

Sacramento River Temperature Task Group Meeting

September 22, 2016 -- 1:00 pm

Conference Line: 877-718-6527

Pass code: 1954134

Agenda

1. Introductions
2. Fishery update
3. Hydrology & Operations update (information is available on CVO's web-page)
 - a. Mean Daily Water Temperatures
 - b. Sac River Gage temp plot and air temp plot
 - c. 7DADM Tracking
 - d. Lake Shasta Isothermobaths Plot
 - e. Lake Shasta Current TCD Configuration
4. September Temperature studies
 - a. Latest model run from Sep 19 Shasta profile
 - b. 49 degree volume at Shasta vs. Temperature Plan Model
5. Trinity Update
 - a. NCAO update preventative flows
6. SRTTG membership and purpose
7. Technical report drafting and deadline
8. Next meeting – Oct 27

DATE	Mean Daily Water Temperatures (°F)													Mean Daily Release (CFS)			Mean Daily Air Temperatures (°F)				
	TCD ¹	SHD	SPP ¹	KWK	SAC	CCR	BSF ²	JLF	BND	RDB	IGO	LWS	DGC ³	Shasta Generation	Spring Creek P.P.	Keswick Total	RDD	BSF	RDB	LWS	
Aug	51.0	50.1	56.8	51.9	52.5	53.0	54.7	55.9	56.5	58.3	58.5	55.3	-	9053	790	10146	82.1	76.5	76.6	74.2	
09/01	51.1	50.1	57.4	51.6	52.1	52.6	53.9	55.0	55.4	56.9	58.2	!	-	54.2	9132	329	9466	76.5	71.0	71.8	-
09/02	51.2	50.2	57.5	51.6	52.1	52.6	54.0	55.1	55.5	56.9	58.2	51.7	54.2	8896	403	9416	77.0	71.3	72.5	64.8	
09/03	51.1	50.1	57.4	51.6	52.1	52.7	54.1	55.0	55.5	56.8	58.0	51.6	53.9	8659	250	9439	79.5	69.0	71.6	63.3	
09/04	51.4	50.2	57.3	51.6	52.1	52.6	54.0	55.0	55.5	56.9	57.7	51.5	53.6	8831	249	9437	72.5	70.0	68.3	61.3	
09/05	50.8	50.0	57.7	51.7	52.1	52.6	53.8	54.7	55.2	56.5	57.5	51.4	53.3	9656	14	9451	77.5	68.9	71.7	60.5	
09/06	50.1	49.3	57.4	51.1	51.8	52.4	53.8	54.8	55.2	56.4	57.8	51.4	53.5	8495	328	9016	76.0	70.8	73.6	63.8	
09/07	50.9	50.0	57.4	50.7	51.4	52.1	53.8	54.9	55.4	56.9	56.8	51.4	53.9	9035	14	9008	84.0	78.6	78.8	66.8	
