

## **American River Group**

Thursday, November 16<sup>th</sup>, 2017 1:30 PM  
Central Valley Operation Office, Room 302  
3310 El Camino Ave.  
Sacramento, CA 95821

1. Fisheries Updates

2. Operations Forecast

3. Temperature Management

4. Status Reports

- JFP/Water Control Manual Update

5. Schedule Next Meeting

6. Adjourn

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

- Seasonal American River seasonal temperature performance, fall cold water operations

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

- Projected storage conditions: Good storage conditions projected going into the fall

### **Temperature Management:**

- Management Challenge: summer water temperature control. iCPMM modelling suggests schedule 22, with a Watt Ave target of 65 degrees changing to 64 degrees the first week of October, then changing to 58 degrees beginning the first week of November.
- Due to modeling limitations, manage fall temperatures based on cold-water-pool volumes and conditions at the time
- Continue exercising real-time management capabilities

**DAILY CVP WATER SUPPLY REPORT**

NOVEMBER 14, 2017

RUN DATE: November 15, 2017

**RESERVOIR RELEASES IN CUBIC FEET/SECOND**

RESERVOIR	DAM	WY 2017	WY 2018	15 YR MEDIAN
TRINITY	LEWISTON	321	299	305
SACRAMENTO	KESWICK	4,863	4,795	4,925
FEATHER	OROVILLE (SWP)	2,450	1,750	2,000
AMERICAN	NIMBUS	1,286	2,064	1,537
STANISLAUS	GOODWIN	201	601	261
SAN JOAQUIN	FRIANT	468	375	173

**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	1,356	1,069	1,747	129
SHASTA	4,552	2,330	2,822	3,160	136
FOLSOM	977	386	385	525	136
NEW MELONES	2,420	1,267	513	1,976	156
FED. SAN LUIS	966	401	227	743	185
TOTAL NORTH CVP	11,363	5,740	5,016	8,151	142
MILLERTON	520	232	241	317	136
OROVILLE (SWP)	3,538	1,671	1,525	1,176	70

**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	22	12	58	33	67
SHASTA	357	342	418	334	107
FOLSOM	97	67	250	91	108
NEW MELONES	64	0	126	54	118
MILLERTON	152	38	164	76	200

**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	2.91	0.85	4.63	3.78 ( 55 )	77	0.09
SACRAMENTO AT SHASTA DAM	5.34	1.41	6.49	6.48 ( 60 )	82	0.75
AMERICAN AT BLUE CANYON	0.00	2.34	10.92	6.36 ( 42 )	0	0.00
STANISLAUS AT NEW MELONES	0.87	0.00	5.20	2.80 ( 39 )	31	0.15
SAN JOAQUIN AT HUNTINGTON LK	0.32	1.80	9.60	4.08 ( 42 )	8	0.00

