



— 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, April 21, 2022

Agenda

1. Technical assistance for Teams, Rob Gordon Kearns & West, 1:30-1:45pm
2. Introductions
3. Housekeeping
4. Fisheries Update
 - a. CDFW
 - b. CFS
 - c. PSMFC
5. Operations Forecast
 - a. SMUD
 - b. PCWA
6. Central Valley Operations
7. Discussion
 - a. Spring Pulse Flow, USBR
8. Next Meetings:
 - a. Thursday, May 19, 1:30-3:30pm

Provisional Data Subject to Revision

JUVENILE SALMONID MONITORING

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

- 83 juvenile steelhead trout and 564 Chinook salmon observed thus far

Month	Category	Nimbus Main Channel	Nimbus Side Channel	Upper Sunrise Main Channel	Upper Sunrise Side Channel	Lower Sunrise Main Channel	Lower Sunrise Side Channel **	Rossmoor Main Channel	Gristmill Main Channel	Riverbend Main Channel	Riverbend Side Channel	Watt Avenue Main Channel	Paradise Beach Main Channel
March	SH	1	Not able to seine due to presence of steelhead redds	7	N/A	7	3	3	0	0	N/A	1	0
March	CS	0	Not able to seine due to presence of steelhead redds	0	N/A	8	76	8 (+1 UNID Salmonid)	2	4	N/A	0	0
April	SH	Have not seined yet this month, will monitor these sites next week.	Have not seined yet this month, will monitor these sites next week.	5	N/A	3	33	Have not seined yet this month, will monitor these sites next week.	0	Have not seined yet this month, will monitor these sites next week.	Have not seined yet this month, will monitor these sites next week.	Have not seined yet this month, will monitor these sites next week.	0

Month	Category	Nimbus Main Channel	Nimbus Side Channel	Upper Sunrise Main Channel	Upper Sunrise Side Channel	Lower Sunrise Main Channel	Lower Sunrise Side Channel **	Rossmoor Main Channel	Gristmill Main Channel	Riverbend Main Channel	Riverbend Side Channel	Watt Avenue Main Channel	Paradise Beach Main Channel
April	CS	Have not seined yet this month, will monitor these sites next week.	Have not seined yet this month, will monitor these sites next week.	2	N/A	3	461	Have not seined yet this month, will monitor these sites next week.	0	Have not seined yet this month, will monitor these sites next week.	Have not seined yet this month, will monitor these sites next week.	Have not seined yet this month, will monitor these sites next week.	0

- NA: Side channel no longer present, salmonids were salvaged from isolated pools in the upper Sunrise side channel in March
- **: Lower Sunrise Side Channel is not connected at the upstream end

Provisional Data Subject to Revision

NIMBUS FISH HATCHERY

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

- Chinook are being coded wire-tagged
- Chinook releases will begin next month
- Steelhead are being held in indoor tanks

Lower American River 2022 Steelhead Spawning and Stranding Survey Summary

Spawning

Table 1. Steelhead, Chinook salmon, older redd, and test redd counts during 2022 spawning surveys.

Dates	Steelhead	Chinook	Lamprey	Unkown ¹	Older with some algae ²	Test	Total
Jan 12-14	5	0	0	0	3	4	12
Jan 26-28	28	0	0	0	2	9	39
Feb 9-11	26	0	0	5	3	13	47
Feb 23-25	12	0	4	0	0	9	25
Mar 8-10	15	0	1	0	0	10	26
Mar 23-25	1	0	110	0	2	8	121
Apr 5-7	0	0	50	0	0	0	50
Total	87	0	165	5	10	53	320

¹Redd(s) not measured due to high velocity and/or angler presence, therefore species not classified using DFA

²Older redds likely constructed within the previous 2 weeks

Steelhead spawning surveys have concluded for 2022.

Stranding

Salmonid stranding surveys were conducted from 17-21 March to assess potential stranding of juvenile salmonids and steelhead redds. CFS coordinated with CDFW to conduct juvenile salmonid rescues.

Extensive stranding was observed in the upper Sunrise side channel, with juvenile Chinook salmon and steelhead observed.

Table 1. Summary of isolated pools by location on the Lower American River

Date	Location (river mile)	# of pools	Species rescued- Chinook	Species rescued- Steelhead	Total pool area (m2)	Temperature C	DO (mg/L)	Turbidity (NTU)
17-21 Mar	Upper Sunrise Side Channel (21)	9	2474	8164	419	18	7.6	1.8
17-21 Mar	Lower Sunrise Side Channel (21)	1	6	0	13	15.4	5.5	N/A 1
17-21 Mar	Lower River Bend side channel, Arden Rapids (13)	2	4	0	207	12	3.4	1.6
17-21 Mar	William B. Pond Recreation Area (13)	1	330	0	787	17.3	7.7	2
25-Mar	Upper River Ben (14)	1	314	0	322	13.9	9.1	1.8
N/A	Total	14	3128	8164	1748	N/A	N/A	N/A

Following the flow reduction from 1,200 cfs to 1,000 cfs on 5-6 April, CFS and CDFW staff performed additional rescues in the Upper Sunrise Side Channel on 7 April. Only Sacramento Pikeminnow and Three-spined Stickleback were observed in the stranded pools, and no stranded juvenile salmonids were observed.

