

American River Group

1:30 PM – 3:30 PM

Conference Line: [+1 321-209-6143](tel:+13212096143) **Access Code:** 318 097 086#

Webinar: [Join Microsoft Teams Meeting](#)

Thursday, November 19, 2020

Agenda

1. Introductions
2. Housekeeping
3. Fisheries Update
 - a. CDFW
4. Operations Forecast
 - a. SMUD
 - b. PCWA
 - c. Central Valley Operations
5. Central Valley Operations
 - a. Temperature management
 - b. Exceedance forecast & temperature schedules
6. Discussion
 - a. 2020 Annual Report
7. Next Meeting: Thursday, December 16, 1:30-3:30pm

ARG MEETING FISHERIES UPDATE

November 19, 2020

Presented by Tracy Grimes, CDFW, 916-597-6913, tracy.grimes@wildlife.ca.gov

FALL-RUN CHINOOK CARCASS SURVEY

- Survey began 10/13/2020, currently in week 6
- Total carcasses handled through 11/13 is 128
 - 78% of carcasses located on or above the weir
 - No data on where the ad-clipped fish are coming from yet
- Peak carcass detection week not yet known
- Survey scheduled until mid-January

Table 1. Fall run Chinook salmon carcass counts for the 2020 survey.

Week	NB	W	1a	1b	2	3	Total Carcasses Processed
1	6	5	0	0	1	0	12
2	11	9	6	1	1	1	29
3	5	7	2	0	1	0	15
4	14	8	7	0	0	0	29
5	22	13	7	0	1	0	43

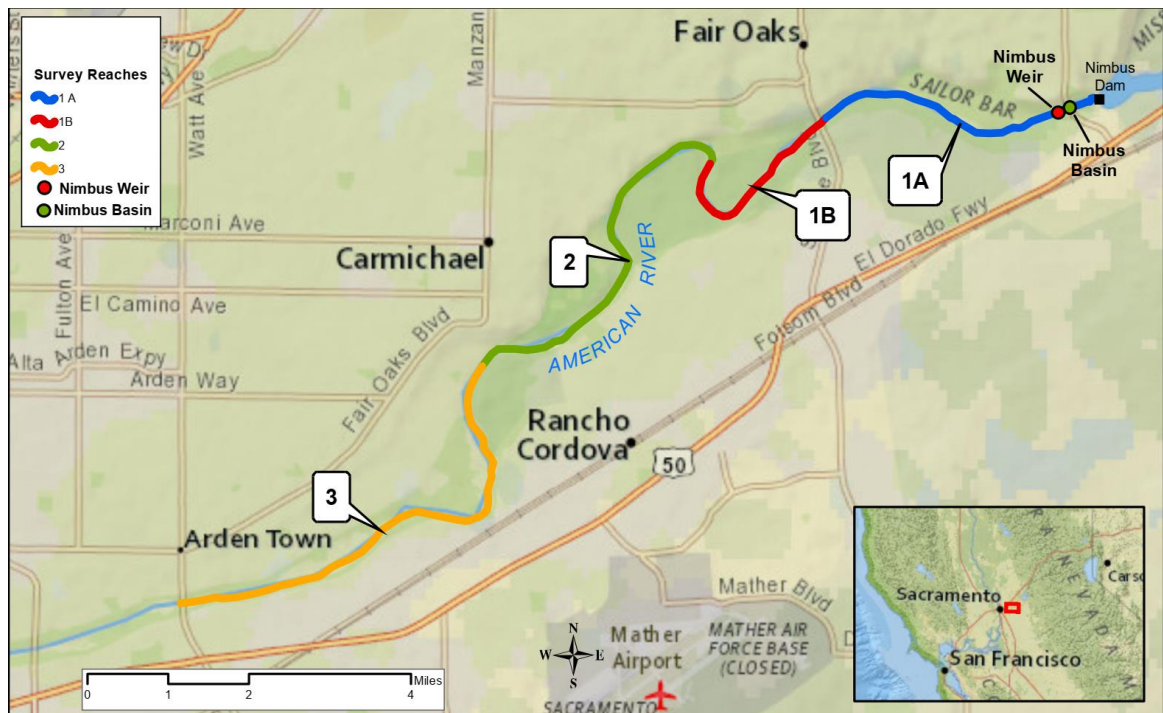


Figure 1. Map of survey sections for the lower American River Chinook salmon escapement survey.

