Sacramento River Temperature Task Group Meeting
June 28, 2012 1:00pm

Conference Line: 877-718-6527
Pass code: 1954134

Agenda

1. Introductions
2. Fishery update
3. Hydrology & Operations update
    a. Daily CVP Water Supply Report ***
    b. Reservoir conditions***

4. Discussion of recent temperature model runs
    a. May not be available

5. Temperature Review from April
    a. April to June monthly temps report ***
    b. Review of day's temperatures were not met ***

6. Up date on Matt Brown's proposal:
   <u>Actions items:</u>

    a. Update on the Oak Bottom TCC. (Thuy or NCAO)
        a. Pictures and update ***

7. Additional agenda items proposed from last meeting
    a. NMFS Temp Model – Oppenheim will put a small group together and assess the model
    b. Update on contracts that Garcia is working on for the water modeler for Sacramento River. Update from Garcia ***

8. Next meeting: Thursday, July 26th

***handouts

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA

DAILY CVP WATER SUPPLY REPORT

JUNE 25, 2012 RUN DATE: June 26, 2012

RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2011	WY 2012	15 YR MEDIAN
TRINITY	LEWISTON	2,764	1,976	1,976
SACRAMENTO	KESWICK	11,259	13,774	13,439
FEATHER	OROVILLE (SWP)	10,000	5,000	3,500
AMERICAN	NIMBUS	7,945	3,999	3,726
STANISLAUS	GOODWIN	2,054	1,253	932
SAN JOAQUIN	FRIANT	4,999	348	290

STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET

RESERVOIR	CAPACITY	15 YR AVG	WY 2011	WY 2012	% OF 15 YR AVG
TRINITY	2,448	2,068	2,391	2,229	108
SHASTA	4,552	3,814	4,418	3,975	104
OROVILLE (SWP)	3,538	2,905	3,538	3,292	113
FOLSOM	977	812	916	844	104
NEW MELONES	2,420	1,760	2,266	1,754	100
FED. SAN LUIS	966	509	898	279	55
MILLERTON	520	452	450	427	94
TOT. N. CVP	11,360	8,963	10,889	9,081	101

ACCUMULATED INFLOW FOR WATER YEAR TO DATE IN THOUSANDS OF ACRE-FEET

RESERVOIR	CURRENT WY 2012	DRIEST WY 1977	WETTEST WY 1983	15 YR AVG	% OF 15 YR AVG
TRINITY	958	189	2,481	1,333	72
SHASTA	3,405	1,986	9,756	5,212	65
FOLSOM	1,474	296	5,673	2,306	64
NEW MELONES	483	0	2,262	892	54
MILLERTON	735	183	3,416	1,303	56

