



— BUREAU OF —
RECLAMATION

American River Group

1:30 PM – 3:30 PM

Conference Line: +1 (321) 209-6143; Access Code: 780 506 355#

Webinar: [Join Microsoft Teams Meeting](#)

Thursday, August 19, 2021

Notes

1. Action Items

- a. Ben Barker – share new Middle Fork recreation website.
- b. Thuy Washburn - inquire with CVO regarding scheduling of 20 TAF transfer and share with ARG.
- c. Thuy Washburn – correct temperature table to reflect “AFO” instead of “AHZ” (pg. 7-8 of handout).
- d. Thuy Washburn – correct shutter configurations on American River Summary Conditions (pg. 11 of handout).
- e. Chris Hammersmark – share temperature forecast modeling when available.
- f. Chris Hammersmark - model 4 Power Bypass scenarios and share in advance of September call.
- g. Rafi Silberblatt – schedule 9/24/21 ad-hoc ARG call to finalize power bypass models.
- h. I-Pei Hsiu and Max Fefer – distribute late October and November temperature targets for Mokelumne Fish Hatchery.

2. Introductions:

- a. USBR: Spencer Marshall, Brad Hubbard, Ian Smith, Liz Kiteck, Levi Johnson, Drew Loney, Sarah Perrin, Thuy Washburn, John Hannon, Carolyn Bragg, Leeyan Mao
- b. NMFS: Barb Byrne
- c. USFWS: Paul Cadrett, Craig Anderson

- d. CDFW: Crystal Rigby, Emily Fisher, Morgan Kilgour, Duane Linander, Mike Healey, Jason Julienne, Ken Kundargi, Gary Novak
 - e. SWRCB: Michael Macon
 - f. PCWA: Ben Barker, Darin Reintjes
 - g. San Juan Water District: Paul Helliker, Greg Zlotnick
 - h. City of Sacramento: Brian Sanders, Brett Ewart, Anne Sanger
 - i. City of Folsom: Marcus Yasutake
 - j. SMUD: Ansel Lundberg
 - k. EBMUD: I-Pei Hsiu, Max Fefer
 - l. Contra Costa Water District: Deanna Sereno
 - m. DWR: Mike Ford
 - n. WAPA: Mike Prowatzke
 - o. Water Forum: Erica Bishop, Chris Hammersmark, Jessica Law
 - p. SARA: Clyde Macdonald
 - q. PSMFC: Cory Starr, Logan Day
 - r. Cramer Fish Sciences: Joe Merz, Kirsten Sellheim
 - s. Sacramento State Aquatic Center: DeDe Birch
 - t. HDR (for Water Forum): Amanda Ransom
 - u. Westlands Water District: Tom Boardman
 - v. Kearns & West: Rafi Silberblatt, Susan Ellsworth
3. Housekeeping
- a. Levi Johnson noted that he will be taking a new position in the Central Valley Office of USBR. His replacement has not been identified.
 - b. Rafi Silberblatt noted that the September ARG meeting is on Yom Kippur. As such, he will be out that day and will identify a stand-in.
4. Fisheries Update
- a. CDFW noted that steelhead are still at the Mokelumne River Hatchery and are currently being treated for external parasites. CDFW will need to coordinate on a timing and temperature target for returning fish to the Nimbus Hatchery.
5. Operations Forecast
- a. SMUD provided an update on its operations. Efforts continue to achieve elevation targets at Union Valley to accommodate boat ramp maintenance. The target was met on 8/17/21 with a lower elevation than expected, resulting in increased flows in the latter half of last week. Ultimately, flows will be reduced to minimums in light of Labor Day recreation needs.
 - o Total storage reflects a 4% decrease in light of increased releases.
 - o See handout for details.

- b. SMUD noted that the Calder fire has forced the evacuation of its Fresh Pond facility and as a result, no boat ramp work can be conducted at this time.

Questions/Comments:

- A SWT member asked if higher releases at Chili Bar will affect temperatures below Folsom.
 - i. Water Forum responded that the higher release volume will result in cooler temperatures though the specific degree of cooling is unknown.
- c. PCWA provided an update on its operations. See handout for details.
 - Final approval of the 20 TAF water transfer was provided on 8/19/21. Releases of approximately 500 AF/day will take place over the next 4-6 weeks into Folsom Reservoir.
 - Per FERC licensing, PCWA will be providing releases for recreation seven days a week beginning 8/23/21 through 9/15/21.
 - PCWA has launched a website with recreation related information on the Middle Fork. **[Action Item]:** Ben will share the website URL with ARG.