09/08	50.8	50.1	57.5	51.0	51.4	51.9	53.3	54.4	55.0	56.6	56.6	51.4	54.0	8306	564	9031	79.0	73.6	75.4	69.0	
09/09	50.8	50.2	57.5	51.7	52.4	53.0	54.3	55.2	55.6	56.7	56.7	51.4	54.1	7538	560	8583	82.5	77.8	79.3	69.8	
09/10	50.9	50.1	57.5	51.6	52.2	52.8	54.4	55.4	56.0	57.6	56.2	51.4	53.9	8335	307	8546	80.5	74.5	75.7	70.1	
09/11	51.2	50.3	57.5	51.5	52.2	52.7	54.3	55.5	56.0	57.5	56.8	51.5	54.1	7957	405	8545	77.0	71.9	71.8	69.5	
09/12	51.2	50.3	57.6	51.9	52.4	52.9	54.3	55.3	55.9	57.3	56.4	51.5	53.6	7609	483	8547	73.0	67.5	66.7	63.5	
09/13	51.2	50.3	57.6	51.7	52.3	52.8	54.2	55.1	55.6	56.8	55.6	51.6	53.4	7880	483	8545	64.0	61.4	61.2	59.9	
09/14	51.5	50.5	57.6	51.7	52.3	52.7	54.0	54.8	55.2	56.4	55.7	51.5	53.6	7988	405	8547	67.5	62.7	64.3	60.9	
09/15	51.1	50.2	57.6	51.9	52.4	52.9	54.0	54.8	55.3	56.4	55.9	51.5	53.4	7656	410	8545	73.5	68.0	68.1	62.2	
09/16	50.9	50.0	57.6	51.8	52.4	52.9	54.2	55.1	55.6	56.7	55.7	51.3	53.3	8058	273	8544	76.0	70.1	74.3	63.8	
09/17	50.4	49.7	57.7	51.9	52.4	53.0	54.1	55.0	55.5	56.8	55.8	51.4	53.5	8369	14	8545	77.5	71.5	73.5	66.8	
09/18	50.5	49.7	57.6	50.9	51.6	52.2	54.0	55.0	55.6	57.0	56.7	51.6	54.2	7809	525	8543	79.5	74.3	75.8	69.3	
09/19	50.6	49.8	57.7	51.3	52.0	52.5	53.9	54.9	55.5	56.9	57.0	51.8	54.5	8087	495	8550	80.5	75.4	76.5	68.8	
09/20	50.4	49.7	57.7	51.4	52.0	52.6	54.2	55.2	55.7	57.0	56.3	52.0	54.0	7185	348	8003	77.5	71.7	71.8	64.2	
09/21																					
09/22																					
09/23																					
09/24																					
09/25																					
09/26																					
09/27																					
09/28																					
09/29																					
09/30																					
-																					
Sep	50.9	50.0	57.5	51.5	52.1	52.6	54.0	55.0	55.5	56.9	56.8	51.5	53.8	8274	343	8815	76.6	71.0	72.1	65.2	