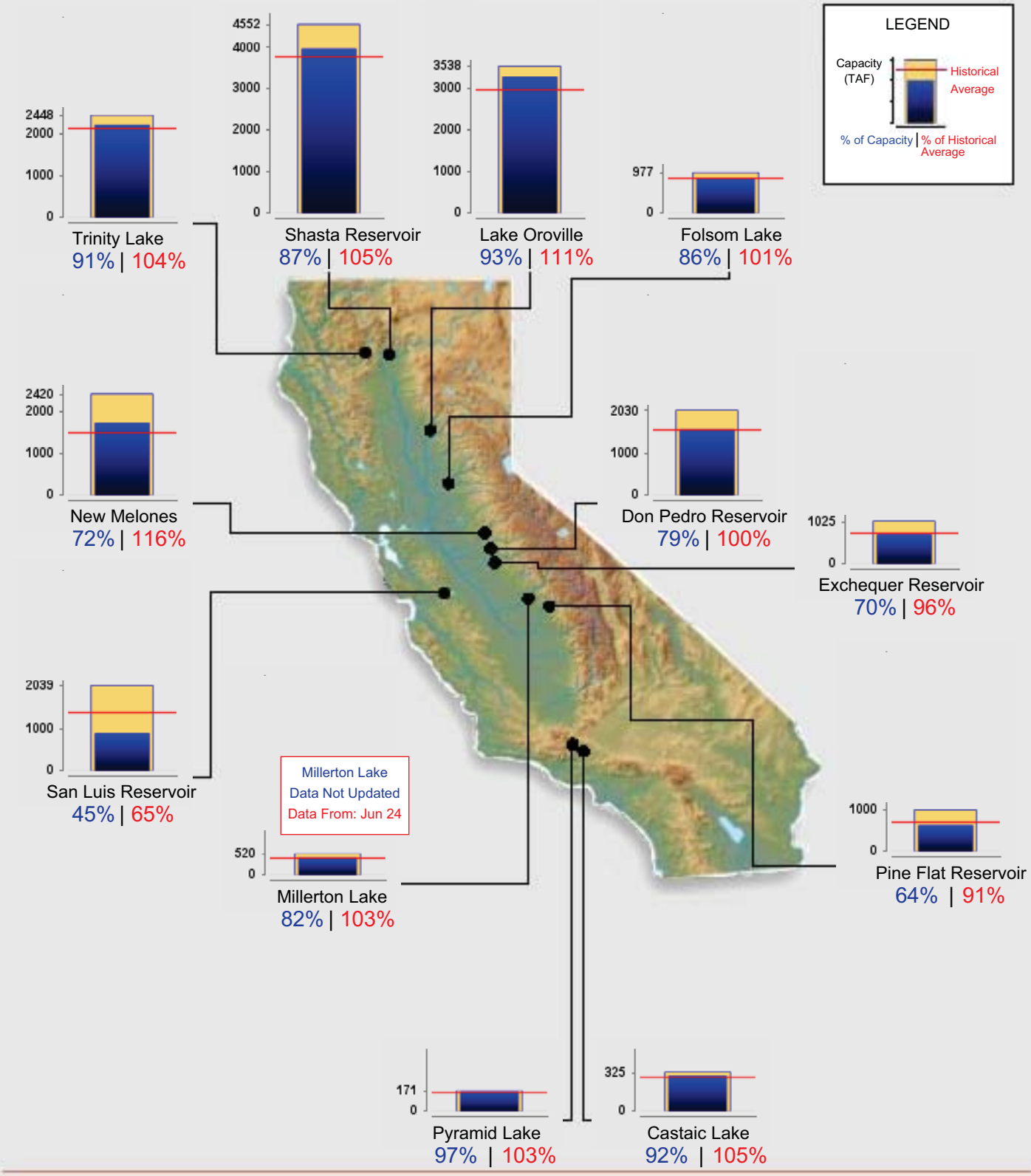
ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES

RESERVOIR	CURRENT WY 2012	DRIEST WY 1977	WETTEST WY 1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	25.85	13.69	54.65	31.61 (50)	82	0.00
SACRAMENTO AT SHASTA DAM	43.45	17.27	112.33	61.13 (55)	71	0.00
AMERICAN AT BLUE CANYON	56.84	15.64	103.88	64.77 (37)	88	0.00
STANISLAUS AT NEW MELONES	22.60	0.00	45.33	27.01 (34)	84	0.00
SAN JOAQUIN AT HUNTINGTON LK	24.89	17.20	81.40	42.15 (37)	59	0.00

Reservoir Conditions

Ending At Midnight - June 25, 2012

CURRENT RESERVOIR CONDITIONS



Graph Updated 06/26/2012 03:15 PM

Draft 5/11/2012

Temperature and Release Summary for Shasta and Trinity - April 2012

(Updated twice a week November through April)

