

American River Group

Thursday, April 20, 2017 1:30 PM
Central Valley Operation Office, Room 317
3310 El Camino Ave.
Sacramento, CA 95821

1. Fisheries Updates

2. Operations Forecast

3. Temperature Management/Storage Management

American River Summary Conditions – April (On-going):

- Storage Management, setting up cold water pool for seasonal temperature control operations

Storage/Release Management Conditions:

- Storage Management – reservoir fill balancing

Temperature Management

- Setting up for temperature control season

DATE	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shuter Position / Load Percentage						Isobath Plot					
	Water						Air			Percentage											
	NFA ²	ARP	AFD ^{1,3}	AHZ ²	AWP	AWB	CSU			Nimbus	Folsom	Unit 1		Unit 2		Unit 3					
Feb	46.4	44.9	47.7	47.6	47.5	47.6	46.7	21925	-	-	-	-	-	-	-	>70 68-70 66-68 64-66 62-64 60-62 58-60 56-58 54-56 52-54 50-52 48-50 46-48 <46					
03/01	#		43.7	#		#		47.6	47.8	?	48.2	18697	391	M	33	B	33	B	33	Spillway Crest All Shutters Lowered (A) Top Shutter Raised (T) Middle Shutter Raised (M) Bottom Shutter Raised (B) Lower River Outlet	
03/02	#		43.8	#		#		47.4	47.7		51.3	14773	384	M	33	B	33	B	33		
03/03	#		43.9	#		#		47.3	47.7	?	53.1	12436	380	M	33	B	34	B	34		
03/04	#		44.4	#		#		47.1	47.6	?	53.5	10718	377	M	33	B	33	B	34		
03/05	#		45.3	#		#		46.8	47.3	?	46.5	9481	380	M	34	B	32	B	34		
03/06	#		44.2	#		#		46.6	46.9	?	46.8	8825	384	M	33	B	33	B	34		
03/07	#		43.4	#		#		47.1	47.5	?	48.7	8433	384	M	40	B	41	B	18		
03/08	#		44.3	#		#		47.9	48.3		53.9	7441	384	M	50	B	50	O	0		
03/09	#		44.9	#		#		48.2	48.9	?	59.0	6492	388	M	50	B	50	O	0		
03/10	#		45.5	#		#		48.1	48.8	?	60.6	5808	395	M	50	B	50	O	0		
03/11	#		46.3	#		#		48.2	48.8	?	61.0	5619	403	M	50	B	50	O	0		
03/12	#		46.5	#		#		48.0	48.7		61.9	5403	409	M	50	B	50	O	0		
03/13	#		47.3	#		#		48.6	49.4	?	61.5	5695	415	M	50	B	50	O	0		
03/14	#		48.0	#		#		48.7	49.5		64.3	5761	422	M	50	B	48	O	2		
03/15	#		48.0	#		#		48.8	49.3		62.8	5730	430	M	50	B	50	O	0		
03/16	#		48.3	#		#		48.9	49.5	?	60.6	5651	439	M	50	B	50	O	0		
03/17	#		48.6	#		#		49.1	49.7	?	61.8	5599	449	M	50	B	50	O	0		
03/18	#		48.1	#		#		48.7	49.2		61.1	5540	460	M	50	B	50	O	0		
03/19	#		48.2	#		#		48.8	49.3		62.7	5555	471	M	50	B	50	O	0		
03/20	#		48.1	#		#		49.0	49.5		58.9	5786	482	M	50	B	50	O	0		
03/21	#		49.5	#		#		49.4	50.0	?	59.3	5892	503	M	50	B	49	O	0		
03/22	#		49.1	#		#		49.6	50.1		53.7	5759	537	M	50	B	50	O	0		
03/23	#		48.5	#		#		49.7	?	50.3	?	52.1	5674	559	M	50	B	50	O		0
03/24	#		47.6	#		#		49.7	50.1	?	53.4	5842	575	M	50	B	50	O	0		
03/25	#		48.3	#		#		49.3	49.8		56.5	5950	589	M	50	B	49	O	0		
03/26	#		47.5	#		#		49.6	50.0	?	54.2	5850	602	M	49	B	50	O	0		
03/27	#		49.1	#		#		49.6	50.0	?	55.7	9058	609	M	50	B	49	O	0		
03/28	#		48.4	#		#		51.5	51.6	?	60.6	14119	604	M	51	B	49	O	0		
03/29	#		49.0	#		#		51.8	52.1	?	62.3	15801	592	M	51	B	49	O	0		
03/30	#		49.6	#		#		51.4	51.8	?	60.2	13439	589	M	49	B	50	O	0		
03/31	#		49.2	#		#		52.1	52.2		59.6	11615	591	M	49	B	51	O	0		
Mar	-	47.0	-	-	48.9	49.3	57.0	8337											03/01	03/31	
Total AF							512609														

