



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

FEB 02 2018

VIA ELECTRONIC MAIL

Mr. Erik Ekdahl
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. Ekdahl:

For the month of January 2018, the temperature control point was set at Balls Ferry, per the June 2017, Sacramento River Temperature Plan.

During the month, 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, the observed average monthly water temperature was 50.7°F at Balls Ferry.

Enclosed is the monitoring report for January 2018, under Order No. 90-5. The report contains the following data as required:

ID #	Station	Temperature*	Turbidity*	Dissolved Oxygen*	Flow*
1	Shasta Inlets	X	X		
2	Shasta Dam	X	X	X	
2a	Shasta Dam				X
3	Sacramento River below Keswick Dam	X		X	
3a	Keswick Dam		X		X
4	Spring Creek Power Plant	X	X		X
5	Temperature Control Point	X	X	X	
6	Sacramento River at Delta	X	X		
7	McCloud River	X	X		
8	Pit River	X	X		
9	Trinity River below Lewiston Dam	X			
9a	Lewiston Dam				X

ID #	Station	Temperature*	Turbidity*	Dissolved Oxygen*	Flow*
10	Trinity River at Douglas City Bridge	X			
11	Trinity River at confluence of North Fork	X			

*Monitoring frequency, period, and units are specified in enclosures

Please contact Ms. Randi Field at 916-979-2066, should you have any questions regarding this data.

Sincerely,



Elizabeth Kiteck
Chief, Water Operations

Enclosures

cc: Mr. Chris Kwan
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812

Mr. Vadim Demchuk
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812

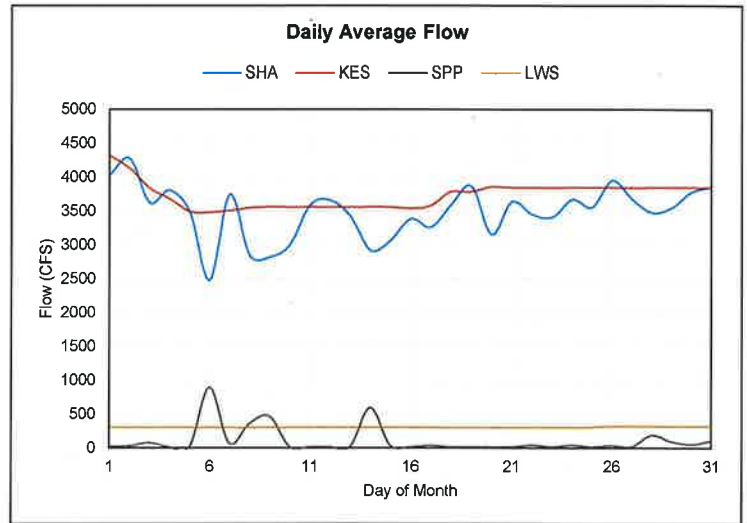
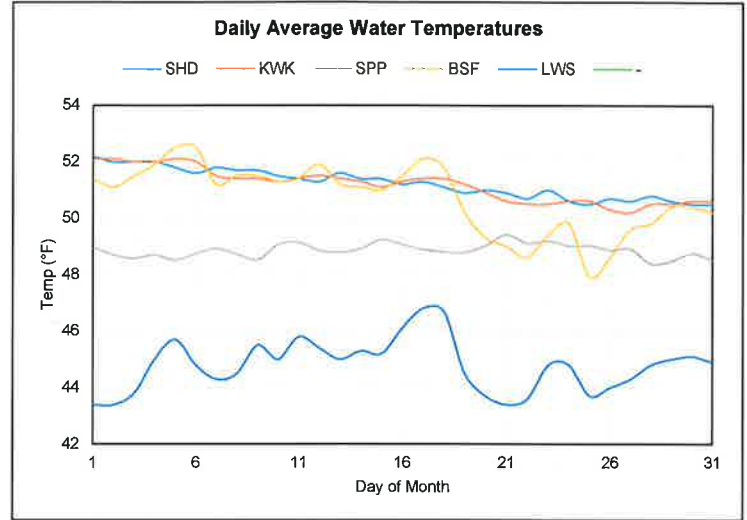
Ms. Diane Riddle
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812
(w/encl)

