

# **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, July 15, 2021

# Notes

- 1. Action Items
  - a. Mogan Kilgour check in with Rob Titus regarding creel surveys
  - b. Thuy Washburn share updated American River Summary Conditions for inclusion in materials with final notes.
  - c. All reach out to Barb Byrne if interested in discussions on power bypass
  - d. Levi Johnson update Barb Byrne regarding fish survival analysis to be included in potential Power Bypass Proposal
  - e. All provide feedback on revised LTO guidance documents to be circulated by USBR
  - f. All reach out to Kearns & West with ideas regarding presentations for future ARG calls
  - g. All contact Olivia Mihok with ideas for further research
- 2. Introductions
  - a. USBR: Spencer Marshall, Brad Hubbard, Ian Smith, Liz Kiteck, Levi Johnson, Drew Loney, Sarah Perrin, Thuy Washburn, Jonny Rogado
  - b. NMFS: Page Vick, Barb Byrne, Olivia Mihok, Garwin Yip, Katrina Poremba
  - c. USFWS: Paul Cadrett, Craig Anderson,
  - d. CDFW: Tracy Grimes, Crystal Rigby, Emily Fisher, Morgan Kilgour, Duane Linander, Mike Healey

- e. SWRCB: Reza Ghasemizadeh, Michael Macon, Lauren Beaudin
- f. PCWA: Ben Barker, Darin Reintjes
- g. Cardno (for PCWA): Craig Addley, Vanessa Martinez
- h. San Juan Water District: Paul Helliker, Greg Zlotnick
- i. City of Sacramento: Brian Sanders, Daniel Bowers, Anne Sanger, Brett Ewart
- j. City of Folsom: Marcus Yasutake
- k. SMUD: Ansel Lundberg
- l. EBMUD: I-Pei Hsiu
- m. Contra Costa Water District: Deanna Sereno
- n. DWR: Mike Ford
- o. WAPA: Mike Prowatzke, Ammon Danielson
- p. Water Forum: Erica Bishop
- q. SARA: Clyde Macdonald
- r. PSMFC: Cory Starr, Logan Day
- s. Cramer Fish Sciences: Joe Merz
- t. Sacramento State Aquatic Center: DeDe Birch
- u. HDR (for Water Forum): Amanda Ransom, Paul Bratovich
- v. Independent: Rod Hall, Dan Kelly
- w. Kearns & West: Rafi Silberblatt, Susan Ellsworth
- 3. Presentation
  - a. Olivia Mihok, a NOAA Hollings Scholar, presented her findings related to Lower American Rotary Screw Trap Data for Steelhead & Chinook Salmon. Her research focused on analyzing catch patterns to better understand the cause and impacts of data gaps.

### Questions/Comments:

- During discussion, it was clarified that the "pied piper effect" refers to the potential for naturally-spawned juveniles to migrate out with large hatchery releases as a way to reduce predation risk (a "safety in numbers" strategy).
- 4. Housekeeping

- a. NMFS requested that Olivia Mihok's presentation not be shared beyond the ARG at this time because it includes RST data that has not been finalized for distribution.
- b. Kearns & West noted that ARG meeting invites have been shifted to Outlook from MS Teams.
- 5. Fisheries Update
  - a. CDFW provided an update on monitoring in the American River. Juvenile salmonid beach seining has resumed and will continue for 2-3 years dependent on funding. While seining is typically conducted from March to October, high temperatures may necessitate a transition to snorkel surveys as the permit sets a threshold of 21° C for seining to avoid mortality.
  - b. Fall-run redd surveys and carcass surveys will resume in the fall, with carcass surveys potentially beginning a week or two early.
  - c. CDFW staff are downloading temperature loggers approximately every two river miles.

# Questions/Comments

- CDFW noted that juvenile steelhead were still being seen in the Nimbus Basin in June but their numbers have dropped off significantly since then.
- 6. Operations Forecast
  - a. SMUD provided an update on operations. Runoff into reservoirs has flattened and storage is well below normal. There is currently very little power generation as SMUD typically seeks to minimize releases when water is constrained, relying on the Western Energy Imbalance Market for grid balancing. See handout for details.
  - b. PCWA provided an update on operations. Consumptive demand is currently driving releases from storage. Storage has dropped approximately 3% in the last week. In support of the Tevis Cup equestrian race, PCWA will make an early release on 7/24/21.
  - c. PCWA is awaiting approval of a transfer order for the last week of July.
  - d. USBR noted that if the PCWA transfer occurs, it will have to increase releases out of Folsom by the same amount.

