

**Sacramento River Temperature Task Group (SRTTG) Call**  
**Thursday, June 25, 2015 | 1:00 p.m. – 1:50 p.m.**

**MEETING SUMMARY**

**Participants:**

- Mike Berry, DWR
- Eric Danner, NMFS
- Ken Emanuel, SWRCB
- Les Grober, SWRCB
- Tim Hayden, Yurok Tribe
- Dan Kratville, CDFW
- Beth Lawson, CDFW
- Ron Milligan, USBR
- Seth Naman, NMFS
- Joe Pisciotto, CDFW
- Jason Roberts, CDFW
- John Rueth, FWS
- Stacey Smith, USBR
- Brycen Swart, NMFS
- Thuy Washburn, USBR
- Rod Wittler, USBR

**Note-taking:**

- Michael Larsen, Kearns & West

**Action Items**

1. Jason Roberts will include Ron Milligan and Thuy Washburn in the semi-weekly distribution of fisheries data, including the carcass count.
2. Reclamation will distribute annotated 50%-L3MTO and 10%-L3MTO model runs to the SRTTG late on June 26<sup>th</sup>, including the years used for each run.
3. Reclamation will distribute modeling results for Trinity to the SRTTG the week of June 29<sup>th</sup>, including Lewiston release temperatures.
4. When Reclamation sends the revised temperature management plan for the Sacramento River to NMFS and SWRCB by mid-afternoon on June 26<sup>th</sup>, it will include an operational forecast, and Reclamation will distribute it to the SRTTG.
5. Reclamation will check the SRTTG distribution list to ensure all SRTTG participants are included.

**Key Discussion Topics with Summary of Outcomes and Agreements:**

***Fisheries Update***

All but one of the observed winter-run redds have been upstream of the Highway 44 Bridge. The one exception was observed at Painter's Riffle, immediately downstream of the Highway 44 Bridge.

The carcass count is increasing and is expected to reach its maximum in the next couple weeks. There appear to be more carcasses than is typical for this time in the season, which is potentially indicative of an earlier-timed run.. There will be more certainty later in the season. Earlier run timing could make for easier temperature management for winter-run.

Ron asked Jason about the source of the carcass-count tables that were presented at the June 24<sup>th</sup> SWRCB Workshop, and Jason offered to include Ron and Thuy on a regular distribution of such data that he sends to fishery managers and the NGO community.

**Action:** Jason Roberts will include Ron Milligan and Thuy Washburn in the semi-weekly distribution of fisheries data, including the carcass count.

### ***Hydrology & Operations Update***

Reclamation reported that the Shasta TCD's PRG Gate #1 was opened on June 17<sup>th</sup>, leading to a cooling of the river temperature. Reclamation has managed the amount of water flowing through unit #1 to conserve cold water. Initially opening the gate reduced temperatures at Clear Creek (CCR) to 57°F, then Reclamation reduced the share of the water flowing through unit #1, bringing temperatures at Clear Creek (CCR) to 57.5°F. Reclamation has since increased the share of the flow through unit #1 to counteract the effects of the heat wave. The TCD weighted average temperature has been more responsive to the gate change than the temperature at Keswick (KWK), which is not cooling, in part due to the low flow. On June 24<sup>th</sup> Reclamation opened TCD's PRG Gate #4. This action will reduce river temperatures, though it is still too early to see results.

Reclamation reported that as the heat wave continues, they intend to make smaller adjustments to fine-tune and avoid swings in the river temperature. Reclamation stated that because the previous management decision allowed for river temperature at Clear Creek (CCR) to briefly rise above 57°F (but not exceed 58°F), Reclamation might maintain a temperature at Clear Creek (CCR) at approximately 57.5°F during the heat wave. They don't intend to maintain a temperature of 58°F because doing so would not allow an adequate buffer in case of sudden warming. The current low flows make the river temperature more susceptible to sudden changes.

If Reclamation has trouble maintaining a temperature below 58°F at the Clear Creek (CCR) compliance point with the current gate configuration, they will call for a meeting to discuss options.

NMFS asked how the difference between targeting 57°F vs. 57.5°F at Clear Creek (CCR) for the next week would affect cold water storage (in acre-feet). Reclamation did not have a quantitative answer.