90-5 Required Water Monitoring Data

January 2018

Daily Averages from Hourly Automated Observations										
Parameter	Temp (°F)					Flow (CFS)				
Site	2	3	4	5	9	-	2a	3a	4	9a
	SHD	KWK	SPP	BSF ¹	LWS	-	SHA	KES	SPP	LWS
1	52.2	52.1	49.0	51.4	43.4		4024	4318	21	300
2	52.0	52.1	48.7	51.1	43.4		4278	4128	28	300
3	52.0	52.0	48.6	51.5	43.8		3622	3837	75	300
4	52.0	52.0	48.7	51.9	45.0		3807	3684	14	300
5	51.8	52.1	48.5	52.5	45.7		3488	3492	14	300
6	51.6	52.0	48.7	52.5	44.8		2480	3478	894	300
7	51.8	51.5	48.9	51.2	44.3		3745	3503	65	299
8	51.7	51.4	48.7	51.5	44.5		2839	3547	361	299
9	51.7	51.4	48.5	51.5	45.5		2819	3561	464	300
10	51.5	51.3	49.1	51.3	45.0		3001	3553	14	300
11	51.4	51.4	49.1	51.4	45.8		3588	3558	14	300
12	51.3	51.5	48.9	51.9	45.4		3657	3556	14	299
13	51.6	51.4	48.8	51.2	45.0		3423	3556	14	299
14	51.4	51.3	48.9	51.1	45.3		2919	3558	593	299
15	51.4	51.1	49.2	51.0	45.2		3062	3557	38	299
16	51.2	51.3	49.1	51.5	46.1		3379	3538	14	299
17	51.3	51.4	48.9	52.1	46.8		3261	3577	39	300
18	51.1	51.4	48.8	51.8	46.7		3587	3780	14	300
19	50.9	51.2	48.8	50.2	44.5		3866	3780	14	300
20	51.0	50.9	49.0	49.3	43.7		3154	3858	14	300
21	50.9	50.6	49.4	49.0	43.4		3633	3842	15	300
22	50.7	50.5	49.1	48.6	43.6		3453	3843	43	299
23	51.0	50.5	49.2	49.4	44.8		3409	3844	14	299
24	50.6	50.6	49.0	49.8	44.8		3670	3846	42	299
25	50.5	50.6	49.0	47.9	43.7		3554	3847	14	305
26	50.7	50.3	48.9	48.6	44.0		3951	3847	36	322
27	50.6	50.2	48.9	49.6	44.3		3678	3841	14	322
28	50.8	50.5	48.4	49.8	44.8		3475	3845	186	319
29	50.6	50.5	48.5	50.4	45.0		3550	3846	93	321
30	50.5	50.6	48.8	50.4	45.1		3777	3846	51	321
31	50.5	50.6	48.5	50.2	44.9		3857	3843	101	322
						Max	4278	4318	894	322
						Mean	3484	3733	107	304
						Min	2480	3478	14	299
						Volume (TAF)	214	230	7	19

Notes
¹ Current temperature control point

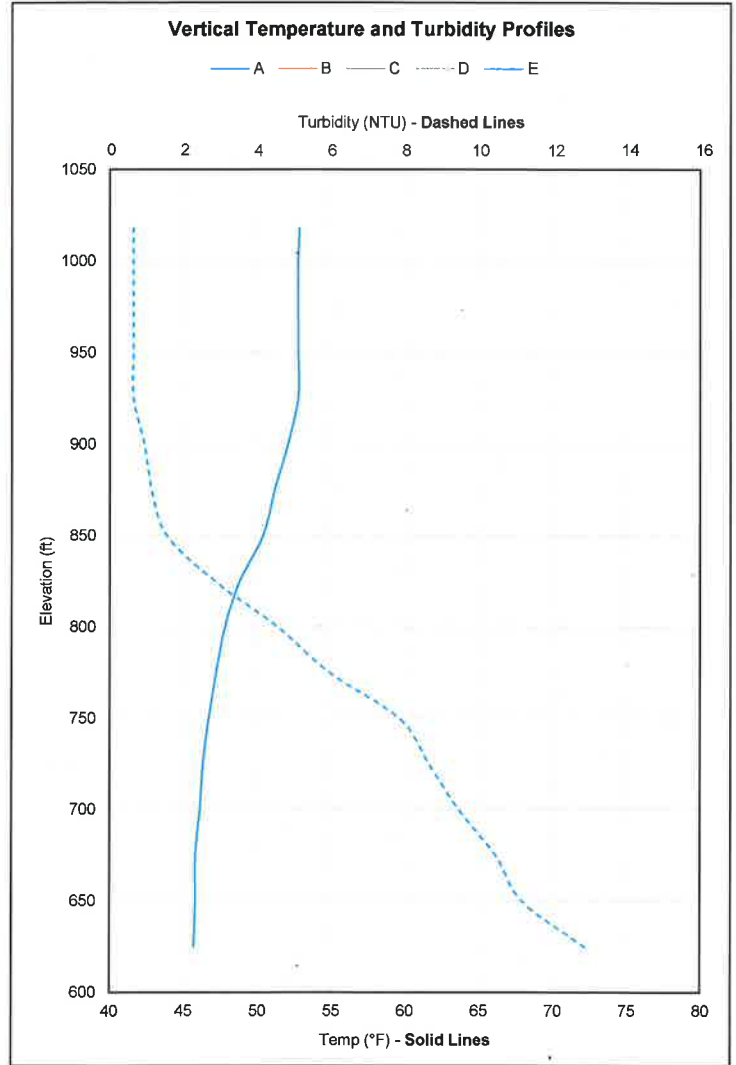


90-5 Required Water Monitoring Data (Continued)