# Questions/Comments:

- In response to a question from USBR regarding off-ramps for recreational uses, PCWA indicated that variances are built into their license with regard to water year types.
- The Water Forum noted that for FERC licenses, an agency can petition for a variance in the case of extreme conditions, but in general, there aren't off-ramps.

- SMUD noted that while a variance may be requested in regard to reservoir elevation (typically due to maintenance), variances for flow requirements may not exist.
- 7. Central Valley Operations (CVO)
  - a. USBR provided an operations update. See handout for details. Nimbus releases dropped from 1850 to 1300 cfs on 7/2/21, then down to 1000 cfs on 7/9/21.
  - b. USBR noted they have been closely monitoring operations at Folsom Dam and blending releases through the Temperature Control Device (TCD) to meet the temperature taget of 71°F at Hazel.
  - c. In light of temperature and flow out of Folsom, the bottom shutter on Unit 1 will be lifted on Friday, 7/16/21, the bottom shutter of Unit 2 will be deganged starting on Monday, 7/19/21. Once deganging is complete, the top panel of the bottom shutter of Unit 2 will be lifted and the bottom shutter on Unit 1 will be lowered.
  - d. USBR noted the crane at Folsom broke last week, which delayed changes in shutter configurations by several days. It has now been repaired.

Questions/Comments:

- NMFS asked for clarification on the number of panels in the middle and bottom shutters and if deganging a bottom shutter means deganging all shutters one-at-a-time.
  - USBR indicated that the middle shutter has two panels and the bottom shutter has four panels. Currently, Unit 2 middle shutter is raised. The warmest unit is now Unit 3, however, after next week's adjustments, the coldest unit will be Unit 1, followed by Unit 2, then Unit 3. Each time a bottom shutter is deganged, they all need to be fully deganged. In a normal year, USBR doesn't degang as it is a lot of work.
- Cramer Fish Sciences asked if there was a contingency plan in the event 71°F is exceeded at Hazel.
  - USBR indicated that temperatures are fluctuating right above and below and will be close this weekend, however, once Unit 1 is lifted, there will be a significant amount of cold water entering the system and should bring water temperatures down a bit.
- PCWA/Cardno noted that when modeling for accessing the lower reservoir, there's full access to cold water which can be blended to the desired temperature.
  - USBR explained that intake through each TCD unit is blended to draw from water water layers to the extent possible (while still meeting the temperature target at Hazel) to reserve cold water for later. Currently, there are no plans to degang Unit 3 bottoms; instead, the full bottom shutter of Unit 3 may be pulled to facilitate blending.
- PCWA/Cardno shared its most recent CE-QUAL-W2 modeling runs, noting that the results are slightly more optimistic than 71°F, but are based on 2004 temperatures, as well as assumed inflows into Folsom and optimal reservoir management.

- Two model runs were conducted based on the latest forecast including a November power bypass as well as the PCWA 20 TAF transfer.
- Model runs show that by August there should be enough cold water to maintain temperatures of 69°F at Hazel dropping to 58°F with a power bypass.
- NMFS asked if the forecasted drop in September releases is the same as what was run in early June before the temperature management plan was finalized.
  - USBR indicated that 550 cfs was included for September, October and November runs in the CE-QUAL-W2
- Cramer Fish Sciences noted that 70°F is a barrier to adult chinook migration; under the circumstances, a temperature-related barrier at Watt may or may not be beneficial to adult salmon.
- CDFW asked for confirmation that temperatures of 60-65°F are not achievable in the fall without a power bypass.
  - PCWA confirmed that barring abnormally cold air temperatures in October and November, water temperatures below Nimbus Dam will not be <65°F without a power bypass
- CDFW asked if there would be enough cold water to continue a power bypass through November if it were started earlier in October.
  - PCWA indicated that detailed modeling would be needed to gauge the size of the cold water pool. There was enough cold water when assessed for November, but an October bypass hasn't been modeled.
    - CDFW requested modeling an October bypass to gauge the feasibility of achieving temperatures of 60-65°F in early to mid October (in the hope of mitigating prespawn mortality)
- NMFS asked if deganging the bottom shutters would help.
  - PCWA indicated that there should be sufficient cold water when pulling shutters from just one unit to achieve temperatures of 70° 71°F.
  - USBR indicated that deganging the lowest set of shutters hasn't been modeled. Deganging is a lot of work and stresses the units. There are also concerns about storage and the 27' head requirement. Deganging allows utilization of the warmer layers to blend. If we reach a point where there isn't much benefit, we'll pull them all up.
- USBR noted that management anticipates receiving a power bypass proposal this fall. In order to make the benefits of a bypass clear, USBR encouraged the inclusion of temperature model runs both with and without a power bypass in the proposal.
  - NMFS noted that analyzing survival numbers takes a fair amount of time. Will USBR want that analysis again?
    - UBSR indicated that it will inquire with its Bay Delta Office colleagues and request their participation in the August ARG meeting.