DATE	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shuter 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											
Sep	60.5	62.4	60.8	61.7	63.0	63.6	72.6	3569										
10/01	59.5	59.1	62.3	62.8	63.8	64.1	68.8	3552	659	M	16	M	23	T	60			
10/02	59.7	57.9	62.8	62.1	62.8	62.9	65.2	3439	654	M	28	M	0	T	72			
10/03	!	-	57.0	62.9	62.2	62.7	62.7	61.8	3290	649	M	28	M	0	T		72	
10/04	!	-	56.6	62.9	62.5	63.3	63.3	62.6	3211	643	M	31	M	0	T		68	
10/05	!	-	56.7	63.0	62.7	63.5	63.5	63.3	2940	638	M	27	M	0	T		73	
10/06	!	-	57.0	63.0	62.9	63.8	63.9	65.4	2827	634	M	29	M	0	T		71	
10/07	61.0	57.0	62.9	63.0	64.0	64.2	? 67.9	2728	630	M	31	M	0	T	68			
10/08	61.3	57.0	63.0	63.2	63.9	64.0	66.6	2629	626	M	27	M	0	T	73			
10/09	60.9	56.7	63.0	62.6	63.2	63.2	66.9	2534	622	M	25	M	0	T	75			
10/10	60.7	56.4	62.9	62.7	63.5	63.6	65.2	2482	618	M	35	M	0	T	65			
10/11	59.9	55.3	62.9	62.8	63.2	63.2	61.5	2383	614	M	37	M	0	T	63			
10/12	58.2	53.6	62.8	62.2	62.6	62.5	58.5	2320	610	M	35	M	0	T	65			
10/13	57.7	53.7	62.8	62.0	62.5	62.3	? 58.0	2260	607	M	38	M	0	T	62			
10/14	57.3	53.5	62.7	62.3	62.7	62.6	61.8	2142	605	M	37	M	0	T	62			
10/15	57.3	53.6	62.7	62.2	63.0	62.9	60.5	2093	604	M	32	M	0	T	68			
10/16	57.6	53.6	62.4	62.3	62.9	62.9	? 61.3	2090	602	M	38	M	0	T	62			
10/17	57.5	53.8	62.4	62.3	63.0	63.0	62.5	2048	599	M	38	M	0	T	62			
10/18	57.0	53.8	62.2	62.2	63.0	63.0	62.3	2062	596	M	38	M	0	T	62			
10/19	56.9	54.8	61.9	62.0	62.7	62.7	59.1	2094	593	M	35	M	0	T	65			
10/20	57.4	55.2	61.5	61.8	62.4	62.4	55.8	2093	590	M	70	M	0	M	30			
10/21	56.7	53.9	61.4	61.3	62.0	61.8	? 55.6	2097	588	M	35	M	0	M	65			
10/22	56.9	53.8	61.4	61.1	61.9	61.9	? 59.5	2093	585	M	39	M	0	M	61			
10/23	57.4	54.4	60.7	61.2	62.4	62.6	? 65.0	2096	583	B	36	M	0	M	63			
10/24	58.2	55.6	60.3	61.5	62.7	63.0	? 67.2	2091	580	B	31	M	0	M	69			
10/25	59.0	56.4	59.5	61.3	62.7	63.1	67.8	2095	577	B	68	M	0	M	31			
10/26	59.4	56.4	59.5	60.7	62.2	62.6	67.3	2099	573	B	70	M	0	M	30			
10/27	59.3	56.7	59.5	60.2	61.5	62.0	66.9	2097	570	B	70	M	20	M	10			
10/28	59.3	56.9	59.7	60.1	61.3	61.6	? 66.0	2093	566	B	67	M	33	M	0			
10/29	59.0	56.8	59.8	60.1	61.2	61.5	64.2	2090	563	B	68	M	31	M	0			
10/30	? 58.4	56.4	59.8	59.7	60.6	60.7	58.3	2093	560	B	70	M	29	M	0			
10/31	57.3	55.4	59.6	59.7	60.4	60.2	? 56.0	2093	557	B	84	M	16	M	0			
Oct	58.5	55.6	61.8	61.8	62.6	62.7	62.9	2395										
							Total AF	147280										

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

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

DATE	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shuter 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					Unit 1	Unit 2	Unit 3									
Oct	58.5	55.6	61.8	61.8	62.6	62.7	62.9	2395										<b>Spillway Crest</b> 					
11/01	56.6	55.1	60.0	59.5	60.4	60.4	? 57.6	2096	553	B	71	M	29	M	0								
11/02	55.9	54.4	59.7	59.4	59.9	59.8	57.1	2097	549	B	69	B	30	M	0								
11/03	55.6	54.4	59.5	59.4	60.0	59.9	60.3	2094	546	B	68	B	32	M	0								
11/04	55.5	54.2	59.5	59.0	59.7	59.6	? 57.3	2095	543	B	68	B	32	M	0								
11/05	56.3	54.1	59.6	58.6	59.1	58.8	51.0	2009	541	B	70	B	30	M	0								
11/06	55.8	53.1	59.8	58.5	59.0	58.8	51.0	2095	539	B	67	B	32	M	0								
11/07	54.5	52.1	59.9	58.6	59.0	58.7	50.5	2093	536	B	82	B	17	M	0								
11/08	53.6	51.5	59.5	58.7	59.0	58.6	55.4	2057	532	B	15	B	85	M	0								
11/09	54.8	53.3	59.6	58.9	59.9	59.8	60.0	2074	529	B	29	B	71	M	0								
11/10	55.2	54.1	59.6	59.0	59.8	59.7	58.0	2069	528	B	15	B	84	M	0								
11/11	55.1	53.7	59.6	59.0	59.7	59.6	53.7	2062	528	B	15	B	84	M	0								
11/12	55.0	53.3	59.5	58.9	59.6	59.5	? 54.5	2066	527	B	15	B	84	M	0								
11/13	54.5	52.7	59.3	58.9	59.5	59.4	? 58.0	2059	526	B	15	B	85	M	0								
11/14	55.4	53.7	59.2	58.9	59.9	59.9	56.8	2064	525	B	12	B	87	M	0								
11/15																		Middle Shutter Raised (M)					
11/16																		Bottom Shutter Raised (B)					
11/17																		Lower River Outlet					
11/18																							
11/19																							
11/20																							
11/21																							
11/22																							
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11/26																							
11/27																							
11/28																							
11/29																							
11/30																							
-																							
Nov	55.3	53.5	59.6	59.0	59.6	59.5	55.8	2074															