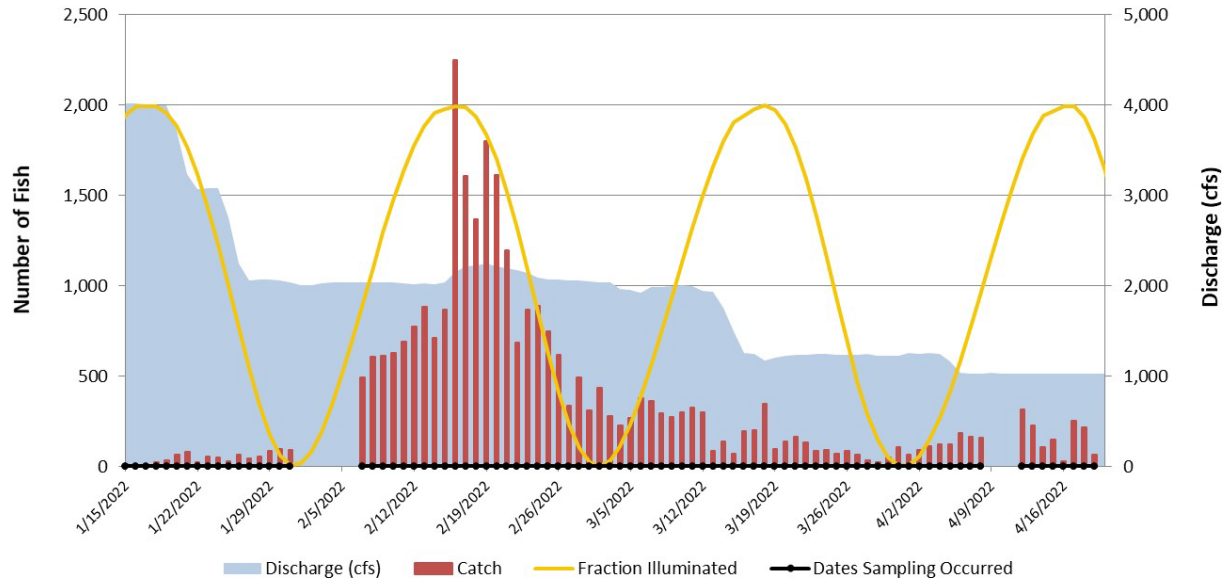
UPDATED 4/19/22

Unmarked Juvenile Chinook Salmon (length-at-date):

Fall	Late Fall	Spring	Winter
29,585	0	275	0

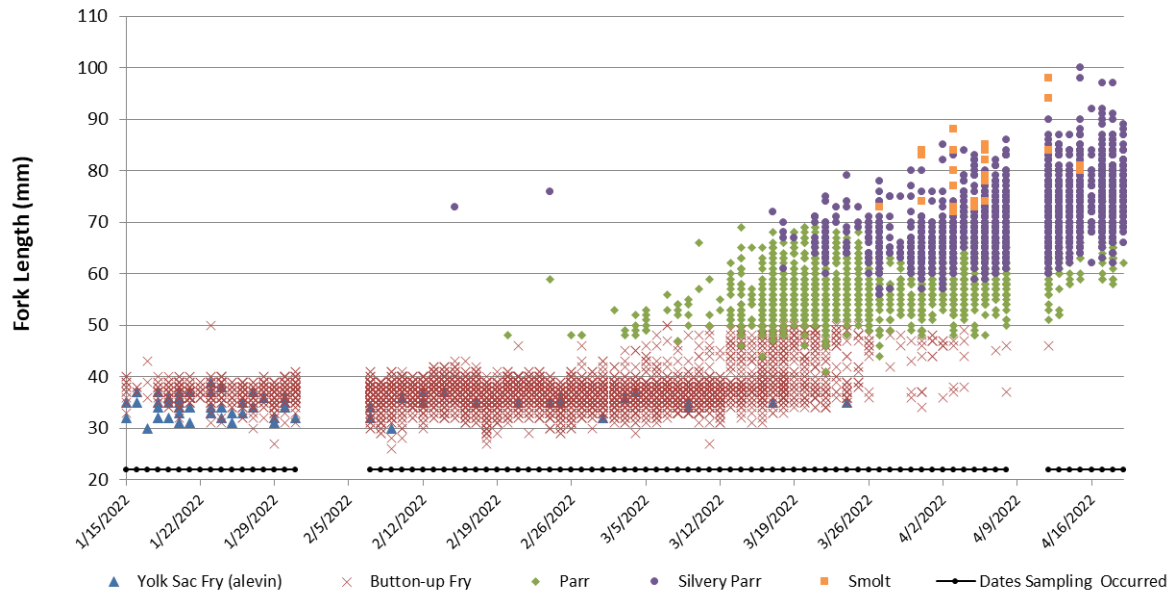
Lower American River at Watt Ave (RSTs):

Daily catch of unmarked Chinook Salmon and daily average discharge at Fair Oaks during the 2022 Lower American River rotary screw trap survey season.



Lower American River at Watt Ave (RSTs):

Daily fork length distribution by life stage of unmarked Chinook Salmon measured during the 2022 Lower American River rotary screw trap survey season.



Lower American River RST CalFish Webpage:

<https://www.calfish.org/ProgramsData/ConservationandManagement/CentralValleyMonitoring/SacramentoValleyTributaryMonitoring/LowerAmericanRiver-RSTMonitoring.aspx>

SMUD Upper American River Project Update

Conditions – Tuesday 19 April 2022

April precipitation through 4/19/2022 7:00:00 AM is 5.60 in., which is 116% of the April average of 4.84". The cumulative precipitation for the area is 38.4" which is 3.6" below the historical median and 12.8" above last year's cumulative precipitation at this time of the year. As of Monday 4/18, 2.2" of precipitation was forecasted for the area in the next two weeks.

Runoff into the storage reservoir basins was 143% of median to date through 4/19. The snowpack was 30.5% of average at selected sensors.

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

- 319,716 acre feet
- 84% full
- 114% of historical average (19 April historical average: 283,729 AF)

Individual Reservoir Storage

- Loon Lake: 45,710 AF
- Ice House: 35,747 AF
- Union Valley: 238,259 AF

Last year (on April 19, 2021), storage was at 58% (220,575 AF). **Total capacity: 329,210 AF.*

