United States Department of the Interior

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

FEB 06 2019

IN REPLY
REFER TO:

CVO-400
2.2.4.21

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 2019, the temperature control point was set at Balls Ferry, per the May 2018, 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 49.3°F at Balls Ferry.

Enclosed is the monitoring report for January 2019, 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			

ID #	Station	Temperature*	Turbidity*	Dissolved Oxygen*	Flow*
9a	Lewiston Dam				X
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 rfield@usbr.gov or (916) 979-2066 should you have any questions regarding this data.

Sincerely,

Elizabeth Kiteck

Elizabeth Kiteck
Chief, Water Operations

Enclosure

cc: Ms. Alessia Siclari Melchor
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812

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

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

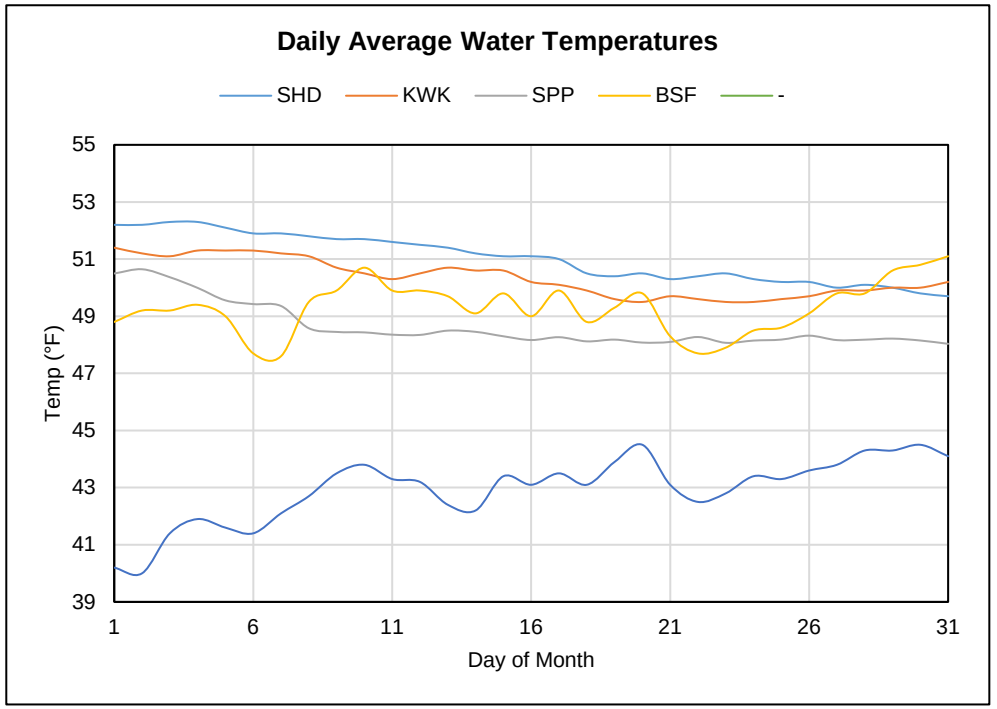
90-5 Required Water Monitoring Data

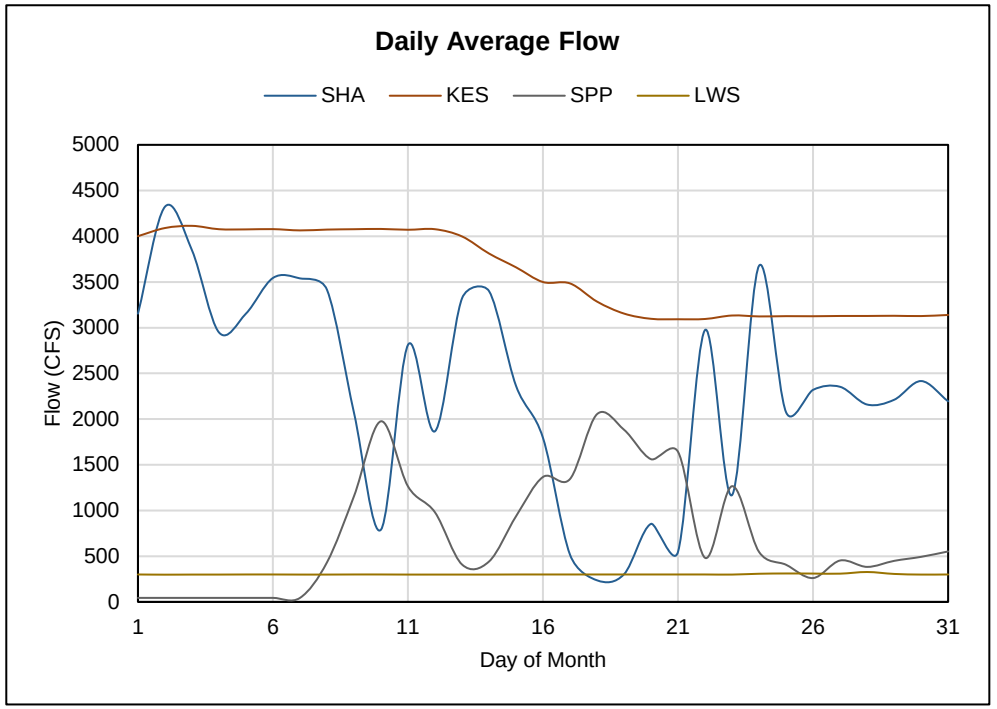
January 2019

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
Day of Month	1	52.2	51.4	50.5	48.8	40.2		3153	4001	44	300
	2	52.2	51.2	50.6	49.2	40.0		4323	4090	44	298
	3	52.3	51.1	50.4	49.2	41.4		3847	4114	44	299
	4	52.3	51.3	50.0	49.4	41.9		2948	4077	44	299
	5	52.1	51.3	49.6	49.0	41.6		3154	4075	44	300