Questions/Comments:

- When is the 20 TAF water transfer scheduled to begin releasing from Folsom?
 - i. USBR: Unknown, but will inquire within CVO. **[Action Item]:** USBR to inquire with CVO regarding scheduling of 20 TAF transfer.
6. Central Valley Operations (CVO)
- a. USBR provided an operations update. See handout for details. Releases are ramping down as Delta conditions improve and all upper reservoirs are in conservation mode. Releases out of Keswick were at 8000 cfs as of 8/18/21, reducing to 7500 cfs on 8/22/21. Goodwin releases dropped from 500 cfs to 400 cfs this week and will drop to 300 cfs next week.
 - b. Projected Folsom storage for August is likely to end slightly below 214 TAF, however, increased inflows from the transfer may bump it back up to 200 TAF range.
 - CVO needs to discuss the implications of the 20 TAF PCWA water transfer and its impact on operations.
 - c. Temperature Management
 - Overall temperatures have remained below the 71C target except for two days. During August, temperatures at Hazel remained between 69°F and 70°F; this is likely a reflection of changes in blending, cooler air temperatures and/or smoke.
 - Two-week temperature profiles between 8/3/21 and 8//21 haven't changed significantly, though the layer of water above Unit 2's lower shutters is starting to warm requiring ongoing shifts in blending.

Questions/Comments:

- NMFS asked if there are any further plans to degang any shutters on any of the units.

- i. USBR indicated probably not, however it is possible if needed. It is likely that the next action will be to pull up Unit 3 and blend with that configuration.
- NMFS noted an error in the listed shutter configurations on the American River Summary page of the meeting handout (pg. 11).
 - i. **[Action Item]:** Thuy Washburn will correct and redistribute.
- Water Forum noted that they don't have temperature models available at this time, but will share them as soon as they are complete, including consideration of the 20 TAF transfer.
 - i. **[Action Item]:** NMFS requested that within temperature tables on pgs. 7-8 of the handout, that the column labeled "AHZ" be corrected to "AFO".
- d. Power Bypass:
 - USBR provided an overview of the 2015 Power Bypass in light of the similar conditions between 2015 and 2021. The 2015 Power Bypass started on October 29 and concluded on December 5 with a temperature achieved of 51.6° at Hazel.

Questions/Comments:

- NMFS asked if there is a reason to differentiate between releases from the upper and lower river outlets.
 - i. USBR indicated that while both units can release the same amount, the lower river outlets should be used since they have access to the deepest and coldest water.
- While it's physically feasible to bypass 500 cfs, only 350 cfs (of the projected 500-500 cfs releases) can be made available for the power bypass due to competing power grid needs.
- USBR indicated that while it is too early to make a study run, it would make sense to agree on 3-5 scenarios to model.
 - ii. The ARG agreed to model power bypasses starting on 10/7, 10/15, and 10/22, running at 350 cfs for 6 weeks.
 - 1. CDFW and NMFS requested an additional scenario be modeled running 500 cfs starting on 10/7 as a point of comparison.
 - iii. SMUD noted that while it would generally prefer a November bypass, in light of the requested dates, mid-late in October would be preferred to early October.
 - iv. NMFS proposed using 2014 air temperatures in the models and the ARG agreed.
 - v. USBR noted that power bypass models won't be run until the next profile is generated in two weeks and noted that predictions will be more accurate as the date of the bypass gets closer.
 - vi. NMFS proposed using the same methodology as was used in 2020 to prepare the power bypass proposal in coordination with CDFW. CDFW

noted the need to be careful in selecting which spawn-timing distribution to use as part of the evaluation.

- **[Action Item]:** Chris Hammersmark to run 4 model scenarios and distribute to the group prior to the 9/16 ARG meeting.
 - The scenario models will be discussed during the regular ARG call on 9/16 and Chris will work on revisions for a follow-up call on 9/24/21 to finalize. Final model scenarios will be used to finalize a bypass proposal for submission to USBR on 10/1.
- **[Action Item]:** Rafi Silberblatt to set up a second ARG meeting on 9/24/21 to finalize bypass models.
- e. CDFW noted that hatchery steelhead shouldn't be returned to the Nimbus Hatchery until water temperatures there are cooler than at the Mokelumne Hatchery as moving them is stressful and likely to cause some mortality.
 - **[Action Item]:** I-Pei Hsiu will follow-up on temperature projections for late October and early November on the Mokelumne and share with ARG.

7. Discussion

- a. USBR provided an update on the LTO Guidance document review update.
- b. USBR noted that Spencer Marshall will be in touch regarding the ARG annual reporting.

8. Next Meeting: Thursday, September 16, 1:30-3:30pm



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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
 - c. Power Bypass
6. Discussion
 - a. LTO Guidance Doc Review Update
7. Next Meeting: Thursday, September 16, 1:30-3:30pm

SMUD Upper American River Project Update

Conditions – 17 August 2021

- No precipitation of note in August.