SMUD Upper American River Project Update

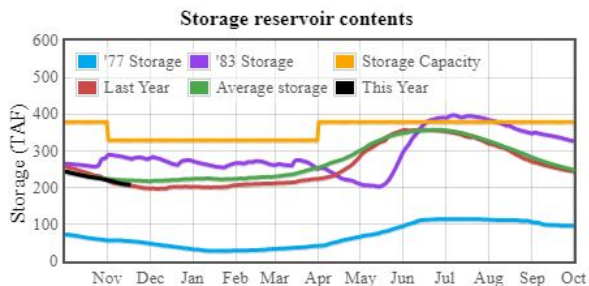
Conditions – 17 November 2020:

November precipitation through 11/17/2020 7:00:00 AM is 2.73 in., which is 40% of the November average of 6.87". Precip for the water year to date is 2.73" which is 38% of average to date (7.19") and 5% of the entire water year average of 57.32". 2.4" precipitation is forecasted for the area in the next two weeks (including this week's storms).

Combined reservoir storage for Loon Lake, Union Valley and Ice House Reservoirs

- 207,884 acre feet (October 13, 2020 storage: 238,568 acre feet)
- 54.8% capacity
- 93% of historical average (17 November historical average: 223,708 AF / 59%)
- 1% decrease in storage since last week

November 17 reservoir storage: (Figure 1)



- Loon Lake: 38,199 AF
- Ice House: 25,374 AF
- Union Valley: 144,312 AF

Last year today, storage was at 54.2% (205,650 AF). *Total non-winter capacity: 379,174 AF.

Chili Bar releases into the South Fork American River

October 2020 releases:

- Daily average flow: 491 cfs
- Total releases: 30,185 AF

November 2020 releases (Nov 1-16):

- Daily average flow so far: 384 cfs
- Total releases so far: 12,191 AF

Runoff into the storage reservoir basins is 28% of median to date through Nov 16. The snowpack is 77% of average at selected snow sensors.

Runoff Forecast (in cfs, daily average forecast, forecast 2020-11-17) (Figure 2)

BASIN	Fri Nov 20	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov
SFA above Slab	28.9	28.5	28.5	33.4	48.8	88.6
Slab Creek	50.5	49.1	47.7	47.2	47.4	48.6
Combined South Fork	79	78	76	81	96	137

PCWA MFP OPERATIONS OVERVIEW for American River Operations Group (Real Time Data as of November 18, 2020)

- ❖ **French Meadows Storage = 56,000 AF of 136,405 AF = 41% Capacity**
 - MFAR above FM Inflow (R24) = ~10 cfs
- ❖ **Hell Hole Storage = 86,000 AF of 207,590 AF = 41% Capacity**
 - Five Lakes Inflow (R23) = ~15 cfs
 - Rubicon Inflow (R22) = ~50 cfs
- ❖ **Combined Storage (FM+HH) = 142,000 AF/342,590 AF = 41% Capacity; 83% of Average**
- ❖ **MFAR @ R11: 8 day daily average ~700 cfs**
- ❖ **PCWA annual MFP maintenance outage complete - all units back online – Middle Fork & Ralston Powerhouses running approximately 12 hrs/day**
- ❖ **Precipitation to date:**

2021 Water Year Dashboard

Updated through:		November 18, 2020	
Lake Spaulding Precipitation			
Monthly Totals (values in inches of precipitation):			
	Historical Average ^{2/}	Actual This Year	Percent of Average
October	4.17	0.00	0%
November	9.07	3.20	35%
December	12.70	--	--
January	12.26	--	--
February	12.11	--	--
March	11.31	--	--
April	5.94	--	--
May	3.41	--	--
June	1.18	--	--
July	0.25	--	--
August	0.37	--	--
September	1.23	--	--
October	3.2 inches		
Cumulative Totals (values in inches of precipitation):			
Through Month of:	Historical Cumulative Average ^{2/}	Accumulation to Date	% of Average to Date
October	4.17	0.00	0%
November	13.24	3.20	24%

American River Summary Conditions – November (On-going)

- November has been cooler than we have been experiencing, however still warm enough to make cooling the LAR to optimal spawning temperatures difficult.

