



— BUREAU OF —
RECLAMATION

American River Group

1:30 PM – 3:30 PM

Conference Line: +1 (321) 209-6143; Access Code: 985 598 947#

Webinar: [Join Microsoft Teams Meeting](#)

Thursday, November 18, 2021

Agenda

1. Introductions
2. Housekeeping
3. Fisheries Update
4. Operations Forecast
 - a. SMUD
 - b. PCWA
5. Central Valley Operations
 - a. Temperature management
 - b. Exceedance forecast & temperature schedules
6. Discussion
 - a. Review/Revise Ops Outlook Table Section
 - b. Annual reporting update
 - c. Future presentations
7. Next Meetings:
 - a. Thursday, December 16, 1:30-3:30pm

SMUD Upper American River Project Update

Conditions – Tuesday 16 November, 2021:

- Precipitation through 11/16/2021 at Fresh Pond is 1.96 in., which is 29% of the November average of 6.87". Water year total to date is 232% of average to date (16.16"). 0.4" of precipitation is forecasted for the area in the next two weeks.
- Runoff into the storage reservoir basins is 828% of median to date through Nov 15. The snowpack is 0% of average at selected snow sensors.

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

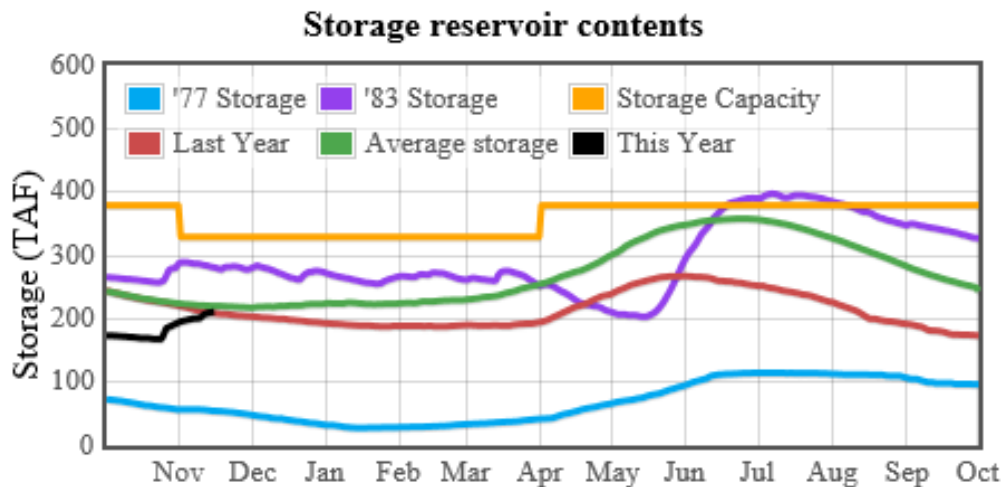
- 211,515 acre-feet (Storage this time last month: 169,469 acre feet); 56% full
- 95% of historical average (15 November historical average: 222,870 AF / 59%)
- 3% increase in storage since last week

Individual Reservoir Storage

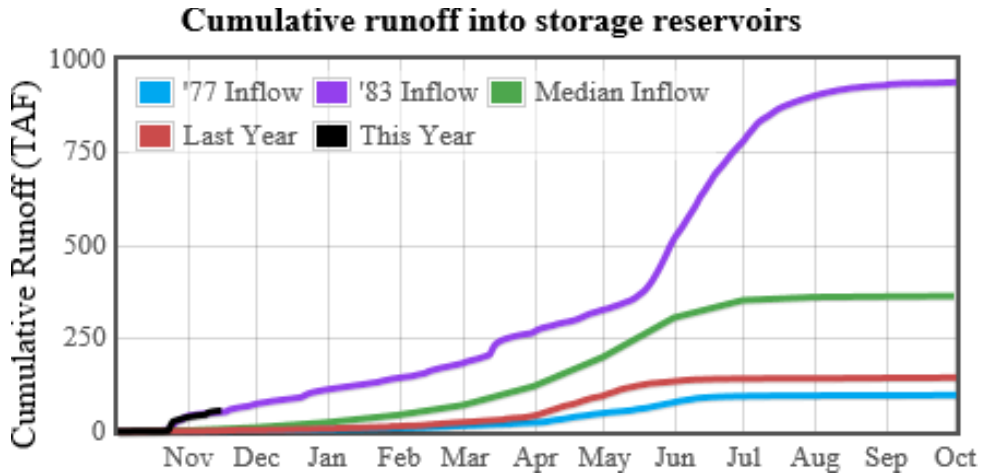
- Loon Lake: 49,231 AF
- Ice House: 31,670 AF
- Union Valley: 130,614 AF

Last year (on November 16, 2020), storage was at 55% (208,555 AF). *Total capacity: 379,174 AF.

November 16, 2021 reservoir storage: (Figure 1)



November 16, 2021 runoff: (Figure 2)



November 16, 2021 runoff: (Figure 2)

Chili Bar releases into the South Fork American River

(Previous month) October 2021 releases:

- Daily average flow: 630 cfs
 - Daily average flow Oct 1-22: 230 cfs
 - Daily average flow Oct 23-31: 1,611 cfs)
 - Peak average flow October 25: 8,031 cfs
- Total releases: 38,767 AF
 - Total releases Oct 1-22: 10,007 AF
 - Total releases Oct 23-31: 28,760 AF

(Current month) November 2021 releases (Nov 1-15)

- Daily average flow so far: 452 cfs
- Total releases so far: 13,440 AF

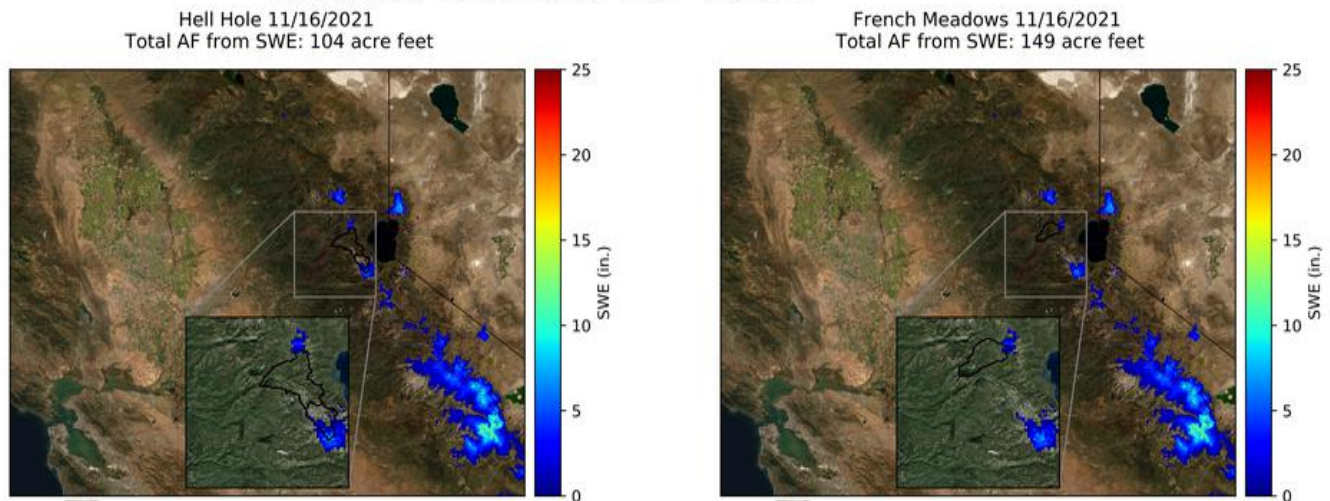
South Fork American River Natural Runoff Forecast (in cfs, daily average forecasted flow, forecast 2021-11-16) (Figure 3)