Legend

?	= 1-9 hours of data missing
!	= 10 or more hours of data missing
#	= Station out of service
	= Monthly Averages

A	= All Shutters Lowered
T	= Top Shutter Raised
M	= Middle Shutter Raised
B	= Bottom Shutter Raised
O	= Unit Outage

Notes

- AFD is a weighted average using hourly flow values
- NFA and AHZ were damaged by flood waters on 1/11
- AFD was damaged by flood waters on 2/11
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DATE	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shuter Position / Load Percentage						Isobath Plot				
	Water						Air			Percentage										
	NFA ²	ARP	AFD ^{1,3}		AHZ ²	AWP	AWB			CSU	Nimbus	Folsom	Unit 1		Unit 2		Unit 3		>70 68-70 66-68 64-66 62-64 60-62 58-60 56-58 54-56 52-54 50-52 48-50 46-48 <46	
Mar	-	47.0	-	-	48.9	49.3	57.0	8337	-	-	-	-	-	-	-	-	Spillway Crest All Shutters Lowered (A) Top Shutter Raised (T) Middle Shutter Raised (M) Bottom Shutter Raised (B) Lower River Outlet			
04/01	# -	49.4 # -	# -	52.5 ? 52.9	62.3	10047	591	M	49	B	50	O	0							
04/02	# -	49.6 # -	# -	52.5 ? 53.0 ? 64.9	9210	591	M	50	B	50	O	0								
04/03	# -	49.3 # -	# -	52.8 ? 53.2 ? 62.3	9219	594	M	50	B	50	O	0								
04/04	# -	49.5 # -	# -	53.3 ? 53.7 ? 63.2	9224	597	M	49	B	51	O	0								
04/05	# -	49.3 # -	# -	53.1 ? 53.5 ? 63.8	8999	600	M	48	B	52	O	0								
04/06	# -	48.9 # -	# -	52.5 ! - ? 57.6	9115	602	M	50	B	50	O	0								
04/07	# -	51.0 # -	# -	52.1 ! - 54.6	9259	619	M	51	B	48	O	0								
04/08	# -	50.8 # -	# -	51.6 ! - 48.5	9217	648	M	51	B	49	O	0								
04/09	# -	49.1 # -	# -	52.4 ! - 51.0	9150	660	M	50	B	50	O	0								
04/10	# -	48.3 # -	# -	52.8 ! - 55.6	9110	668	M	50	B	50	O	0								
04/11	# -	48.0 # -	# -	52.7 ? 52.9 59.8	9592	673	M	50	B	50	O	0								
04/12	# -	48.4 # -	# -	52.1 52.5 58.5	10542	673	M	50	B	50	O	0								
04/13	# -	49.8 # -	# -	52.1 52.5 54.0	10884	689	T	52	T	47	O	0								
04/14	# -	49.7 # -	# -	52.0 52.3 52.3	10964	702	T	49	T	51	O	0								
04/15	# -	48.6 # -	# -	53.6 53.7 56.0	10773	711	T	50	T	50	O	0								
04/16	# -	48.5 # -	# -	52.8 53.0 54.3	10841	717	T	50	T	50	O	0								
04/17	# -	49.3 # -	# -	52.0 52.3 57.3	10959	725	T	50	T	50	O	0								
04/18	# -	50.7 # -	# -	52.8 53.1 59.8	11048	748	T	50	T	50	O	0								
04/19	# -	50.9 # -	# -	52.6 53.1 ? 58.3	13789	760	T	49	T	51	O	0								
04/20																				
04/21																				
04/22																				
04/23																				
04/24																				
04/25																				
04/26																				
04/27																				
04/28																				
04/29																				
04/30																				
-																				
Apr	-	49.4	-	-	52.5	53.0	57.6	10102									04/01	04/30		
Total AF							380709													