Total AF 57580

Legend

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# DRAFT November 2017

## 90% Runoff Exceedance Outlook:

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

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

		Nov	Dec	Jan			
Folsom	557	477	416	385			
	Elev.	414	405	401			

### Monthly River Releases (cfs)

American	2008	2000	2000			
MRR	2000	2000	2000			

## 50% Runoff Exceedance Outlook:

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

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

		Nov	Dec	Jan			
Folsom	557	527	516	514			
	Elev.	420	419	418			

### Monthly River Releases (cfs)

American	2000	2500	2500			
MRR	2000	2000	2000			

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.







## Folsom Cold Water Pool

Folsom Reservoir: Cold Water Volume

<b>Profile Date</b>	<b>Volume less than 58°F (TAF)</b>
11/08/17	36

Proposed Power Generation Bypass/Lower River Outlet for Temperature Management

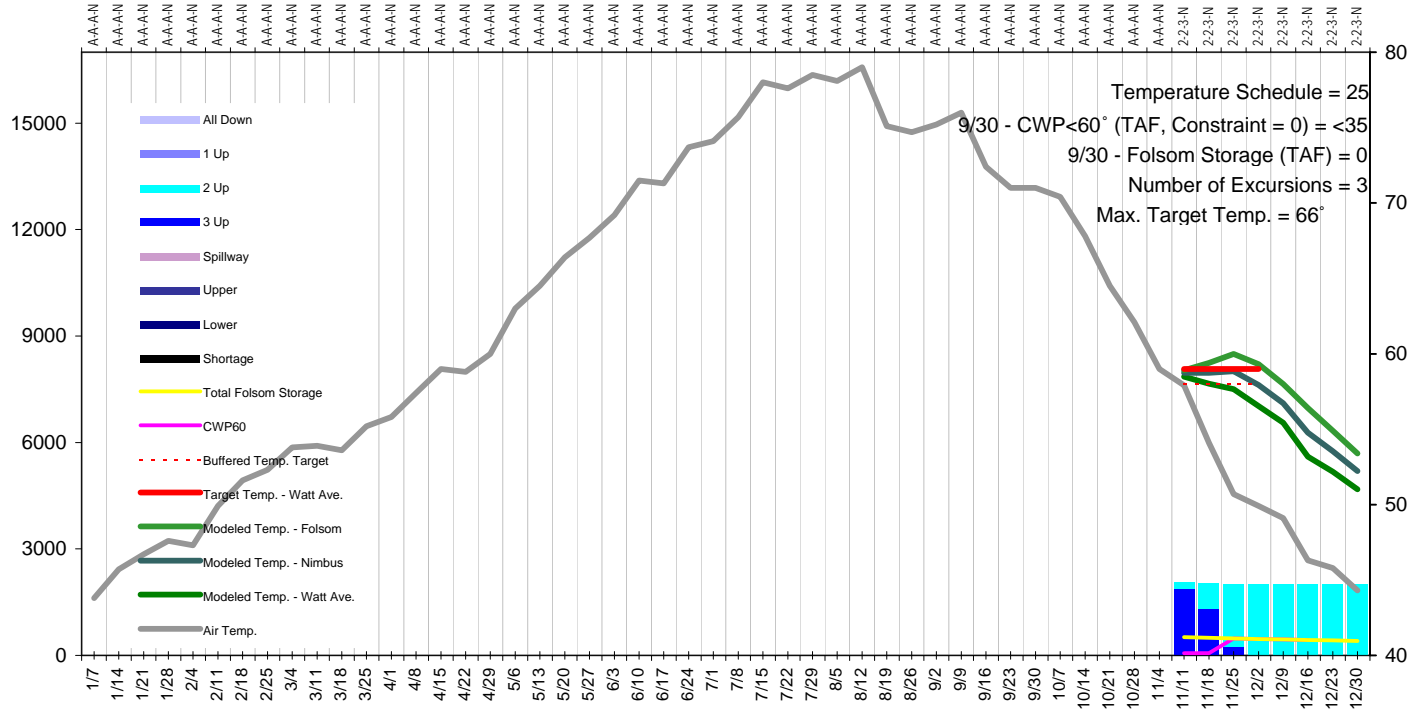
<b>Date</b>	<b>Bypass/Lower River Outlet (cfs)</b>	<b>Temperature not to exceed downstream of Nimbus Dam (°F)</b>	<b>Cumulative Use of Cold Water Pool Volume (TAF)</b>
N/A at this time			