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

- 199,984 acre feet (Storage this time last month: 243,115 acre feet)
- 53% full
- 66% of historical average (17 August historical average: 304,405 AF / 80%)
- 4% decrease in storage since last week

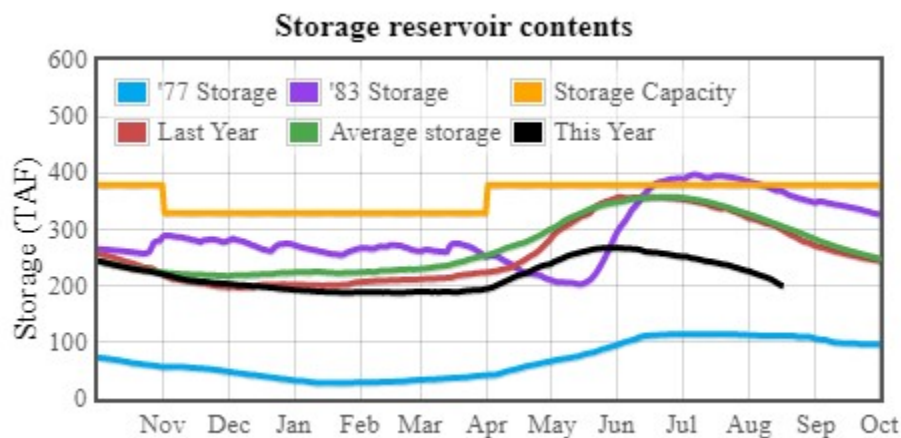


Figure 1. August 17, 2021 reservoir storage

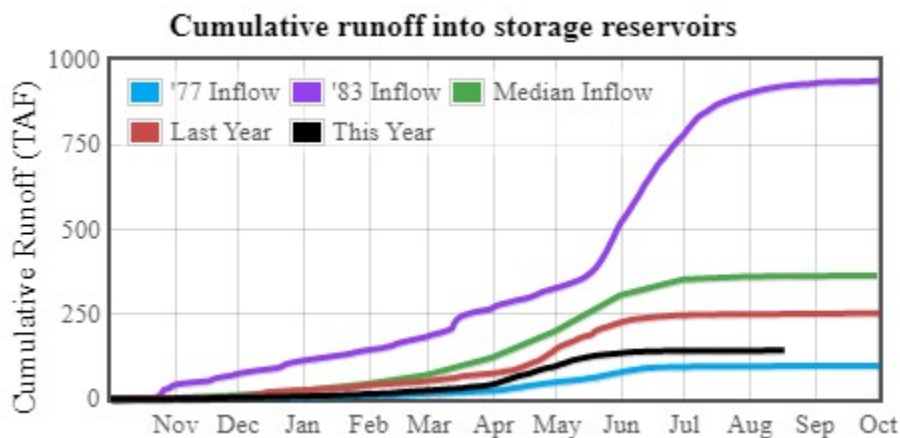


Figure 2. August 17, 2021 runoff

Individual Reservoir Storage

- Loon Lake: 55,987 AF
- Ice House: 29,314 AF
- Union Valley: 114,683 AF (43% of avg)

Last year (on August 17, 2021), storage was at 78% (295,922 AF). **Total capacity: 379,174 AF.*

Chili Bar releases into the South Fork American River

- July 2021 releases:
 - Daily average flow: 489 cfs
 - Total releases: 30,080 AF
- August 2021 releases (August 1-16)
 - Daily average flow so far: 886 cfs
 - Total releases so far: 28,130 AF

Table 1. South Fork American River Natural Runoff Forecast (in cfs, daily average forecasted flow, forecast 2021-8-17)

BASIN	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug
SFA above Slab	18.4	17.9	17.4	17.0	16.5	16.0
Slab Creek Reservoir	55.7	56.3	57.0	57.6	58.2	58.8
Combined South Fork	74	74	74	75	75	75

Runoff into the storage reservoir basins is 40% of median to date through August 16. The snowpack is 0% of average at selected snow sensors.