# 8. Discussion

a. USBR provided an update regarding the LTO Guidance Document Review process noting that it will be looking to the ARG for feedback on the updated

documents. The request for feedback will likely come by email in advance of the next ARG call with the goal of providing 5-7 days for review in advance of the next LTO meeting.

- b. Rod Hall requested an update on M&I water supply intake and what it looks like for later in the year.
  - USBR indicated that the Folsom Central California Area Office (CCAO) office has been developing contingency plans for installing emergency pumps and barges if needed.
- 9. Next Meeting: Thursday, August 19, 1:30-3:30pm



# **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, July 15, 2021

# Agenda

- 1. Introductions
- Presentation Summary of Lower American RST Data for Steelhead & Chinook (Olivia Mihok, NOAA Hollings Scholar, NMFS)
- 3. Housekeeping
- 4. Fisheries Update
- 5. Operations Forecast
  - a. SMUD
  - b. PCWA
- 6. Central Valley Operations
  - a. Temperature management
  - b. Exceedance forecast & temperature schedules
- 7. Discussion
  - a. LTO Guidance Doc Review
- 8. Next Meeting: Thursday, August 19, 1:30-3:30pm

# **SMUD Upper American River Project Update** Conditions - 13 July 2021

No precipitation of note in July.

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

- 243,115 acre feet (Storage this time last month: 259,662 acre feet)
- 64% full
- 70% of historical average (13 July historical average: 348,212 AF / 92%)
- 1% decrease in storage since last week •

## July 13, 2021 reservoir storage: (Figure 1)



# Cumulative runoff into storage reservoirs

July 13, 2021 runoff: (Figure 2)



## Individual Reservoir Storage

- Loon Lake: 58,100 AF
- Ice House: 30,776 AF
- Union Valley: 154,231 AF (58% of avg)

Last year (on July 13, 2020), storage was at 90% (341,915 AF). \*Total capacity: 379,174 AF.

## Chili Bar releases into the South Fork American River

June 2021 releases:

- Daily average flow: 513 cfs
- Total releases: 30,498 AF

July 2021 releases (July 1-12):

- Daily average flow so far: 486 cfs
- Total releases so far: 11,560 AF

South Fork American River Natural Runoff Forecast (in cfs, daily average forecasted flow, forecast 2021-7-13) (Figure 3)

BASIN	Fri July 16	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul
SFA above Slab	35.8	34.1	32.5	30.9	29.3	27.7
Slab Creek Reservoir	77.1	76.2	75.3	74.5	73.6	72.7
Combined South Fork	113	110	108	105	103	100

Runoff into the storage reservoir basins is 40% of median to date through Jul 12. The snowpack is 0% of average at selected snow sensors.

