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 20th, 2023

Agenda

1. Introductions
2. Announcements
3. Housekeeping
    a. Meeting will be recorded for notetaking purposes
4. Fisheries Update
    a. CDFW
    b. CFS
    c. PSMFC
5. Operations Forecast
    a. SMUD
    b. PCWA
6. Central Valley Operations
7. Discussion
8. Next Meetings:
    a. Thursday, May 182h, 1:30-3:30pm

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE

Provisional Data Subject to Revision

JUVENILE SALMONID MONITORING

Presented by Jennifer O'Brien, CDFW, 916-358-2900, jennifer.obrien@wildlife.ca.gov

- 36 juvenile Chinook Salmon and 2 steelhead trout observed thus far
- Each site is sampled once a month
- Remaining sites will be seined and/or snorkeled this week
- Seine and snorkel sites are variable based on river conditions
    - Currently unable to monitor at Upper Sunrise and Paradise Beach. Sailor Bar and Howe Avenue are substitutes at this time.

Table 1: Juvenile salmonids observed during Lower American River juvenile salmonid monitoring seine and snorkel surveys

		Upper Reach	Upper Reach	Upper Reach	Upper Reach	Upper Reach	Upper Reach	Upper Reach	Middle Reach	Middle Reach	Middle Reach	Lower Reach	Lower Reach
		Nimbus Basin Main	Nimbus Basin Side	Upper Sunrise/Sailor Bar Main	Upper Sunrise/Sailor Bar Side	Lower Sunrise Main	Lower Sunrise Side	Rossmoor	Riverbend Main	Riverbend Side	Gristmill	Watt	Paradise Bech/ Howe Avenue
April	CS			1	1			2			30	2	
April	SH			0	0			1			1	0	

Table 2: Summary of total salmonids observed during juvenile monitoring in the Lower American River

Salmonids	Upper Reach	Middle Reach	Lower Reach	Total
Chinook Salmon	4	30	2	36
Steelhead trout	1	1	0	2

LOWER AMERICAN RIVER 2023 STEELHEAD SPAWNING SURVEY SUMMARY

Spawning

Table 3. Steelhead, Chinook salmon, unknown, and test redd counts during 2023 spawning surveys.

Dates	Steelhead	Unknown
Feb 8 – 10	7	2[1]
Feb 22 – 23	15	0
Mar 6 -8	9	0
Total	31	2

[1] Redd(s) not measured due to angler presence and/or undefined redd features, therefore species not classified using DFA

Due to frequent high flow and turbid conditions in the Lower American River, steelhead surveys could not be performed prior to 8 February and throughout late March and early April.

Stranding

Salmonid stranding surveys were conducted from 18-19 January, 23-24 March, and 4-5 April to assess potential stranding of juvenile salmonids and steelhead redds following multiple flow reductions in the 2023 season. CDFW staff assisted with juvenile salmonid rescues. A summary table for the stranding surveys is provided below.

Table 4. Salmonids and environmental conditions in isolated pools containing salmonids during the January 18 -19, March 23 – 24, and April 4 -5 stranding surveys.

Date	Location (River Mile)	Species - Chinook	Species - Steelhead	Species – Unidentified Salmonids	Total Pool Area (m2)	Density (# fish/m2)	Temp. (°C)	DO (mg/L)
19-Jan	Upper Sunrise Side Channel (21)	N/A	N/A	1	19	0.05	9.8	94.5
31-Jan	Riverbend Side Channel (14)	N/A	N/A	3	15	0.2	9.9	5.5
31-Jan	Below Riverbend Side Channel (13)	N/A	N/A	1	72	0.01	9.7	10.1

Date	Location (River Mile)	Species - Chinook	Species - Steelhead	Species – Unidentified Salmonids	Total Pool Area (m2)	Density (# fish/m2)	Temp. (°C)	DO (mg/L)
31-Jan	Below Riverbend Mined Channel Outlet (12)	N/A	N/A	1	1	1	5	2.4
23-Mar	Below River Bend side Channel/William B Pond Access (13)	0	1108	0	300	3.7	10.6	9.69
23-Mar	River Bend Side Channel (13)	0	290	0	46	6.3	12	8.3
23-Mar	River Bend Side Channel (13)	0	69	0	2	33.7	15.7	10.15
23-Mar	Upper River Bend Side Channel (14)*	0	50	0	4	13.5	N/A	N/A
23-Mar	Upper River Bend Side Channel (14)*	N/A	N/A	200	27	7.4	N/A	N/A
23-Mar	Rossmoor Bar (17)	0	60	0	16	3.7	17.1	4.99
24-Mar	Upper Sunrise below Side Channel	2	425	0	148	2.9	9.5	11.53
24-Mar	Sacramento Bar (18)*	0	1	0	10	0.1	9.8	8.1
24-Mar	Sacramento Bar (18)*	N/A	N/A	10	57	0.2	10.9	9.04
24-Mar	El Manto to San Juan Rapids (18)*	0	1	0	22	0	13.7	13.42
24-Mar	Below San Juan Rapids (17)	0	57	0	139	0.4	12.3	9.67
4-Apr	River Bend Side Channel (13)	0	251	0	67	3	18.9	7.65
4-Apr	Sacramento Bar (18)	25	0	0	8	7.8	9.2	2.67
Total		27	2582	216	953			