Total CFS	165481	6859	176307
Total AF	328225	13605	349698

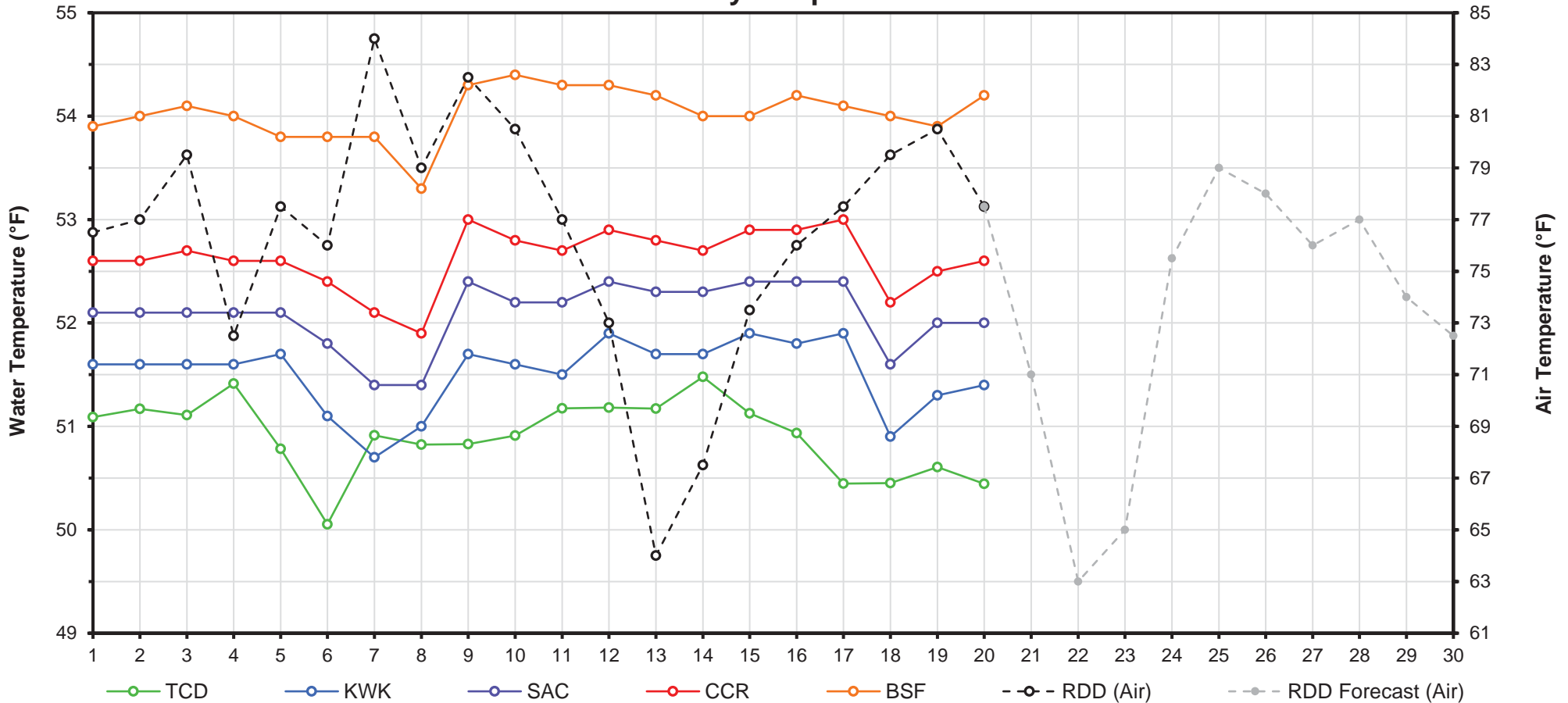
Legend

Notes

- ? = 1-9 hours of data missing (Average includes estimations)
- ! = 10 or more hours of data missing (Average not calculated)
- # = Station out of service
- ↑ = Record high air temperature
- ↓ = Record low air temperature
- = Monthly Averages

- ¹ Temperatures are weighted averages based on individual penstock flow and temperature
- Highlighted cells in the TCD column indicate a TCD change was made on that day
- ² Current control point (see page 3 for more details)
- ³ DGC is only reported in September

Mean Daily Temperatures



Station Details			
Code	Body of Water	Location ¹	CDEC Link
TCD	N/A	Shasta Power Plant	N/A
SHD	Sacramento River	0.3 miles downstream of Shasta Power Plant	Click Here
SPP	N/A	Spring Creek Power Plant	N/A
KWK	Sacramento River	0.8 miles downstream of Keswick Dam	Click Here
SAC	Sacramento River	4.8 miles downstream of Keswick Dam	Click Here
CCR	Sacramento River	9.7 miles downstream of Keswick Dam	Click Here
BSF	Sacramento River	25 miles downstream of Keswick Dam	Click Here
JLF	Sacramento River	34 miles downstream of Keswick Dam	Click Here
BND	Sacramento River	41 miles downstream of Keswick Dam	Click Here
RDB	Sacramento River	58 miles downstream of Keswick Dam	Click Here
IGO	Clear Creek	7.3 miles downstream of Whiskeytown Dam	Click Here
LWS	Trinity River	1.1 miles downstream of Lewiston Dam	Click Here
DGC ²	Trinity River	19 miles downstream of Lewiston Dam	Click Here
NFH ³	Trinity River	38 miles downstream of Lewiston Dam	Click Here