Chili Bar releases into the South Fork American River

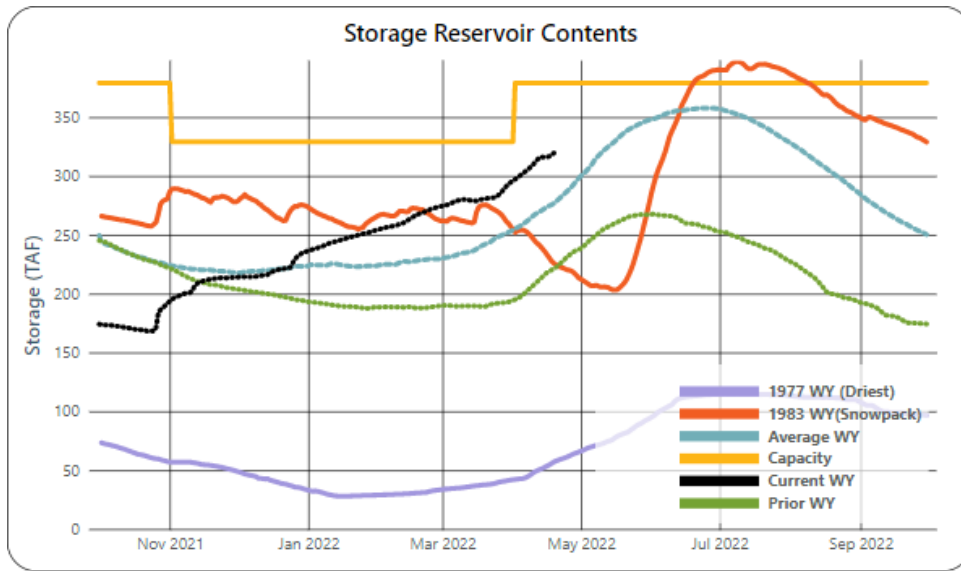
(Previous month) March 2022 releases:

- Daily average flow: 1,220 cfs
- Total releases: 75,035 AF

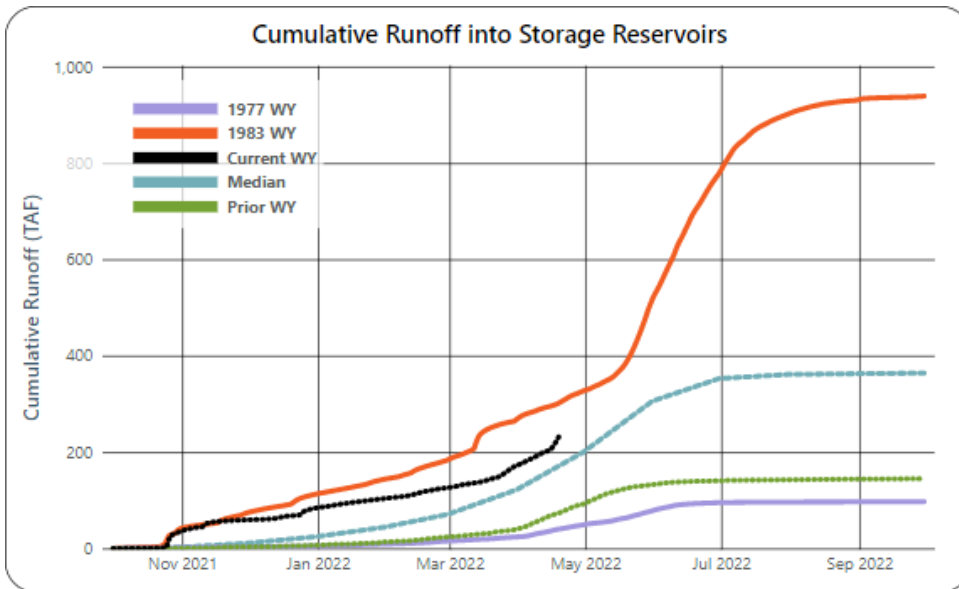
(Current month) April 2022 releases (April 1-18)

- Daily average flow so far: 1,473 cfs
- Total releases so far: 52,582 AF

April 19, 2022 reservoir storage: (Figure 1)



April 19, 2022 runoff into SMUD storage: (Figure 2)

