

Sacramento River Temperature Task Group Meeting

July 23, 2015

1:00 pm

Conference Line: 877-718-6527

Pass code: 1954134

Agenda

1. Introductions
2. Fishery update
3. Operation update
 - a. Temperature Summary ***
 - b. TCD Config ***
 - c. Lake Shasta Isothermobaths ***
 - d. Shasta profile ***
4. Oak Bottom Curtain Update -- NCAO
5. Next meeting

***handout

Temperature and Release Summary for Shasta and Trinity - July 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	Dgc	Shasta Generation El 815	Spring Crk Powerplant Release	Keswick Total Release	RDD	BSF	RDB	LWS
Jun	54.6		53.1	54.2	55.6	59.0	61.1	61.9	63.9	52.8	57.3	57.5	59.6		na	6,022	844	6,994	84.2	79.6	80.0	71.9
Jul																						
1	54.5	(2.6)	51.9	55.3	55.7	59.5	61.4	62.4	64.5	54.8	57.4	58.8	56.7	%	5,034	1,261	7,095	94.0	85.7	87.5	81.5	
2	54.7	(2.7)	52.0	55.4	55.9	59.6	61.6	62.5	64.7	55.3	57.6	59.0	57.0	%	5,391	1,542	7,105	92.5	85.8	86.2	84.0	
3	54.9	(2.6)	52.3	55.6	56.0	59.8	61.8	62.8	64.9	55.1	57.7	59.0	57.0	%	5,725	1,554	7,109	91.0	86.4	83.9	81.8	
4	54.4	(2.0)	52.4	55.9	55.9	59.9	61.9	62.9	65.0	54.9	57.8	59.4	57.0	%	6,337	821	7,109	91.0	85.1	85.0	79.9	
5	54.8	(2.0)	52.8	56.0	55.9	60.1	62.2	63.2	65.5	54.9	57.8	59.3	57.0	%	5,909	810	7,109	90.5	84.7	82.7	80.0	
6	55.2	(2.7)	52.5	56.3	56.2	59.7	61.6	62.5	64.6	54.8	57.9	59.2	57.2	%	5,617	1,224	7,105	85.5	80.0	78.0	76.1	
7	55.2	(2.7)	52.5	56.3	56.2	59.7	61.6	62.5	64.6	54.8	57.9	59.2	57.2	%	5,617	1,224	7,105	85.0	77.4	77.2	74.3	
8	53.6	(2.0)	51.6	56.4	56.3	59.7	61.5	62.2	64.0	54.8	57.9	59.0	57.2	%	5,863	490	7,107	83.5	75.0	74.5	70.6	
9	52.9	(1.7)	51.2	56.3	55.4	59.0	60.4	61.2	62.7	53.6	57.1	57.7	56.3	%	5,457	973	7,073	73.5	70.2	69.2	64.5	
10	54.0	(1.9)	52.1	56.6	54.2	58.4	60.1	60.9	62.6	54.2	56.1	58.5	55.3	%	5,768	968	7,065	76.0	71.6	69.7	67.8	
11	54.4	(1.6)	52.8	56.6	54.4	57.7	59.5	60.4	62.6	53.9	55.9	58.8	55.5	%	6,037	956	7,059	78.5	74.2	73.3	69.3	
12	54.0	(1.3)	52.7	56.8	55.1	58.1	60.0	60.8	62.5	53.7	56.5	58.4	55.9	%	6,229	849	7,116	79.0	75.8	75.0	68.5	
13	54.3	(1.6)	52.7	57.0	55.1	58.2	60.0	60.6	62.5	54.0	56.8	58.9	56.2	%	5,849	1,168	7,106	81.0	76.2	77.4	70.1	
14	54.7	(1.8)	52.9	57.0	55.5	58.6	60.6	61.3	63.1	54.7	57.2	59.4	56.6	%	6,111	1,168	7,097	83.5	78.1	77.3	72.4	
15	53.5	(1.5)	52.0	57.1	55.9	59.0	61.2	62.0	63.9	55.1	57.5	59.5	57.0	%	5,731	1,243	7,027	85.5	80.7	80.6	74.4	
16	53.4	(1.8)	51.6	57.2	55.8	59.5	61.8	62.7	64.7	55.2	57.9	59.5	57.1	%	5,693	1,077	7,021	88.0	83.7	84.0	76.8	
17	53.6	(1.8)	51.8	57.3	55.1	59.4	61.7	62.8	65.2	55.0	57.2	59.7	56.5	%	5,749	902	6,999	90.5	84.0	83.8	78.5	
18	53.9	(2.1)	51.8	57.4	55.1	59.1	61.2	62.2	64.6	54.9	56.8	59.6	56.2	%	5,895	1,038	6,980	88.0	81.2	80.1	76.4	
19	53.3	(1.8)	51.5	57.6	55.2	58.7	60.8	61.7	63.9	54.9	56.9	59.4	56.3	%	5,001	1,127	6,984	84.0	80.5	79.8	74.7	
20	53.9	(1.9)	52.0	57.6	55.4	59.1	61.2	62.1	64.2	54.9	57.2	59.8	56.6	%	5,965	1,222	6,938	91.0	84.6	84.8	76.9	
21	53.1	(1.5)	51.6	57.8	55.0	59.2	61.5	62.5	64.8	55.0	57.0	59.9	56.3	%	4,840	786	6,953	89.5	85.0	84.1	76.2	
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																				
Avg	54.1		52.1	56.6	55.5	59.2	61.1	62.0	64.1	54.7	57.2	59.1			5,721	1,064	7,060	85.8	79.0	79.7	75.0	
Tot cfs															120,146	22,351	148,267					
Tot af															238,310	44,333	294,088					