<i>BASIN</i>	Fri Nov 19	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov
SFA above Slab	105.5	97.8	90.8	80.8	72.2	61.9
Slab Creek Reservoir	83.1	80.5	78.1	75.7	73.3	71.1
Combined South Fork	189	178	169	157	146	133

PCWA MFP OPERATIONS OVERVIEW for American River Operations Group (Real Time Data as of November 17, 2021)

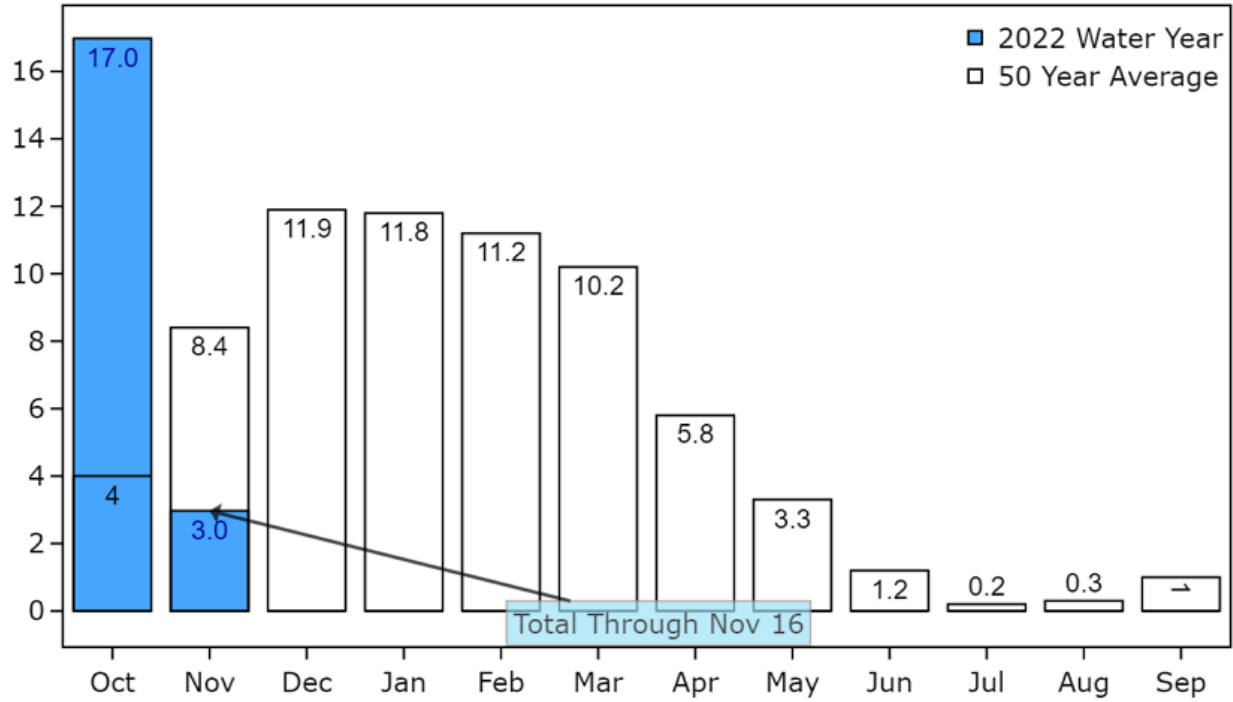
- ❖ **French Meadows Storage = 59,000 AF of 136,405 AF = 43% Capacity**
 - MFAR above FM Inflow (R24) = 7-day AVG 200 cfs
- ❖ **Hell Hole Storage = 89,000 AF of 207,590 AF = 43% Capacity**
 - Five Lakes Inflow (R23) = 7-day AVG 130 cfs
 - Rubicon Inflow (R22) = 7-day AVG 40 cfs
- ❖ **Combined Storage (FM+HH) = 148,000 AF/342,590 AF = 43% Capacity; ~84% of AVG**
 - 7 Day Change = +10,000 AF
- ❖ **MFAR @ R11: 7-day daily average 330 cfs**
- ❖ **MFP Annual Maintenance Outage**
 - MFP back online November 19th

