



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

DEC 01 2015

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

During October 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 October 2015, the average monthly water temperature was 56.8° F at Clear Creek.

Enclosed is the monitoring report for October 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
October 2015

Req. Sampling Frequency - Daily Average (Reading indicates daily average)							Control Pt 10/1 to 10/31	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	55.3	55.6	58.0	56.5	51.9	56.3				
2	55.6	55.9	58.0	57.1	51.4	57.2				
3	56.0	56.1	58.1	57.2	50.8	56.7				
4	55.9	56.2	58.1	57.5	51.4	56.2				
5	55.3	56.5	58.0	57.7	51.3	56.7				
6	55.5	56.0	57.9	57.3	51.4	57.2				
7	55.6	56.1	58.0	56.9	51.3	56.8				
8	56.1	56.2	57.9	57.2	51.4	57.0				
9	55.8	56.5	58.0	57.4	51.2	57.2				
10	55.5	56.5	58.0	57.7	51.3	56.9				
11	55.7	56.2	58.6	57.4	51.2	57.2				
12	55.6	55.8	58.0	56.9	51.2	56.7				
13	56.2	55.9	57.9	56.9	out of service	56.2				
14	56.1	56.0	57.9	57.0	51.4	56.2	56.7			
15	55.4	56.1	57.9	57.1	51.5	57.0				
16	54.5	out of service	58.0	57.0	51.6	57.3				
17	55.0	out of service	58.0	56.1	51.6	56.9				
18	55.2	out of service	58.0	55.6	51.4	56.2				
19	54.9	out of service	58.0	55.3	51.3	55.4				
20	55.2	out of service	58.1	55.8	51.8	55.8				
21	55.6	55.4	58.1	56.1	51.3	55.1		49.6		
22	56.1	55.3	58.3	56.0	51.5	54.9			57.6	
23	56.1	55.9	58.2	56.2	51.1	53.7				
24	56.0	55.8	58.2	56.4	51.4	53.8				
25	56.3	55.8	58.4	56.6	52.0	54.5				
26	56.6	56.1	58.4	56.7	51.6	55.1				
27	56.1	56.2	58.5	56.3	51.4	54.3				
28	56.8	56.4	58.4	57.1	52.1	55.5				
29	56.9	56.5	58.4	57.0	51.5	54.5				
30	56.3	56.5	58.3	57.0	51.4	54.1				
31	56.5	56.1	58.2	56.7	51.4	54.2				

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 10/31/2015.

Cross Channel Gate Operation:

October 1 - 28 open
 October 29-30 closed
 October 31 open

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

TEMPERATURE				
Sampling Frequency				
Every two weeks May 1 through November 30.				
	Sample 1	Sample 2	Sample 3	Sample 4
Lake Elev	10/6/2015	10/14/2015	10/20/2015	10/28/2015
MSL	Temperature	Temperature	Temperature	Temperature
	Degrees F	Degrees F	Degrees F	Degrees F
	(400 Feet Upstream of Dam)			
	Time: 11:00	Time: 10:00	Time: 12:10	Time: 12:00
625	47.4	47.5	47.6	47.6
650	47.5	47.6	47.7	47.8
675	47.6	47.8	47.9	48.2
700	47.9	48.2	48.4	48.9
725	48.5	48.8	49.2	50.1
750	49.0	49.7	50.9	53.6
775	50.8	52.9	57.2	60.1
800	56.9	60.9	63.1	62.9
825	63.6	64.4	64.6	64.2
850	66.0	66.2	66.3	66.1
875	68.4	69.1	68.4	66.8
900	70.0	69.6	68.4	66.8
925	70.2	69.8		
950				
975				
1000				
1025				
1050				
Lake Surface	929.54' 70.2	926.24' 69.8	923.02' 68.6	920.43' 66.9

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
Lake Elev	10/6/2015	10/14/2015	10/20/2015	10/28/2015
MSL	Turbidity	Turbidity	Turbidity	Turbidity
	ntu	ntu	ntu	ntu
	(400 Feet Upstream of Dam)			
	Time: 11:00	Time: 10:00	Time: 12:10	Time: 12:00
625	3.0	3.8	4.0	4.0
650	3.1	3.7	3.8	3.7
675	3.1	3.4	3.4	3.1
700	2.9	3.1	2.7	2.2
725	2.4	2.4	2.0	1.5
750	1.8	1.7	1.1	1.2
775	0.9	1.2	0.9	1.1
800	0.6	1.3	0.6	0.9
825	-1.7	0.9	0.4	0.8
850	-2.3	0.6	0.4	0.9
875	0.6	0.7	0.4	0.9
900	0.6	0.6	0.6	1.0
925	0.6	0.5		
950				
975				
1000				
1025				
1050				
Lake Surface	929.54' 0.5	926.24' 0.5	923.02' 0.5	920.43' 1.0

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

**Summary of Turbidity and Dissolved Oxygen Water Sampling
October 2015**

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.