Assumes Monthly average flows: November 2,000 cfs

# November 2017 90%-Exceedance Outlook

USBR Pred.

Release (cfs) / Volume (TAF)



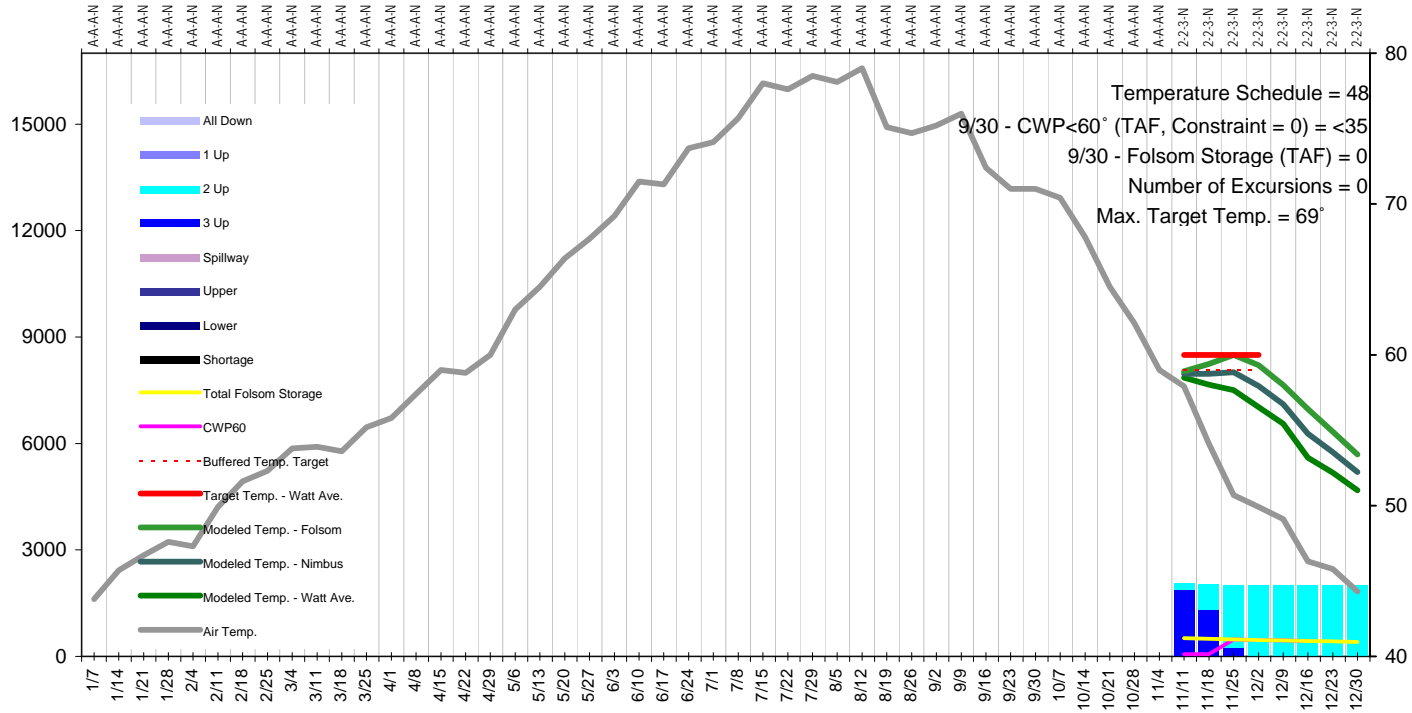
Temperature (°F)

Release (cfs) / Volume (TAF)

# November 2017 90%-Exceedance Outlook

USBR Pred.

Release (cfs) / Volume (TAF)



Temperature (°F)

Release (cfs) / Volume (TAF)