Legend

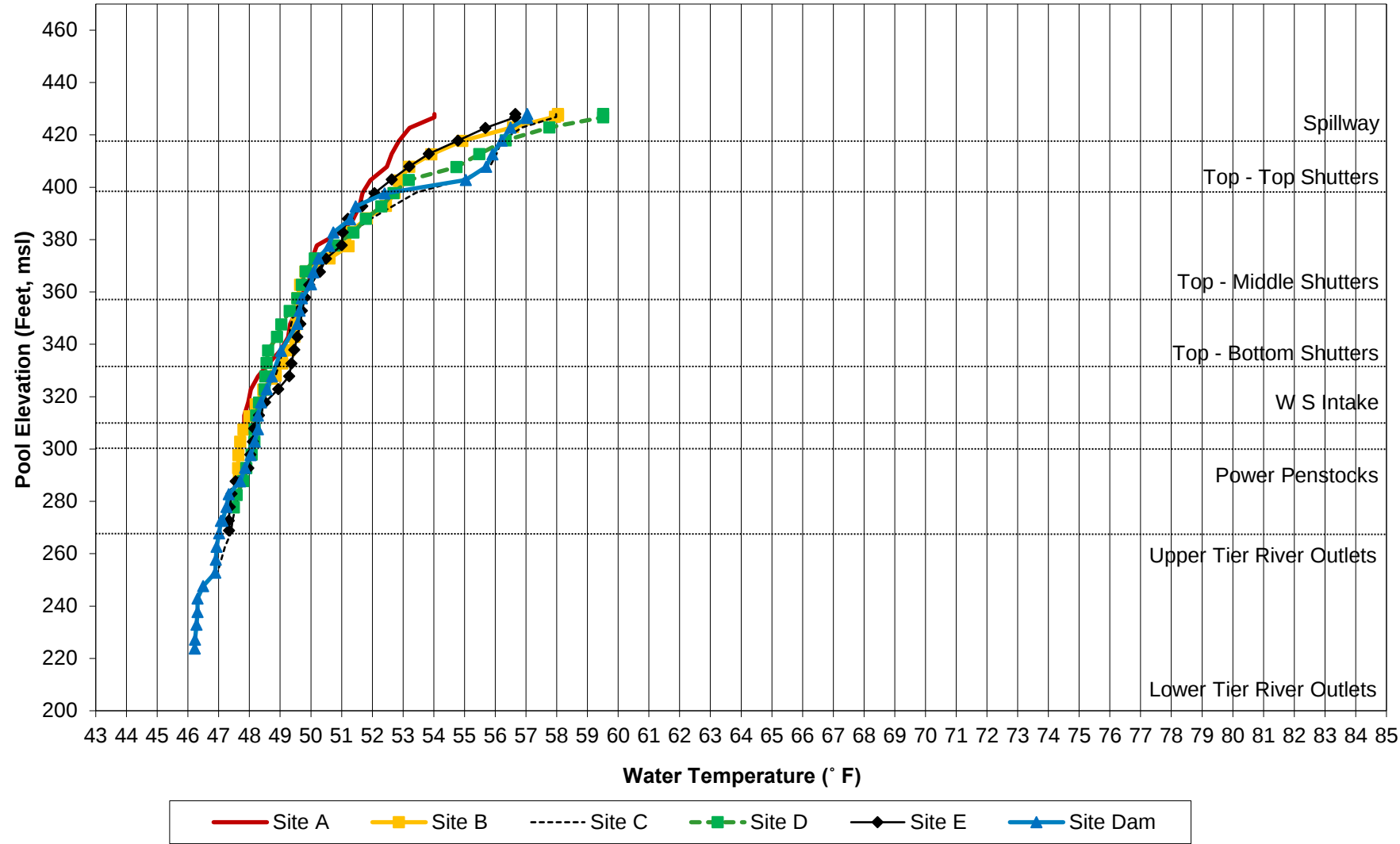
? = 1-9 hours of data missing