Combined Total Acre Feet = 253 AF

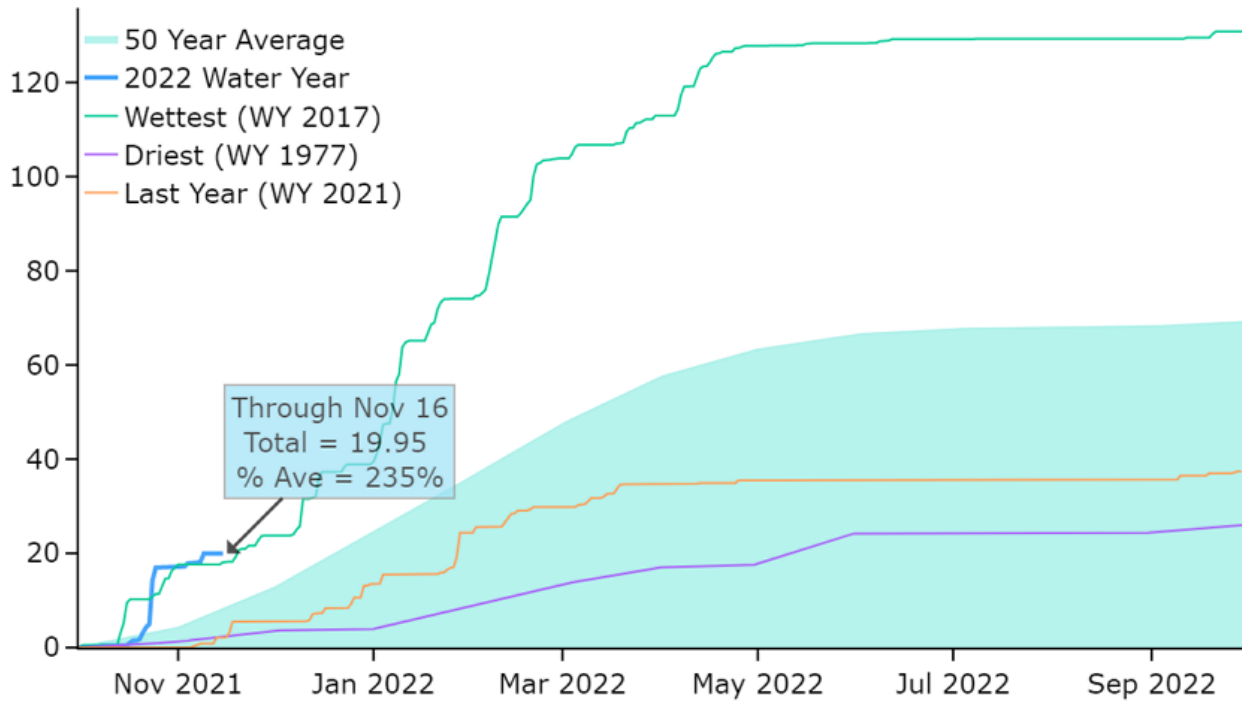


Combined 7 Day Change = -3,691 AF

Lake Spaulding Precipitation: Water Year 2022



Lake Spaulding Precipitation: Water Year 2022



FALL-RUN CHINOOK CARCASS SURVEY

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

- Survey began 10/18/2021, currently in week 5
- Total carcasses handled through 11/10/21 is 79
 - 57% of carcasses located in section 1; 16% in Nimbus Basin
- Prespawn mortality was 100% weeks 1-3

Table 1. Preliminary count of fall-run Chinook salmon carcasses processed during the 2021 lower American River escapement survey.

Week	Ladder Rock-Channel	NB	1a	1b	2	3	Total Carcasses Processed
1	15	3	0	0	0	0	18
2	0	3	5	2	1	1	12
3	0	5	10	3	1	0	19
4	0	2	19	6	3	0	30
Total	15	13	34	11	5	1	79

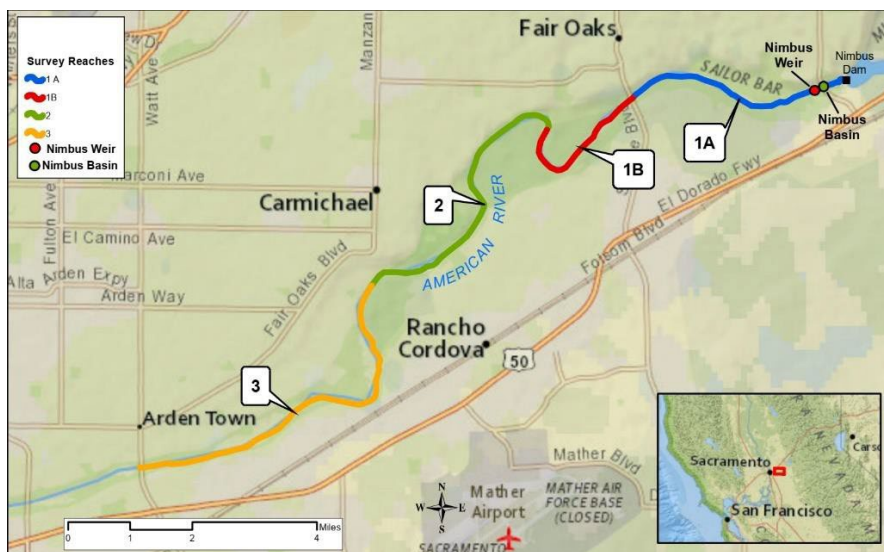


Figure 1. Map of survey sections for the lower American River Chinook salmon escapement survey.

Data and annual reports available on CalFish: [CalFish: Lower American River Fall Chinook Salmon Escapement Survey](#)



Provisional Data Subject to Revision

NIMBUS HATCHERY

Presented by Emily Fisher, CDFW, 916-272-4113, emily.fisher@wildlife.ca.gov

- Egg Collection Goal: 2,000,000
- Actual Egg Collection Actual: 1,963,949

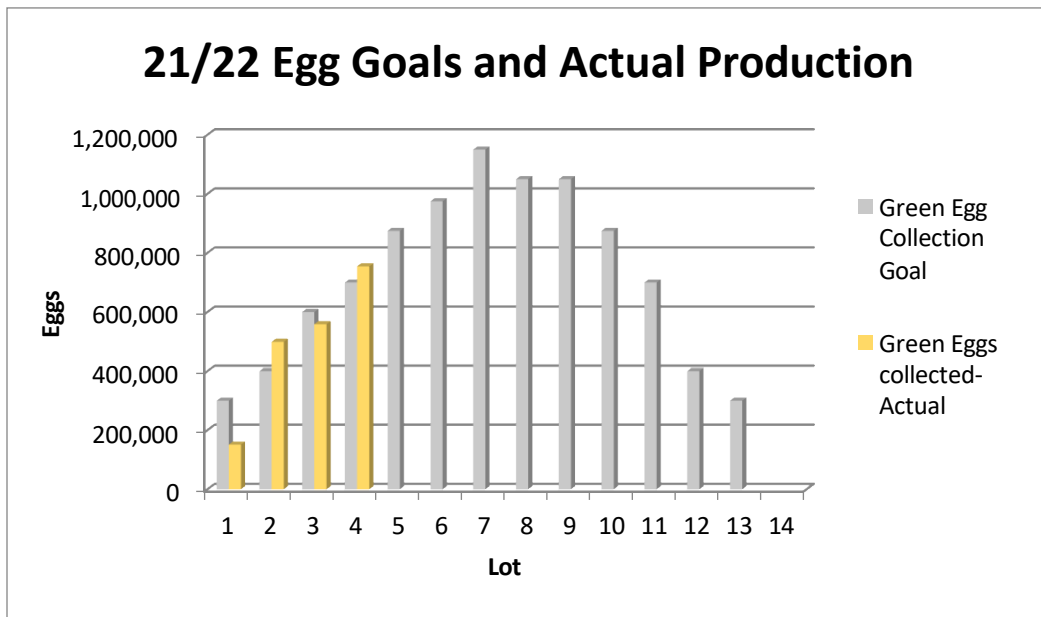


Figure 1. Comparison of fall-run Chinook salmon egg collection goals and actual egg collection at Nimbus Fish Hatchery.

CHINOOK REDD SURVEY

- Redd surveys began October 4, 2021

Table 2. Preliminary count of redds measured during the 2021 lower American River Chinook salmon redd survey. Note: Redds that are still being built or are actively guarded are not measured.