Day	Station						
	R-2	R-3a	R-4	R-5	R-6	R-7	R-8
	Shasta Dam Discharge at Bridge	Keswick Discharge	Spring Creek PP Discharge	Clear Creek Control Point 10/1 to 10/31	Sacramento River (DLT)	McCloud River	Pit River
2			1.2				
14					1.7		
15				1.9			
20		2.0					
21						3.0	
22							1.8
27	1.7						

Dissolved Oxygen, mg/l

Sampling Frequency

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

Day	Station			Hour Time Sample Taken
	R-2	R-3	R-5	
	Shasta Dam Discharge at Bridge	Keswick Discharge	Clear Creek	
	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 10/31/2015.

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

RUN DATE: November 2, 2015

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											
2	5,680											
3	5,648											
4	5,222											
5	5,649											
6	5,732											
7	6,419											
8	6,374											
9	5,750											
10	5,635											
11	5,559											
12	6,084											
13	5,843											
14	5,619											
15	4,995											
16	5,560											
17	5,747											
18	5,165											
19	5,503											
20	6,131											
21	4,776											
22	4,020											
23	4,646											
24	4,441											
25	4,711											
26	4,218											
27	4,444											
28	3,627											
29	4,538											
30	4,774											
31	4,687											
TOTAL	162,898											
MEAN	5,255											
MAX	6,419											
MIN	3,627											

WATER YEAR TOTALS

TOTAL	162,898
DAILY MEAN	5,255
DAILY MAX	6,419 10/07/2015
DAILY MIN	3,627 10/28/2015

UNITED STATES DEPARTMENT OF THE INTERIOR
 U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA
KESWICK DAM, RESERVOIR, AND POWERPLANT
 RUN DATE: November 2, 2015

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											
2	6,544											
3	6,545											
4	6,543											
5	6,545											
6	6,544											
7	6,544											
8	6,536											
9	6,505											
10	6,534											
11	6,510											
12	6,511											
13	6,509											
14	6,506											
15	6,510											
16	6,509											
17	6,506											
18	6,498											
19	6,652											
20	6,188											
21	5,913											
22	5,732											
23	5,472											
24	5,467											
25	5,388											
26	5,164											
27	5,164											
28	5,166											
29	5,168											
30	4,866											
31	4,803											
TOTAL	188,584											
MEAN	6,083											
MAX	6,652											
MIN	4,803											

WATER YEAR TOTALS

TOTAL	188,584
DAILY MEAN	6,083
DAILY MAX	6,652
DAILY MIN	4,803

10/19/2015
10/31/2015

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											
2	439											
3	439											
4	436											
5	449											
6	466											
7	468											
8	464											
9	467											
10	468											
11	464											
12	465											
13	467											
14	467											
15	467											
16	467											
17	467											
18	467											
19	467											
20	426											
21	346											
22	309											
23	301											
24	301											
25	303											
26	305											
27	305											
28	309											
29	318											
30	318											
31	319											
TOTAL	12,593											
MEAN	406											
MAX	468											
MIN	301											

WATER YEAR TOTALS

TOTAL	12,593
DAILY MEAN	406
DAILY MAX	468
DAILY MIN	301

10/07/2015
 10/23/2015

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

RUN DATE: November 2, 2015

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											
2	669											
3	670											
4	593											
5	667											
6	589											
7	458											
8	375											
9	807											
10	788											
11	14											
12	511											
13	535											
14	571											
15	677											
16	811											
17	270											
18	597											
19	654											
20	664											
21	409											
22	865											
23	609											
24	803											
25	632											
26	800											
27	729											
28	788											
29	214											
30	188											
31	185											
TOTAL	17,898											
MEAN	577											
MAX	865											
MIN	14											

WATER YEAR TOTALS	
TOTAL	17,898
DAILY MEAN	577
DAILY MAX	865 10/22/2015
DAILY MIN	14 10/11/2015