? = 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)
 % = Data will be down loaded from site at later date by NCAO staff.

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

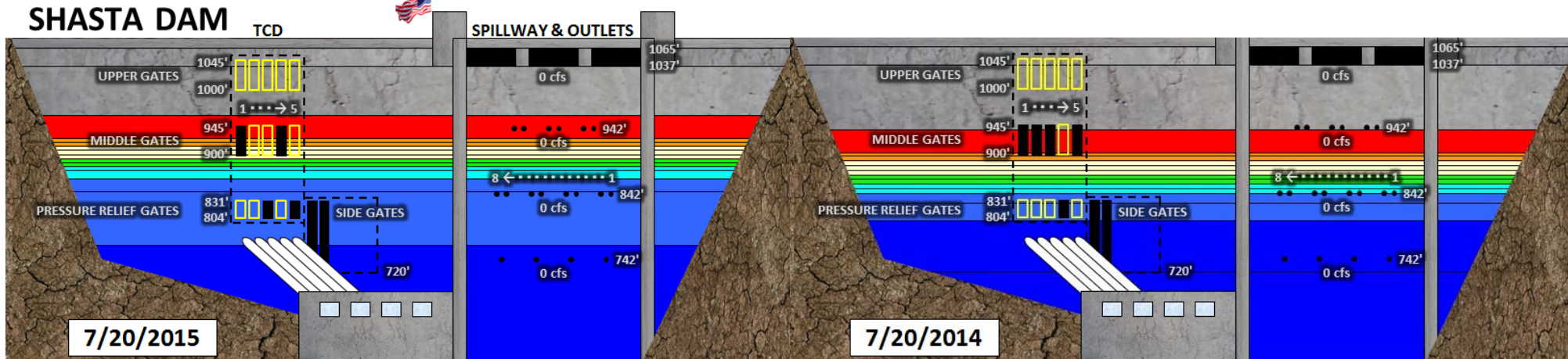
Control Point: Clear Creek 4/1/2015 to 4/17/2015 at 56.0 degrees; 4/18/2015 to 5/14/2015 at 58.0 degrees; 5/15/2015 to 6/4/2015 56.0; 6/5/2015 to present 58.0 degrees.