Week	NB	1A	1B	2	3	Total
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	1	1	0	0	0	2
4	0	1	0	0	0	1
5	0	1	1	0	0	2
6	0	0	0	0	0	0
Total	1	3	1	0	0	5

JUVENILE SALMONID SEINING SURVEY

Table 3. Preliminary count of juvenile steelhead (SH) and Chinook salmon (CS) captured during the 2021 lower American River juvenile salmonid seining survey.

Month	Species	Nimbus	Nimbus Side Channel	Upper Sunrise	Upper Sunrise Side Channel	Lower Sunrise	Lower Sunrise Side Channel	Rossmoor	Riverbend	Riverbend Side Channel	Gristmill	Watt	Paradise	Total
Mar	CS	N/A	N/A	15	364	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	379
Mar	SH	N/A	N/A	1	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1
Apr	CS	1	0	NA	NA	15	156	28	24	7	17	1	13	262
Apr	SH	0	0	NA	NA	0	0	1	1	0	0	0	0	2
May	CS	3	1	4	0	0	0	0	0	0	3	2	1	14
May	SH	0	4	3	0	2	0	1	0	0	0	0	0	10
Jun	CS	1	0	0	0	0	0	0	0	0	0	0	0	1
Jun	SH	0	4	0	0	0	0	0	0	0	0	0	0	4
Jul	CS	1	0	0	0	0	0	0	0	0	0	0	N/A	1
Jul	SH	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Aug	CS	0	0	0	0	0	0	0	0	0	N/A	0	N/A	0
Aug	SH	0	0	0	0	0	0	0	0	0	N/A	0	N/A	0
Sep	CS	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	0
Sep	SH	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	0
Oct	CS	0	0	0	0	0	0	0	0	0	0	0	0	0
Oct	SH	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	N/A	6	9	23	364	17	156	30	25	7	20	3	14	674

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA
DAILY CVP WATER SUPPLY REPORT

NOVEMBER 16, 2021

RUN DATE: NOVEMBER 17, 2021

TABLE 1. RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2021	WY 2022	15 YR MEDIAN
TRINITY	LEWISTON	298	296	300
SACRAMENTO	KESWICK	4,815	3,258	4,666
FEATHER	OROVILLE (SWP)	2,450	950	1,800
AMERICAN	NIMBUS	1,253	577	1,282
STANISLAUS	GOODWIN	202	204	250
SAN JOAQUIN	FRIANT	432	230	357

TABLE 2. STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET

RESEVOIR	CAPACITY	15 YR AVG	WY 2021	WY 2022	% O 15 YR AVG
TRINITY	2,448	1,269	1,283	705	56
SHASTA	4,552	2,145	2,034	1,096	51
FOLSOM	977	361	334	339	94
NEWMLEONES	2,420	1,250	1,500	845	68
FED. SAN LUIS	966	366	378	95	26
TOTAL NORTH CVP	11,363	5,391	5,529	3,080	57
MILLERTON	520	237	176	312	132
OROVILLE (SWP)	3,538	1,420	1,379	1,036	73

TABLE 3. ACCUMULATED INFLOW FOR WATER YEAR TO DATE IN THOUSANDS OF ACRE-FEET

RESERVOIR	CURRENT WY 2022	WY 1997	WY 1983	15 YR AVG	% O 15 YR AVG
TRINITY	84	14	59	36	237
SHASTA	426	360	433	336	127
FOLSOM	167	70	262	96	174
NEW MELONES	56	N/A	134	53	107
MILLERTON	59	40	174	74	79

TABLE 4. ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES

RESERVOIR	CURRENT WY 2022	WY 1977	WY 1983	AVG (IN YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	7.05	1.22	4.63	4.00 (5.9)	176	0.04
SACRAMENTO AT SHASTA DAM	15.75	1.63	6.49	7.02 (6.4)	224	0.00
AMERICAN AT BLUE CANYON	21.15	3.19	10.92	6.89 (4.6)	307	0.00
STANISLAUS AT NEW MELONES	6.45	N/A	5.20	2.78 (4.3)	232	0.00
SAN JOAQUIN AT HUNTINGTON LK	5.94	1.80	9.60	3.97 (4.6)	149	0.00

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

NOVEMBER 2021

FOLSOM LAKE DAILY OPERATIONS

RUN DATE: November 17, 2021

Day	ELEV	Storage- In Lake (1000 Acre-Feet)	Storage- Change (1000 Acre-Feet)	Computed Inflow* C.F.S.	Power	Release- C.F.S. River Spill	Outlet	Pumping Plant	Evaporation- C.F.S.	Evaporation- Inches	Precip Inches
N/A	N/A	316.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	390.33	318.6	+2.3	1,541	34	0	352	17	0	0	0.04
2	390.64	320.4	+1.8	1,513	214	0	352	17	0	0	0
3	390.85	321.7	+1.2	1,218	210	0	352	26	0	0	0
4	391.08	323	+1.4	1,309	226	0	353	37	0	0	0
5	391.21	323.8	+0.8	1,160	363	0	353	37	12	0.06	0
6	391.37	324.8	+1	1,103	212	0	353	41	10	0.05	0
7	391.4	325	+0.2	703	216	0	353	43	0	0	0
8	391.43	325.2	+0.2	716	208	0	353	52	12	0.06	0.22
9	391.7	326.8	+1.6	1,476	243	0	353	60	0	0	0.65
10	392.44	331.3	+4.5	2,925	257	0	353	50	0	0	0
11	392.82	333.6	+2.3	1,763	200	0	354	41	0	0	0
12	393.04	334.9	+1.3	1,337	248	0	354	43	14	0.07	0
13	393.37	337	+2	1,468	39	0	354	38	10	0.05	0
14	393.52	337.9	+0.9	911	39	0	355	41	10	0.05	0
15	393.59	338.3	+0.4	919	295	1	355	38	12	0.06	0
16	393.75	339.3	+1	1,106	212	1	352	35	8	0.04	0
TOTALS	N/A	N/A	+22.9	21,168	3,216	2	5,651	616	88	0.44	0.91
ACRE- FEET	N/A	N/A	+22900	41,987	6,379	4	11,209	1,222	175	N/A	N/A

COMMENTS:

* COMPUTED INFLOW IS THE SUM OF CHANGE IN STORAGE, RELEASES, PUMPING AND EVAPORATION.

SUMMARY:

RELEASE (ACRES-FEET)	N/A
POWER	6,379
SPILL	4
OUTLET	11,209
PUMPING PLANT	1,222
TOTAL	18,814

TIME	PERCIPITATION
THIS MONTH	0.91
JULY 1, 2021 TO DATE	8.53
OCT 1, 2021 TO DATE	8.48

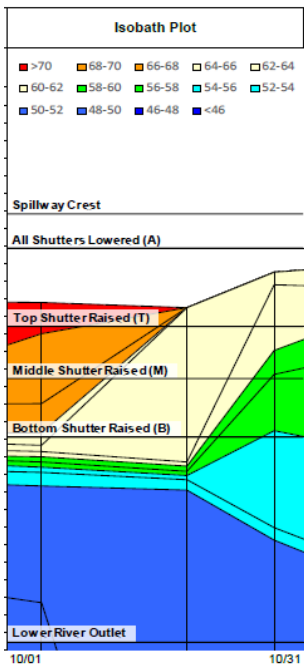


Figure 1. Isobath Plot 10/01- 10/31.