PCWA MFP OPERATIONS OVERVIEW for American River Operations Group (Real Time Data as of August 18, 2021)

- French Meadows Storage = 62,000 AF of 136,405 AF = 46% Capacity
 - MFAR above FM Inflow (R24) = 7-day AVG ~2 cfs
- Hell Hole Storage = 87,000 AF of 207,590 AF = 42% Capacity
 - Five Lakes Inflow (R23) = 7-day AVG ~2 cfs
 - Rubicon Inflow (R22) = 7-day AVG ~2cfs
- Combined Storage (FM+HH) = 149,000 AF/342,590 AF = 44% Capacity; ~64% of AVG
 - 7 Day Change = -4,000 AF
- MFAR @ R11: 7-day daily average 430 cfs

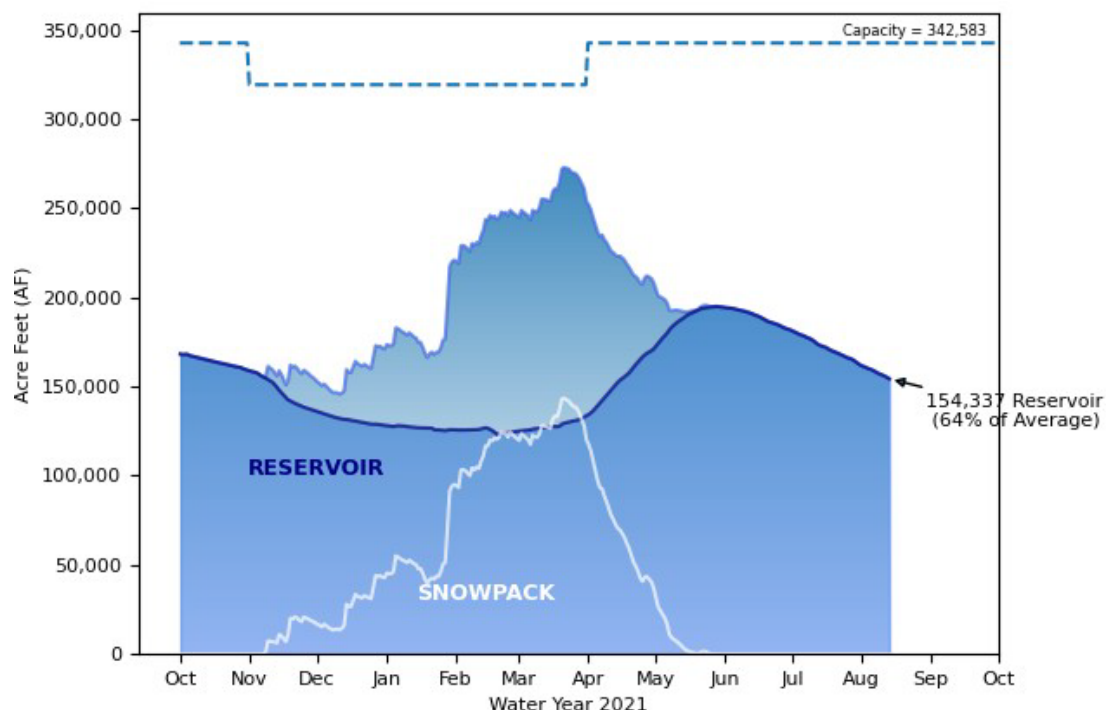


Figure 3. MFP Reservoir and Snowpack Storage (as of 8/13/21)