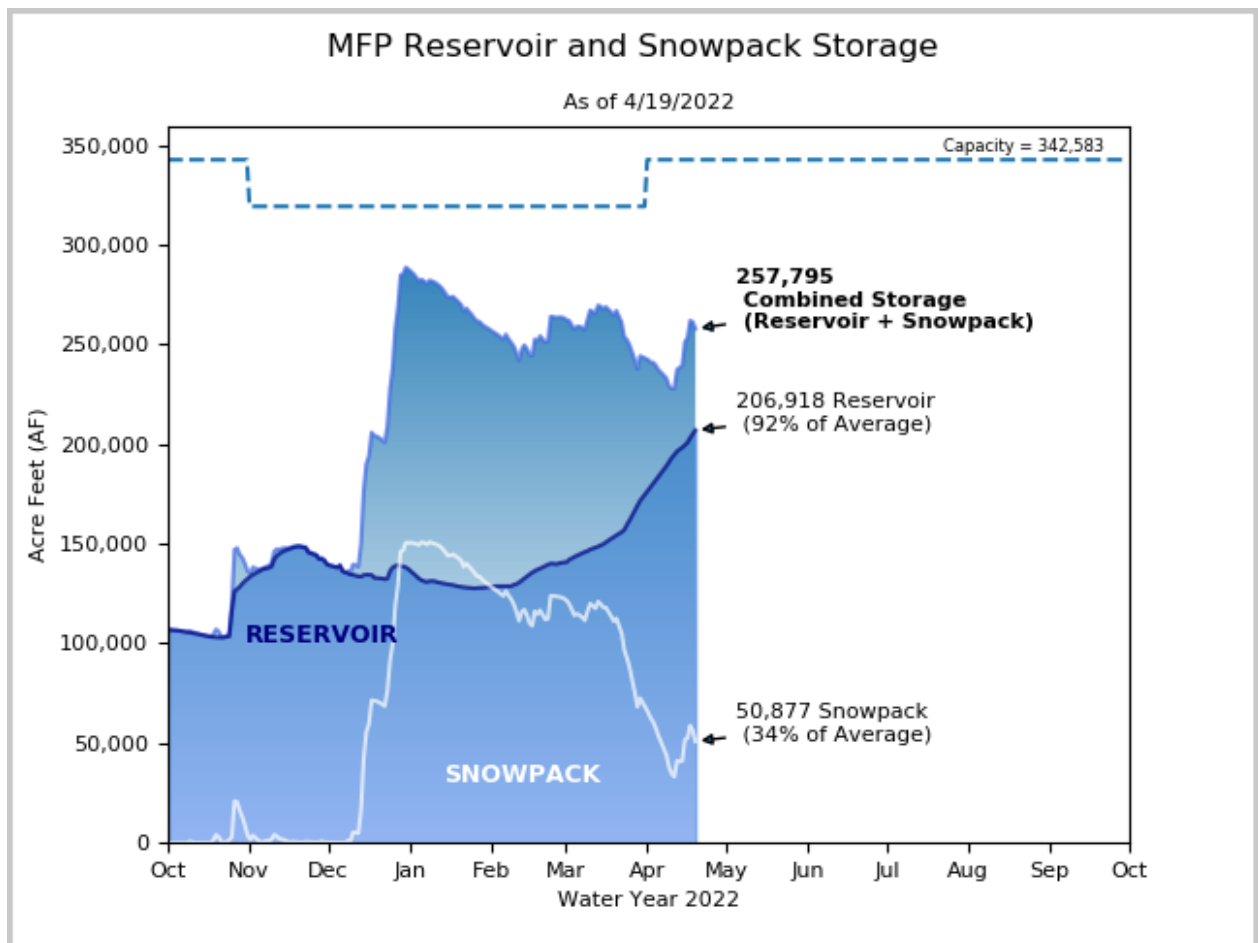


South Fork American River Natural Runoff Forecast (in cfs, daily average forecasted flow, forecast 2022-04-19) (Figure 3)

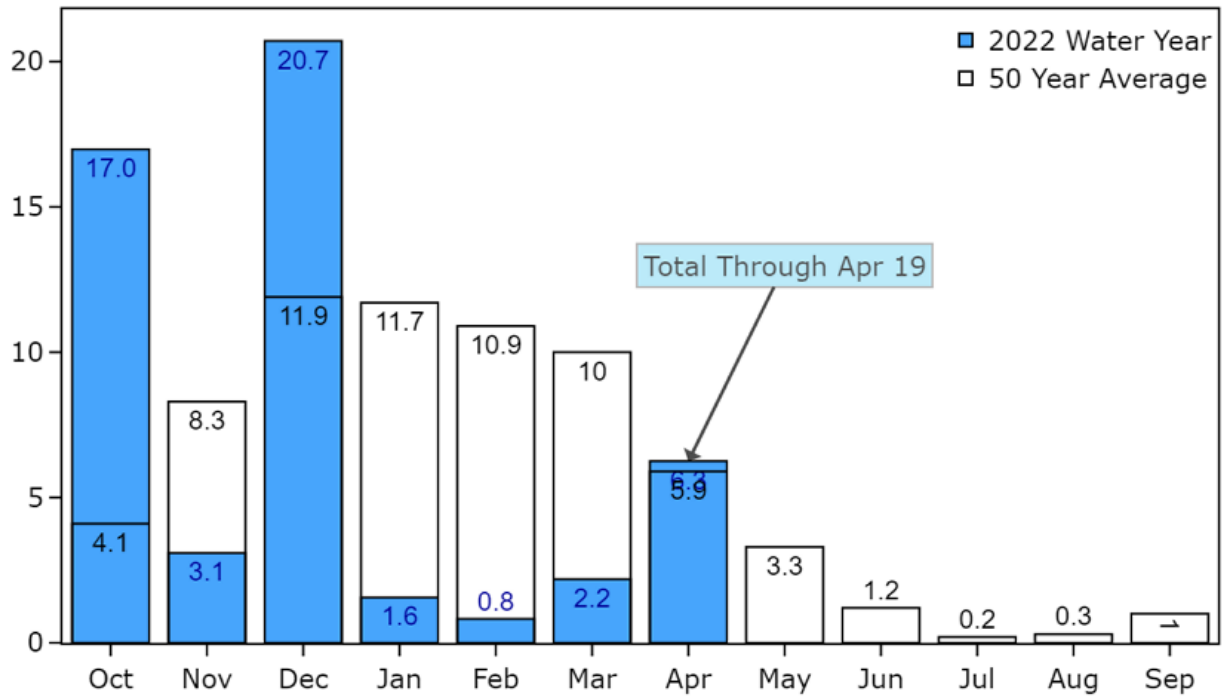
BASIN	Fri 22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr
SFA above Slab	491	368	573	1,129	1,519	1,599
Slab Creek Reservoir	244	98	97	107	118	118
Combined South Fork	736	465	670	1236	1636	1717

PCWA MFP OPERATIONS OVERVIEW for American River Operations Group (Real Time Data as of April 20, 2022)

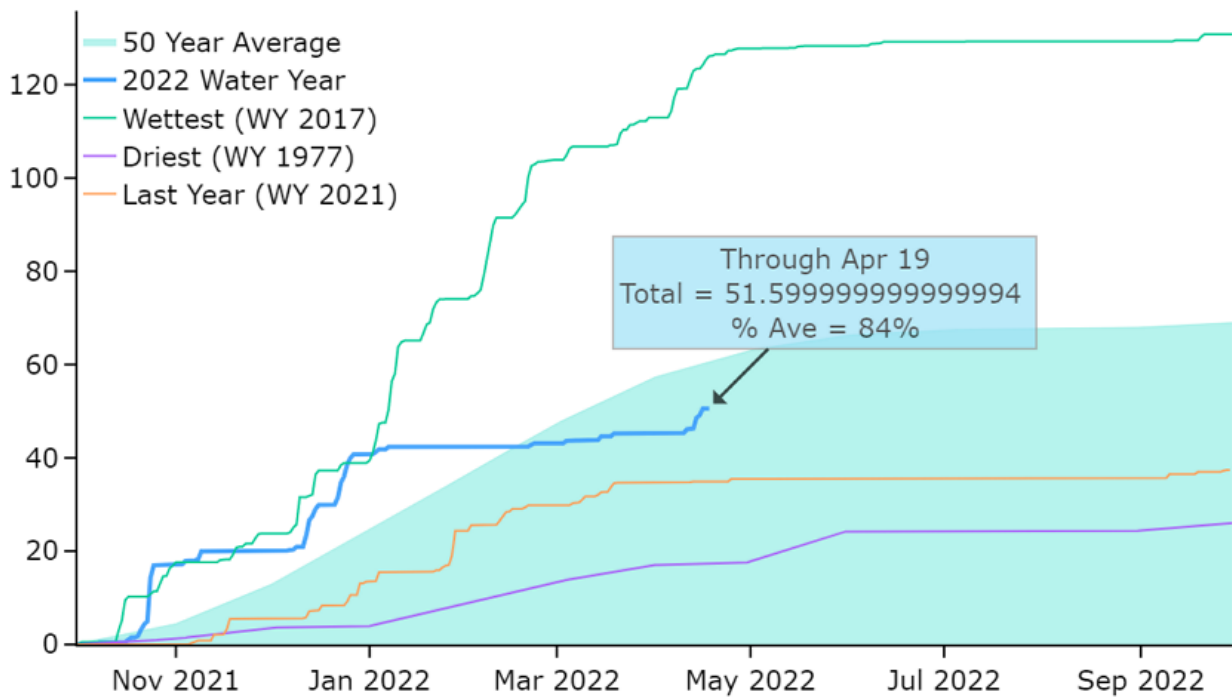
- ❖ **French Meadows Storage = 84,000 AF of 136,405 AF = 62% Capacity**
 - MFAR above FM Inflow (R24) = 7-day AVG ~350 cfs
- ❖ **Hell Hole Storage = 127,000 AF of 207,590 AF = 61% Capacity**
 - Five Lakes Inflow (R23) = 7-day AVG 110 cfs
 - Rubicon Inflow (R22) = 7-day AVG 270 cfs
- ❖ **Combined Storage (FM+HH) = 211,000 AF/342,590 AF = 61% Capacity; 98% of AVG YTD**
 - 14 Day Change = +25,000 AF
 - 7 Day Change = +13,000 AF
- ❖ **MFAR @ R11: 7-day AVG 980 cfs**
- ❖ **NFAR @ ARPS: 7-day AVG 2,150 cfs**
- ❖ **MFP currently operating in storage conservation mode**