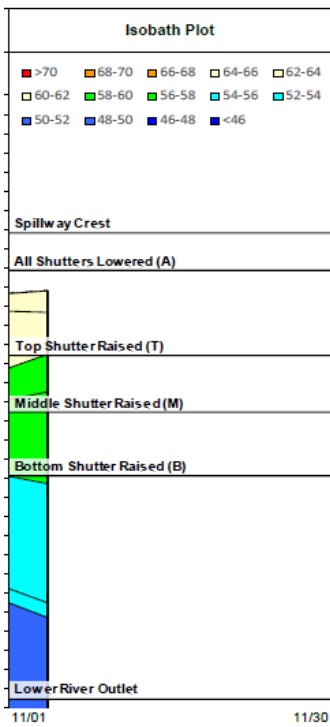


Figure 2. Isobath Plot 11/01- 11/30

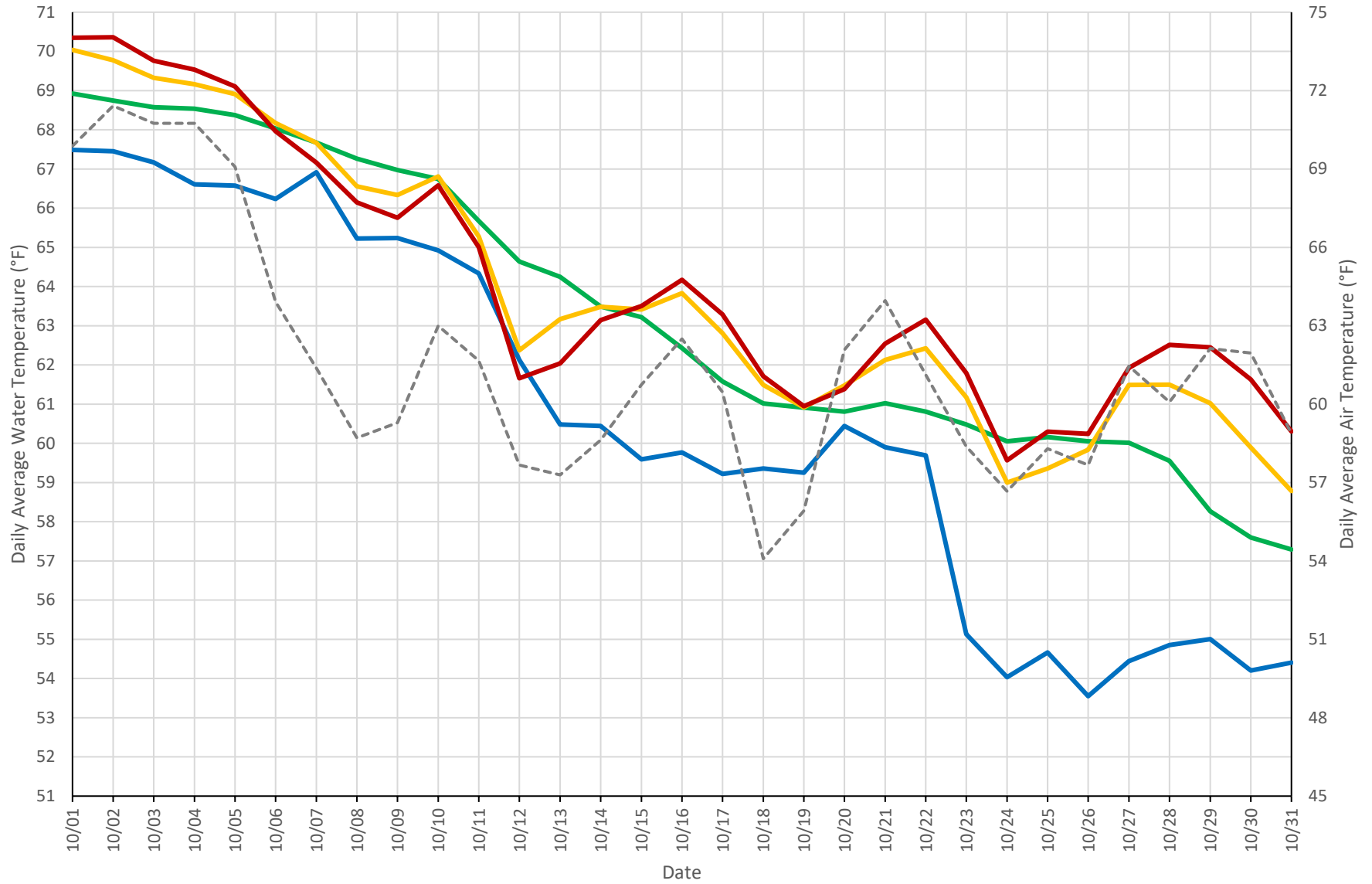
Table 5. Isobath Plot 10/01- 10/31

Mean Daily Temperatures (°F) = MDT, Unit Shutter Position = USP, Load Percentage = LP, A= All Shutters Lowered, B= Bottom Shutter Raised, and T= Top Shutter Raised