PRELIMINARY

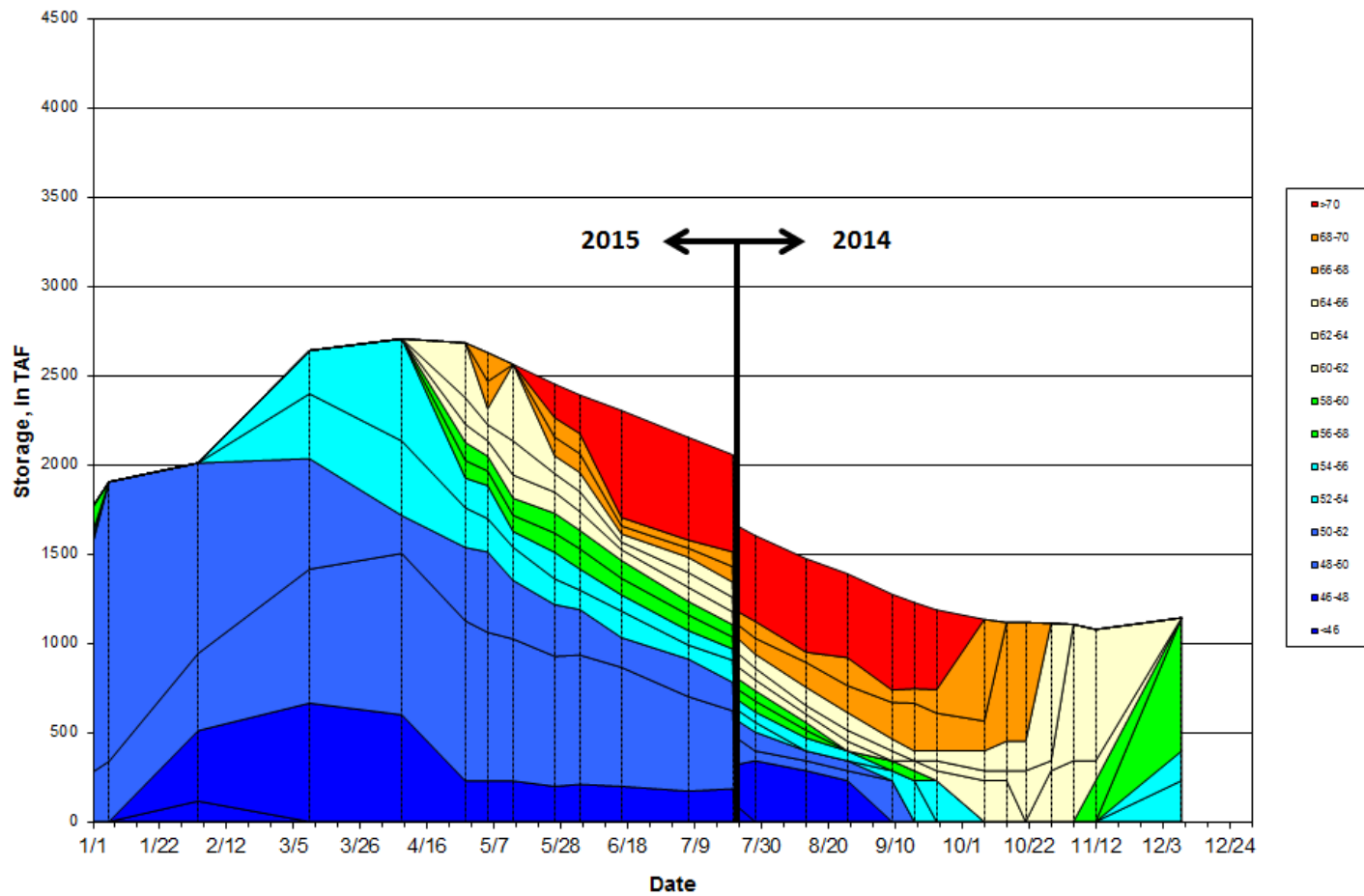
SHASTA DAM

TCD