Thuy circulated the latest model run: 2015 June 90%-Exceedance Outlook - 10% Local 3-Month Temperature Outlook (L3MTO). Reclamation is still checking the input data and considers this model run to be a draft. The L3MTO provided by the National Weather Service shows cooler weather than last month's L3MTO.

This 10% run assumes Keswick (KWK) releases of 7,250 cfs. It also assumes only the gate changes that would be necessary *in a 50% L3MTO scenario* to meet a 57°F compliance point at Clear Creek (CCR). Within this 10% run, gate changes are not made to meet the 57°F compliance point.

This model run shows temperatures at the Clear Creek (CCR) compliance point exceeding 58°F in only a couple instances, and this scenario has the last side gate opening in the third week of October.

Participants requested that more complete annotations and descriptions be included on documents such as these model results to help readers interpret the results. Participants also asked what similar years are being pulled for temperature assumptions, when Reclamation will perform model runs for Trinity, and when a new operational forecast will be available.

Reclamation explained that a new operational forecast will be included in the revised temperature management plan for the Sacramento River that it will be sending to NMFS and SWRCB on June 26<sup>th</sup>, at which point it will be a public document. Tim expressed interest and uncertainty regarding what was considered and analyzed in developing the revised plan.

**Action:** Reclamation will distribute annotated 50%-L3MTO and 10%-L3MTO model runs late on June 26<sup>th</sup>, including the years used for each run.

**Action:** Reclamation will distribute modeling results for Trinity the week of June 29<sup>th</sup>, including Lewiston release temperatures.

**Action:** When Reclamation sends the revised temperature management plan for the Sacramento River to NMFS and SWRCB by mid-afternoon on June 26<sup>th</sup>, it will include an operational forecast, and Reclamation will distribute it to the SRTTG.

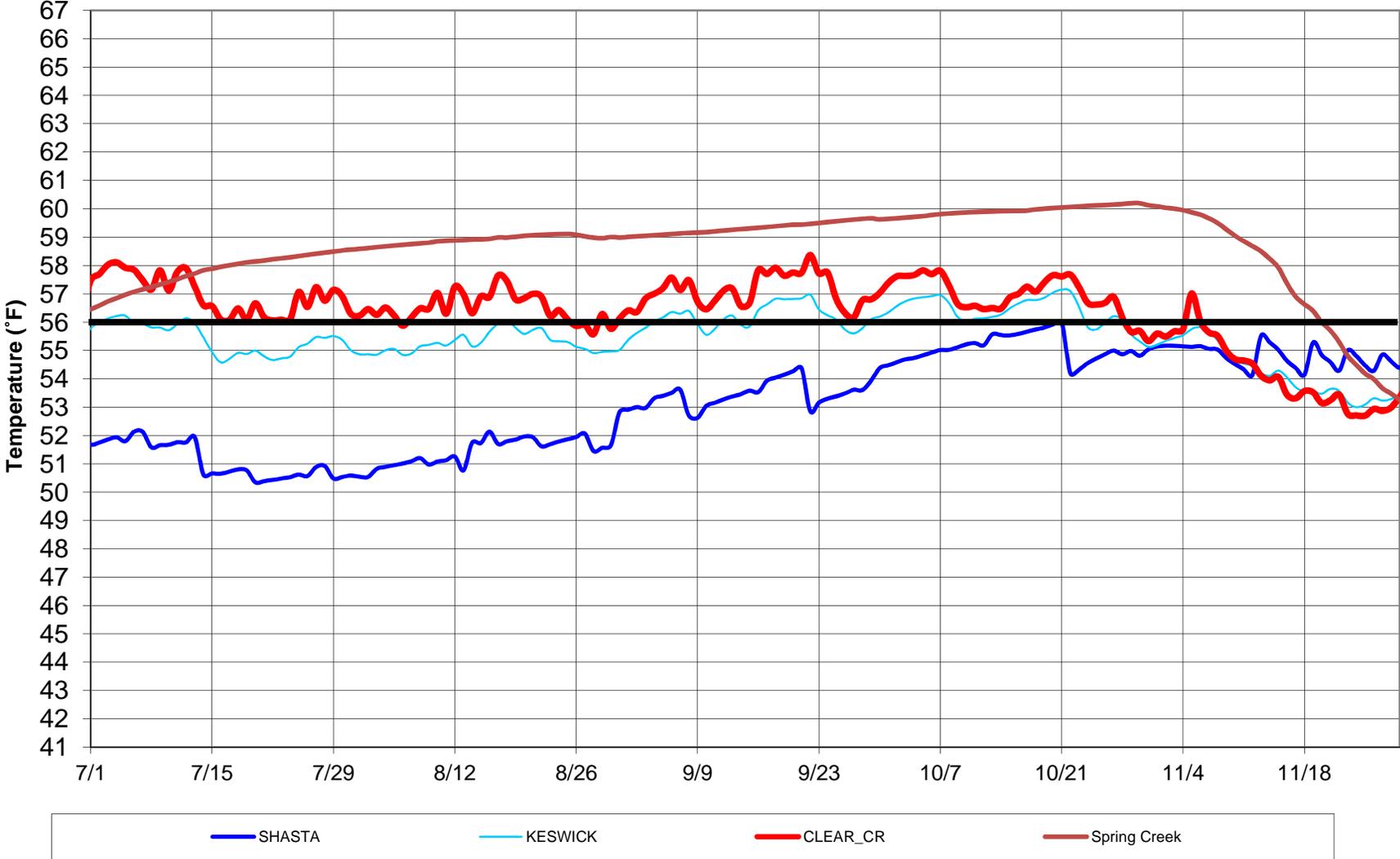
Participants asked if or when auxiliary outputs at Trinity will be used. Reclamation responded that they expect the auxiliary outputs will be used, and the timing will be informed by the latest temperature profile and other considerations.