Storage/Release Management Conditions

- Releases currently at 1,250 cfs for Fall Run Chinook Salmon spawning in the American River.

Temperature Management:

- All shutters are pulled on all three units.
- The power bypass operation proposal was accepted by Regional Director Conant on October 20, 2020.
- Immediately upon receiving notice of approval of the Power Bypass Operations Proposal, Phase 1 was implemented. The remaining bottom shutters were pulled on Wednesday October 21, 2020, and all releases to the LAR were from the coolest water available to the power plants.
- Power bypass operations were initiated on October 28, 2020, with the bypass rate being increased by 100 cfs every 12 hours until 500 cfs of bypass was achieved on October 30, 2020. The goal was to target instream temperatures of 56 degrees or lower at the AFO gage as of November 1.
- To date we have not achieved 56 degrees F or lower at AFO but we are getting close. Temperatures at Watt Ave have been at or below 56 degrees F for several days however.

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

DAILY CVP WATER SUPPLY REPORT

NOVEMBER 17, 2020

RUN DATE: November 18, 2020

RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2020	WY 2021	15 YR MEDIAN
TRINITY	LEWISTON	297	298	305
SACRAMENTO	KESWICK	5,026	4,612	4,627
FEATHER	OROVILLE (SWP)	2,450	2,450	2,000
AMERICAN	NIMBUS	2,703	1,246	1,808
STANISLAUS	GOODWIN	503	208	252
SAN JOAQUIN	FRIANT	417	432	354

STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET

RESERVOIR	CAPACITY	15 YR AVG	WY 2020	WY 2021	% OF 15 YR AVG
TRINITY	2,448	1,338	1,944	1,283	96
SHASTA	4,552	2,279	3,216	2,031	89
FOLSOM	977	373	537	334	90
NEW MELONES	2,420	1,327	1,993	1,501	113
FED. SAN LUIS	966	394	268	381	97
TOTAL NORTH CVP	11,363	5,710	7,958	5,530	97
MILLERTON	520	233	244	177	76
OROVILLE (SWP)	3,538	1,529	1,954	1,373	90

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

RESERVOIR	CURRENT WY 2021	WY 1977	WY 1983	15 YR AVG	% OF 15 YR AVG
TRINITY	4	14	63	32	11
SHASTA	286	369	445	343	84
FOLSOM	76	71	269	95	80
NEW MELONES	37	----	136	55	68
MILLERTON	102	41	178	81	127

ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES

RESERVOIR	CURRENT WY 2021	WY 1977	WY 1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	0.97	1.22	5.74	4.12 (58)	24	0.00
SACRAMENTO AT SHASTA DAM	1.22	1.63	7.23	7.14 (63)	17	0.00
AMERICAN AT BLUE CANYON	2.53	3.19	10.92	7.10 (45)	36	1.08
STANISLAUS AT NEW MELONES	0.11	----	5.20	2.93 (42)	4	0.00
SAN JOAQUIN AT HUNTINGTON LK	0.97	1.80	9.60	4.31 (45)	23	0.00