Lake Spaulding Precipitation: Water Year 2022



Lake Spaulding Precipitation: Water Year 2022



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

NOVEMBER 19, 2022

RUN DATE: APRIL 20, 2022

TABLE 1. RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2021	WY 2022	15 YR MEDIAN
TRINITY	LEWISTON	694	1,756	317
SACRAMENTO	KESWICK	6,480	3,274	6,041
FEATHER	OROVILLE (SWP)	1,100	800	1,550
AMERICAN	NIMBUS	2,058	993	1,560
STANISLAUS	GOODWIN	834	455	1,503
SAN JOAQUIN	FRIANT	341	1,004	350

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	1,687	1,307	799	47
SHASTA	4,552	3,480	2,359	1,763	51
FOLSOM	977	673	358	661	98
NEWMLEONES	2,420	1,457	1,499	928	64
FED. SAN LUIS	966	662	415	350	53
TOTAL NORTH CVP	11,363	7,959	5,938	4,501	57
MILLERTON	520	302	209	351	116
OROVILLE (SWP)	3,538	2,406	1,491	1,782	74

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	341	101	1,370	626	54
SHASTA	1,980	1,520	7,721	3,263	61
FOLSOM	1,067	216	3,908	1,499	71
NEW MELONES	373	N/A	1,235	501	74
MILLERTON	480	116	1,814	538	89

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	16.72	9.27	50.97	28.09 (60)	60	0.39
SACRAMENTO AT SHASTA DAM	37.55	11.04	103.71	55.12 (65)	68	0.00
AMERICAN AT BLUE CANYON	57.57	15.64	95.30	59.17 (47)	97	1.01
STANISLAUS AT NEW MELONES	18.04	N/A	41.71	24.77 (44)	73	0.00
SAN JOAQUIN AT HUNTINGTON LK	22.62	11.50	74.70	36.71 (47)	62	0.00

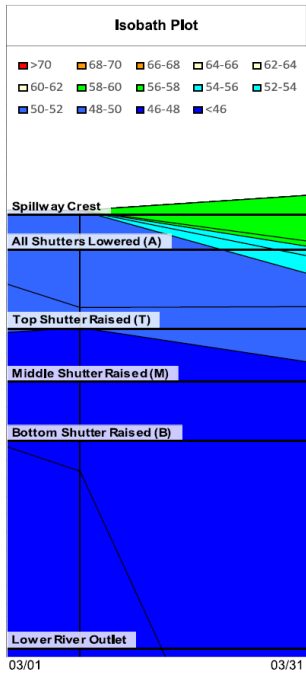


Figure 1. Isobath Plot 13/01- 03/31.

