

## **American River Group**

Thursday May 17, 2018 1:30 PM

Central Valley Operation Office, Room LL-20

3310 El Camino Ave.

Sacramento, CA 95821

1. Fisheries Updates

2. Operations Forecast

3. Temperature Management

### **American River Summary Conditions – May (On-going):**

- Improved hydrology.

### **Storage/Release Management Conditions:**

- Reducing releases to what is required either for delta needs or FMS, whichever is higher.

### **Temperature Management:**

- Setting up cold water pool for this years temperature management.

**DAILY CVP WATER SUPPLY REPORT**

MAY 16, 2018

RUN DATE: May 17, 2018

**RESERVOIR RELEASES IN CUBIC FEET/SECOND**

RESERVOIR	DAM	WY 2017	WY 2018	15 YR MEDIAN
TRINITY	LEWISTON	5,026	1,700	4,244
SACRAMENTO	KESWICK	12,235	9,168	9,168
FEATHER	OROVILLE (SWP)	20,550	1,050	1,750
AMERICAN	NIMBUS	8,222	1,727	3,273
STANISLAUS	GOODWIN	5,006	3,009	1,247
SAN JOAQUIN	FRIANT	3,246	390	340

**STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET**

RESERVOIR	CAPACITY	15 YR AVG	WY 2017	WY 2018	% OF 15 YR AVG
TRINITY	2,448	1,854	2,325	1,915	103
SHASTA	4,552	3,809	4,383	4,098	108
FOLSOM	977	782	817	930	119
NEW MELONES	2,420	1,501	2,059	2,017	134
FED. SAN LUIS	966	664	964	761	115
TOTAL NORTH CVP	11,363	8,610	10,548	9,721	113
MILLERTON	520	355	340	447	126
OROVILLE (SWP)	3,538	2,706	2,608	2,455	91

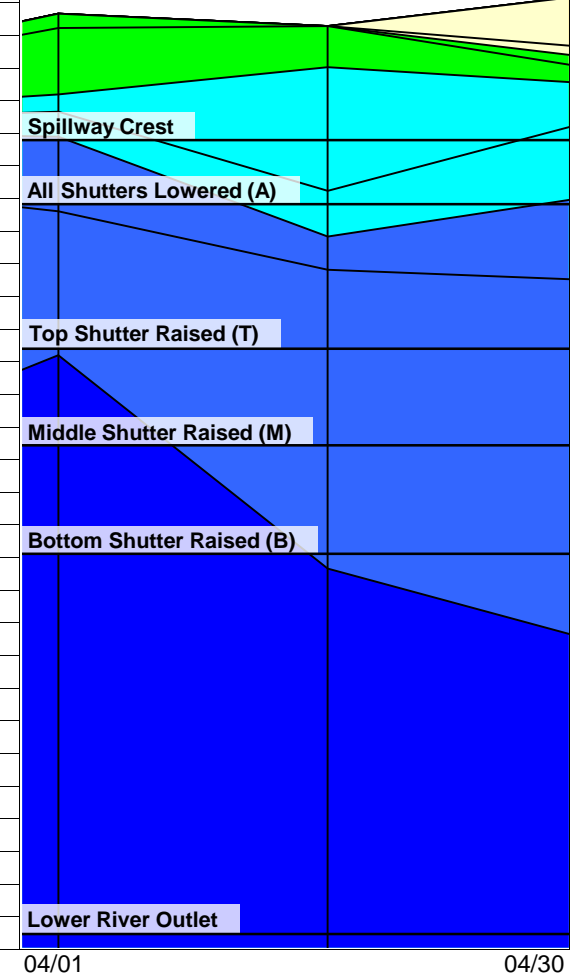
**ACCUMULATED INFLOW FOR WATER YEAR TO DATE IN THOUSANDS OF ACRE-FEET**

RESERVOIR	CURRENT WY 2018	DRIEST WY 1977	WETTEST WY 1983	15 YR AVG	% OF 15 YR AVG
TRINITY	479	142	1,638	938	51
SHASTA	2,739	1,707	8,722	4,140	66
FOLSOM	1,979	250	4,575	1,998	99
NEW MELONES	603	0	1,443	687	88
MILLERTON	838	123	2,123	828	101

**ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES**

RESERVOIR	CURRENT WY 2018	DRIEST WY 1977	WETTEST WY 1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	19.33	12.18	54.59	29.89 ( 56 )	65	0.13
SACRAMENTO AT SHASTA DAM	36.93	15.23	112.07	58.39 ( 61 )	63	0.50
AMERICAN AT BLUE CANYON	63.04	15.64	103.28	63.47 ( 43 )	99	0.14
STANISLAUS AT NEW MELONES	20.88	0.00	45.33	26.23 ( 40 )	80	0.00
SAN JOAQUIN AT HUNTINGTON LK	32.81	15.30	80.80	39.62 ( 43 )	83	0.00

DATE	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shutter Position / Load Percentage						Isobath Plot		
	Water						Air			Nimbus	Folsom	Unit 1		Unit 2			Unit 3	
	NFA	ARP	AFD <sup>1</sup>	AHZ	AWP	AWB	CSU											
Mar	46.4	47.0	49.2	49.8	51.2	51.6	53.7	4206										
04/01	50.7	49.4	49.8	50.2	51.6	52.2	62.7	8162	817	A	31	A	33	A	35			
04/02	50.8	50.6	49.9	50.1	51.4	52.0	62.3	8117	817	A	32	A	33	A	35			
04/03	50.8	50.3	50.2	50.2	51.4	51.8	? 61.1	8109	817	A	32	A	33	A	35			
04/04	51.0	50.0	50.4	50.3	51.6	52.0	? 61.3	9264	814	A	32	A	33	A	35			
04/05	51.2	49.5	50.2	50.2	51.2	51.5	58.0	14960	802	A	33	A	33	A	35			
04/06	49.9	50.2	51.0	50.7	51.6	51.6	57.5	24207	781	A	32	A	33	A	35			
04/07	48.6	53.8	50.3	50.2	51.2	51.5	60.9	26408	798	A	33	A	33	A	35			
04/08	48.1	50.9	52.3	51.5	52.4	52.4	57.3	25128	793	A	32	A	32	A	36			
04/09	49.5	50.0	52.2	52.3	53.3	53.5	61.9	20390	781	A	33	A	34	A	33			
04/10	50.5	49.4	51.8	51.7	52.7	53.0	63.0	16413	775	A	33	A	33	A	35			
04/11	49.9	49.8	50.6	51.0	52.1	52.3	53.9	13191	773	A	32	A	33	A	35			
04/12	49.1	49.7	51.1	50.3	51.4	51.6	52.0	11330	773	A	32	A	33	A	35			
04/13	48.0	48.7	52.3	52.1	53.0	53.1	57.1	9826	773	A	33	A	33	A	35			
04/14	49.2	48.2	51.6	52.3	53.8	54.3	62.2	8739	774	A	32	A	33	A	35			
04/15	50.5	48.3	50.6	51.7	53.2	53.8	57.5	7330	776	A	31	A	33	A	36			
04/16	49.7	47.6	50.7	50.3	51.6	51.9	47.9	6262	780	A	32	A	32	A	36			
04/17	47.7	48.2	51.8	50.6	51.7	52.0	50.2	5534	785	A	34	A	34	A	32			
04/18	47.4	47.4	51.5	51.8	52.9	53.0	53.0	4628	788	A	14	A	38	A	48			
04/19	48.1	47.1	51.5	51.5	53.1	53.6	55.7	4085	791	A	12	A	44	A	44			
04/20	49.1	48.5	51.4	51.9	54.1	54.8	62.4	3595	796	A	48	A	41	A	11			
04/21	50.7	49.7	51.4	52.3	54.8	55.6	? 66.0	3136	800	A	42	A	40	A	18			
04/22	53.0	50.7	? 51.0	52.6	55.4	56.4	69.4	2735	807	A	15	A	20	A	65			
04/23	54.2	50.9	? 51.1	52.7	55.6	56.9	70.3	2346	815	A	60	A	20	A	20			
04/24	54.8	51.7	51.2	52.6	55.6	57.0	66.7	2353	825	A	68	A	16	A	16			
04/25	55.4	52.6	51.9	52.4	55.3	56.7	63.5	2350	832	A	56	A	27	A	16			
04/26	56.0	52.6	52.6	52.8	55.5	56.8	59.5	2351	840	A	15	A	69	A	16			
04/27	55.8	52.8	52.5	52.9	55.2	56.3	58.3	2351	846	A	16	A	19	A	65			
04/28	54.6	52.7	53.4	52.8	54.8	55.6	56.3	2350	854	A	54	A	23	A	23			
04/29	53.3	52.5	54.4	52.8	55.0	55.7	57.1	2350	861	A	21	A	57	A	22			
04/30	52.5	52.1	51.3	52.5	54.9	55.8	58.2	2350	866	A	27	A	48	A	25			
-																		
Apr	51.0	50.2	51.4	51.6	53.2	53.8	59.4	8678										
								Total AF	516394									