DATE	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shuter Position / Load Percentage						Isobath Plot				
	Water						Air													
	NFA	ARP	AFD ¹	AHZ	AWP	AWB	CSU			Nimbus	Folsom	Unit 1		Unit 2						
Sep	61.5	60.2	65.0	66.6	67.5	67.3	74.0	1890								>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				
10/01	62.2	59.6	65.1	66.8	67.6	67.2	75.8	1712	423	T	24	M	45	M	31	Spillway Crest All Shutters Lowered (A) Top Shutter Raised (T) Middle Shutter Raised (M) Bottom Shutter Raised (B) Lower River Outlet				
10/02	62.4	60.1	65.3	66.7	67.4	66.9	74.3	1761	420	T	25	M	27	M	48					
10/03	63.3	58.9	65.4	66.6	67.2	66.8	73.6	1760	418	T	27	M	52	M	22					
10/04	63.8	59.3	65.2	66.5	67.3	66.9	74.3	1760	416	T	21	M	22	M	57					
10/05	63.7	59.3	65.6	66.5	67.2	66.7	71.8	1763	413	T	30	M	70	M	1					
10/06	63.7	58.5	65.6	66.5	67.1	66.6	72.3	1634	411	T	30	M	70	M	1					
10/07	64.2	58.7	65.4	66.6	67.2	66.7	69.2	1510	409	T	26	M	74	M	0					
10/08	63.4	58.0	65.4	66.4	66.2	65.4	62.8	1507	407	T	30	M	70	M	0					
10/09	62.4	57.4	65.5	66.2	66.5	65.5	63.4	1510	405	T	31	M	69	M	1					
10/10	62.2	58.2	65.4	65.9	66.5	65.9	65.2	1513	403	T	32	M	68	M	0					
10/11	62.8	58.4	65.5	66.3	66.7	66.1	66.5	1512	401	T	26	M	74	M	0					
10/12	62.6	57.9	65.5	66.4	66.7	65.9	66.4	1508	399	T	26	M	74	M	0					
10/13	62.2	56.6	65.3	66.4	66.8	66.2	69.6	1511	397	T	18	M	82	M	1					
10/14	62.4	58.6	63.6	66.5	67.1	66.7	74.9	1510	395	B	22	M	77	M	1					
10/15	63.0	58.2	65.0	66.7	67.1	66.5	74.3	1511	393	B	1	M	99	B	0					
10/16	62.6	58.1	64.0	66.3	66.9	67.1	72.8	1509	390	B	21	M	79	B	1					
10/17	62.2	57.1	63.9	66.1	66.6	66.8	71.5	1506	389	B	17	M	83	B	1					
10/18	62.1	57.1	64.0	65.8	66.5	66.8	71.5	1510	387	B	27	M	72	B	0					
10/19	62.0	57.2	63.0	65.5	66.1	66.4	70.0	1512	384	B	44	M	56	B	0					
10/20	61.9	57.4	62.4	65.7	66.1	66.2	69.3	1510	381	B	55	M	45	B	1					
10/21	61.6	57.5	60.6	64.5	65.4	65.9	69.1	1513	378	B	74	B	25	B	1					
10/22	61.1	57.2	60.8	63.9	64.1	64.5	66.2	1507	375	B	50	B	49	B	1					
10/23	59.9	56.1	60.5	62.7	63.0	63.0	62.2	1515	372	B	12	B	45	B	43					
10/24	58.8	55.0	61.0	61.9	62.4	62.5	59.1	1509	370	B	35	B	41	B	25					
10/25	58.3	54.8	61.4	61.7	61.8	61.9	58.9	1512	368	B	50	B	3	B	48					
10/26	#	-	53.2	60.7	61.0	60.2	59.6	1509	365	B	1	B	31	B	69					
10/27	#	-	52.4	60.9	60.4	60.5	60.2	1500	362	B	1	B	38	B	60					
10/28	54.4	52.4	60.7	60.5	60.5	60.3	58.0	1497	359	B	1	B	73	B	26					
10/29	54.1	52.3	59.1	60.8	60.7	60.5	57.8	1497	357	B	1	B	27	B	71					
10/30	53.5	52.0	58.3	60.8	60.9	60.7	58.1	1496	355	B	2	B	49	B	49					
10/31	53.2	51.7	58.0	60.4	60.6	60.6	59.2	1492	353	B	2	B	59	B	39					
Oct	61.0	56.8	63.2	64.7	65.1	64.8	67.0	1551									10/01	10/31		
Total AF								95357												

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 based on hourly flow values, including generation, bypass and spill.
-
-
-
-