Date	MDT Water NFA	MDT Water ARP	MDT Water AFD	MDT Water AFO	MDT Water AWP	MDT Water AWB	MDT Air CSU	Release (CFS) Nimbus	Storage (TAF) Folsom	USP Unit 1	LP Unit 1	USP Unit 2	LP Unit 2	USP Unit 3	LP Unit 3
Sep	63.6	64.1	68	70.1	72	72.7	72.7	578	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/1	62.4	61.7	67.5	68.9	70	70.3	69.9	558	229	B	12	B1	56	M	32
10/2	62.9	61.8	67.5	68.7	69.8	70.4	71.4	582	228	B	12	B1	61	M	27
10/3	62.8	60.2	67.2	68.6	69.3	69.8	70.8	584	228	B	14	B1	48	M	38
10/4	62.7	60	66.6	68.5	69.2	69.5	70.8	580	227	B	27	B1	2	M	71
10/5	62.4	60.2	66.6	68.4	68.9	69.1	69.1	587	226	B	24	B1	2	M	74
10/6	62.3	60.7	66.2	68	68.2	68	63.9	568	225	B	26	B1	2	M	72
10/7	62.2	60.7	66.9	67.7	67.7	67.2	61.4	577	225	B	6	B1	2	M	92
10/8	61.8	60.8	65.2	67.3	66.6	66.1	58.7	585	224	B	44	B1	2	M	54
10/9	61	59.1	65.2	67	66.3	65.8	59.3	579	224	B	49	B1	2	M	49
10/10	60.6	58.6	64.9	66.7	66.8	66.6	63	586	223	B	49	B1	2	M	49
10/11	59.6	58.2	64.3	65.7	65.3	65	61.7	550	222	B	93	B1	2	M	4
10/12	57.7	56.2	62.1	64.6	62.4	61.7	57.7	546	221	B	97	B1	2	M	2
10/13	56.8	55.2	60.5	64.2	63.2	62	57.3	545	220	B	97	B2	2	M	2
10/14	56.3	55.2	60.4	63.5	63.5	63.1	58.6	556	220	B	97	B3	2	M	2
10/15	56.6	55.8	59.6	63.2	63.4	63.5	60.8	550	219	B	93	B3	4	M	3
10/16	57	56.5	59.8	62.4	63.8	64.2	62.5	549	218	B	94	B3	4	M	3
10/17	57.1	56.4	59.2	61.6	62.8	63.3	60.5	550	218	B	94	B3	3	M	3
10/18	56.9	56.3	59.4	61	61.5	61.7	54.1	547	217	B	94	B3	3	B	3
10/19	56	55.2	59.3	60.9	60.9	60.9	55.9	544	216	B	93	B3	3	B	3
10/20	56.4	55.9	60.4	60.8	61.5	61.4	62.1	544	215	B	49	B3	2	B	49
10/21	57.4	57.9	59.9	61	62.1	62.5	64	564	214	B	94	B3	3	B	3
10/22	59	59.2	59.7	60.8	62.4	63.2	61.1	565	214	B	93	B3	4	B	3
10/23	59	57.9	55.1	60.5	61.2	61.8	58.4	564	215	B	64	B3	20	B	16
10/24	58.1	56.1	54	60.1	59	59.6	56.7	791	227	B	23	B3	43	B	34
10/25	53.6	55.7	54.7	60.2	59.4	60.3	58.3	1915	289	B	65	B3	21	B	14
10/26	52.8	53.6	53.5	60	59.8	60.2	57.7	579	302	B	60	B3	24	B	16
10/27	53.4	53.4	54.4	60	61.5	61.9	61.5	563	307	B	91	B3	5	B	3
10/28	53.8	53.9	54.9	59.6	61.5	62.5	60.1	569	310	B	94	B	3	B	2
10/29	54.6	52	55	58.3	61	62.5	62.1	562	312	B	94	B	3	B	3
10/30	55	53.3	54.2	57.6	59.9	61.6	62	549	315	B	89	B	6	B	5

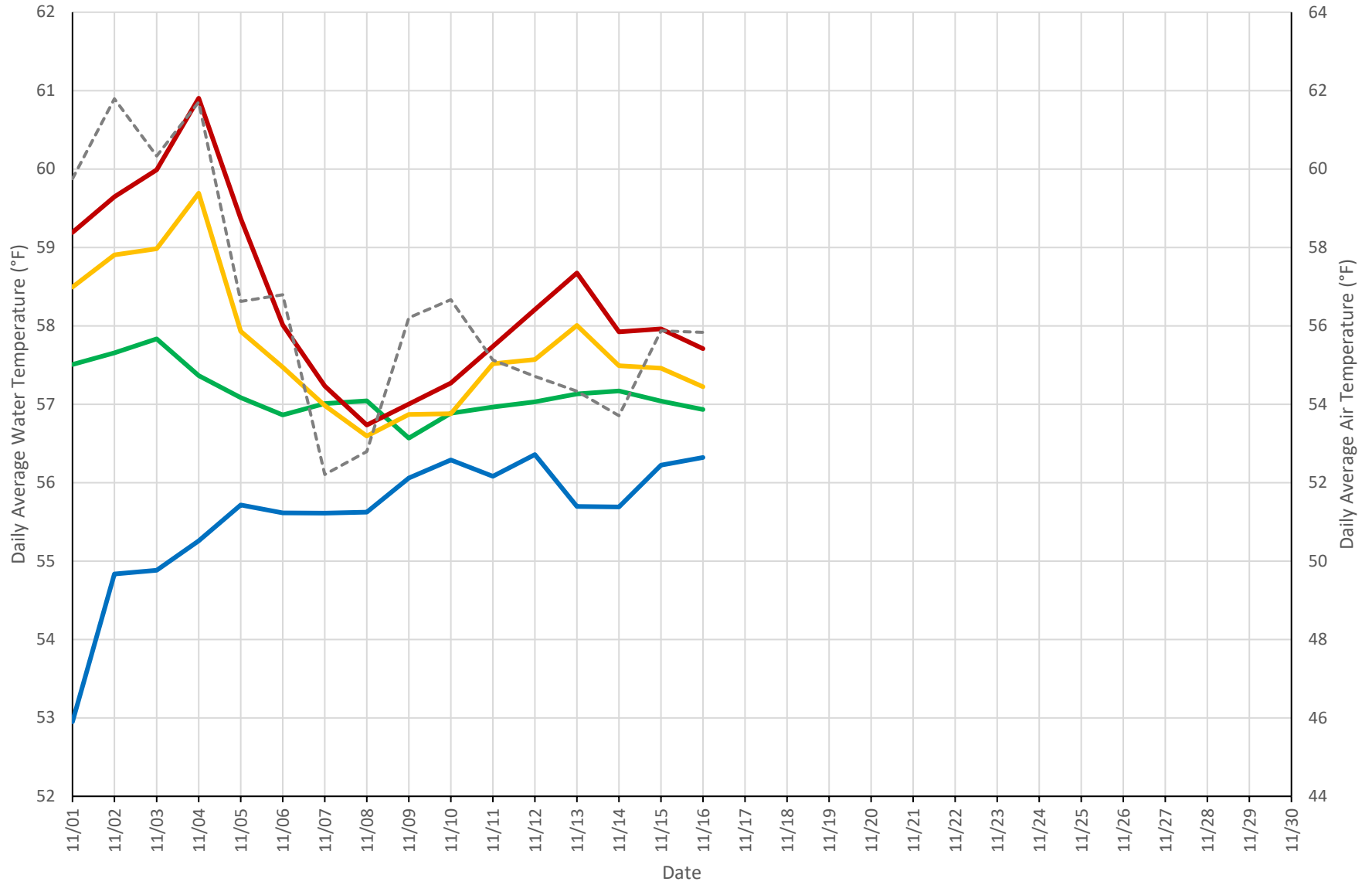
American River Daily Average Water and Air Temperatures (2021)