Temperature Control Point		
Point	Temp. (°F)	Date Range
BSF	56.0	6/17 - Current

Notes

¹ Distances are approximate

² DGC is only reported in September

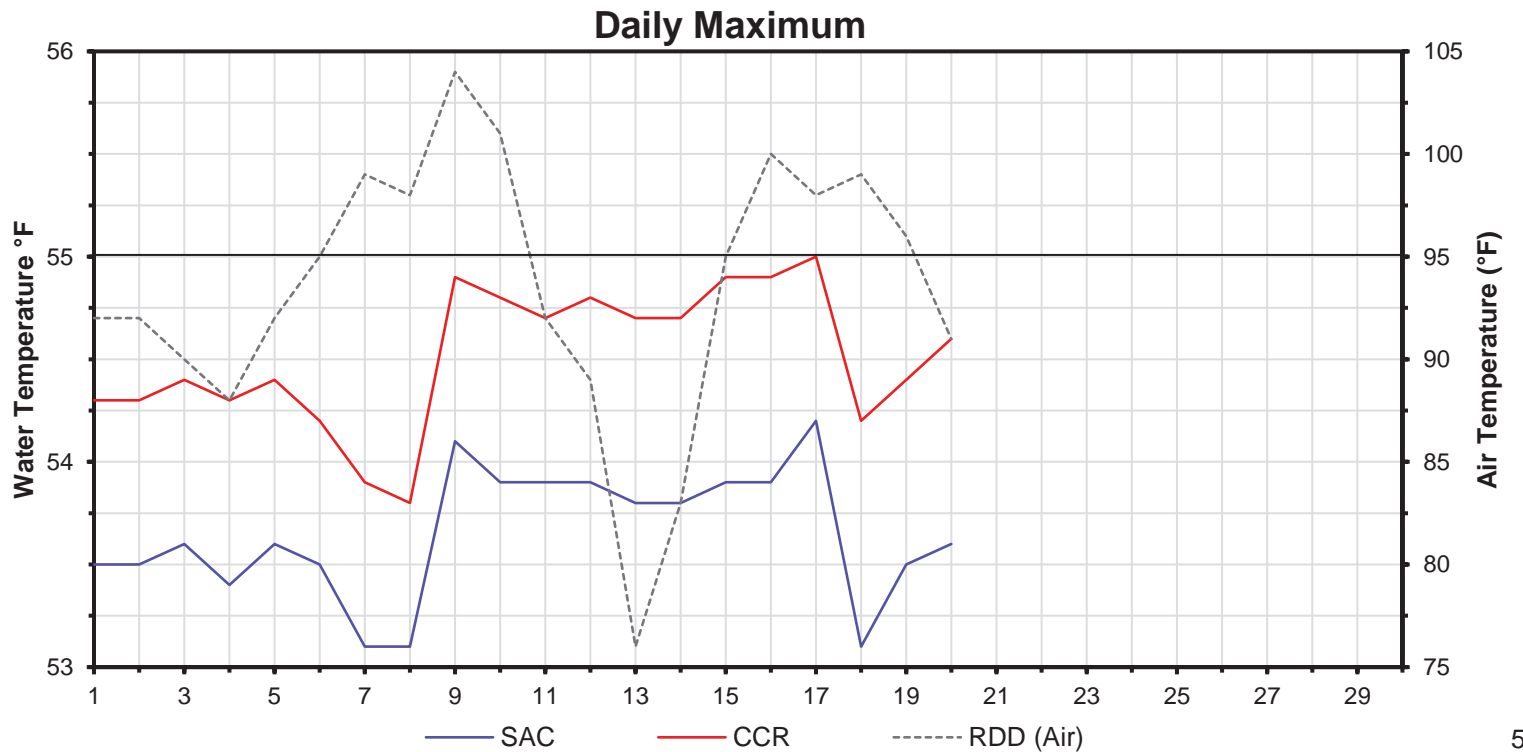
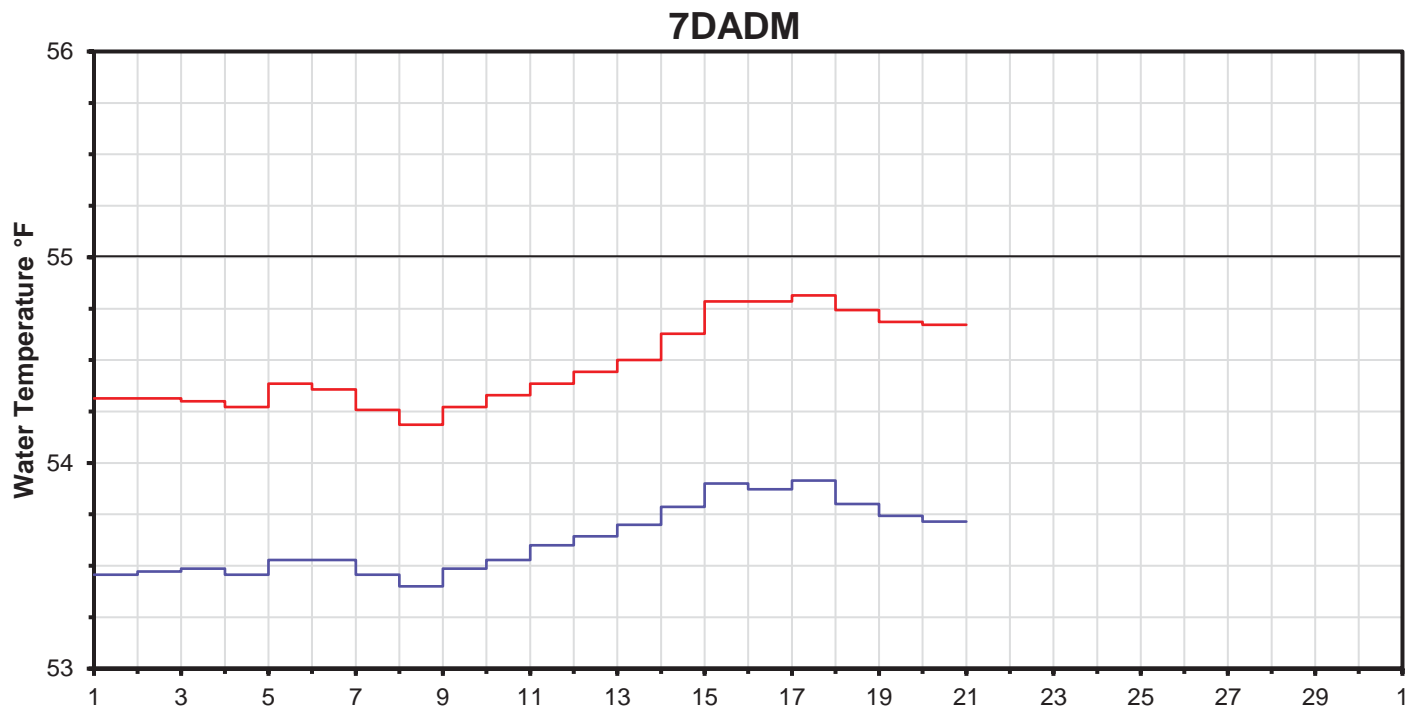
³ NFH is only reported in October, November and December