D A T E	Mean Daily Temperatures (°F)							Release (CFS)	Storage (TAF)	Unit Shuter Position / Load Percentage						Isobath Plot				
	Water						Air			Percentage										
	NFA	ARP	AFD ¹	AHZ	AWP	AWB	CSU			Nimbus	Folsom	Unit 1		Unit 2		Unit 3				
Oct	61.0	56.8	63.3	64.7	65.1	64.8	67.0	1551								>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				
11/01	53.3	51.9	57.8	59.8	60.2	60.3	59.6	1272	352	B	2	B	50	B	48					
11/02	53.5	51.8	57.7	59.2	59.6	59.8	60.3	1253	350	B	2	B	56	B	42					
11/03	53.4	51.5	57.6	58.9	59.2	59.4	60.7	1252	348	B	3	B	52	B	46					
11/04	53.2	51.6	57.0	58.4	58.7	58.8	59.1	1248	346	B	2	B	49	B	48					
11/05	52.8	51.7	57.9	58.7	59.0	59.1	62.8	1251	344	B	2	B	61	B	37					
11/06	52.5	52.0	57.8	57.9	58.1	58.4	57.0	1252	342	B	2	B	50	B	48					
11/07	52.1	51.2	57.9	57.9	57.6	57.3	52.7	1250	341	B	1	B	51	B	47					
11/08	52.1	50.3	57.9	57.5	57.1	56.8	49.4	1250	340	B	2	B	50	B	48					
11/09	50.2	47.8	57.6	57.0	56.1	55.4	44.2	1249	338	B	2	B	38	B	59					
11/10	49.4	46.8	57.9	56.6	55.9	55.3	47.3	1252	337	B	2	B	39	B	58					
11/11	49.4	46.8	57.4	56.4	56.0	55.7	49.7	1253	335	B	3	B	52	B	46					
11/12	49.6	46.2	57.4	56.4	55.8	55.2	47.1	1246	334	B	2	B	2	B	96					
11/13	50.6	46.7	57.1	56.2	55.5	55.1	51.0	1255	334	B	21	B	34	B	46					
11/14	52.9	48.8	56.5	56.4	56.2	55.8	50.8	1252	335	B	2	B	48	B	49					
11/15	53.1	48.9	56.5	56.5	56.2	55.8	51.6	1252	335	B	2	B	51	B	47					
11/16	51.9	48.5	56.7	56.4	56.3	56.1	52.4	1253	334	B	2	B	49	B	49					
11/17	51.9	48.1	57.0	56.4	56.0	55.8	54.8	1246	334	B	33	B	33	B	33					
11/18																				
11/19																				
11/20																				
11/21																				
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11/24																				
11/25																				
11/26																				
11/27																				
11/28																				
11/29																				
11/30																				
-																				
Nov	51.9	49.4	57.4	57.4	57.3	57.1	53.6	1252								11/01	11/30			
Total AF							42220													

Legend

- ?

!