**Action:** Reclamation will check the SRTTG distribution list to ensure all SRTTG participants are included.

### ***Next meeting***

The next meeting of the SRTTG is scheduled for July 2<sup>nd</sup> at 1:00 p.m.

**Sacramento River Modeled Temperature  
2015 June 90%-Exceedance Outlook - 10% L3MTO  
Approximately 57 degree at CCR - Kes at 7,250 cfs**



**Temperature and Release Summary for Shasta and Trinity - June 2015**  
 (Updated twice a week November through April)

Day	Sacramento River Water Temperatures in Degrees F Collected from CDEC (California Data Exchange Center) except for TCD, SPP and Control Point														Mean Daily Release in CFS			Mean Daily Air Temp Degrees F			
	TCD Wt. Avg.	SHD minus TCD (Diff)	Shd	SPP Wt. Avg	Kwk	Bsf	Jlf	Bnd	Rdb	Lws	Control Point 4/1	Ccr	Igo	Sac	Shasta Generation El 815	Spring Crk Powerplant Release	Keswick Total Release	RDD	BSF	RDB	LWS
May	52.6		52.4	53.7	53.8	56.7	58.2	58.8	60.3	49.9	55.2	55.3	na	5,953	30	7,071	70.6	66.9	67.1	60.4	
Jun																					
1	53.9	(1.1)	52.8	53.6	54.3	57.1	58.8	59.4	60.6	51.0	55.7	56.1		6,118	673	7,019	69.5	66.6	67.0	58.4	
2	54.6	(1.0)	53.6	53.7	54.4	57.5	59.6	60.2	61.7	51.1	56.2	56.7		6,220	675	7,082	75.0	72.2	71.3	62.3	
3	54.2	(0.9)	53.3	53.7	55.0	57.6	59.7	60.4	62.2	50.9	56.3	56.7		6,000	630	7,078	77.0	71.8	73.2	61.0	
4	54.3	(1.1)	53.2	53.6	55.1	58.1	60.1	60.9	62.5	51.4	56.4	56.8		6,513	673	7,037	76.5	74.2	76.3	62.4	
5	54.3	(1.1)	53.2	53.7	55.0	57.9	59.8	60.5	62.4	51.9	56.7	57.2		6,645	674	7,080	83.0	77.5	80.7	67.9	
6	54.4	(1.2)	53.2	53.7	55.2	58.5	60.9	61.6	63.2	51.8	56.9	57.6		6,290	593	7,084	85.0	82.0	82.7	72.8	
7	54.8	(1.3)	53.5	53.8	55.4	58.8	61.2	62.1	64.2	51.8	57.1	57.7		6,374	368	7,087	87.0	83.0	83.6	75.1	
8	55.0	(1.4)	53.6	53.8	55.5	59.0	61.5	62.4	64.5	52.0	57.3	57.8		6,706	691	7,026	89.0	86.0	86.6	76.2	
9	54.9	(1.4)	53.5	53.8	55.8	59.1	61.5	62.4	64.7	52.0	57.3	57.9		5,741	1,089	7,023	90.0	82.1	84.0	71.7	
10	53.8	(53.8)	53.2	54.0	55.5	59.2	61.4	62.2	64.1	52.6	57.4	58.0		5,781	675	7,031	81.5	75.2	75.5	73.1	
11	54.8	(1.2)	53.6	54.0	56.0	59.1	61.5	62.3	64.4	52.6	57.6	57.9	56.9	6,038	675	6,997	85.0	80.6	82.7	74.5	