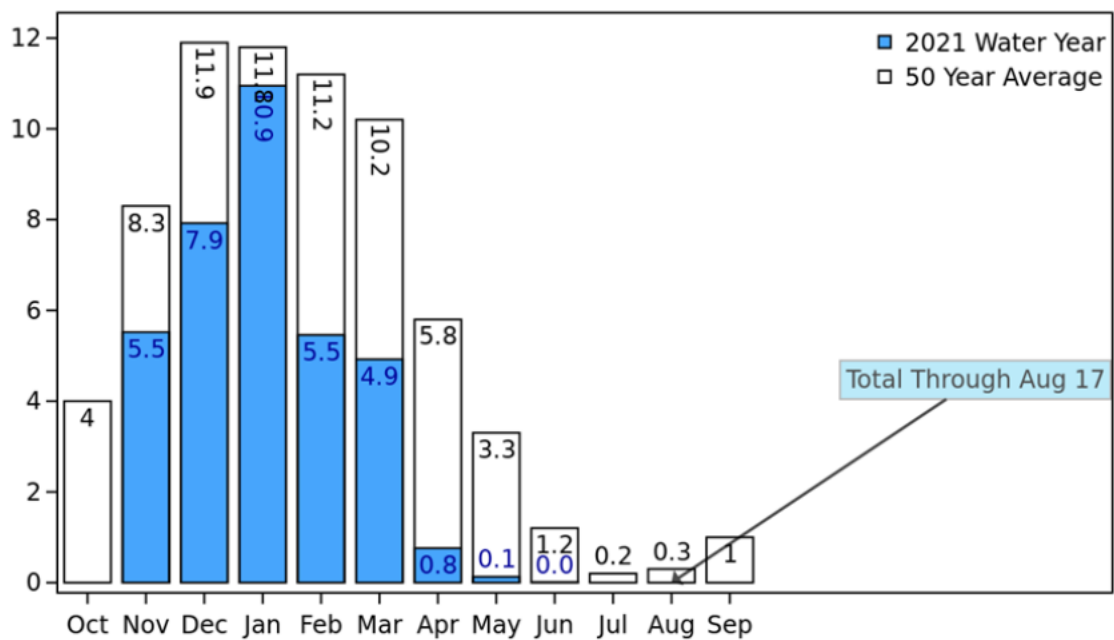


Figure 4. Lake Spaulding Precipitation Bar Graph: Water Year 2021 (as of 8/17/21)

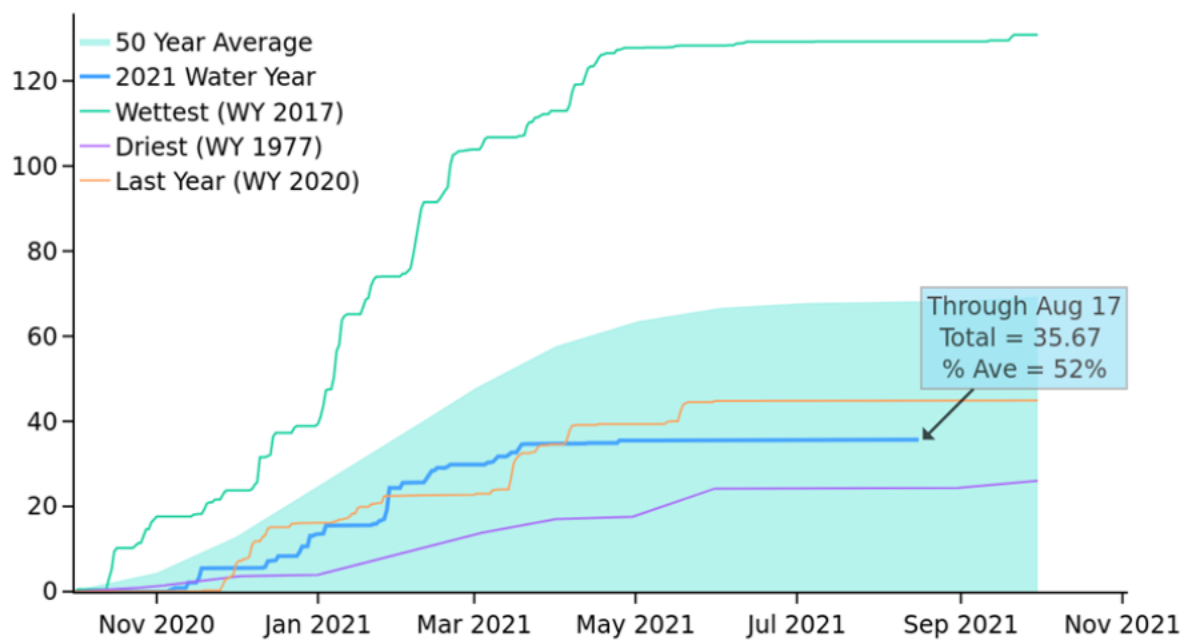


Figure 5. Lake Spaulding Precipitation Line Graph: Water Year 2021 (as of 8/17/21)

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

AUGUST 17, 2021

RUN DATE: August 18, 2021

Table 2. Reservoir Releases in Cubic Feet/Second

RESERVOIR	DAM	WY 2020	WY 2021	15 YR MEDIAN
TRINITY	LEWISTON	454	457	454
SACRAMENTO	KESWICK	9,984	8,523	10,159
FEATHER	OROVILLE (SWP)	2,300	1,550	4,000
AMERICAN	NIMBUS	2,517	1,003	2,591
STANISLAUS	GOODWIN	219	503	277
SAN JOAQUIN	FRIANT	433	260	352

Table 3. Storage in Major Reservoirs in Thousands of Acre-Feet

RESERVOIR	CAPACITY	15 YR AVG	WY 2020	WY 2021	% O 15 YR AVG
TRINITY	2,448	1,490	1,558	914	61
SHASTA	4,552	2,638	2,473	1,309	50
FOLSOM	977	513	502	235	46
NEW MELONES	2,420	1,340	1,598	944	70
FED. SAN LUIS	966	233	212	-17	-7
TOTAL NORTH CVP	11,363	6,214	6,343	3,385	54
MILLERTON	520	303	228	226	75
OROVILLE (SWP)	3,538	1,858	1,749	820	44