Day	Sacramento River Water Temperatures in Degrees F Collected from CDEC (California Data Exchange Center)													Mean Daily Release in CFS			Mean Daily Air Temp Degrees F			
	TCD Wt. Avg.	SHD minus TCD (Diff)		Shd	Spp	Kwk	Control Point 4/16 to 4/30 Bsf	Control Point 6/1 to 4/15 Jlf	Bnd	Rdb	Lws	Ccr	Igo	Shasta Generation El 815	Spring Crk Powerplant Release	Keswick Total Release	RDD	BSF	RDB	LWS
Mar	48.3			47.9	46.9	47.9	49.6	49.9	49.9	50.5	46.6	48.6	47.2	2,270	961	3,650	50.4	50.6	51.5	42.7
Apr																				
1	48.5	(0.6)		47.9	47.3	48.5	50.7	50.6	50.5	51.5	47.6	49.6	48.3	756	1,489	3,260	48.5	50.8	51.8	42.8
2	48.9	(0.7)		48.2	47.3	48.7	51.5	51.3	51.3	52.0	48.4	50.1	48.5	1,772	1,412	3,260	54.0	53.2	53.8	47.6
3	48.9	(0.7)		48.2	47.5	48.9	52.3	52.4	52.4	53.0	48.1	50.3	48.9	1,137	1,344	3,261	53.0	53.5	54.2	44.8
4	49.0	(0.6)		48.4	47.5	49.0	51.8	52.1	52.3	53.1	47.5	49.7	47.9	1,085	1,499	3,257	46.5	48.7	49.2	39.6
5	49.3	(0.9)		48.4	47.6	49.0	50.7	50.8	51.0	52.0	46.8	49.6	47.1	1,703	831	3,262	45.5	44.8	46.5	35.9
6	49.2	(0.7)		48.5	47.7	49.1	50.8	50.8	51.1	51.9	48.4	50.0	47.6	2,115	910	3,254	44.0	44.9	46.1	40.5
7	49.3	(0.7)		48.6	48.0	49.2	51.3	51.6	51.9	52.3	48.3	49.8	47.8	2,356	502	3,260	50.5	50.2	51.8	44.9
8	49.3	(0.5)	?	48.8	48.1	49.4	51.5	51.8	51.9	52.7	48.8	50.5	48.8	1,862	516	3,261	53.5	52.8	55.0	48.9
9	49.6	(0.7)	?	48.9	47.9	49.5	52.9	53.5	53.8	54.0	49.4	50.7	49.2	2,155	558	3,261	58.0	56.6	57.4	52.0
10	49.9	(1.1)	?	48.8	47.9	49.6	51.9	52.6	53.1	54.0	48.8	50.0	48.5	2,246	477	3,252	49.5	50.3	52.6	45.5
11	49.6	(0.6)		49.0	47.8	49.4	52.2	52.1	52.2	53.0	48.6	50.4	48.8	2,511	533	3,257	53.5	51.9	53.7	44.5
12	48.9	(1.0)	?	47.9	47.8	49.4	52.0	52.3	52.6	53.0	48.9	50.2	48.5	2,497	516	3,261	53.0	51.4	51.3	42.3
13	48.9	(0.2)		48.7	47.7	49.3	51.2	51.4	51.7	52.3	48.3	49.9	48.3	1,759	1,126	3,259	45.5	46.4	47.4	40.4
14	49.4	(0.5)		48.9	47.7	49.3	52.0	51.9	51.8	51.9	49.3	50.9	49.6	1,922	1,087	3,256	54.0	54.2	55.0	47.2
15	49.6	(0.1)		49.5	48.1	49.3	54.4	55.0	55.2	55.5	50.4	51.5	50.6	1,382	996	3,256	57.0	56.2	56.7	52.6
16	49.5	(0.6)		48.9	48.3	49.6	55.1	56.2	56.6	57.3	50.9	51.6	51.0	2,427	542	3,633	61.5	59.4	59.8	56.3
17	49.5	(0.5)	?	49.0	48.1	50.3	53.9	55.0	55.5	56.8	50.6	51.4	50.5	2,207	541	4,260	55.5	57.4	57.9	52.5
18	49.8	0.1	?	49.9	48.2	50.4	53.9	54.9	55.2	56.1	50.9	51.6	50.5	3,405	384	4,500	61.0	60.3	62.1	52.4
19	50.2	(0.2)	?	50.0	48.1	50.5	55.4	56.5	56.8	57.8	51.9	52.5	51.7	4,135	489	4,508	67.0	66.6	67.1	57.9
20	50.6	(0.9)	?	49.7	48.1	50.6	56.5	58.3	58.8	60.0	52.6	53.0	52.6	4,013	534	4,526	72.5	71.0	72.5	62.9
21	50.0	(0.4)	?	49.6	48.3	51.2	56.9	59.0	59.6	61.3	51.8	53.1	52.9	3,649	526	4,979	71.0	70.9	72.3	64.5
22	50.3	(0.1)	!	50.2	48.1	51.6	57.5	59.6	60.1	61.7	52.3	53.8	53.3	3,906	526	4,994	73.0	72.3	74.3	66.4
23	50.3	(0.4)	?	49.9	48.0	51.4	57.9	60.1	60.8	62.4	52.8	53.7	53.5	5,241	1,019	5,500	69.5	68.3	68.2	66.4
24	50.1	(0.7)		49.4	48.2	51.2	55.8	57.9	58.8	61.0	52.3	52.7	52.0	4,740	1,004	5,997	63.0	62.5	62.6	61.2
25	50.3	(1.1)		49.2	48.2	50.6	54.3	55.9	56.5	58.0	51.5	51.8	50.9	4,388	1,159	6,011	60.5	60.4	61.6	57.3
26	49.5	(0.6)		48.9	48.2	50.4	54.5	55.5	55.8	57.0	51.9	52.0	51.7	4,045	1,026	5,988	55.5	59.2	60.8	51.3
27	50.9	(1.3)		49.6	48.4	50.4	53.3	54.3	54.8	56.4	51.5	51.6	50.0	4,265	1,024	6,002	55.0	55.0	57.8	48.2
28	51.7	(1.6)		50.1	48.4	50.3	54.0	54.9	55.2	56.2	51.1	52.1	51.4	4,422	1,003	6,007	67.5	64.5	66.5	56.2
29	52.2	(1.9)	?	50.3	48.4	51.0	55.3	56.8	57.2	58.4	50.8	52.7	52.2	4,214	1,000	6,002	75.0	69.6	70.6	60.3
30	51.2	(1.2)		50.0	48.5	51.9	55.9	57.6	58.2	59.5	49.5	53.2	51.9	4,428	924	5,998	68.0	67.9	68.1	61.1
		0.0																		
Avg	49.8			49.1	48.0	50.0	53.6	54.4	54.8	55.7	50.0	51.3	50.2	2,891	850	4,259	58.1	57.7	58.8	51.5
Tot cfs														86,743	25,497	127,782				
Tot af														172,055	50,573	253,456				