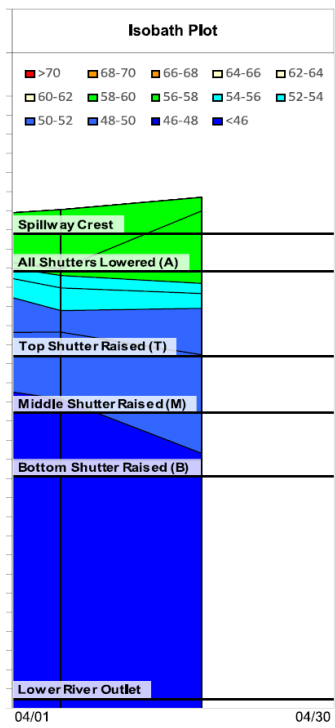


Figure 2. Isobath Plot 4/01- 04/30

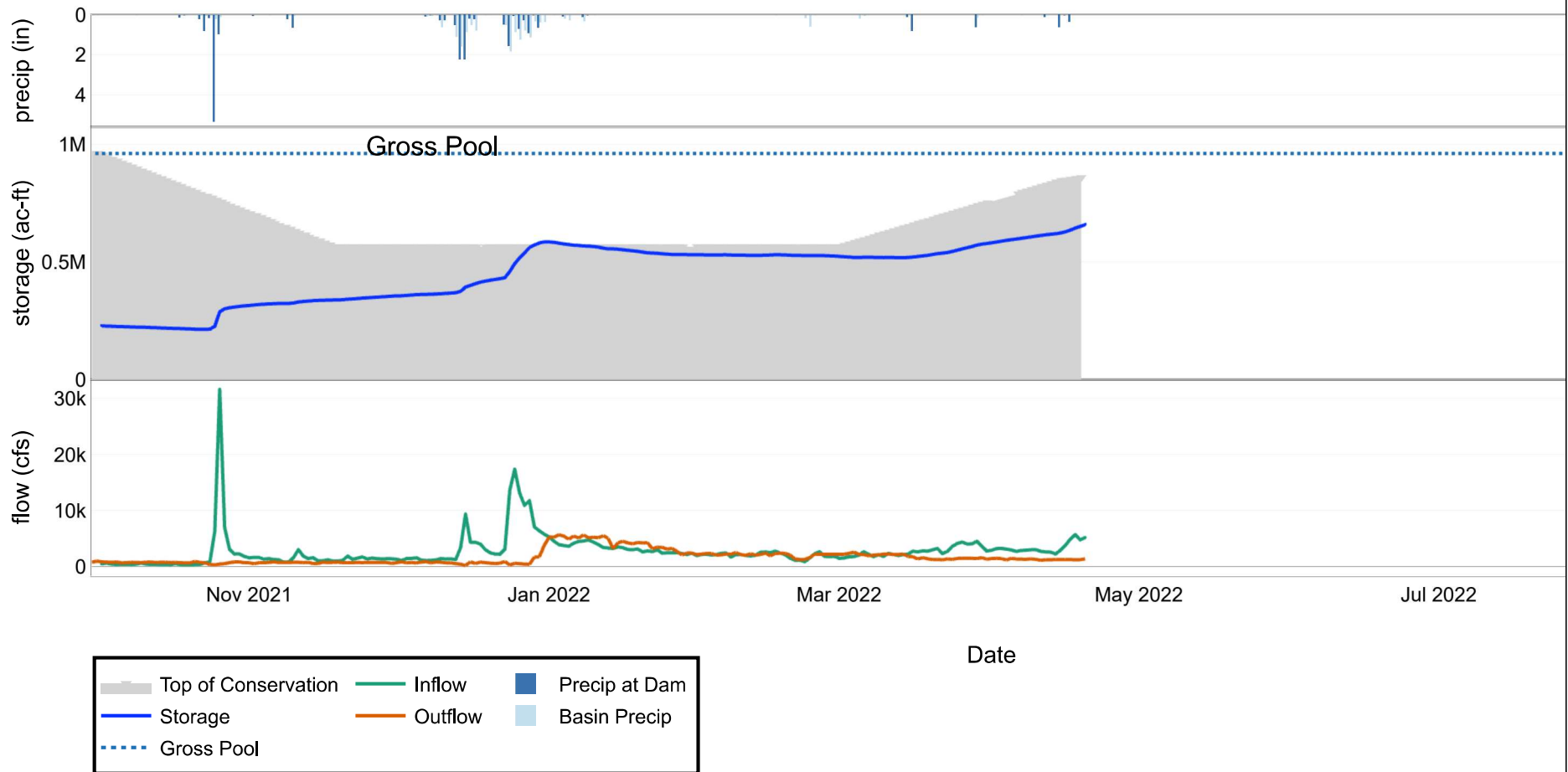
Table 5. Isobath Plot 03/01- 03/31

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
Feb	44.2	43	48.6	48.9	48.9	49.5	51.4	2047	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3/1	45.9	47.3	51.1	51.8	52.2	53.1	59.7	2119	525	T	89	T	6	T	5
3/2	47	46.8	50.5	52.1	52.4	53.2	59.2	2124	523	T	32	T	36	T	31
3/3	47.7	46.7	49.2	52.2	52.3	53.1	54.8	2106	522	T	12	T	26	T	62
3/4	48.2	46.6	48.6	51.2	52.3	53.4	55.3	2039	521	T	13	T	35	T	52
3/5	47	44.5	48.9	51	50.6	51.1	46.2	2039	522	T	14	T	54	T	32
3/6	47.1	43.8	49.7	50	50.6	51.3	47.8	1993	523	T	15	T	51	T	34
3/7	46.9	44.1	50.4	50	50	50.8	53.7	2081	522	T	15	T	51	T	35
3/8	47	44.1	49.9	50.4	50.9	51.7	55.4	2090	522	T	14	T	27	T	59
3/9	47.2	45.6	49.9	51	51.3	52.2	55.5	2084	521	T	13	T	53	T	34
3/10	47.3	44.7	50.3	51.2	51.4	52.3	55	2092	521	T	13	T	28	T	59
3/11	47.1	44.5	50.2	50.9	51.6	52.3	54.2	2102	521	T	9	T	57	T	34
3/12	47.9	45.7	49.9	51.2	51.5	52.4	55.5	2092	521	T	1	T	38	T	61
3/13	48.5	46.3	48.7	50.7	51.6	52.7	57.7	2073	520	T	28	T	54	T	18
3/14	49.5	46	50.1	51.6	52.4	53.4	57	1928	521	T	61	T	13	T	26
3/15	50.7	46.8	50.3	51.6	52.7	54.1	60	1665	523	T	24	T	30	T	46
3/16	51.2	47.4	50.8	52	53.3	54.6	58.1	1417	526	T	1	T	97	T	1
3/17	51.6	47.3	50.3	52.7	53.6	54.7	57	1407	528	T	8	T	60	T	31
3/18	51.6	46.9	50.1	52.7	53.7	55.1	57.7	1275	531	T	31	T	9	T	59
3/19	51.1	46.4	50.1	52.4	53.1	54.6	55.1	1161	534	T	40	T	30	T	30
3/20	50.3	46.2	51.4	52.5	53.2	54.1	56.5	1174	538	T	17	T	59	T	24
3/21	50.5	47.9	50.8	53.2	54.2	55.3	61.5	1177	540	T	62	T	20	T	19
3/22	51.8	49.8	50.6	53.6	55.5	57.3	68.6	1194	543	T	61	T	29	T	9
3/23	52.9	48.6	51	53.8	55.9	57.9	67.7	1207	547	T	10	T	64	T	26
3/24	54.2	48.6	50.4	54	56	58	65.6	1209	552	T	30	T	16	T	54
3/25	54.4	48.7	50.7	53.8	55.9	57.8	61	1207	558	T	51	T	33	T	15
3/26	54.4	49.6	50.9	54	55.9	57.5	61.7	1207	563	T	15	T	58	T	27
3/27	54.3	49.9	50.4	53.7	55.5	57.3	58.8	1206	568	T	27	T	17	T	55
3/28	53.6	49.1	50.8	53.8	54.4	55.7	54	1208	574	T	53	T	30	T	17
3/29	52.8	49.7	48.9	53.9	55.5	56.3	55.8	1193	578	T	2	T	45	T	52
3/30	52.6	50.4	48.6	52.7	54.1	56.1	54.9	1176	581	T	26	T	10	T	65