Table 4. Accumulated Inflow for Water Year to Date in Thousands of Acre-Feet

RESERVOIR	CURRENTWY 2021	WY 1977	WY 1983	15 YRAVG	% O 15 YR AVG
TRINITY	335	201	2,833	1,015	33
SHASTA	2,240	2,301	10,376	4,468	50
FOLSOM	779	319	6,314	2,283	34
NEW MELONES	327	----	2,668	903	36
MILLERTON	533	302	4,393	1,368	39

Table 5. Accumulated Precipitation for Water Year to Date in Inches

RESERVOIR	CURRENT WY 2021	WY1977	WY1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	16.21	12.11	55.19	31.15 (59)	52	0.00
SACRAMENTO AT SHASTA DAM	23.66	17.42	112.58	60.63 (64)	39	0.00
AMERICAN AT BLUE CANYON	31.62	15.64	103.88	65.23 (46)	48	0.00
STANISLAUS AT NEW MELONES	16.80	----	45.33	27.09 (43)	62	0.00
SAN JOAQUIN AT HUNTINGTON LK	17.68	17.40	82.40	40.92 (46)	43	0.00

Table 6. Isobath Plot 7/1/21 – 7/31/21

Mean Daily Temperatures (°F) = MDT, Unit Shutter Position =USP, Load Percentage = LP

Date	MDT Water NFA	MDT Water ARP	MDT Water AFD	MDT Water AHZ	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
June	70.9	68.8	64.2	67.9	69.8	70.9	73.3	1769	n/a	n/a	n/a	n/a	n/a	n/a	n/a
07/01	74.5	75.1	68.0	69.9	71.4	72.1	71.7	1854	285	M	1	M(t)	72	M(t)	28
07/02	76.0	73.2	67.2	70.4	72.3	72.9	74.0	1368	283	M	19	M(t)	7	M(t)	74
07/03	75.2	72.5	66.7	70.2	72.4	73.6	73.0	1305	281	M	49	M(t)	46	M(t)	5
07/04	73.8	71.7	66.9	70.1	72.3	73.2	73.0	1302	280	M	46	M(t)	1	M(t)	53
07/05	73.0	71.5	66.8	70.0	72.2	73.2	71.7	1287	278	M	47	M(t)	1	M(t)	52
07/06	n/a	72.3	67.3	69.9	71.9	73.1	70.5	1289	275	M	50	M(t)	49	M(t)	1
07/07	n/a	75.3	67.5	70.1	72.1	73.1	72.8	1285	273	M	50	M(t)	30	M(t)	20
07/08	n/a	75.5	67.2	70.5	72.8	74.0	78.5	1278	271	M	70	M	3	M(t)	27
07/09	n/a	73.4	66.4	70.1	73.6	75.5	87.9	1000	270	M	59	M	23	M(t)	18
07/10	73.3	72.0	66.7	70.1	74.2	76.4	88.1	994	270	M	71	M	27	M(t)	1
07/11	72.2	72.6	67.0	70.1	73.9	76.1	81.8	998	269	M	71	M	28	M(t)	1
07/12	71.1	72.2	67.7	70.4	72.8	74.1	72.4	1006	268	M	52	M	32	M(t)	16
07/13	73.1	72.5	67.7	70.5	72.7	73.6	68.8	1007	267	M	47	M	32	M(t)	21
07/14	74.2	74.8	67.4	71.0	72.9	73.5	70.0	1005	265	M	63	M	36	M(t)	1
07/15	71.7	74.8	67.6	70.9	72.9	73.6	68.5	1022	263	M	62	M	35	M(t)	2
07/16	72.6	71.8	63.3	70.8	73.0	73.6	70.8	1025	262	B	33	M	65	M(t)	1
07/17	72.1	70.7	63.6	70.7	73.7	75.0	78.0	1026	261	B	31	M	67	M(t)	1
07/18	71.5	70.9	63.6	69.8	73.6	75.2	81.5	1026	260	B	32	M	67	M(t)	1
07/19	71.3	71.1	61.2	69.1	72.8	74.6	82.0	1024	259	B	64	B1	1	M(t)	34
07/20	73.2	71.2	63.2	68.3	71.9	73.5	74.9	993	257	B	49	B1	2	M(t)	49
07/21	73.8	73.4	61.7	68.1	71.0	72.8	76.0	1008	255	M	1	B1	56	M(t)	43
07/22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1016	253	M	37	B1	32	M(t)	31
07/23	72.6	71.4	n/a	69.3	63.6	n/a	77.0	1024	251	M	38	B1	32	M(t)	30
07/24	71.2	70.5	69.2	69.9	72.6	74.0	78.5	1024	250	M	33	B1	34	M(t)	33
07/25	70.8	70.2	68.9	70.4	73.0	74.2	77.3	1022	249	M	38	B1	39	M(t)	23
07/26	70.2	69.2	68.2	70.6	71.7	72.6	72.7	1026	248	M	37	B1	46	M(t)	17
07/27	70.2	69.1	65.1	71.2	72.2	72.4	78.2	1016	246	B	23	B1	46	M	31
07/28	71.6	69.5	64.8	71.2	73.7	74.3	81.5	1014	246	B	23	B1	47	M	30
07/29	70.7	68.2	64.9	69.5	73.7	75.5	81.3	1018	245	B	28	B1	42	M	31
07/30	70.5	66.7	65.8	68.9	72.7	74.9	81.9	1017	245	B	22	B1	52	M	26
07/31	69.1	67.5	65.6	68.6	71.6	73.2	75.8	1018	244	B	22	B1	48	M	30
July	72.3	71.7	66.1	70.0	72.4	73.9	76.3	1106	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Total AF	68027	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 7. Isobath Plot 8/1/21 – 8/17/21