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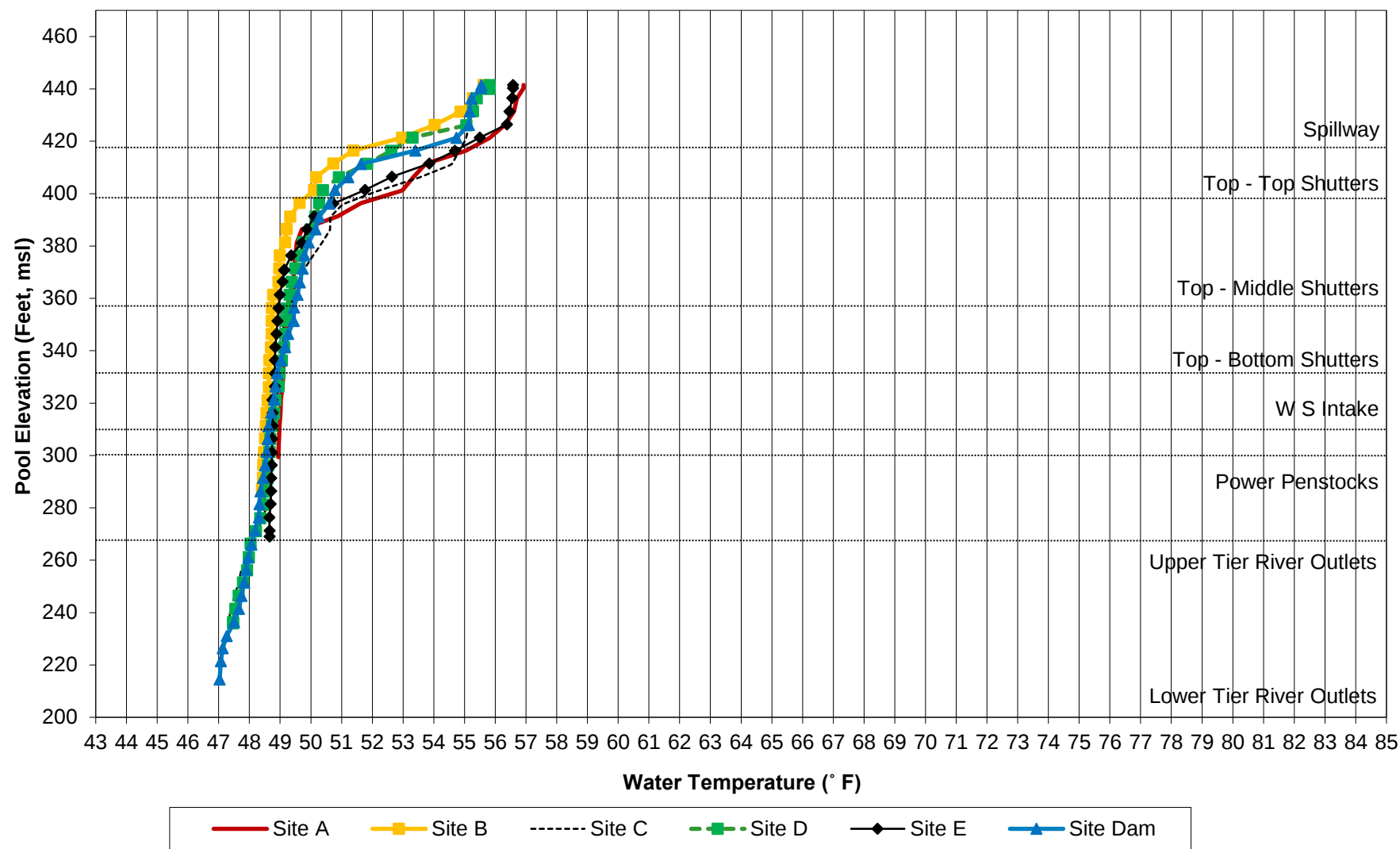
Notes