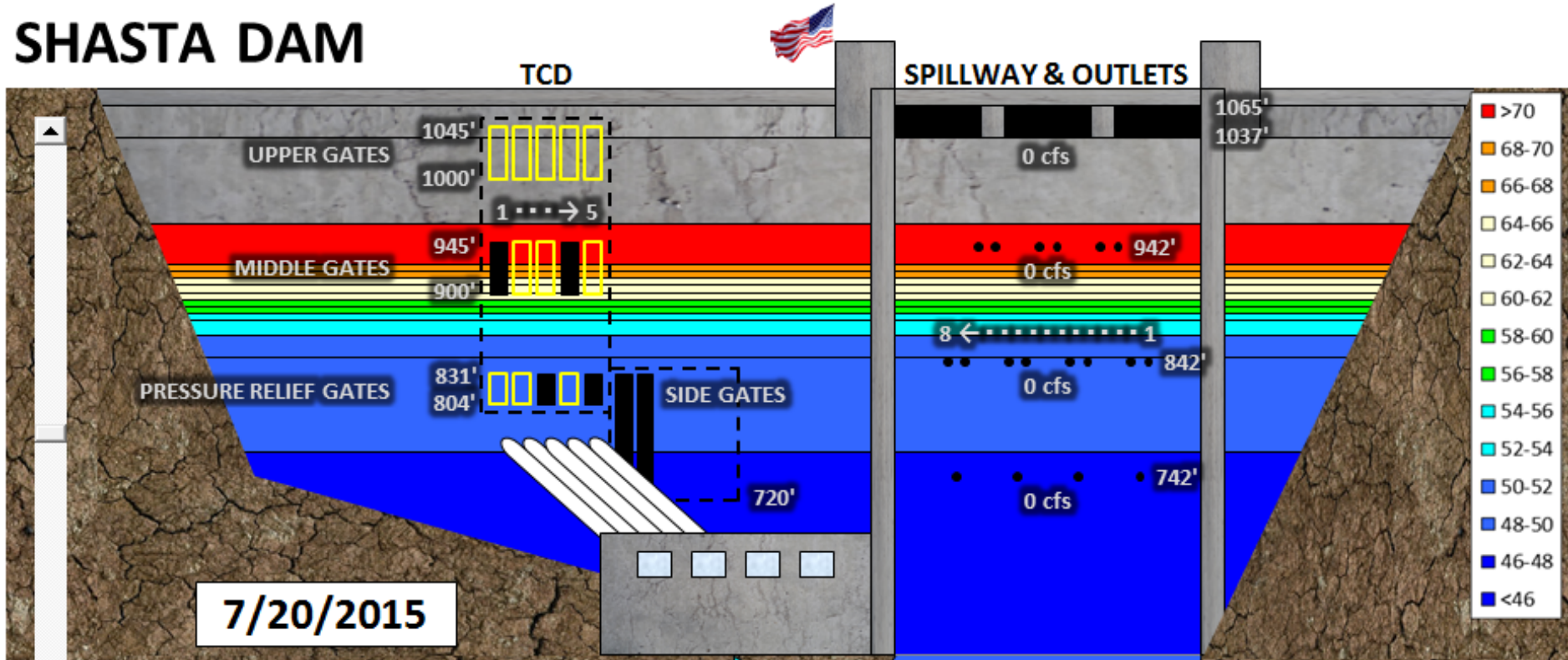
SPILLWAY & OUTLETS



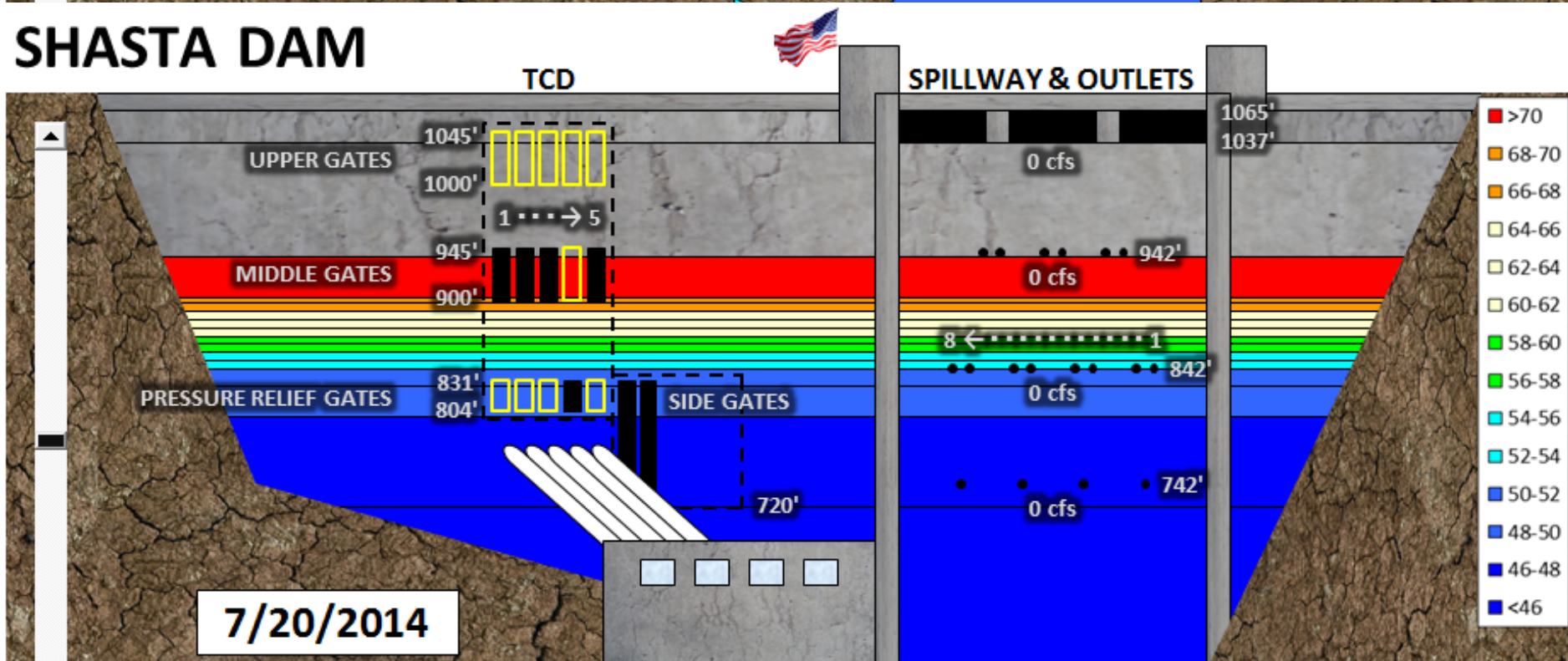
Lake Shasta Isothermobaths
(Water Temperature, in ° F)