# South Fork American River Releases Forecast, in acre feet, updated 2021/7/06 (Figure 4)



# PCWA MFP OPERATIONS OVERVIEW for American River Operations Group (Real Time Data as of July 14, 2021)

- French Meadows Storage = 69,500 AF of 136,405 AF = 51% Capacity
  - $\circ~$  MFAR above FM Inflow (R24) =7-day AVG  ${\sim}1~cfs$
- Hell Hole Storage = 103,000 AF of 207,590 AF = 50% Capacity
  - Five Lakes Inflow (R23) = 7-day AVG  $\sim$ 3 cfs
  - $\circ$  Rubicon Inflow (R22) = 7-day AVG ~5 cfs
- Combined Storage (FM+HH) = 172,500 AF/342,590 AF = 50% Capacity; ~62% of AVG
  - $\circ$  7 Day Change = -5,000 AF
- MFAR @ <u>R11:</u> 7-day daily average 375 cfs



# MFP Reservoir and Snowpack Storage



Lake Spaulding Precipitation: Water Year 2021

Lake Spaulding Precipitation: Water Year 2021



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

JULY 13, 2021; RUN DATE: July 14, 2021

#### RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2020	WY 2021	15 YR MEDIAN
TRINITY	LEWISTON	464	452	464
SACRAMENTO	KESWICK	12,356	9,242	12,356
FEATHER	OROVILLE (SWP)	3,300	3,000	4,000
AMERICAN	NIMBUS	3,965	1,007	3,846
STANISLAUS	GOODWIN	203	1,502	355
SAN JOAQUIN	FRIANT	399	260	352

### 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	1,633	1,703	1,097	67
SHASTA	4,552	3,089	2,943	1,620	52
FOLSOM	977	656	646	267	41
NEW MELONES	2,420	1,438	1,685	1,144	80
FED. SAN LUIS	966	316	234	69	22
TOTAL NORTH CVP	11,363	7,132	7,211	4,197	59
MILLERTON	520	382	340	228	60
OROVILLE (SWP)	3,538	2,228	2,039	1,026	46

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

RESERVOIR	CURRENT WY 2021	WY 1977	WY 1983	15 YR AVG	% O 15 YR AVG
TRINITY	335	193	2,681	998	34
SHASTA	2,084	2,089	10,020	4,254	49
FOLSOM	720	297	6,038	2,172	33
NEW MELONES	313		2,510	843	37
MILLERTON	465	227	3,929	1,218	38

#### 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	16.21	12.06	54.73	30.95 (59)	52	0.00
SACRAMENTO AT SHASTA DAM	23.52	17.42	112.44	60.37 ( 64 )	39	0.00
AMERICAN AT BLUE CANYON	31.62	15.64	103.88	65.03 ( 46 )	49	0.00
STANISLAUS AT NEW MELONES	16.78		45.33	26.99 ( 43 )	62	0.00
SAN JOAQUIN AT HUNTINGTON LK	17.68	17.20	81.40	40.59 ( 46 )	44	0.00