Folsom Dam & Lake - American River Basin 2022-04-20T08:16:27-0700



Plot

Tabulation

Download



5Day

10d

1Month

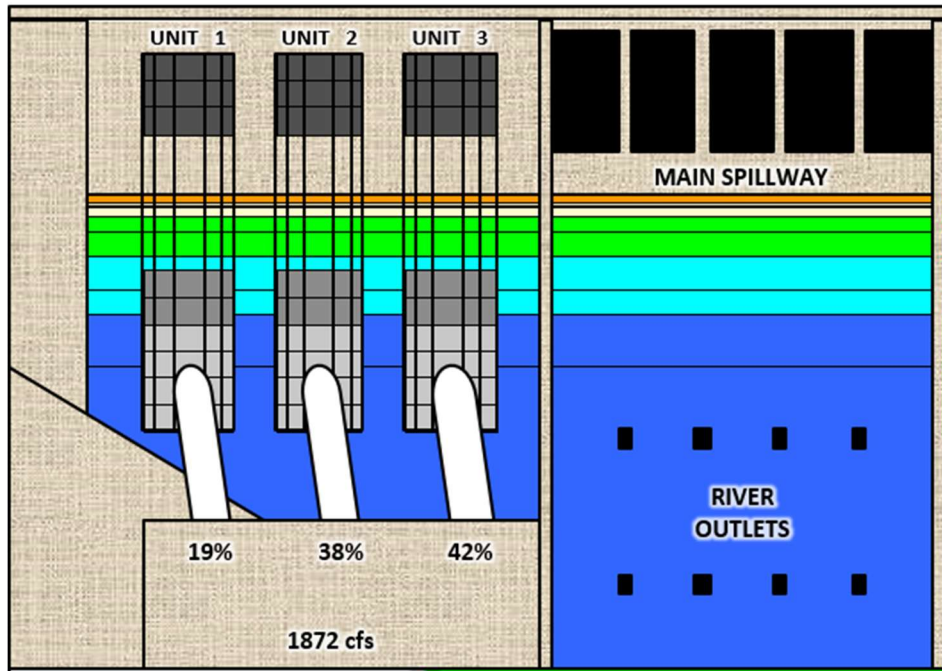
WaterYear



2022



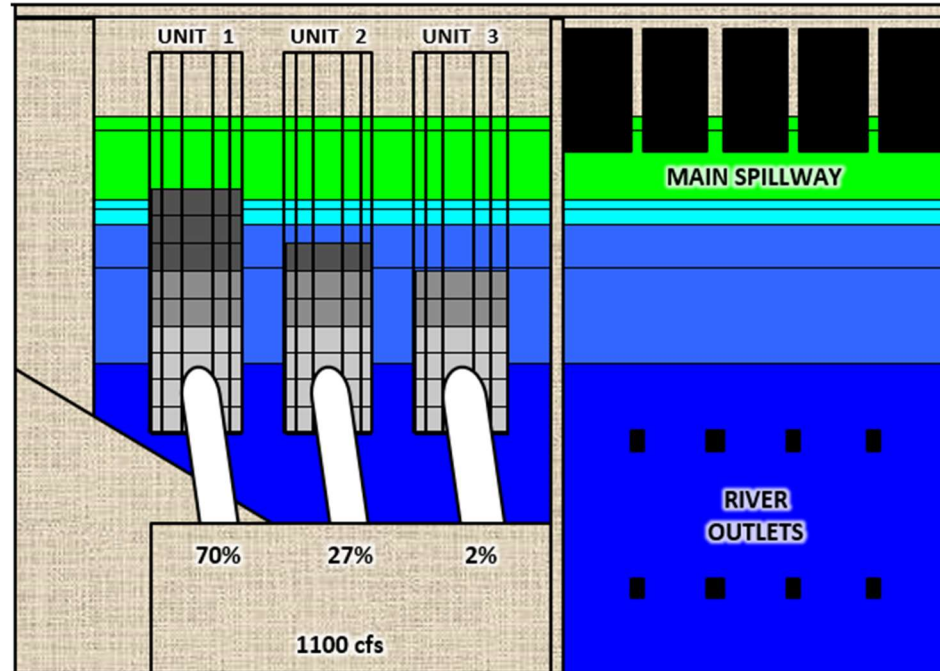
FOLSOM DAM



4/18/21

56.5 °F

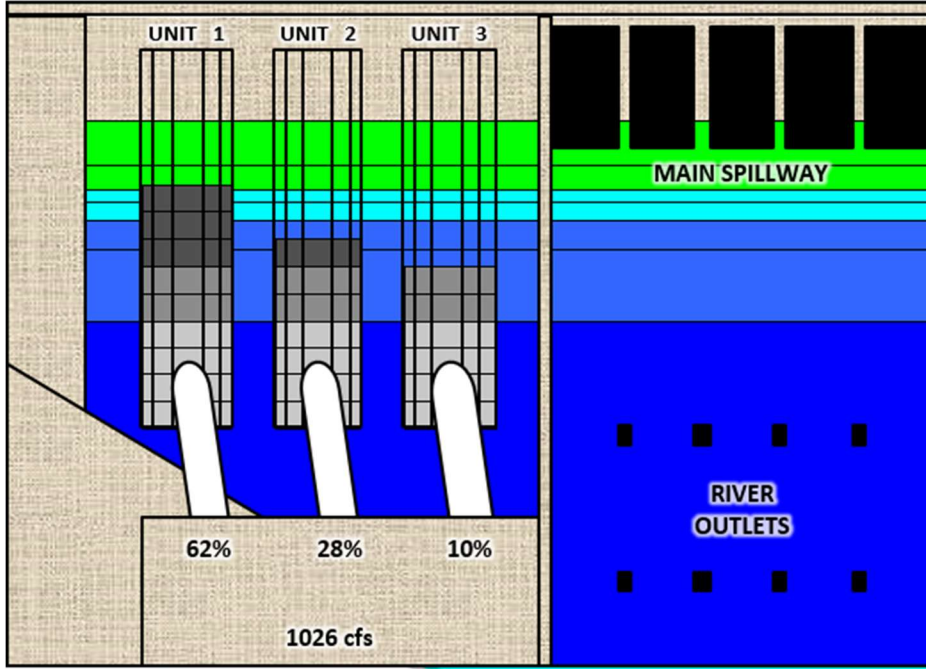
FOLSOM DAM



4/18/22

52 °F

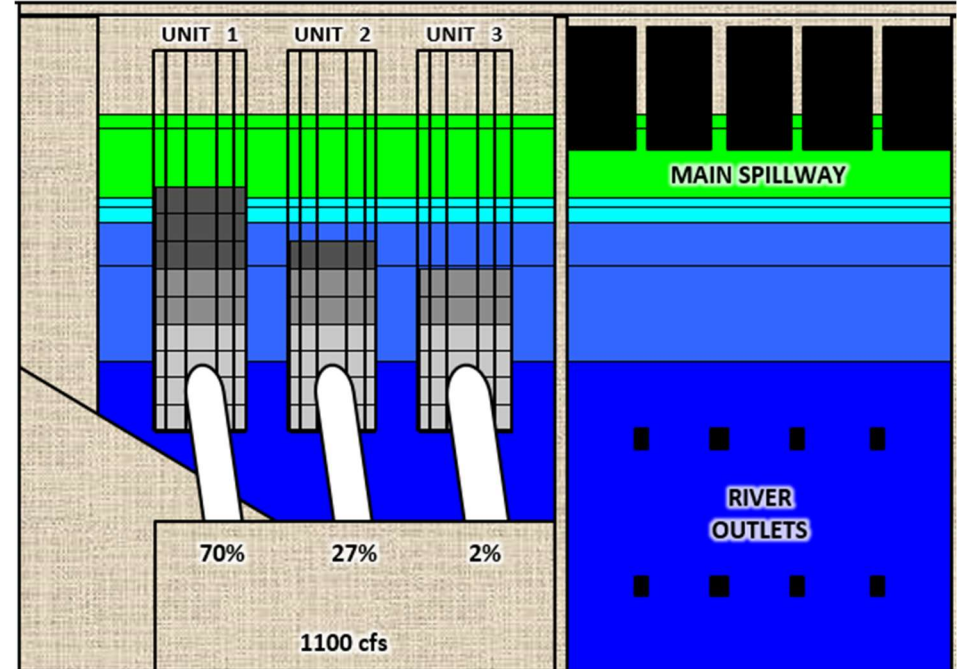
FOLSOM DAM



4/9/22

52.8 °F

FOLSOM DAM



4/18/22

52 °F

American River Summary Conditions – April (On-going)

Storage/Release Management Conditions

- Releases are currently at 1,250 cfs
- Release cuts starting on Monday, March 13, 2022
 - Monday March 14, 2022: from 2000 cft to 1750 cfs
 - Tuesday March 15, 2022: from 1750 cfs to 1500 cfs
 - Wednesday March 16, 2022: from 1500 cfs to 1250 cfs
 - Friday March 18, 2022: from 1250 cfs to 1200cfs
 - Tuesday, April 5, 2022 from 1200 cfs to 1100 cfs
 - Wednesday, April 6, 2022 from 1100 cfs to 1000 cfs

Temperature Management:

- Top Shutters: Units 1 –down, 3—raised, unit 2-- one set (1/3) of lower panels are down
- Middle Shutters: Units 1, 2, and 3 -- down
- Bottom Shutters: Units 1, 2, and 3 --down

Folsom Shutter Configuration and Changes:

Drawing water from the warmest elevation with the current Configuration

American River 90% Outlook:

March 90% Exceedance

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

Reservoir	End of 2021 Carryover Storage Volume	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Folsom Storage	526	571	624	542	421	276	235	236	244	254	273
Folsom Elevation	N/A	425	431	422	406	383	375	375	377	379	382

Table 8. Monthly River Release (TAF/cfs)

Reservoir	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
American TAF	98	59	154	167	188	84	33	34	33	34
American cfs	1600	1000	2500	2812	3051	1366	552	552	554	553

April 90% Exceedance

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