= Station out of service ^ - estimated (7 hours or less available) ? = Avg. includes estimated data

! = 17 hours or less of readings & = 18 to 23 hours of reading ND = No hourly readings or incorrect

6/13/2012

Temperature and Release Summary for Shasta and Trinity - May 2012

(Updated twice a week November through April)

Day	Sacramento River Water Temperatures in Degrees F Collected from CDEC (California Data Exchange Center)													Mean Daily Release in CFS			Mean Daily Air Temp Degrees F			
	TCD Wt. Avg.	SHD minus TCD (Diff)	Shd	Spp	Kwk	Control Point 4/16 to 5/31 Bsf	Jlf	Bnd	Rdb	Lws	Ccr	Igo		Shasta Generation El 815	Spring Crk Powerplant Release	Keswick Total Release	RDD	BSF	RDB	LWS
Apr	49.8		49.1	48.0	50.0	53.6	54.4	54.8	55.7	50.0	51.3	50.2		2,891	850	4,259	58.1	57.7	58.8	51.5
May																				
1	50.2	0.0	50.2	48.5	51.9	55.8	57.2	57.6	59.1	49.4	53.6	51.4		4,657	819	5,993	62.0	60.5	63.7	54.0
2	51.9	(1.8)	50.1	48.8	51.7	54.8	56.2	56.8	58.4	48.4	52.6	50.2		4,772	475	6,002	56.0	57.3	61.0	50.6
3	51.0	(1.3)	49.7	48.6	51.6	54.1	55.5	56.1	57.0	48.0	52.5	50.1		4,714	933	6,504	57.0	58.5	58.2	51.2
4	51.3	(1.3)	50.0	48.8	51.3	54.8	55.6	55.9	57.1	47.8	52.7	51.4		5,392	854	7,006	61.5	60.0	60.6	49.4
5	53.0	(1.8)	51.2	50.7	51.2	54.4	55.6	56.1	57.5	47.8	52.4	51.0		5,933	68	7,000	64.0	61.3	63.0	51.0
6	53.5	(1.9)	? 51.6	49.8	52.1	55.0	56.1	56.5	57.7	47.6	53.2	51.6		6,036	129	6,955	72.0	68.6	70.1	56.2
7	52.1	(1.1)	? 51.0	51.3	53.4	56.5	57.7	58.0	59.0	47.3	54.6	52.0		7,203	63	7,370	72.5	67.2	70.7	59.9
8	50.6	(1.1)	49.5	51.6	53.1	57.0	58.4	58.9	60.2	47.4	54.7	52.5		7,646	45	8,503	70.0	68.8	72.0	64.2
9	50.2	(1.2)	49.0	50.5	51.5	56.0	57.8	58.4	60.3	47.5	53.2	52.7		8,071	86	9,013	71.0	69.4	72.5	63.0
10	51.4	(1.4)	50.0	50.2	50.7	54.4	56.0	56.7	58.4	47.5	52.1	52.2		8,374	83	8,999	72.5	70.4	72.4	59.0
11	51.2	(1.1)	50.1	50.3	51.5	54.3	55.7	56.1	57.5	47.7	52.5	52.3		9,107	94	9,963	74.5	70.7	72.8	60.2
12	50.7	(1.3)	49.4	50.4	51.6	54.8	56.4	56.9	58.1	47.5	52.9	52.5		9,169	74	9,993	72.5	70.1	71.1	64.0