DATE	Daily Max		7DADM ¹		DAT ²
	SAC	CCR	SAC	CCR	BSF
09/01	53.5	54.3	53.5	54.3	53.9
09/02	53.5	54.3	53.5	54.3	54.0
09/03	53.6	54.4	53.5	54.3	54.1
09/04	53.4	54.3	53.5	54.3	54.0
09/05	53.6	54.4	53.5	54.4	53.8
09/06	53.5	54.2	53.5	54.4	53.8
09/07	53.1	53.9	53.5	54.3	53.8
09/08	53.1	53.8	53.4	54.2	53.3
09/09	54.1	54.9	53.5	54.3	54.3
09/10	53.9	54.8	53.5	54.3	54.4
09/11	53.9	54.7	53.6	54.4	54.3
09/12	53.9	54.8	53.6	54.4	54.3
09/13	53.8	54.7	53.7	54.5	54.2
09/14	53.8	54.7	53.8	54.6	54.0
09/15	53.9	54.9	53.9	54.8	54.0
09/16	53.9	54.9	53.9	54.8	54.2
09/17	54.2	55.0	53.9	54.8	54.1
09/18	53.1	54.2	53.8	54.7	54.0
09/19	53.5	54.4	53.7	54.7	53.9
09/20	53.6	54.6	53.7	54.7	54.2
09/21					
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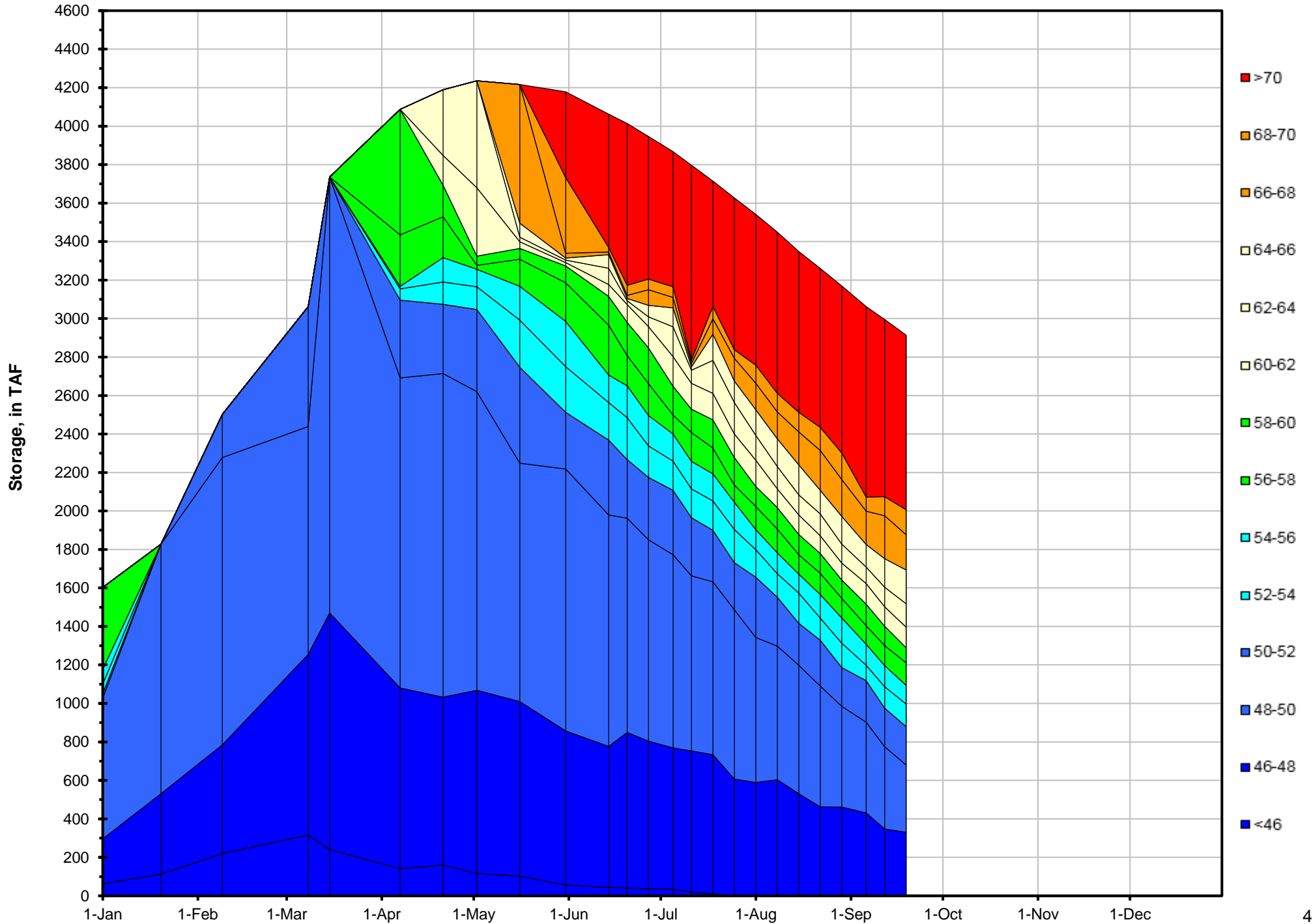
Notes