#
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- = All Shutters Lowered

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Notes

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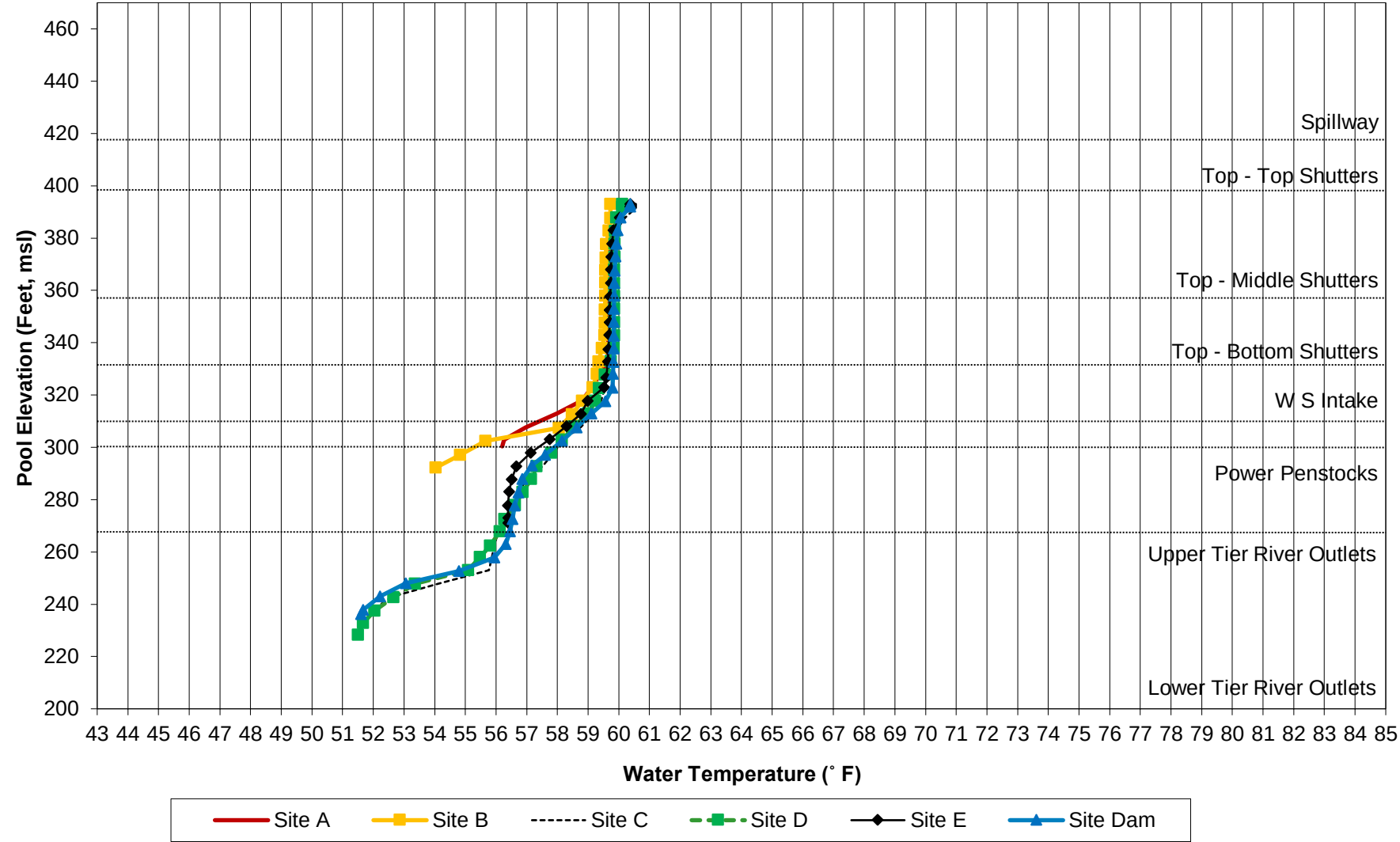
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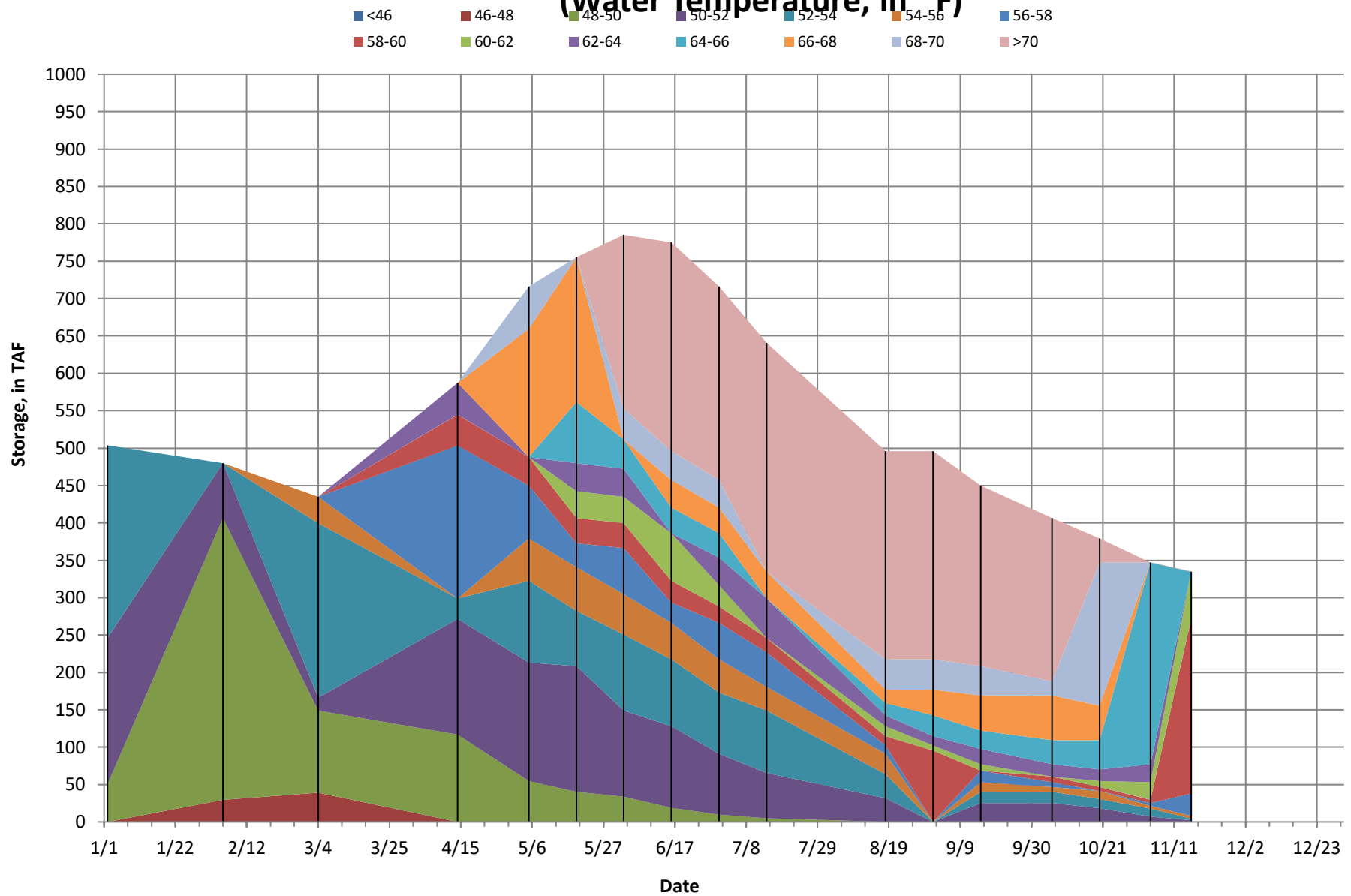
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Folsom Lake Temperature Profiles: 16-Nov-2020



(Water Temperature, in ° F)



Folsom Cold Water Pool

Folsom Reservoir: Cold Water Volume

Profile Date	Volume less than 58°F (TAF)
11/16/20	38.0

Penstock Elevation (ft)	Volume (TAF)	Approximate Max. Temp (F)
327	83	59.8

Power Generation Bypass/Lower River Outlet for Temperature Management

Date	Bypass/Lower River Outlet (cfs)	Temperature not to exceed downstream of Nimbus Dam (°F)	Cumulative Use of Cold Water Pool Volume (TAF)
10-28-2020 10-29-2020 10-30-2020	100 cfs 300 cfs 500 cfs	56 degrees	Est total use will be 28 taf if entire 28 days of bypass are necessary

DRAFT November 2020

90% Runoff Exceedance Outlook:

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

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

Folsom	353 Elev.	Nov	Dec	Jan			
		321	297	291			
		391	387	386			

Monthly River Releases (cfs)

American	1250	1250	1125			
MRR	725	725				

50% Runoff Exceedance Outlook:

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

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

Folsom	353 Elev.	Nov	Dec	Jan			
		368	403	478			
		398	404	414			

Monthly River Releases (cfs)

American	1250	1250	1250			
MRR	725	725				

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.