D	Mean Daily Temperatures (°F)						Release	Storage	Un	it Sh	uter P	ositio	n / Lo	ad		lo	oboth DI	<b>.</b> t		
Α			Wa	ter			Air	(CFS)	(TAF)			Perce	ntage	)			15	obath Pr	σι	
T E	<u>NFA</u>	<u>ARP</u>	$AFD^1$	<u>AHZ</u>	<u>AWP</u>	<u>AWB</u>	<u>CSU</u>	Nimbus	Folsom	Un	it 1	Un	it 2	Un	it 3	>70	68-70	66-68	64-66	62-64
May	65.2	63.9	60.6	64.4	66.5	67.8	67.7	1000								60-62	58-60	50-58	54-56	52-54
06/01	69.8	67.8	62.3	66.5	70.2	72.7	78.9	1015	361	Т	36	Т	28	Т	36	50-52	48-50	46-48	<46	
06/02	72.4	66.1	62.6	66.9	69.9	71.8	73.5	1019	361	Т	30	Т	65	Т	4					
06/03	72.0	68.5	63.1	67.7	70.3	71.8	73.7	1263	361	Т	41	Т	34	Т	24					
06/04	73.8	69.0	62.9	68.4	70.6	72.3	75.2	1730	359	Т	44	Т	36	Т	20					
06/05	72.8	68.4	63.0	67.9	69.6	70.7	72.3	1761	357	Т	52	Т	23	Т	25					
06/06	71.7	68.4	62.9	67.8	69.7	70.9	71.9	1764	355	Т	38	Т	32	Т	29	Spillway C	rest			
06/07	70.5	67.7	62.3	67.2	68.3	69.3	65.8	1806	353	Т	38	Т	49	Т	13					
06/08	69.5	66.9	62.1	66.9	67.4	67.8	61.8	1867	351	Т	45	Т	27	Т	28	All Shutter	s Lowered	(A)		
06/09	68.5	66.5	62.2	66.3	67.3	67.8	60.9	1862	346	Т	69	Т	19	Т	13					
06/10	65.7	65.6	62.6	66.0	67.0	67.4	62.3	1860	344	Т	57	Т	23	Т	20					
06/11	67.1	65.4	62.7	65.5	67.0	67.7	66.0	1866	341	Т	21	Т	55	Т	24					
06/12	67.6	66.6	62.9	66.4	68.2	69.1	73.5	1860	339	Т	26	Т	29	Т	44	Tomothutt		<b>T</b> \		
06/13	69.1	67.9	62.9	66.7	68.9	70.2	73.4	1865	336	Т	30	Т	50	Т	21	Top Snutt	er Raised (			
06/14	69.8	67.5	63.4	67.4	69.2	70.3	72.0	1858	334	Т	15	Т	70	Т	15					
06/15	70.4	67.4	64.1	67.6	68.9	70.0	72.3	1861	330	Т	55	Т	32	Т	13	Middle Cir	tter Deles			
06/16	68.6	69.1	64.6	68.0	69.5	70.6	79.0	1864	328	Т	76	Т	24	Т	1	Middle Sh	litter Kaise	a (W)		
06/17	66.9	70.1	64.9	68.6	70.2	71.4	85.1	1857	325	Т	52	Т	47	Т	1					
06/18	70.3	68.9	65.3	69.3	71.5	72.9	88.7	1864	323	Т	54	Т	45	M(t)	1					
06/19	70.6	68.7	63.7	69.2	71.2	72.7	84.6	1838	320	Т	52	Т	25	M(t)	23	Bottom Sh	utter Raise	ed (B)		
06/20	70.6	68.8	63.4	69.0	71.2	72.3	80.8	1844	318	Т	63	Т	36	M(t)	1					
06/21	70.5	68.3	65.2	68.3	70.2	71.1	71.5	1838	315	Т	97	M(t)	2	M(t)	1					
06/22	71.9	68.9	66.3	68.5	69.9	70.5	69.7	1845	312	Т	50	M(t)	49	M(t)	1					
06/23	73.5	71.8	65.7	69.0	70.6	71.2	71.0	1864	308	М	1	M(t)	97	M(t)	2					
06/24	72.1	72.2	65.7	68.6	70.4	71.3	70.3	1861	306	М	1	M(t)	39	M(t)	60					
06/25	72.4	69.8	66.0	68.6	70.3	71.2	70.9	1861	303	М	1	M(t)	37	M(t)	62					
06/26	71.6	69.9	66.3	68.8	70.8	71.8	75.3	1863	301	М	1	M(t)	73	M(t)	27					
06/27	72.9	70.9	66.4	68.8	70.9	72.1	73.9	1863	298	М	1	M(t)	33	M(t)	66					
06/28	73.9	71.1	66.8	69.2	71.0	71.8	73.8	1853	295	Μ	1	M(t)	38	M(t)	61					
06/29	74.7	72.2	67.3	69.4	71.4	72.5	77.0	1845	292	Μ	1	M(t)	61	M(t)	39					
06/30	75.9	74.8	67.5	69.6	71.6	72.6	74.3	1861	288	М	1	M(t)	71	M(t)	28	Lower Piv	ar Outlet			
-																	or Outlet			
Jun	70.9	68.8	64.2	67.9	69.8	70.9	73.3	1769								06/01				06/30
						Tot	tal AF	105278												

### Legend

? = 1-9 hours of data missing

! = 10 or more hours of data missing

# = Station out of service

= Monthly Averages

- A= All Shutters LoweredT= Top Shutter Raised
- M = Middle Shutter Raised

B = Bottom Shutter Raised

O = Unit Outage

### <u>Notes</u>

<sup>1</sup> AFD is a weighted average based on hourly flow values, including generation, bypass and spill.