January 2018

Vertical Profiles Taken at Site 1 (Shasta Lake at Dam Inlets)										
Profile	A		B		C		D		E	
Day of Month	10		-		-		-		-	
Lake Elev.	1018		-		-		-		-	
Parameter	Temp	Turb	Temp	Turb	Temp	Turb	Temp	Turb	Temp	Turb
L.E.	52.9	0.6	-	-	-	-	-	-	-	-
1050	-	-	-	-	-	-	-	-	-	-
1025	-	-	-	-	-	-	-	-	-	-
1000	52.8	0.6	-	-	-	-	-	-	-	-
975	52.8	0.6	-	-	-	-	-	-	-	-
950	52.8	0.6	-	-	-	-	-	-	-	-
925	52.8	0.6	-	-	-	-	-	-	-	-
900	52.1	0.9	-	-	-	-	-	-	-	-
875	51.2	1.1	-	-	-	-	-	-	-	-
850	50.4	1.5	-	-	-	-	-	-	-	-
825	48.8	2.8	-	-	-	-	-	-	-	-
800	47.8	4.5	-	-	-	-	-	-	-	-
775	47.2	5.9	-	-	-	-	-	-	-	-
750	46.7	7.8	-	-	-	-	-	-	-	-
725	46.3	8.6	-	-	-	-	-	-	-	-
700	46.1	9.4	-	-	-	-	-	-	-	-
675	45.8	10.4	-	-	-	-	-	-	-	-
650	45.8	11.1	-	-	-	-	-	-	-	-
625	45.7	12.8	-	-	-	-	-	-	-	-

Monthly Manual Observations											
Parameter	Temp (°F)			Turb (NTU)							
	6	7	8	2	3	4	5	6	7	8	
Site	DLT	MSS	PMN	SHD	KWK	SPP	RDB	DLT	MSS	PMN	
Value	43.0	44.6	45.3	5.5	1.3	2.3	13.3	1.9	0.7	2.6	
Day of Month	26	24	11	18	23	10	9	26	24	11	