	6	51.9	51.3	49.4	47.7	41.4		3544	4078	44	300
	7	51.9	51.2	49.4	47.6	42.1		3539	4064	44	299
	8	51.8	51.1	48.6	49.5	42.7		3414	4073	433	299
	9	51.7	50.7	48.5	49.9	43.5		2068	4077	1157	300
	10	51.7	50.5	48.4	50.7	43.8		791	4080	1976	300
	11	51.6	50.3	48.4	49.9	43.3		2812	4071	1263	299
	12	51.5	50.5	48.3	49.9	43.2		1867	4077	979	299
	13	51.4	50.7	48.5	49.7	42.4		3321	3998	409	299
	14	51.2	50.6	48.5	49.1	42.2		3400	3811	442	299
	15	51.1	50.6	48.3	49.8	43.4		2363	3660	937	300
	16	51.1	50.2	48.2	49.0	43.1		1792	3499	1367	300
	17	51.0	50.1	48.3	49.9	43.5		515	3484	1345	300
	18	50.5	49.9	48.1	48.8	43.1		236	3285	2054	300
	19	50.4	49.6	48.2	49.3	43.9		303	3154	1883	300
	20	50.5	49.5	48.1	49.8	44.5		854	3097	1561	300
	21	50.3	49.7	48.1	48.3	43.1		550	3092	1641	300
	22	50.4	49.6	48.3	47.7	42.5		2975	3095	482	300
	23	50.5	49.5	48.1	47.9	42.8		1169	3133	1266	299
	24	50.3	49.5	48.1	48.5	43.4		3678	3123	546	308
	25	50.2	49.6	48.2	48.6	43.3		2074	3126	406	311
	26	50.2	49.7	48.3	49.1	43.6		2320	3125	261	310
	27	50.0	49.9	48.2	49.8	43.8		2353	3128	453	309
	28	50.1	49.9	48.2	49.8	44.3		2159	3128	383	327
	29	50.0	50.0	48.2	50.6	44.3		2211	3130	449	306
	30	49.8	50.0	48.2	50.8	44.5		2416	3127	493	299
	31	49.7	50.2	48.0	51.1	44.1		2194	3139	552	300
							Max	4323	4114	2054	327
							Mean	2334	3587	743	302
							Min	236	3092	44	298
							Volume (TAF)	143	221	46	19