**Legend**

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

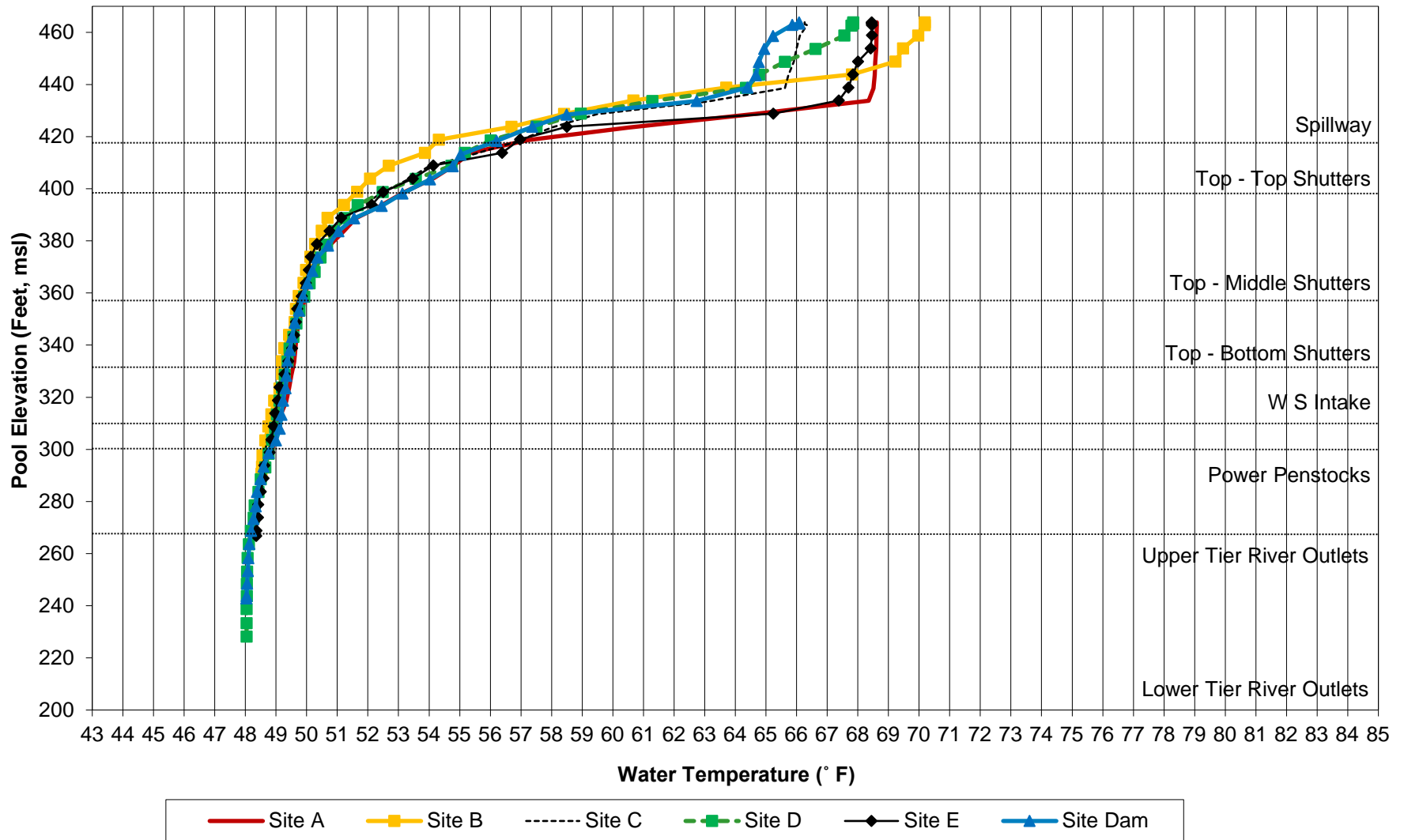
- A = All Shutters Lowered
- T = Top Shutter Raised
- M = Middle Shutter Raised
- B = Bottom Shutter Raised
- O = Unit Outage