13	50.7	(1.4)	49.3	50.6	51.0	54.6	56.4	57.0	58.5	47.6	52.3	52.7		8,647	66	9,999	73.0	69.1	72.3	64.4
14	50.4	(1.2)	49.2	50.5	51.0	54.2	56.0	56.5	58.0	47.8	52.1	52.9		8,867	91	10,003	66.5	64.4	65.3	64.7
15	50.7	(1.2)	49.5	50.3	50.7	54.3	55.9	56.4	57.7	48.1	52.1	52.8		8,865	108	10,008	68.5	66.8	68.1	67.2
16	50.6	(1.2)	49.4	50.6	50.9	54.5	56.4	57.0	58.5	48.0	52.2	53.4		8,797	96	9,998	72.0	69.6	70.2	66.2
17	50.8	(1.3)	49.5	50.4	50.6	54.3	56.2	56.9	58.5	48.0	52.0	52.4		9,828	89	10,503	69.5	70.2	71.0	59.9
18	51.1	(1.4)	49.7	50.5	50.6	53.4	54.9	55.4	56.8	47.6	51.7	52.2		9,969	123	10,503	69.0	66.5	69.2	57.9
19	50.8	(1.4)	49.4	50.5	51.0	54.1	55.5	55.9	56.9	47.8	52.3	52.5		9,748	117	10,503	68.0	67.5	69.3	61.0
20	50.8	(1.4)	49.4	50.3	50.9	54.4	56.0	56.5	57.9	48.0	52.3	53.0		9,863	144	10,516	74.5	71.9	73.9	65.0
21	50.7	(1.2)	49.5	50.5	50.9	54.2	56.0	56.6	58.2	48.1	52.1	52.1		9,380	108	10,515	73.0	70.5	71.1	64.1
22	50.6	(1.2)	49.4	50.6	50.6	53.9	55.5	56.1	57.5	48.2	52.0	51.7		9,441	102	10,504	69.0	67.3	70.1	60.0
23	50.7	(1.3)	49.4	50.4	50.6	53.7	55.1	55.6	57.0	48.9	52.0	51.6		9,613	117	10,503	64.0	63.9	67.7	56.9
24	51.0	(1.5)	49.5	50.8	50.8	53.7	55.1	55.5	56.7	48.3	52.1	51.5		10,235	76	10,039	64.0	62.6	65.0	51.0
25	51.2	(1.6)	49.6	50.5	50.8	52.7	53.8	54.3	55.6	48.3	51.5	50.8		9,777	127	10,003	59.5	57.3	60.0	49.8
26	51.1	(1.6)	49.5	51.0	50.8	52.9	54.1	54.4	55.1	47.4	51.7	51.6		9,269	80	9,996	60.5	59.4	61.5	52.9
27	51.0	(1.6)	49.4	51.2	50.9	53.8	55.1	55.5	56.5	47.4	52.2	52.5		9,186	80	9,999	65.0	64.4	64.2	56.9
28	51.2	(1.6)	49.6	51.3	51.1	54.3	55.7	56.2	57.3	47.8	52.5	52.6		8,929	80	9,539	66.5	64.1	64.5	58.0
29	50.3	(1.2)	49.1	51.1	51.2	54.5	56.0	56.5	57.9	48.3	52.6	52.7		8,873	200	9,495	66.5	66.0	67.5	60.9
30	49.9	(1.3)	48.6	52.3	50.9	54.8	56.4	57.0	58.5	48.4	52.7	53.2		8,785	46	9,491	75.5	72.6	73.5	64.7
31	49.9	(1.2)	48.7	50.9	50.3	54.5	56.3	57.0	59.0	48.5	52.1	53.9		8,995	86	9,498	80.5	78.1	78.7	69.2
Avg	51.0		49.7	50.4	51.2	54.5	56.0	56.5	57.8	47.9	52.5	52.1		8,327	183	9,191	68.1	66.3	68.1	59.1
Tot cfs														258,141	5,659	284,916				
Tot af														512,023	11,225	565,131				