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Folsom Lake Temperature Profiles: 04-Apr-2017

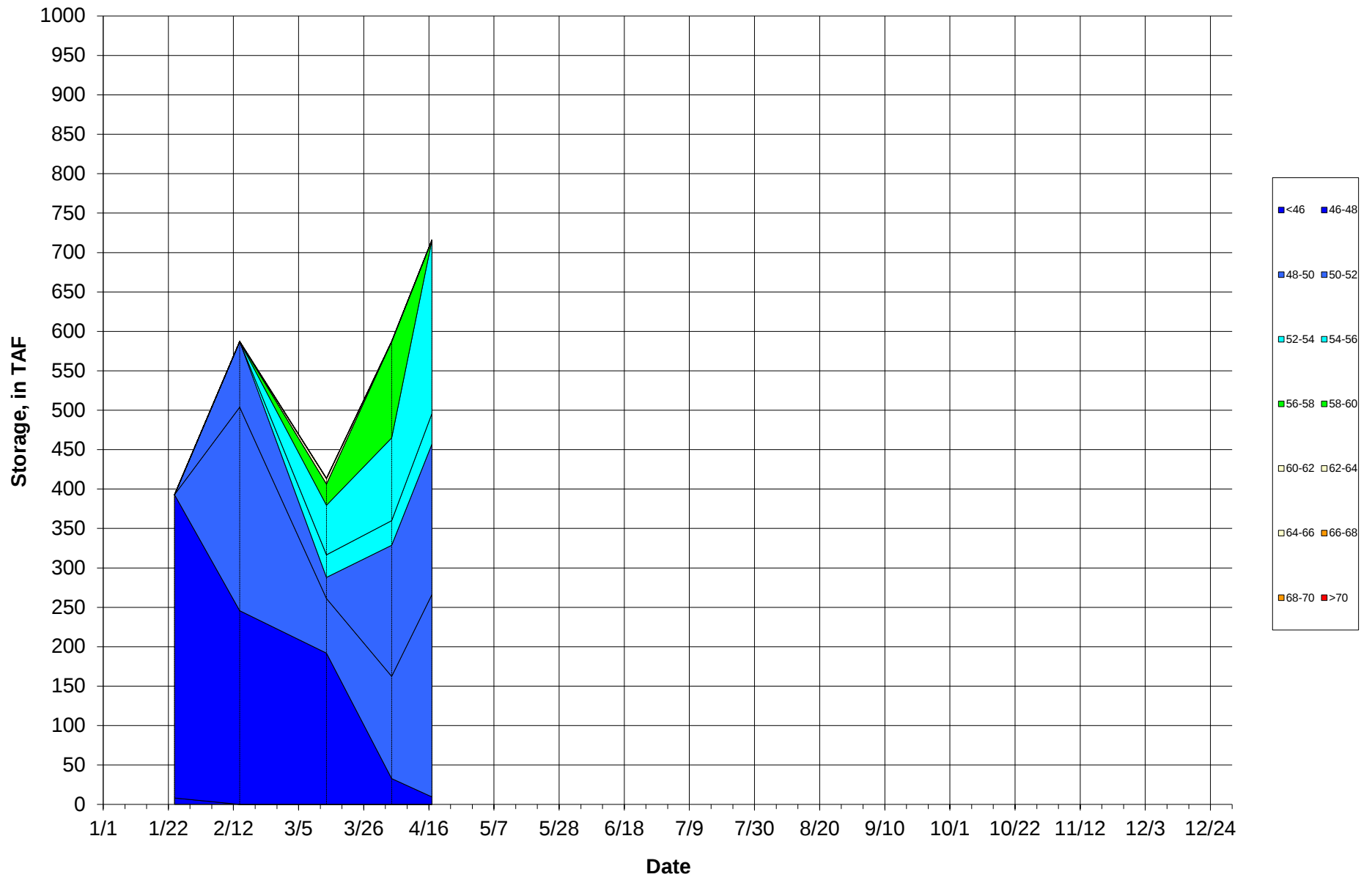


Folsom Lake Temperature Profiles: 17-Apr-2017



Folsom Lake Isothermobaths - 2017

(Water Temperature, in ° F)