Notes

[1] Current temperature control point

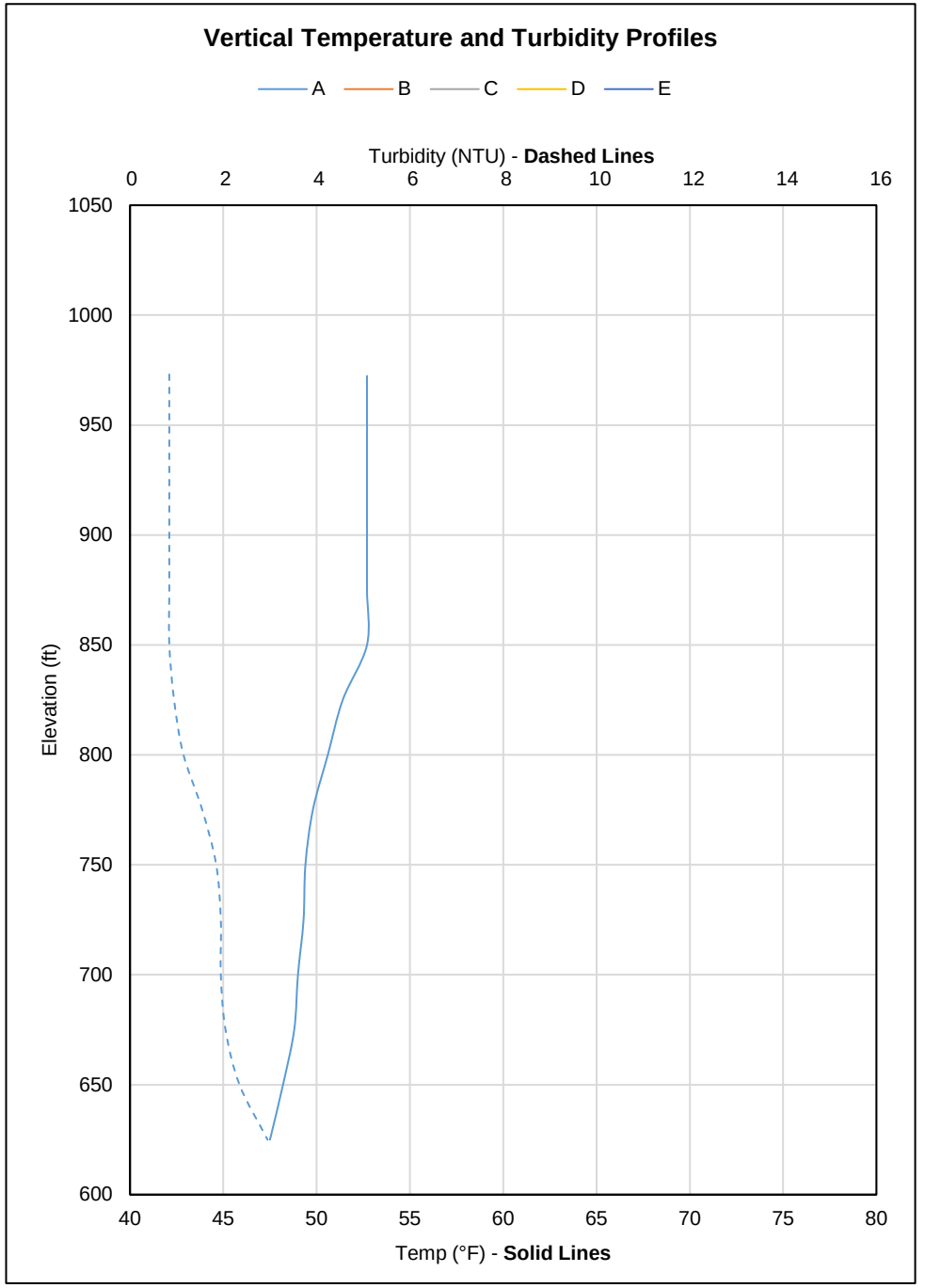




Vertical Profiles Taken at Site 1 (Shasta Lake at Dam Inlets)										
Profile		A		B		C		D		E	
Day of Month		3		-		-		-		-	
Lake Elev.		972.34		-		-		-		-	
Parameter		Temp	Turb	Temp	Turb	Temp	Turb	Temp	Turb	Temp	Turb
Elevation (ft)	L.E.	52.7	0.8					-	-	-	-
	1050	-	-	-	-	-	-	-	-	-	-
	1025	-	-	-	-	-	-	-	-	-	-
	1000	-	-	-	-	-	-	-	-	-	-
	975	-	-	-	-	-	-	-	-	-	-
	950	52.7	0.8	-	-	-	-	-	-	-	-
	925	52.7	0.8	-	-	-	-	-	-	-	-
	900	52.7	0.8	-	-	-	-	-	-	-	-
	875	52.7	0.8	-	-	-	-	-	-	-	-
	850	52.7	0.8	-	-	-	-	-	-	-	-
	825	51.4	0.9	-	-	-	-	-	-	-	-
	800	50.6	1.1	-	-	-	-	-	-	-	-
	775	49.8	1.5	-	-	-	-	-	-	-	-
	750	49.4	1.8	-	-	-	-	-	-	-	-
	725	49.3	1.9	-	-	-	-	-	-	-	-
	700	49.0	1.9	-	-	-	-	-	-	-	-
	675	48.8	2.0	-	-	-	-	-	-	-	-
	650	48.2	2.3	-	-	-	-	-	-	-	-
	625	47.5	2.9	-	-	-	-	-	-	-	-

Monthly Manual Observations										
Parameter	Temp (°F)			Turb (NTU)						
Site	6	7	8	2	3	4	5	6	7	8
	DLT	MSS	PMN	SHD	KWK	SPP	RDB	DLT	MSS	PMN
Value	45.5	43.5	42.0	6.7	8.8	2.6	9.9	8.0	1.7	4.0
Day of Month	11	25	7	16	11	3	8	11	25	7

Notes



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.