¹ 7DADM = 7-Day Average
Daily Maximum

² DAT = Daily Average
Temperature



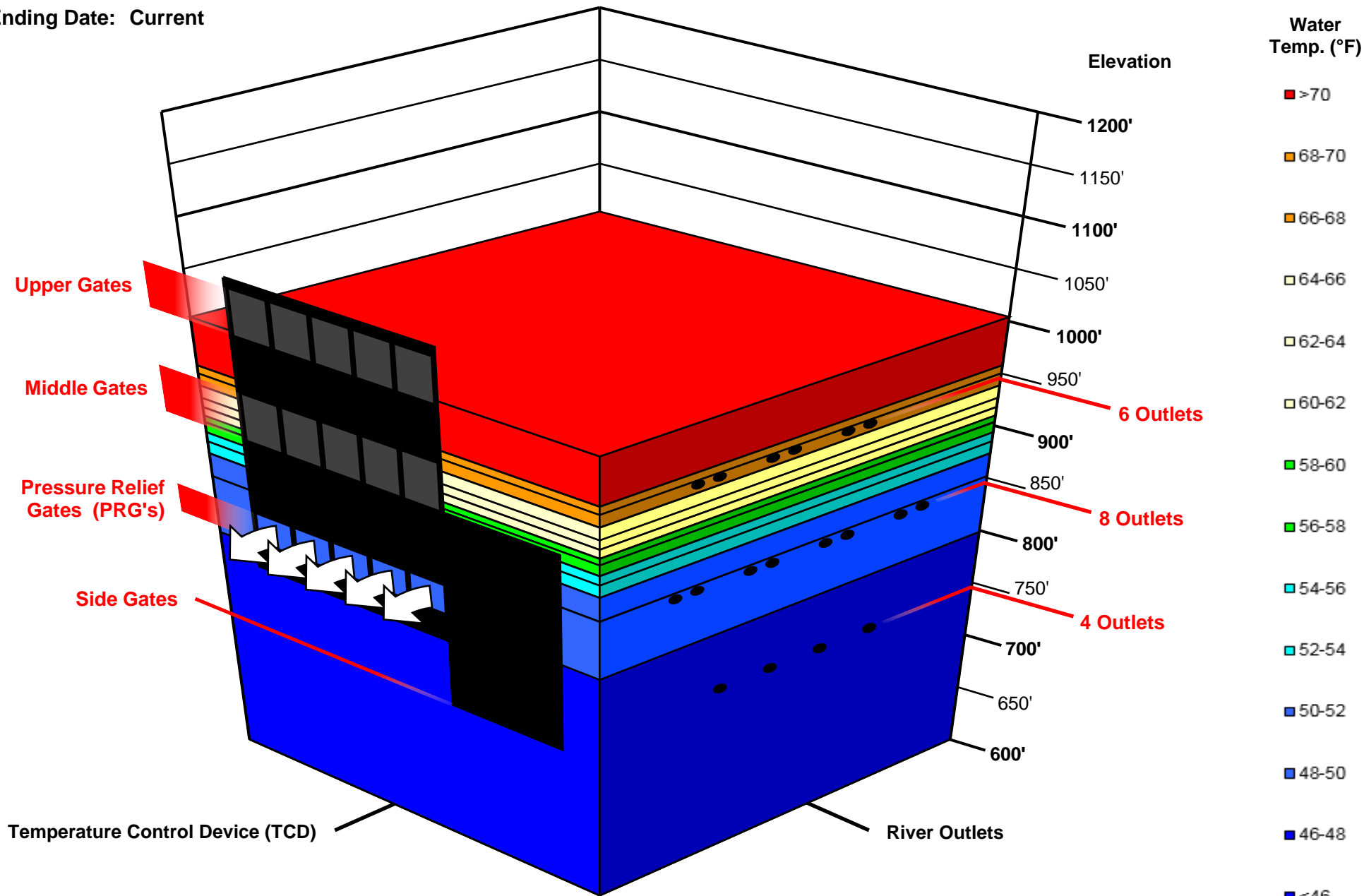
Lake Shasta Isothermalbaths - 2016 (Water Temperature, in °F)



Shasta TCD Configuration

Starting Date: 09/16/2016

Ending Date: Current



Temperature Control Device (TCD)