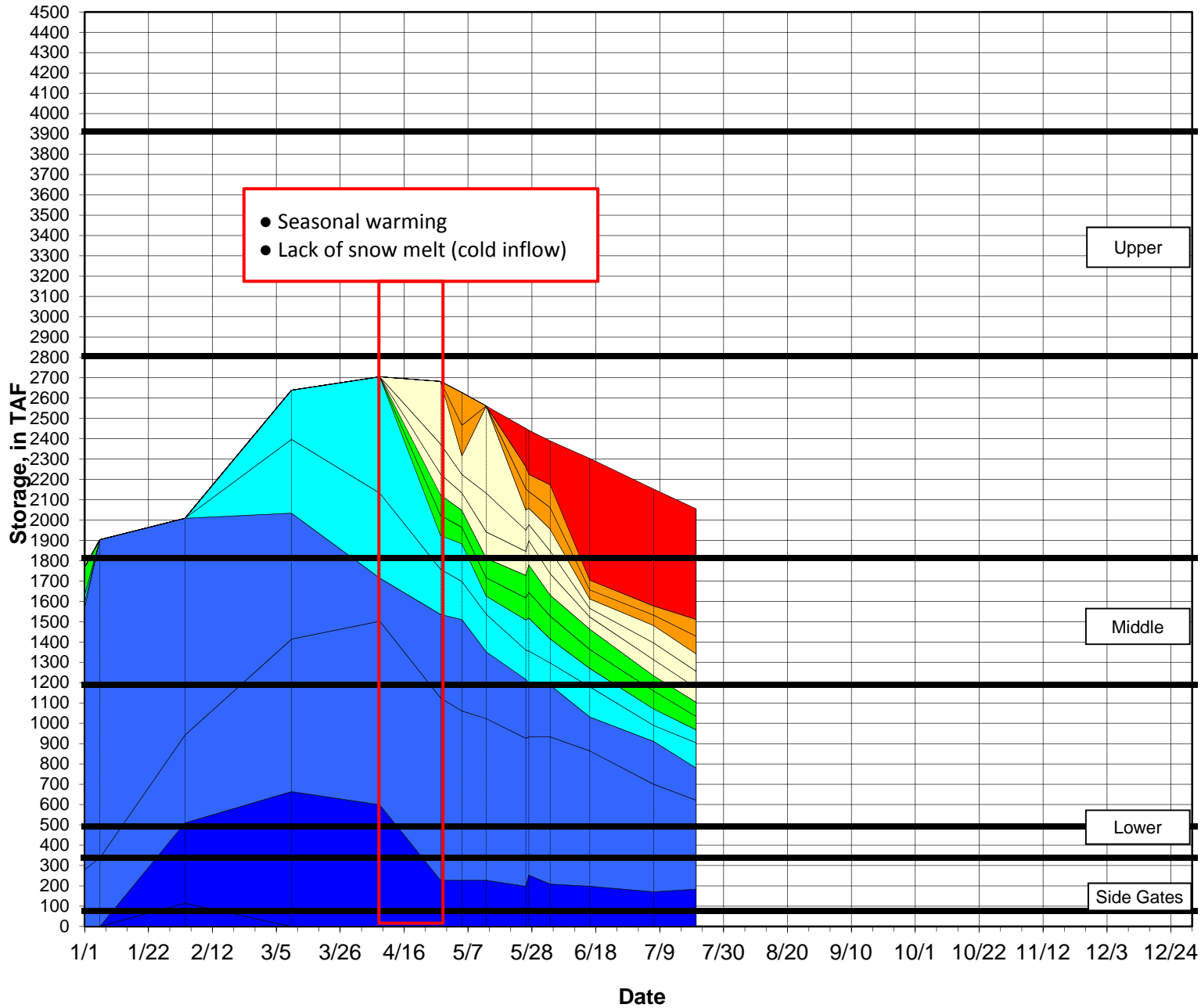
SHASTA DAM



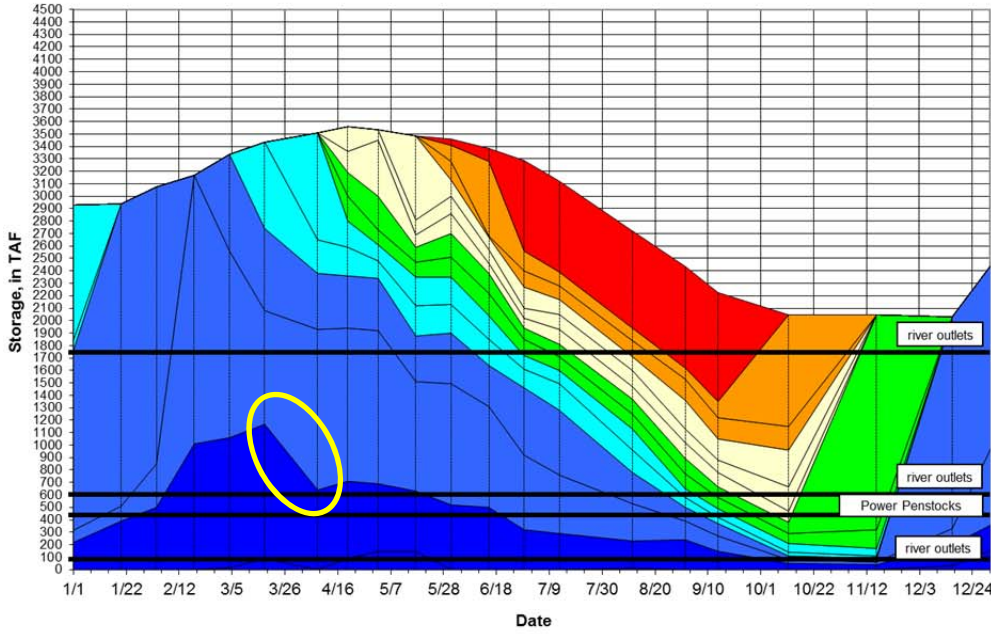
SHASTA DAM



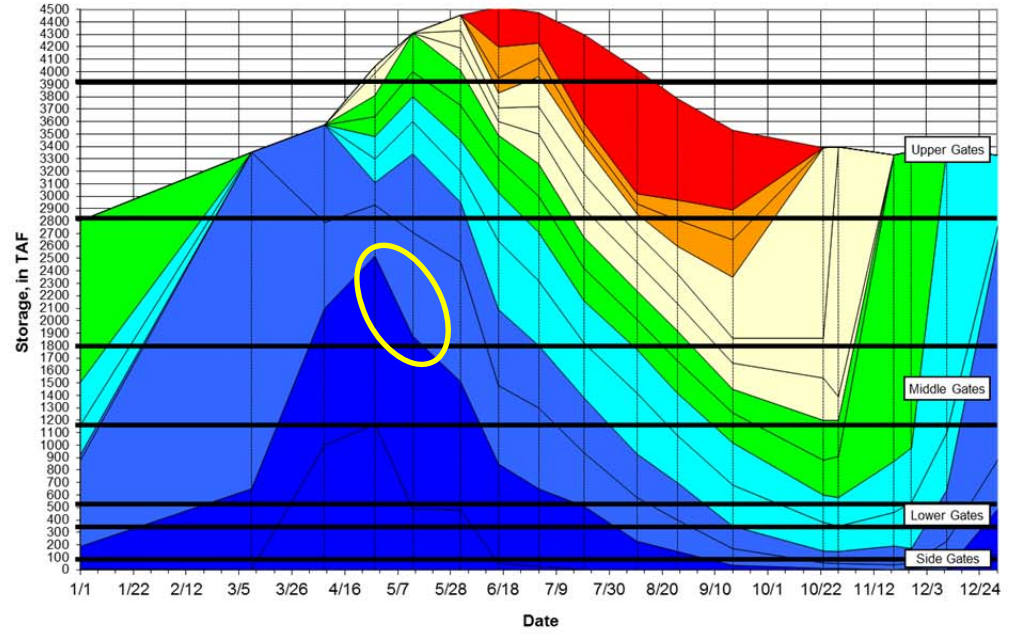