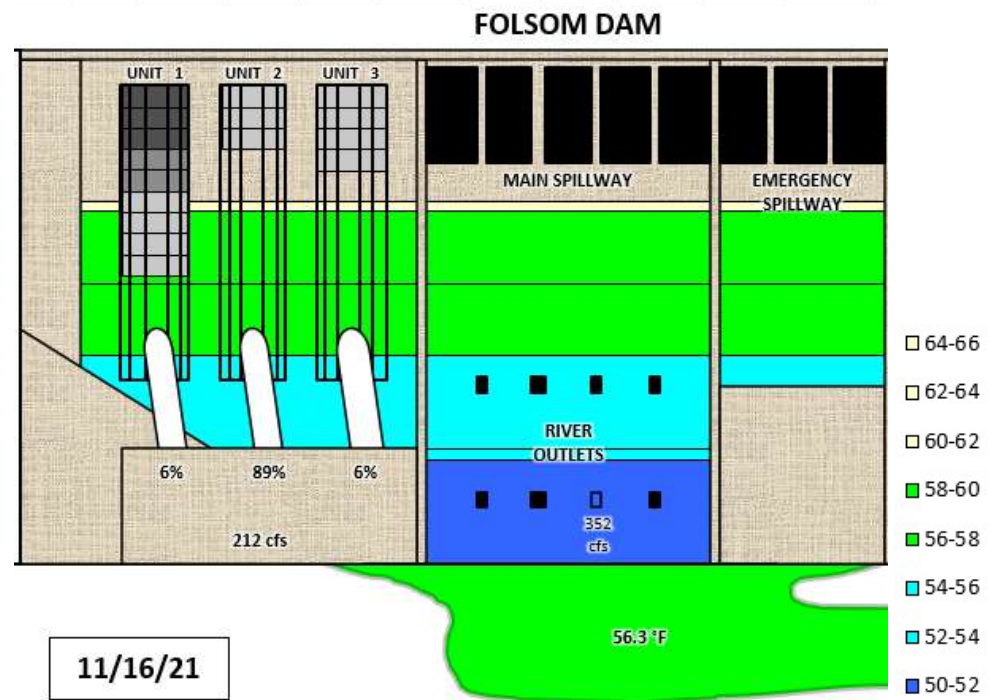
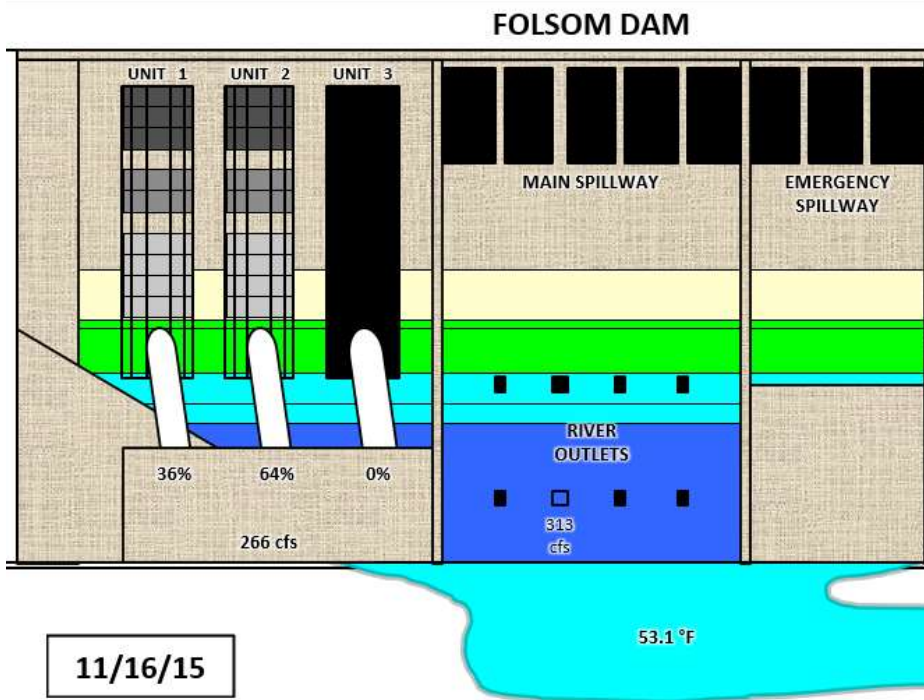
AFD AHZ AWP AWB CSU (Air)



American River Daily Average Water and Air Temperatures (2021)

AFD AHZ AWP AWB CSU (Air)



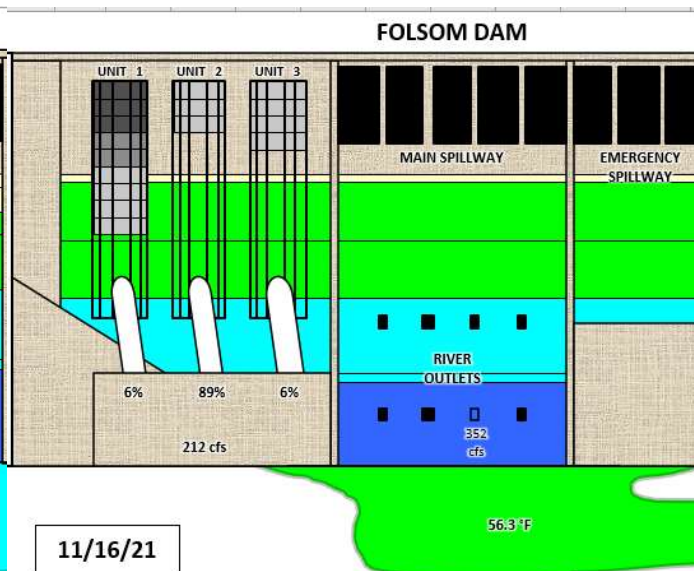
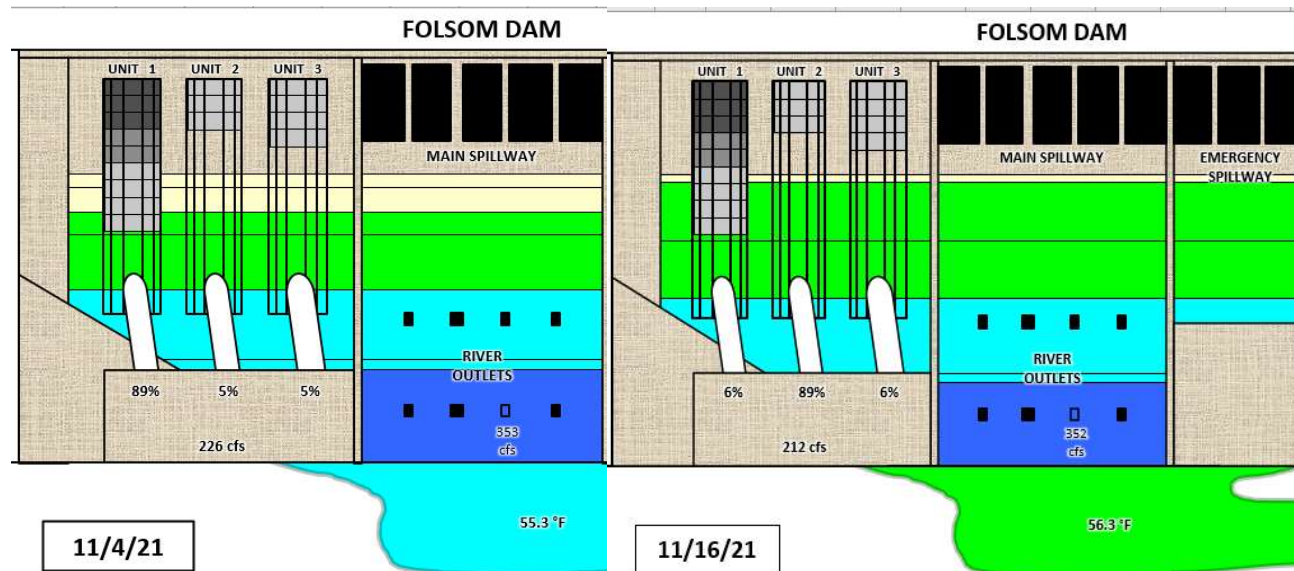