Mean Daily Temperatures (°F) = MDT, Unit Shutter Position = USP, Load Percentage = LP

Date	MDT Water NFA	MDT Water ARP	MDT Water AFD	MDT Water AHZ	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
July	72.3	71.7	66.1	70.0	72.4	73.9	76.3	1106	n/a	n/a	n/a	n/a	n/a	n/a	n/a
08/01	69.7	67.5	56.7	69.4	72.0	72.9	74.6	1016	243	B	23	B1	47	M	30
08/02	69.6	67.9	66.0	69.6	72.0	72.9	74.0	1017	242	B	22	B1	47	M	30
08/03	71.5	68.3	66.2	69.7	72.6	73.7	77.0	1013	240	B	22	B1	49	M	28
08/04	73.1	68.6	67.0	69.4	72.5	73.8	73.7	1014	239	B	21	B1	50	M	29
08/05	71.3	66.9	67.1	69.1	71.5	72.5	69.5	1016	238	B	22	B1	47	M	31
08/06	69.4	63.0	66.8	69.8	71.4	72.1	74.8	1016	237	B	26	B1	48	M	27
08/07	67.0	61.7	65.8	69.3	71.7	72.5	78.0	1018	237	B	30	B1	47	M	23
08/08	66.8	63.6	66.3	69.2	72.0	72.9	75.7	1016	236	B	28	B1	52	M	20
08/09	67.6	64.4	67.1	69.1	72.3	73.5	76.0	1016	235	B	24	B1	56	M	20
08/10	70.0	64.2	66.5	69.4	72.3	73.6	79.9	1013	235	B	30	B1	48	M	22
08/11	72.0	61.9	66.5	69.4	72.7	74.2	81.3	1018	235	B	28	B1	53	M	20
08/12	70.8	61.2	66.3	69.2	71.9	73.0	75.5	1013	235	B	31	B1	54	M	16
08/13	70.6	60.6	67.0	69.1	71.6	72.4	74.4	1015	235	B	30	B1	57	M	13
08/14	69.2	60.2	66.9	69.5	72.6	73.6	79.4	1014	236	B	30	B1	57	M	13
08/15	68.7	58.4	66.5	69.3	72.0	73.4	78.1	1008	237	B	32	B1	56	M	12
08/16	67.2	60.7	66.7	69.2	72.1	73.4	79.3	1005	236	B	30	B1	57	M	14
08/17	67.1	62.6	67.3	68.7	71.1	72.2	73.6	1003	235	B	30	B1	58	M	12