**Notes**

- <sup>1</sup> AFD is a weighted average using hourly flow values
- 2
- 3
- 4
- 5
- 6



# Folsom Lake Temperature Profiles: 23-May-2018





## Folsom Cold Water Pool

Folsom Reservoir: Cold Water Volume

<b>Profile Date</b>	<b>Volume less than 58°F (TAF)</b>
05/23/18	552.9

Proposed Power Generation Bypass/Lower River Outlet for Temperature Management

<b>Date</b>	<b>Bypass/Lower River Outlet (cfs)</b>	<b>Temperature not to exceed downstream of Nimbus Dam (°F)</b>	<b>Cumulative Use of Cold Water Pool Volume (TAF)</b>
N/A at this time			

Assumes Monthly average flows: April 8,500 cfs



# DRAFT May 2018

## 90% Runoff Exceedance Outlook:

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

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

		May	Jun	Jul	Aug	Sep	
Folsom	866	942	831	574	433	384	
	Elev.	463	453	425	408	401	

### Monthly River Releases (cfs)

American	2000	3006	4983	3148	1750	
MRR	1750	1750	1750	1750	1750	

## 50% Runoff Exceedance Outlook:

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

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

		May	Jun	Jul	Aug	Sep	
Folsom	866	959	899	757	657	602	
	Elev.	464	459	445	435	429	

### Monthly River Releases (cfs)

American	2000	3006	3548	2653	2037	
MRR	1750	1750	1750	1750	1750	

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.

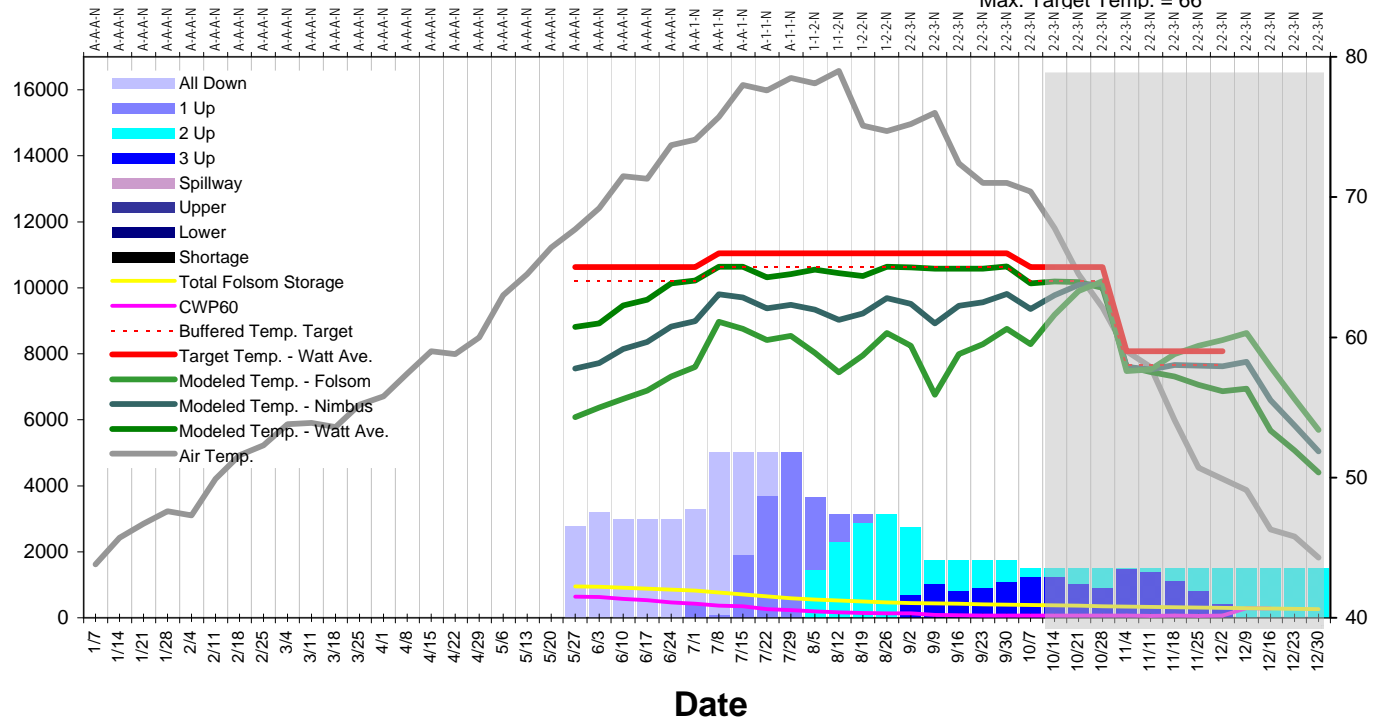
Shaded area represents less confident hydrologic inputs of the future water year.