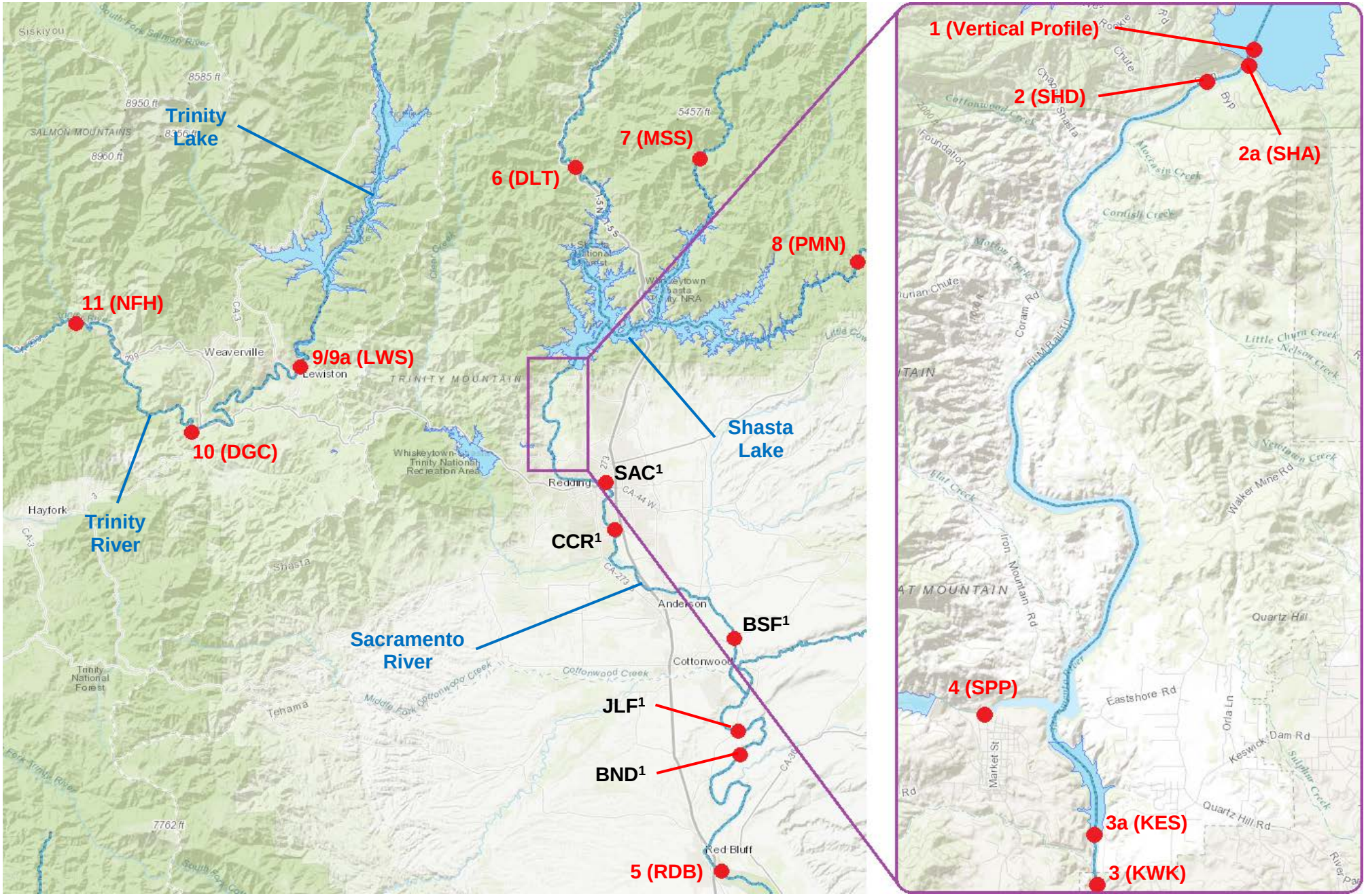
[2] Site 6 (DLT) is not accessible year round making it unsuitable for real-time Dissolved Oxygen monitoring do to calibration requirements.

[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