Figure 6. Isobath Plot 7/1/21-7/31/21

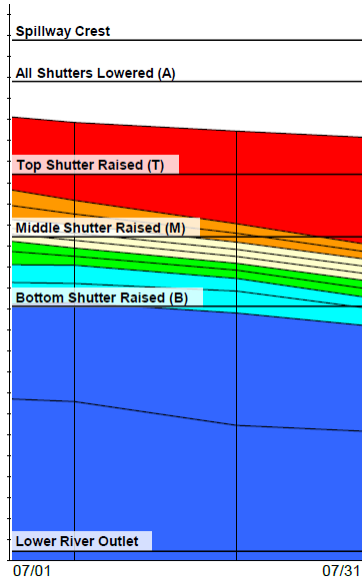


Figure 7. Isobath Plot 8/1/21-8/17/21

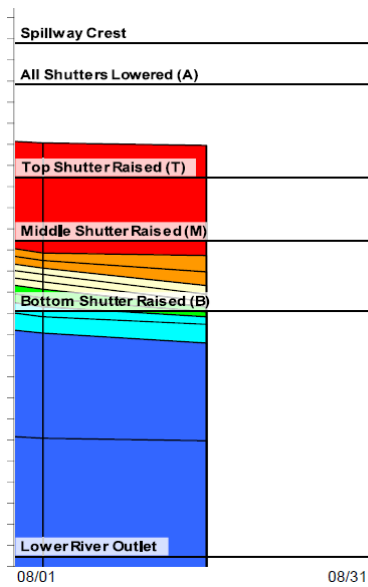
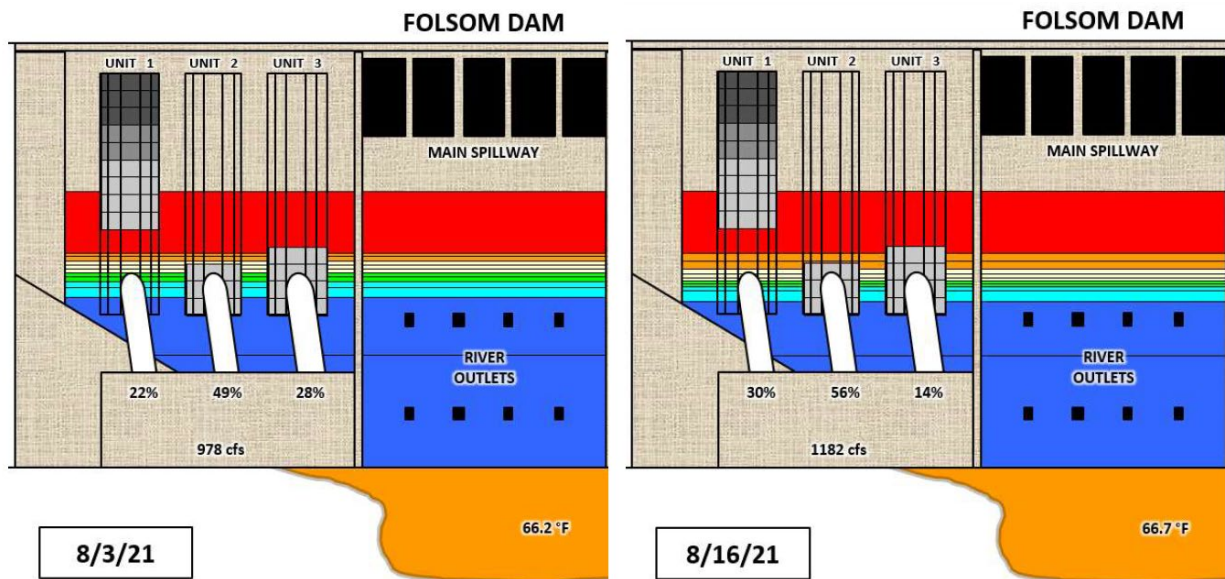


Figure 8. Folsom Dam Temperature Conditions [8/3/21] and [8/16/21]



- >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

American River Summary Conditions – August (On-going)

Storage/Release Management Conditions

- Releases are currently at 900 cfs to comply with Delta Outflow
 - Decrease releases on Aug 19, 2021 from 1000 to 900 cfs to conserve storage

Temperature Management:

- Top Shutters: Units 1, 2, & 3 – raised
- Middle Shutters: Units 1, 2 and 3 -- raised, & Units 3
- Bottom Shutters: Units 1 – raised, Unit 3 lowered, Unit 2 (Deganged): 1 top panel up, 3 lower panels down

Folsom Shutter Configuration and Changes:

- July 27 – Unit 1 – Bottom Shutters raised

*Next action – raise unit 3 Bottom Shutters

American River Release Outlook for July:

Table 8. Federal End of the Month Storage/Elevation (TAF/feet)

Month	n/a	July	Aug	Sept	Oct	Nov	Dec	Jan
Folsom	288	260	231	219	196	177	166	196
n/a	Elev.	380	374	371	366	361	358	366

Table 9. Monthly River Releases (TAF/cfs)

Month	n/a	July	Aug	Sept	Oct	Nov	Dec	Jan
American	TAF	61	62	33	34	33	34	34
n/a	cfs	1000	1001	559	551	552	550	550

American River Release Outlook for August:

Table 10. Federal End of the Month Storage/Elevation (TAF/feet)

Month	n/a	Aug	Sept	Oct	Nov	Dec	Jan
Folsom	244	214	198	176	157	146	176
n/a	Elev.	370	367	361	355	352	361

Table 11. Monthly River Releases (TAF/cfs)

Month	n/a	Aug	Sept	Oct	Nov	Dec	Jan
American	TAF	61	33	34	33	24	34
n/a	cfs	1000	554	550	550	550	550