DRAFT April 2017

90% Runoff Exceedance Outlook:

Inflow based on 90% historical average runoff for all months.

Federal End of the Month Storage/Elevation (TAF/Feet)

		Apr	May	Jun	Jul	Aug	Sep
Folsom	591	767	938	964	908	776	691
	Elev.	446	462	465	460	447	438

Monthly River Releases (cfs)

American	7000	8500	6500	4000	4000	3300
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50% Runoff Exceedance Outlook:

Inflow based on 50% historical average runoff for all months.

Federal End of the Month Storage/Elevation (TAF/Feet)

		Apr	May	Jun	Jul	Aug	Sep
Folsom	591	723	940	927	872	680	556
	Elev.	442	463	462	456	437	423

Monthly River Releases (cfs)

American	9500	8500	9500	5000	5000	4000
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Please note:

CVP actual operations do not follow any forecasted operation or outlook; actual operations are based on real-time conditions.

CVP operational forecasts or outlooks consider general system-wide dynamics and do not necessarily address specific watershed/tributary details.

CVP releases represent monthly averages.

CVP operations are updated monthly as new hydrology information is made available December through May.

Shaded area represents less confident hydrologic inputs of the future water year.

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

DAILY CVP WATER SUPPLY REPORT

APRIL 19, 2017

RUN DATE: April 20, 2017

RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2016	WY 2017	15 YR MEDIAN
TRINITY	LEWISTON	325	1,336	300
SACRAMENTO	KESWICK	4,648	26,855	6,036
FEATHER	OROVILLE (SWP)	1,050	34,750	1,300
AMERICAN	NIMBUS	3,236	13,789	1,803
STANISLAUS	GOODWIN	2,196	2,260	1,480
SAN JOAQUIN	FRIANT	261	3,039	261

STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET

RESERVOIR	CAPACITY	15 YR AVG	WY 2016	WY 2017	% OF 15 YR AVG
TRINITY	2,448	1,849	1,448	2,333	126
SHASTA	4,552	3,767	4,180	4,373	116
FOLSOM	977	694	793	760	109
NEW MELONES	2,420	1,484	646	1,950	131
FED. SAN LUIS	966	751	405	963	128
TOTAL NORTH CVP	11,363	8,545	7,472	10,379	121
MILLERTON	520	336	293	255	76
OROVILLE (SWP)	3,538	2,645	3,306	2,957	112

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

RESERVOIR	CURRENT WY 2017	DRIEST WY 1977	WETTEST WY 1983	15 YR AVG	% OF 15 YR AVG
TRINITY	1,609	101	1,370	775	208
SHASTA	7,773	1,520	7,721	3,777	206
FOLSOM	5,427	216	3,908	1,633	332
NEW MELONES	1,664	0	1,235	547	304
MILLERTON	1,917	116	1,814	591	324

ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES

RESERVOIR	CURRENT WY 2017	DRIEST WY 1977	WETTEST WY 1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	42.25	9.27	50.97	28.80 (55)	147	0.02
SACRAMENTO AT SHASTA DAM	97.24	11.04	103.71	56.29 (60)	173	0.34
AMERICAN AT BLUE CANYON	129.64	15.64	95.30	59.87 (42)	217	0.00
STANISLAUS AT NEW MELONES	49.51	0.00	41.71	25.01 (39)	198	0.09
SAN JOAQUIN AT HUNTINGTON LK	78.40	11.50	74.70	37.68 (42)	208	0.16