Lake Shasta Isothermobaths - 2015 (Water Temperature, in ° F)



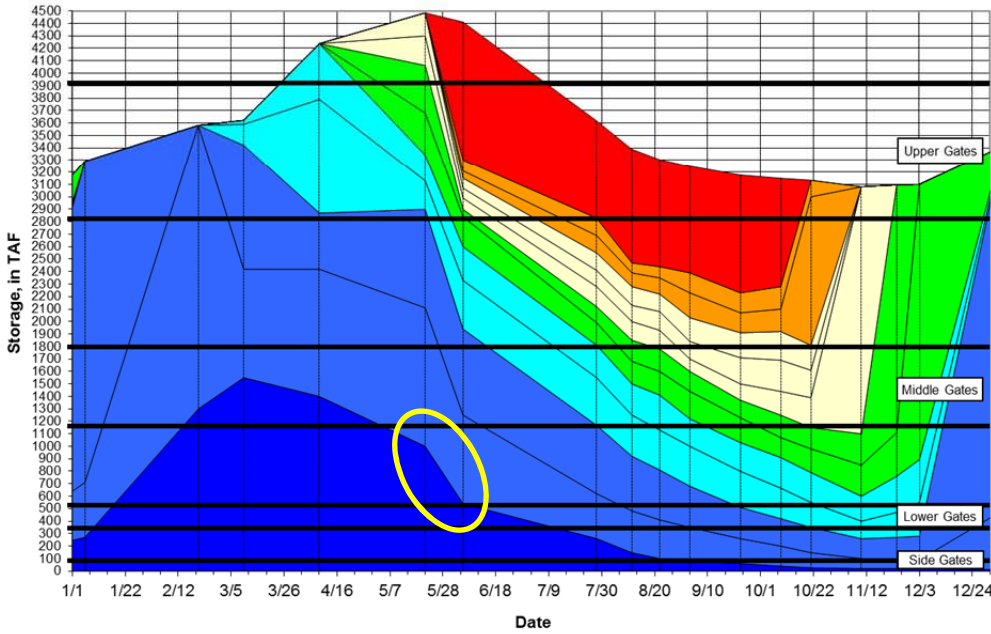
Lake Shasta Isothermobaths - 1994
(Water Temperature, in ° F)