AFO: 55.6

CSU Temp: 49.2

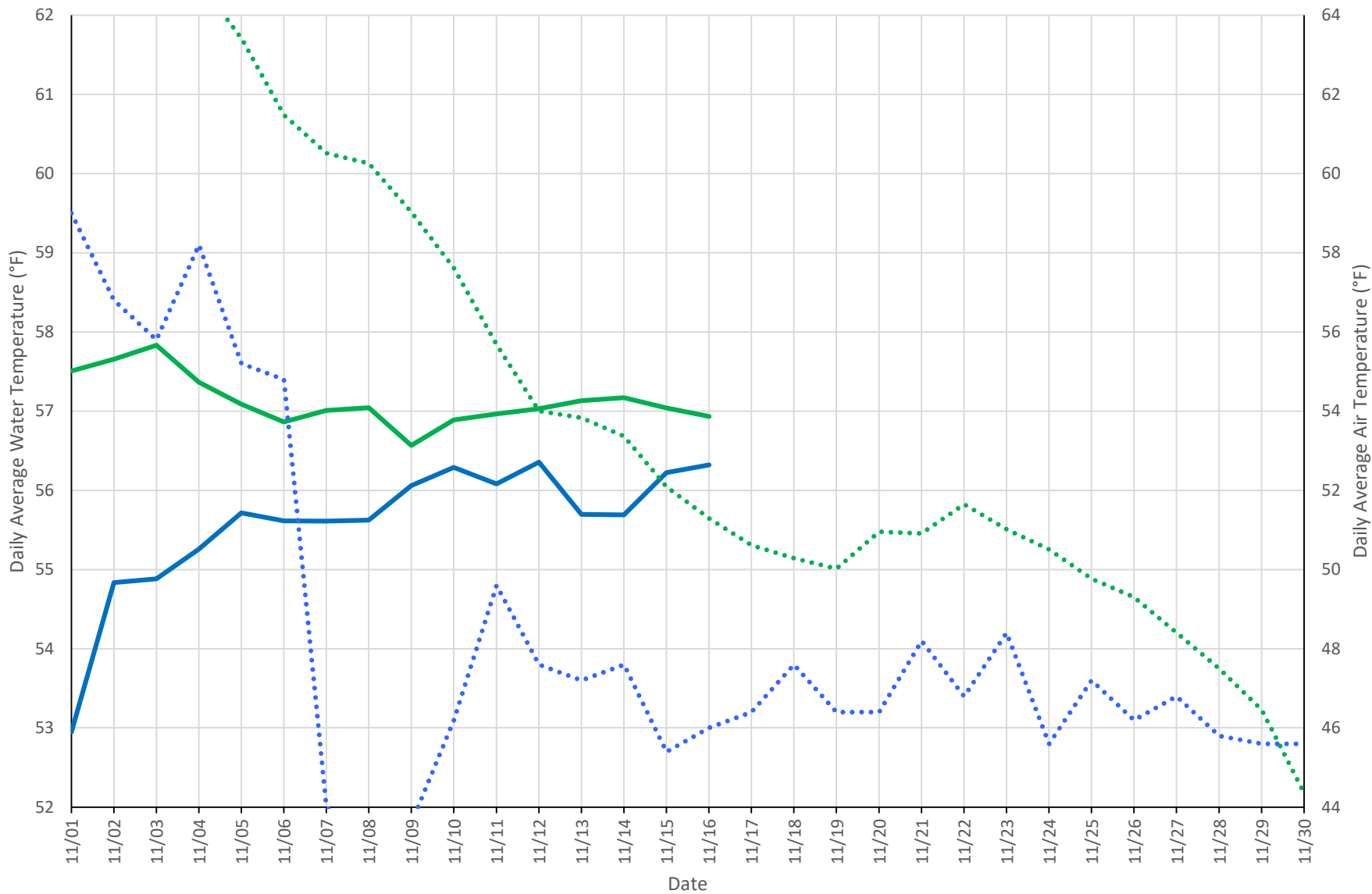
AFO: 56.9

CSU Temp: 55.8



American River Daily Average Water (2015 vs.2021)

— AFD'21 — AFO'21 AFO'15 AFD'15



American River Summary Conditions – November (On-going)

Storage/Release Management Conditions

- Releases are currently at 550 cfs to conserve storage

Temperature Management:

- Top Shutters: Units 1, 2, & 3 – raised
- Middle Shutters: Units 1, 2 and 3 -- raised,
- Bottom Shutters: Units 1,2 and Unit 3 – raised

Folsom Shutter Configuration and Changes:

*Next action – Lower Shutters in Jan/Feb depending on Lake elevation

American River Release Outlook for October :

Table 7. Federal End of the Month Storage/Elevation (TAF/Feet)

Reservoir	End of 2021 Carryover Storage Volume	Oct	Nov	Dec	Jan	Feb
Folsom Storage	230	208	188	178	207	280
Folsom Elevation	N/A	369	364	361	369	384

Table 8. Monthly River Release (TAF/cfs)

Reservoir	Oct	Nov	Dec	Jan	Feb
American TAF	34	33	34	34	31
American cfs	550	550	553	550	550

American River Release for November:

Table 9. Federal End of the Month Storage/Elevation (TAF/Feet)

Reservoir	End of 2021 Carryover Storage Volume	Nov	Dec	Jan	Feb	Mar
Folsom Storage	316	341	360	389	461	600
Folsom Elevation	N/A	394	397	401	412	428

Table 10. Monthly River Release (TAF/cfs)

Reservoir	Nov	Dec	Jan	Feb	Mar
American TAF	33	34	34	31	34
American cfs	555	553	550	550	550