12	54.6	(1.1)	53.5	54.0	56.0	59.5	61.9	62.8	64.8	52.9	57.7	58.0	56.9	5,643	755	6,977	95.5	86.3	87.8	75.2	
13	54.8	(1.3)	53.5	54.0	56.2	59.6	62.1	62.9	65.0	52.8	58.0	57.9	57.3	6,243	817	6,973	88.5	83.2	84.5	74.6	
14	55.2	(0.9)	54.3	54.0	56.0	59.7	62.0	63.0	65.1	53.0	57.8	57.8	57.0	5,931	696	6,931	84.5	78.9	78.6	72.5	
15	55.7	(1.6)	54.1	54.1	56.1	59.5	61.7	62.6	64.7	53.0	57.8	57.3	57.0	6,835	434	6,887	82.5	77.0	76.5	71.0	
16	56.0	(1.9)	54.1	54.2	56.5	59.5	61.7	62.5	64.6	52.9	58.0	56.7	57.4	6,377	677	6,879	83.5	79.3	79.9	70.7	
17	54.3	(0.7)	53.6	54.2	56.7	59.8	62.1	62.9	64.9	53.0	58.4	56.4	57.7	5,939	830	6,894	86.0	80.3	80.6	71.4	
18	53.8	(0.9)	52.9	54.2	56.2	60.4	62.1	63.0	65.0	53.1	58.2	56.4	57.4	5,964	1,056	6,934	83.0	78.7	79.0	70.9	
19	55.3	(2.0)	53.3	54.3	55.5	59.5	61.4	62.3	64.6	53.2	57.2	56.5	56.5	6,177	1,017	6,929	80.5	78.9	78.8	68.9	
20	54.9	(2.2)	52.7	54.4	55.6	58.8	60.5	61.4	63.7	53.3	57.0	56.8	56.4	5,649	1,083	6,929	82.5	76.8	79.3	70.5	
21	54.8	(2.0)	52.8	54.5	55.9	59.2	60.7	61.4	63.0	53.3	57.5	57.6	56.9	5,758	843	6,929	81.5	74.4	74.2	71.1	
22	55.3	(2.2)	53.1	54.6	55.8	59.1	60.9	61.6	63.4	53.2	57.3	57.6	56.7	6,350	1,067	6,926	78.5	73.9	74.2	69.2	
23	55.0	(2.3)	52.7	54.6	56.0	59.0	60.9	61.6	63.5	53.2	57.5	57.7	56.9	5,579	929	6,924	83.0	78.9	78.8	71.0	
24	54.3	(1.7)	52.6	54.7	56.4	59.6	61.7	62.4	64.2	53.2	58.2	58.1	57.5	5,882	923	6,923	89.0	81.5	80.3	73.8	
25		0.0																			
26		0.0																			
27		0.0																			
28		0.0																			
29		0.0																			
30		0.0																			
Avg	54.7		53.3	54.1	55.7	59.0	61.1	61.9	63.8	52.5	57.3	57.3		6,115	773	6,982	83.2	78.3	79.0	70.3	
Tot cfs														146,753	18,543	167,579					
Tot af														291,085	36,780	332,393					

? = Average includes 1-9 estimated hourly readings  
 # = Station out of service

! = No Average (10-17 hours missing)  
 ND = No hourly readings or incorrect

& = No Average (18 to 23 hours missing)

When available:  
 ^ = Redding Air Temp Record High  
 \* = Redding Air Temp Record Low

Control Point: Clear Creek 4/1/2015 to 4/17/2015 at 56.0 degrees; 4/18/2015 to 5/14/2015 at 58.0 degrees; 5/15/2015 to present 56.0 degrees.

**PRELIMINARY**