= Station out of service ^ - estimated (7 hours or less available) ? = Avg. includes estimated data

! = 17 hours or less of readings & = 18 to 23 hours of reading ND = No hourly readings or incorrect

Draft 6/18/2012

Temperature and Release Summary for Shasta and Trinity - June 2012

(Updated twice a week November through April)

Day	Sacramento River Water Temperatures in Degrees F Collected from CDEC (California Data Exchange Center)													Mean Daily Release in CFS			Mean Daily Air Temp Degrees F			
	TCD Wt. Avg.	SHD minus TCD (Diff)	Shd	Spp	Kwk	Control Point 4/16 to 5/31 Bsf	Control Point 6/1 to Jlf	Bnd	Rdb	Lws	Ccr	Igo		Shasta Generation El 815	Spring Crk Powerplant Release	Keswick Total Release	RDD	BSF	RDB	LWS
May	51.0		49.7	50.4	51.2	54.5	56.0	56.5	57.8	47.9	52.5	52.1		8,327	183	9,191	68.1	66.3	68.1	59.1
Jun																				
1	50.2	(1.5)	48.7	51.1	50.3	54.5	56.5	57.2	59.2	48.7	52.1	54.4		9,181	98	9,475	83.0	81.2	81.9	72.4
2	50.1	(1.3)	48.8	50.7	50.6	54.6	56.6	57.4	59.4	49.0	52.3	54.1		9,092	138	9,501	87.5	77.0	79.0	68.2
3	50.4	(1.5)	48.9	50.8	50.4	54.2	56.0	56.7	58.9	49.3	52.0	53.5		9,676	119	10,431	76.0	74.5	74.1	63.3
4	50.3	(1.3)	49.0	50.8	50.2	52.9	54.3	55.0	56.8	48.7	51.2	51.9		9,999	119	10,513	60.5	62.2	63.3	57.3
5	50.6	(1.5)	49.1	51.1	49.8	52.5	53.7	54.0	54.7	48.5	50.9	51.5		9,828	103	10,492	60.0	57.9	59.8	52.2
6	50.5	(1.5)	49.0	50.9	50.4	53.0	54.2	54.6	55.7	48.6	51.6	52.0		9,853	122	10,500	68.0	64.6	66.0	55.0
7	50.4	(1.4)	49.0	51.3	50.3	53.0	54.4	55.0	56.2	48.3	51.4	51.8		9,945	64	10,513	67.5	66.8	68.3	57.5
8	50.3	(1.3)	49.0	50.5	50.3	53.1	54.3	54.7	55.8	48.2	51.6	52.5		9,329	724	10,502	64.5	63.8	68.2	55.4
9	50.3	(1.2)	49.1	50.4	50.5	53.3	54.5	55.0	56.0	48.6	51.8	52.8		9,077	931	10,505	67.0	64.9	66.9	55.6
10	50.5	(1.3)	49.2	50.4	50.7	53.8	55.1	55.6	56.7	48.6	52.2	53.7		9,027	982	10,511	77.0	74.0	76.3	61.1
11	50.5	(1.3)	49.2	50.6	50.6	54.0	55.5	56.1	57.7	48.4	52.1	54.1		9,133	986	10,507	82.0	75.7	77.3	65.7
12	49.3	(0.9)	48.4	50.6	50.9	54.4	56.0	56.5	58.2	48.6	52.5	54.4		9,501	796	10,511	77.5	75.9	79.7	67.1
13	49.3	(0.9)	48.4	50.7	50.1	54.5	56.2	56.9	58.8	49.2	52.1	54.6		9,450	823	10,969	84.0	77.8	81.6	67.5
14	49.3	(0.9)	48.4	50.8	49.7	53.4	55.2	55.9	58.1	49.2	51.4	54.6		9,845	882	11,486	86.0	83.0	84.5	66.6
15	49.3	(1.0)	48.3	50.8	49.8	53.5	55.1	55.8	57.6	49.1	51.5	54.7		9,959	953	11,498	86.0	83.5	85.9	67.8
16	49.3	(0.9)	48.4	50.9	49.7	53.3	55.0	55.7	57.8	49.2	51.3	54.8		11,007	1,129	12,455	92.5	85.5	89.6	71.1
17	49.3	(0.9)	48.4	51.0	49.7	53.1	54.8	55.4	57.3	49.1	51.2	55.3		10,586	1,242	12,481	90.5	83.7	86.2	74.5
18		0.0																		
19		0.0																		
20		0.0																		
21		0.0																		
22		0.0																		
23		0.0																		
24		0.0																		
25		0.0																		
26		0.0																		
27		0.0																		
28		0.0																		
29		0.0																		
30		0.0																		
		0.0																		
Avg	50.0		48.8	50.8	50.2	53.6	55.1	55.7	57.3	48.8	51.7	53.6		9,676	601	10,756	77.0	73.6	75.8	63.4
Tot cfs														164,488	10,211	182,850				
Tot af														326,262	20,254	362,683				

