612	2,467	1,708	2,141	1,124					
MIN	14	14	14	14	14	14	14					

WATER YEAR TOTALS		
TOTAL	104,020	
DAILY MEAN	488	
DAILY MAX	2,467	01/21/2016
DAILY MIN	14	10/11/2015