90-5 Required Water Monitoring Details

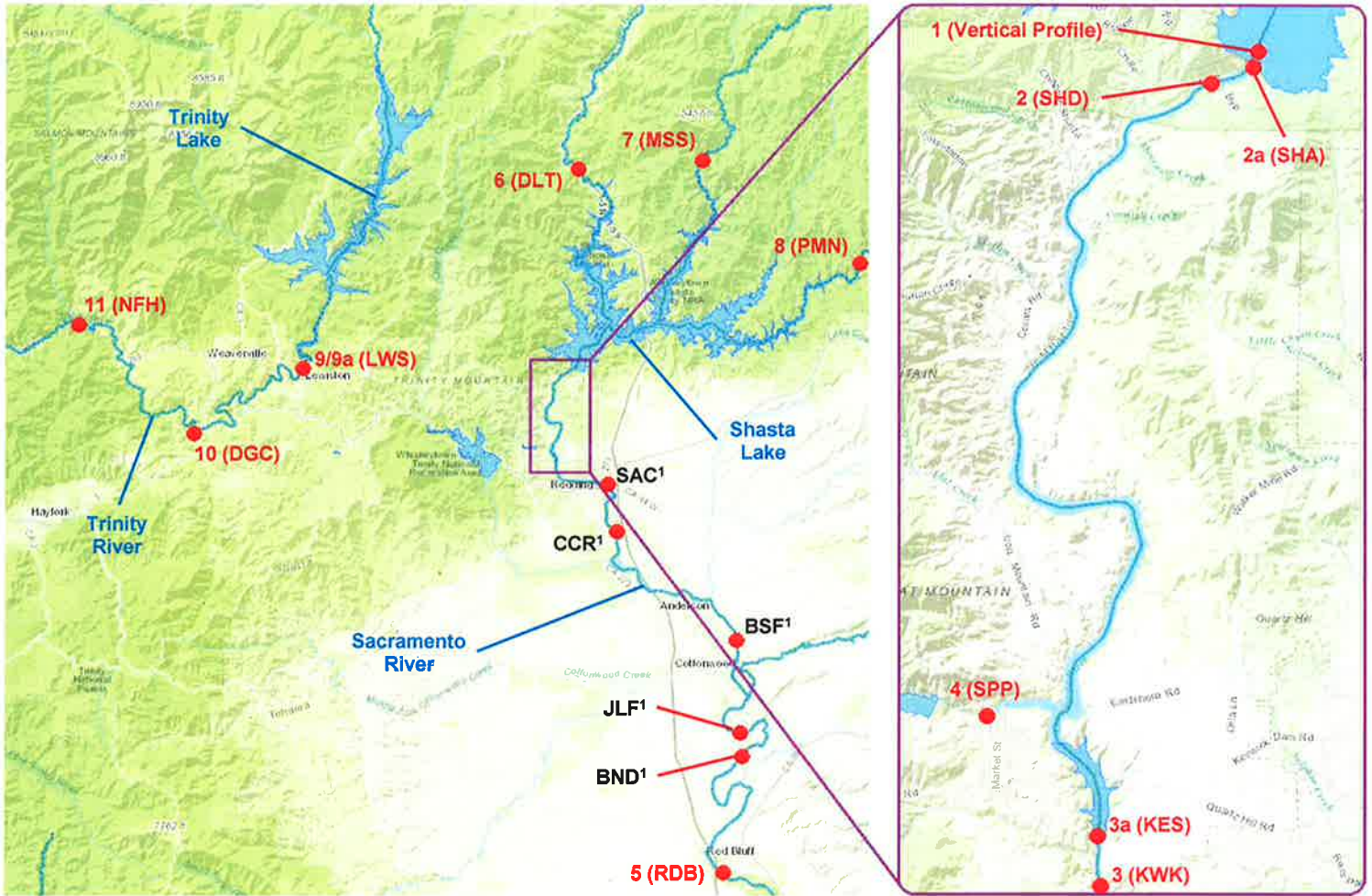
Site	CDEC ID	Description
1	-	Shasta Dam inlets or lake adjacent to the dam face. ¹
2	SHD	Shasta Dam release immediately downstream from the power plant.
2a	SHA	Shasta Dam release.
3	KWK	Sacramento River immediately downstream from Keswick Dam.
3a	KES	Keswick Dam release.
4	SPP	Spring Creek Power Plant release.
5	RDB	Sacramento River downstream from Red Bluff Diversion Dam.
6	DLT ²	Sacramento River (above Shasta Dam).
7	MSS	McCloud River (above Shasta Dam).
8	PMN	Pit River (above Shasta Dam).
9	LWS	Trinity River immediately downstream from Lewiston Dam.
9a	LWS	Lewiston Dam release.
10	DGC	Trinity River at the Douglas City Bridge.
11	NFH	Trinity River at the confluence of the North Fork Trinity River.

	Temperature		Turbidity ³		Dissolved Oxygen ⁴		Flow	
	Frequency	Period	Frequency	Period	Frequency	Period	Frequency	Period
1	Every 2 weeks	5/1 to 11/30	Monthly	All Year	-	-	-	-
2	Average Daily	All Year	Monthly	All Year	Every 2 weeks	5/1 to 9/30	-	-
2a	-	-	-	-	-	-	Average Daily	All Year
3	Average Daily	All Year	-	-	Every 2 weeks	5/1 to 9/30	-	-
3a	-	-	Monthly	All Year	-	-	Average Daily	All Year
4	Average Daily	All Year	Monthly	All Year	-	-	Average Daily	All Year
5	Average Daily ⁵	All Year	Monthly	All Year	Every 2 weeks	5/1 to 9/30	-	-
6	Monthly	All Year	Monthly	All Year	-	-	-	-
7	Monthly	All Year	Monthly	All Year	-	-	-	-
8	Monthly	All Year	Monthly	All Year	-	-	-	-
9	Average Daily	All Year	-	-	-	-	-	-
9a	-	-	-	-	-	-	Average Daily	All Year
10	Average Daily	9/15 to 10/1	-	-	-	-	-	-
11	Average Daily	10/1 to 12/31	-	-	-	-	-	-

Notes

- ¹ Take sufficient collection points to characterize the vertical profile for temperature and turbidity.
- ² Site 6 (DLT) is not accessible year round making it unsuitable for real-time Dissolved Oxygen monitoring do to calibration requirements.
- ³ From 5/1 to 9/30 if turbidity at site 2 is greater than or equal to 10 ntu's then frequency must be weekly.
- ⁴ To be taken before 10:00 am.
- ⁵ If the temperature control point is moved upstream from site 5, then temperature monitoring shall continue at the new site.

90-5 Required Water Monitoring Site Map



Notes

¹ SAC, CCR, BSF, JLF and BND are alternative upstream temperature control points to RDB