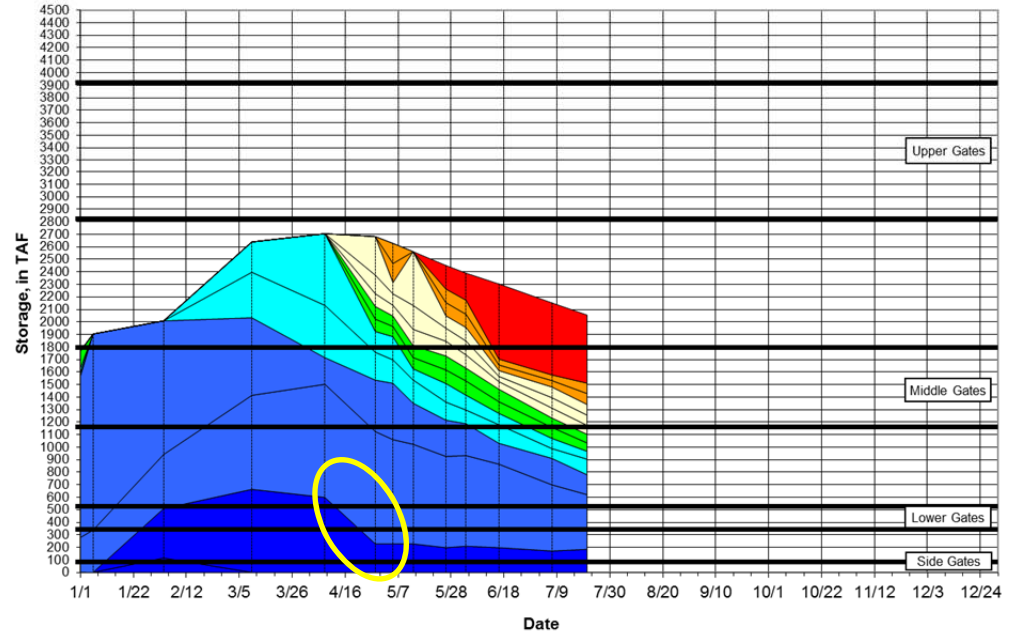
Lake Shasta Isothermobaths - 1998
(Water Temperature, in ° F)



Lake Shasta Isothermobaths - 2003
(Water Temperature, in ° F)



Lake Shasta Isothermobaths - 2015
(Water Temperature, in ° F)



**Department of the Interior
Bureau of Reclamation
NCAO**

Shasta Lake Profile

Date: 7/21/2015 Time: 10:30 Observer: Gotham & Martin
 Precipitation Last 48 Hours: 0 Weather: clear & calm
 Thermometer ID: YSI 6600A Air Temperature (Degrees F): 90 Storet Code: SH21

Lake Surface Elevation: 960.59

All Elevations in M.S.L.
(Mean Sea Level)

**Temperature
400 Feet Upstream
of Dam**

**Turbidity
400 Feet Upstream
of Dam**

	Surface: <u>81.4</u>	Surface: <u>0.5</u>
	Elevation 1050': _____	Elevation 1050': _____
	1025': _____	1025': _____
	1000': _____	1000': _____
	975': _____	975': _____
	950': <u>81.0</u>	950': <u>0.6</u>
	925': <u>69.4</u>	925': <u>0.6</u>
	900': <u>61.8</u>	900': <u>0.5</u>
	875': <u>53.6</u>	875': <u>0.6</u>
	850': <u>50.2</u>	850': <u>1.0</u>
	825': <u>49.3</u>	825': <u>1.8</u>
	800': <u>48.6</u>	800': <u>2.2</u>
Spillway Outlet (Elevation = 942)':	<u>0</u>	775': <u>2.3</u>
Spillway Outlet (Elevation = 842)':	<u>0</u>	750': <u>2.3</u>
Spillway Outlet (Elevation = 742)':	<u>0</u>	725': <u>2.3</u>
Power (Elevation = 815)':	<u>5172</u>	700': <u>2.2</u>
Tailbay Water Surface Elevation:	<u>582.04</u>	675': <u>2.4</u>
Tailbay Water Temperature:	<u>51</u>	650': <u>2.7</u>
Tailbay Water Turbidity:	<u>2.4</u>	625': <u>2.9</u>

Remarks: Secchi = 19'. TCD: upper -clsd mid - 1 & 4 clsd lower - 3 & 5 clsd side - clsd