= Station out of service ^ - estimated (7 hours or less available) ? = Avg. includes estimated data

! = 17 hours or less of readings & = 18 to 23 hours of reading ND = No hourly readings or incorrect

PRELIMINARY

Control Point: Jelly's Ferry 6/1/2011 to 4/15/2012; Balls Ferry 4/16/2012 to

NOTE: On 7/19/2011 the probe for SHD was extended farther out into the river so at low flows it should no longer be exposed to the air. 8/2/2011 the extended pipe floated away. Some hourly readings for SHD are questionable again and are being estimated.
On 4/23/2012 the pipe extension was comleted. On 4/24/2012 at 0900 a newly calibrated probe was installed.

V:\~WATER_res_ops\Tempmodel\~sactemp\2012TempFiles\[06_2012 Monthly Summary.xls]Sac Riv Temps

Dates	Temperature	Actions taken	Reasons	Compliance Pt
20-Apr	56.5	4/15 3,250cfs to 4,000 cfs	17 degree temp fluctuations offten occur during transitions between season	Bend Bridge
21-Apr	56.9	4/16 4,000 cfs to 4,500 cfs		Bend Bridge
22-Apr	57.5	4/21 4,500 cfs to 5,000 cfs		Bend Bridge
23-Apr	57.9	4/23 5,000 cfs to 6,000 cfs		Bend Bridge
7-May	56.5	5/3 6,000 cfs to 7,000 cfs. 5/7 7,000 cfs to 8,000 cfs. Open middle gate #3	15 degree temp fluctuations offten occur during transitions between season	Bend Bridge
8-May	56.6	5/8 8,000 cfs to 9,000 cfs. Open middle gate #2		Bend Bridge
1-Jun	56.5	5/29 open middle gate #4.	movement of the compliance point and due to the large temperature fluctuation of 21 degrees within four days	Jellys Ferry
2-Jun	56.6	6/3 9,500 cfs to 10,500 cfs		

Oak Bottom Curtain Condition

90% curtain submerge

Hole in curtain

Annual Water Temperature MGMT Process contract with HDR

For status of the contract, Reclamation is implementing the RPA Action items I.2.4 and II.3 (4), in which Reclamation has been tasked to work with an independent modeler to review the procedures and the recommendations of the CALFED Science Panel report from April 2008 and temperature management on the Sacramento and American Rivers and recommend specific refinements to these procedures to achieve optimal temperature management. The contractor is reviewing the temperature management forecast process within the Water Rights 90-5 and 893 regulatory framework and the forecast tools that are available to use. The contractor is also looking at how to enhance the value of the tools and make recommendations on information gaps.

Matt did ask if the contract included temperature modeling on Clear Creek and Trinity and it does not, nor did we have the funding available to do so. The contractor is putting together a tech memo that documents the annual water temperature management process, the infrastructure we have to work with, the regulatory environment, what are the influences, tools and capabilities, and dealing with multi objectives of the project.