



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:

JAN 28 2016

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

During November 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 November 2015, the average monthly water temperature was 55.5° F at Clear Creek.

Enclosed is the monitoring report for November 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
November 2015**

Req. Sampling Frequency - Daily Average (Reading indicates daily average)							Control Pt 11/1 to 11/30	Req. Sampling Frequency - Monthly		
	Sta 2	Sta 3	Sta 4	Sta 5	Sta9	Sta10		Sta 6	Sta 7	Sta 8
Date	Shd*	Kwk*	Spp**	Ccr**	Lws*	Nfh*		Dit***	Mss***	Pmn***
1	57.0	56.0	58.4	56.3	51.6	55.4				
2	56.9	56.2	58.4	56.5	50.7	54.6				
3	57.0	56.1	59.0	56.0	50.1	51.8				
4	58.1	56.0	58.7	55.7	49.8	49.6				
5	57.3	56.1	58.7	55.6	49.9	48.8				
6	57.5	56.3	58.7	56.0	49.6	48.8				
7	57.4	56.3	58.8	56.2	49.4	48.5				
8	57.3	56.6	58.7	56.1	49.6	49.9				
9	57.2	56.5	58.6	55.9	48.8	49.5				
10	57.3	56.4	58.5	56.0	48.7	49.2				
11	57.9	56.3	58.7	55.9	48.5	48.5				
12	58.0	56.5	58.6	56.0	48.5	48.0		44.8		
13	57.5	56.7	58.6	56.3	48.5	48.0				
14	57.6	56.8	58.4	56.3	48.5	48.6				
15	57.7	56.8	57.6	56.1	48.1	48.7				
16	57.9	56.6	57.8	55.6	47.4	46.7				
17	57.3	56.5	57.1	55.6	48.2	47.7			43.8	
18	57.2	56.6	57.4	56.0	48.0	50.0				48.9
19	57.1	56.7	57.1	56.2	48.0	49.1				
20	57.3	56.7	56.8	56.5	48.2	50.1				
21	57.1	56.6	56.7	56.3	47.5	49.4				
22	57.2	56.6	56.6	56.1	47.5	47.3				
23	56.9	56.6	56.5	56.1	47.5	46.7				
24	56.4	56.4	56.2	55.7	47.3	46.9				
25	56.3	56.0	56.3	54.8	46.8	44.8				
26	56.5	55.4	56.1	53.9	46.4	43.2				
27	56.3	55.0	55.8	53.4	45.8	41.8				
28	56.0	54.9	55.5	53.3	45.4	40.7				
29	55.8	54.8	55.1	53.1	44.8	39.7				
30	55.4	54.6	54.9	52.9	44.9	39.9				

**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 11/30/2015.**

Cross Channel Gate Operation:

- November 1-11 open
- November 12 closed
- November 13-17 open
- November 18-19 closed
- November 20-30 open

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

TEMPERATURE					
Sampling Frequency					
Every two weeks May 1 through November 30.					
Lake Elev	Sample 1 11/10/2015	Sample 2 11/24/2015	Sample 3	Sample 4	
MSL	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F	Temperature Degrees F
	(400 Feet Upstream of Dam)				
	Time: 10:20	Time: 9:30	Time:	Time:	Time:
625	47.8				
650	48.2	48.6			
675	48.7	49.6			
700	50.0	53.8			
725	54.1	55.1			
750	59.2	56.3			
775	60.4	57.7			
800	62.0	58.6			
825	63.0	60.0			
850	63.1	60.1			
875	63.1	60.1			
900	63.1	60.1			
925					
950					
975					
1000					
1025					
1050					
Lake Surface	916.74' - 63.1	914.11' - 60.1			

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 11/10/2015	Sample 2 11/24/2015	Sample 3	Sample 4	
MSL	Turbidity ntu	Turbidity ntu	Turbidity ntu	Turbidity ntu	Turbidity ntu
	(400 Feet Upstream of Dam)				
	Time: 10:20	Time: 9:30	Time:	Time:	Time:
625	3.9				
650	3.1	2.4			
675	2.2	1.7			
700	1.4	2.0			
725	1.1	1.9			
750	1.3	1.5			
775	1.2	1.1			
800	0.9	1.0			
825	1.2	1.1			
850	1.2	1.1			
875	1.1	1.2			
900	1.2	1.1			
925					
950					
975					
1000					
1025					
1050					
Lake Surface	916.74' - 1.1	914.11' - 1.1			

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

**Summary of Turbidity and Dissolved Oxygen Water Sampling
 November 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.

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	11/1 to 11/30	River (DLT)	River	River	
5			0.7					
6				1.6				
12					0.8			
13	1.6							
17		1.4				1.3		
18							1.8	

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 11/30/2015.

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GENERATION RELEASE, CFS

WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
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21										
22										
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27										
28										
29										
30										
31										

TOTAL	162,898	121,672
MEAN	5,255	4,056
MAX	6,419	5,011
MIN	3,627	3,170

WATER YEAR TOTALS

TOTAL	284,570
DAILY MEAN	4,665
DAILY MAX	6,419
DAILY MIN	3,170

10/07/2015
 11/16/2015

KESWICK DAM, RESERVOIR, AND POWERPLANT

QT TOTAL RELEASE, CFS

WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										
2										
3										
4										
5										
6										
7										
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22										
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27										
28										
29										
30										
31										
TOTAL	188,584									
MEAN	6,083									
MAX	6,652									
MIN	4,803									

WATER YEAR TOTALS	
TOTAL	318,227
DAILY MEAN	5,217
DAILY MAX	6,652
DAILY MIN	3,944
	10/19/2015
	11/17/2015

LEWISTON DAM, LAKE, AND JUDGE FRANCIS CARR POWERPLANT

QR

RELEASE TO RIVER, CFS

WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										
2										
3										
4										
5										
6										
7										
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22										
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25										
26										
27										
28										
29										
30										
31										
TOTAL	12,593									
MEAN	406									
MAX	468									
MIN	301									

TOTAL	12,593	9,525
MEAN	406	318
MAX	468	331
MIN	301	295

WATER YEAR TOTALS	
TOTAL	22,118
DAILY MEAN	363
DAILY MAX	468
DAILY MIN	295
	10/07/2015
	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: December 10, 2015

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GENERATION RELEASE, CFS

WATER YEAR OCTOBER 2015 TO SEPTEMBER 2016

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										
2										
3										
4										
5										
6										
7										
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21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
TOTAL	17,898									1,683
MEAN	577									56
MAX	865									353
MIN	14									14

WATER YEAR TOTALS

TOTAL	19,581
DAILY MEAN	321
DAILY MAX	865
DAILY MIN	14
	10/22/2015
	10/11/2015