**May 2018 Updated May Inflow 90%-Exceedance Outlook**

Temperature Schedule = 26  
 9/30 - CWP<60° (TAF, Constraint = 0) = 69  
 9/30 - Folsom Storage (TAF) = 401  
 Number of Excursions = 0  
 Max. Target Temp. = 66°

USBR Pred.

Release (cfs) / Volume (TAF)



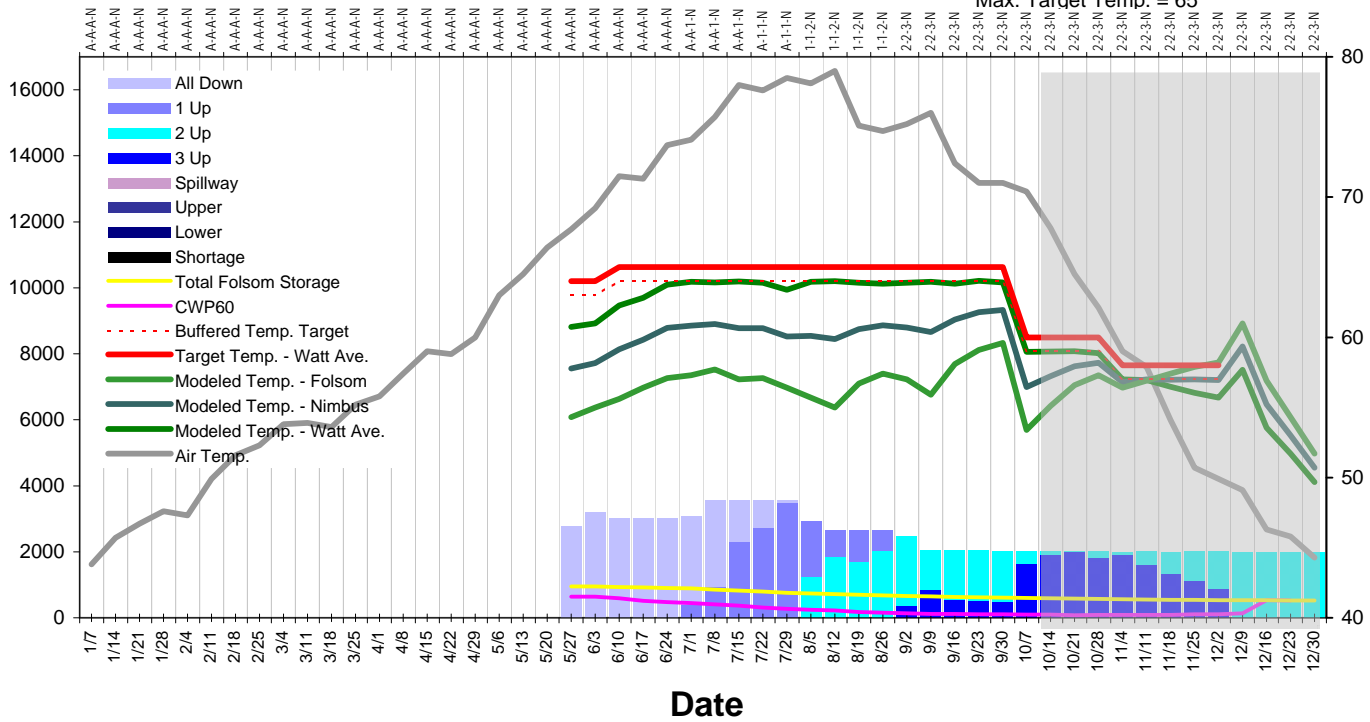
Temperature (°F)

**May 2018 Updated Apr Inflow 50%-Exceedance Outlook**

Temperature Schedule = 16  
 9/30 - CWP<60° (TAF, Constraint = 0) = 109  
 9/30 - Folsom Storage (TAF) = 610  
 Number of Excursions = 0  
 Max. Target Temp. = 65°

USBR Pred.

Release (cfs) / Volume (TAF)



Temperature (°F)

Date