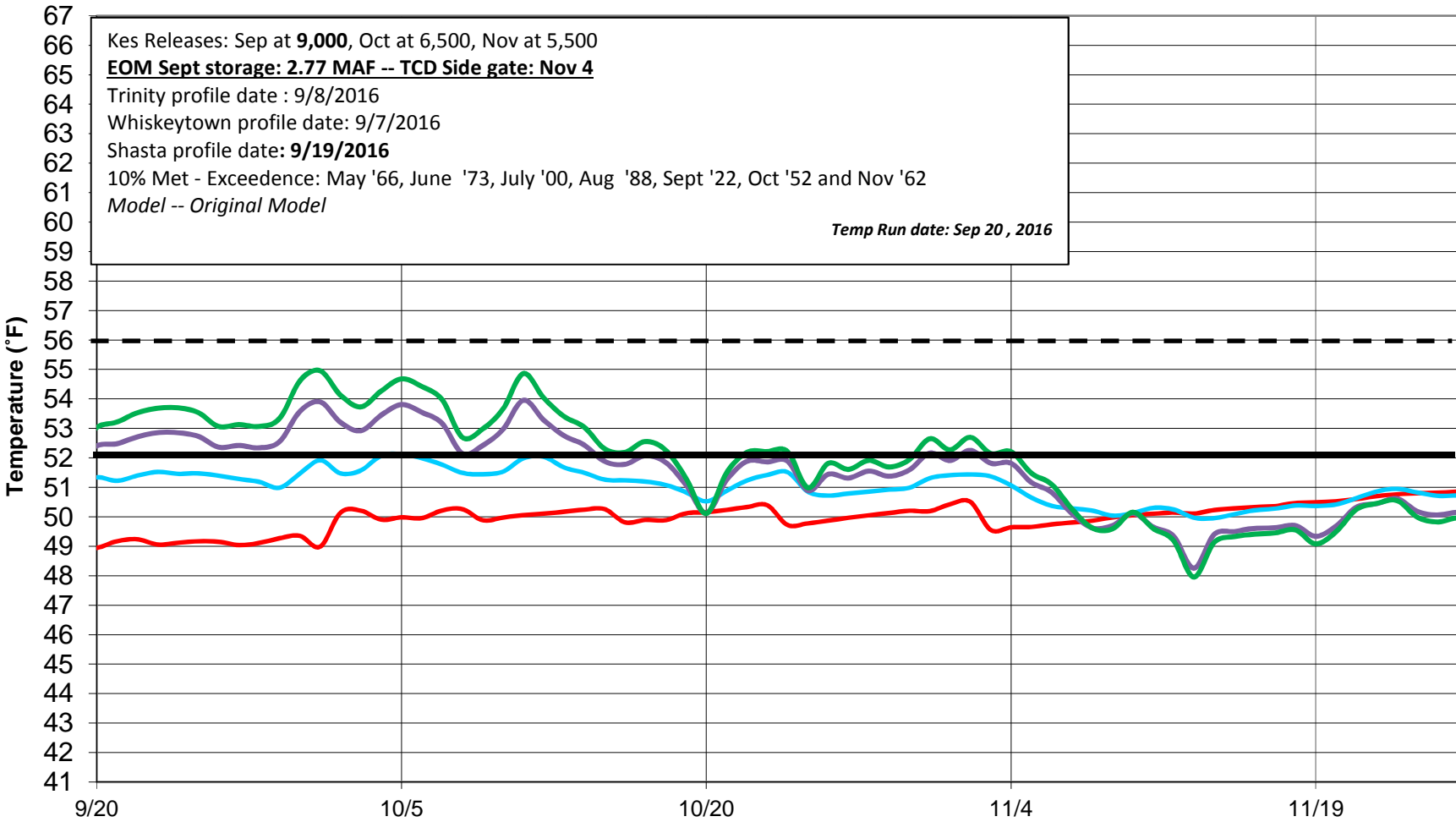
River Outlets

Arrows indicate open Gate or Outlet (i.e. Water flowing from this location)

Sacramento River Modeled Temperature 2016 Aug 90%- Hydrology Sep 19 Profile

Kes Releases: Sep at **9,000**, Oct at 6,500, Nov at 5,500
EOM Sept storage: 2.77 MAF -- TCD Side gate: Nov 4
 Trinity profile date : 9/8/2016
 Whiskeytown profile date: 9/7/2016
 Shasta profile date: **9/19/2016**
 10% Met - Exceedence: May '66, June '73, July '00, Aug '88, Sept '22, Oct '52 and Nov '62
 Model -- Original Model

Temp Run date: Sep 20, 2016



Volume of Water less than or equal to 49°F in Shasta Lake 2016