Reservoir	End of 2021 Carryover Storage Volume	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Folsom Storage	584	635	635	522	320	259	231	207	188	177
Folsom Elevation	N/A	432	432	419	391	380	374	369	364	361

Table 10. Monthly River Release (TAF/cfs)

Reservoir	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
American TAF	59	64	149	238	101	56	36	33	34
American cfs	1000	1045	2500	3874	1648	947	581	550	555

Table 11. American Base Flow Table

Month	Index Used for Index-based MRR	Index Based MRR	RDPA-based MRR for fall-run Chinook salmon (applicable in January and February)	RDPA-based MRR for steelhead (applicable February through May)	Controlling MRR	Actual Average Monthly Nimbus release ¹
October	May ARI ² (50% exceedance)	515 cfs	N/A	N/A	515 cfs	627 cfs
November	May ARI ² (50% exceedance)	515 cfs	N/A	N/A	515 cfs	583 cfs
December	May ARI ² (50% exceedance)	515 cfs	N/A	N/A	515 cfs	890 cfs
January	January SRI (75% exceedance)	1750 cfs	515 cfs	N/A	515 cfs	3787 cfs
February	February ARI (50% exceedance)	1750 cfs	1750 cfs	500 cfs	1750 cfs	2047 cfs
March	March ARI (50% exceedance)	1,7333 cfs	1, 215 cfs	500 cfs	1, 197 cfs	1620 cfs
March	March ARI ³ (90% exceedance)	1,197 cfs	1, 215 cfs	500 cfs	1, 197 cfs	1620 cfs
April	April ARI (50% exceedance)	1142 cfs	N/A	1215 cfs	1215 cfs Operating to 1000 cfs) ³	N/A
April	April ARI ³ (90% exceedance)	1006 cfs	N/A	1215 cfs	1215 cfs Operating to 1000 cfs) ³	N/A

MRR= Minimum Release Requirements; RDPA= Redd Dewatering Protective Adjustment; ARI= American River Index; SRI= Sacramento River Index

¹ Average of daily release over the month from NAT station on CDEC.

² Since new forecasts are usually provided January through May, the May ARI would also be used for June-September of the current water year and October through December of the next water year unless there is an update to the ARI after May.

³ Due to critical CVP system wide ops, MRR 90% was considered and implemented.