2

3 4

5

D		Меа	an Daily	Temper	ratures (	(°F)		Release	Storage	Un	it Sh	uter P	ositio	n / Loa	ad		L	abath DI	<b>~</b> +	
Α			Wat	ter			Air	(CFS)	(TAF)			Perce	ntage	)			R	sobath Pr	οι	
T E	<u>NFA</u>	<u>ARP</u>	$AFD^1$	<u>AHZ</u>	<u>AWP</u>	<u>AWB</u>	<u>CSU</u>	Nimbus	Folsom	Un	it 1	Un	it 2	Uni	t 3	>70	68-70	66-68	64-66	62-64
Jun	70.9	68.8	64.2	67.9	69.8	70.9	73.3	1769								60-62	<b>58-60</b>	56-58	54-56	52-54
07/01	74.5	75.1	68.0	69.9	71.4	72.1	71.7	1854	285	М	1	M(t)	72	M(t)	28	<b>50-52</b>	<b>4</b> 8-50	46-48	<46	
07/02	76.0	73.2	67.2	70.4	72.3	72.9	74.0	1368	283	Μ	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	Μ	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	М	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	М	47	M(t)	1	M(t)	52					
07/06	-	72.3	67.3	69.9	71.9	73.1	70.5	1289	275	М	50	M(t)	49	M(t)	1	Spillway (	Crest			
07/07	<b>#</b> -	75.3	67.5	70.1	72.1	73.1	72.8	1285	273	М	50	M(t)	30	M(t)	20					
07/08	<b>#</b> -	75.5	67.2	70.5	72.8	74.0	78.5	1278	271	М	70	Μ	3	M(t)	27	All Shutte	rs Lowere	d (A)		
07/09	-	73.4	66.4	70.1	73.6	75.5	87.9	1000	270	М	59	Μ	23	M(t)	18			- (/		
07/10	73.3	72.0	66.7	70.1	74.2	76.4	88.1	994	270	М	71	Μ	27	M(t)	1					
07/11	72.2	72.6	67.0	70.1	73.9	76.1	81.8	998	269	М	71	Μ	28	M(t)	1					
07/12	71.1	72.2	67.7	70.4	72.8	74.1	72.4	1006	268	М	52	М	32	M(t)	16			( <b>-</b> )		
07/13																lop t	er Raised	(1)		
07/14																				
07/15																				
07/16							Ì									Middle Sh	utter Raise	ed (M)		
07/17																				
07/18																				
07/19																Bottom SI	nutter Rais	ed (B)		
07/20																				
07/21																				
07/22																				
07/23																				
07/24																				
07/25																				
07/26																				
07/27																				
07/28																				
07/29																				
07/30																				
07/31																Lower RV	er Outlet			
Jul	73.6	73.1	67.1	70.2	72.7	73.9	76.3	1247								07/01				07/31
						Tot	al AF	29684												
L	<u>egend</u>									Notes	<u>i</u>									

? = 1-9 hours of data missing

! = 10 or more hours of data missing

# = Station out of service

= Monthly Averages

- A= All Shutters LoweredT= Top Shutter RaisedM= Middle Shutter Raised
- B = Bottom Shutter Raised

O = Unit Outage

<sup>1</sup> AFD is a weighted average based on hourly flow values, including generation, bypass and spill.

2 3

4

4 5





# American River Summary Conditions – July (On-going)

# Storage/Release Management Conditions

- Releases are currently at 1000 cfs to comply with Delta Outflow
  - Decrease releases on July 2, 2021 from 1850 to 1300 cfs to conserve storage
  - o Decrease releases on July 9, 2021 from 1300 to 1000 cfs to conserve storage

## **Temperature Management:**

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

# Folsom Shutter Configuration and Changes:

- July 8 Unit 2 Middle deganged lower panel raised.
- June 23 Unit 1 Middle shutter raised due to elevation requirement
- June 21 Degang upper set of middle panels on unit 2 (top panel up, lower panel down)
- June 18 Degang upper set of middle panels on unit 3 (top panel up, lower panel down)
  Bottom of Middle set of shutters pulled up at elevation 376'(currently at 381.0')

# American River Release Outlook:

Storages

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

		Jul	Aug	Sept	Oct	Nov	Dec	Jan
Folsom	288	260	231	219	196	177	166	196
	Elev.	380	374	371	366	361	358	366

### Monthly River Releases (TAF/cfs)

American	TAF	61 62		33	34	33	34	34
	Cfs	1000	1001	559	551	552	550	550