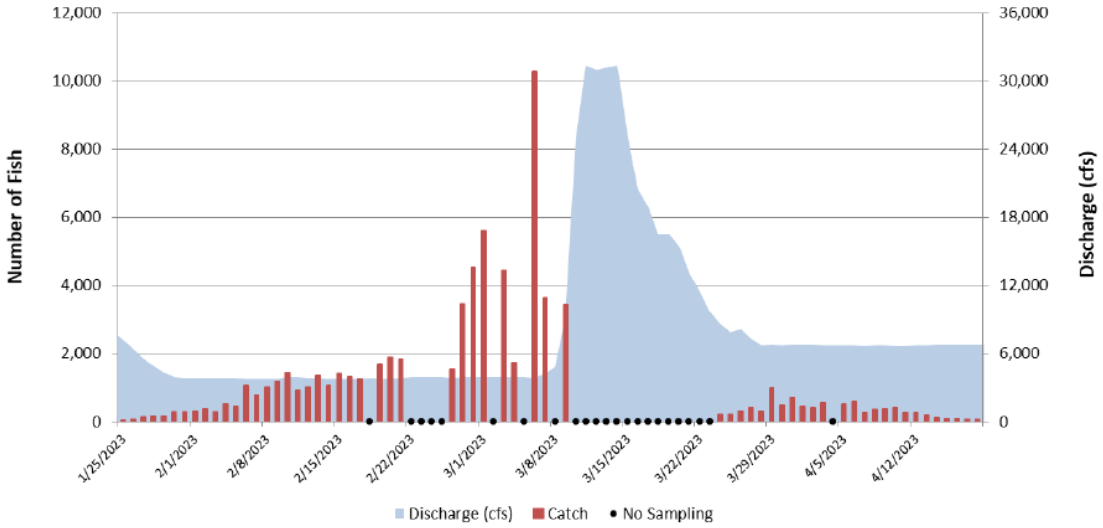
Table 5. Unmarked Juvenile Chinook Salmon (length-at-date):

Fall	Late Fall	Spring	Winter
68, 983	407	24	15

Table 6. Unmarked O. mykiss (life stage):

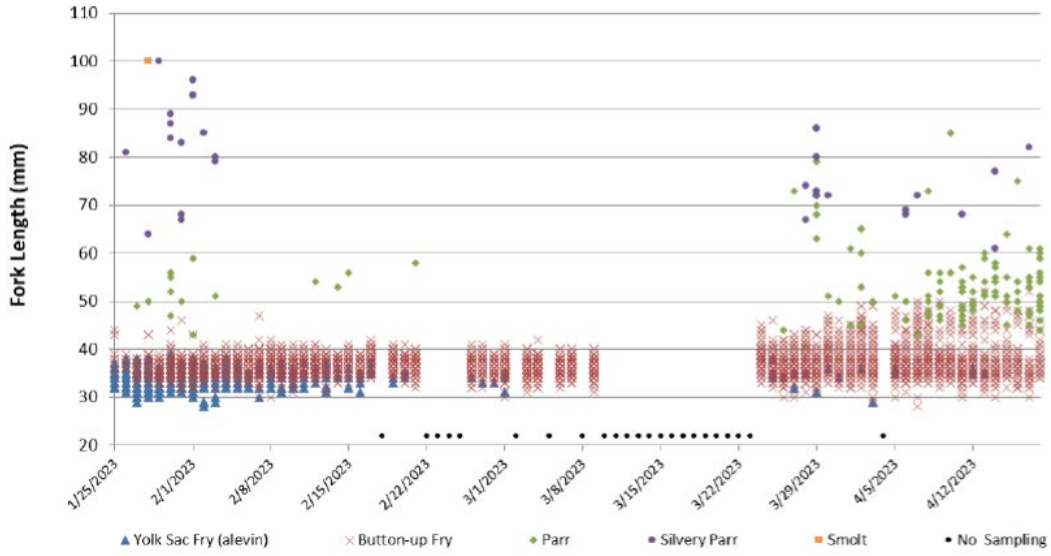
Fry	Parr	Smolt	Adult
100	0	1	0

Lower American River at Watt Ave (RSTs):
Daily catch of unmarked Chinook Salmon and daily average discharge at Fair Oaks during the 2023 Lower American River rotary screw trap survey season.



Lower American River at Watt Ave (RSTs) – Daily catch of unmarked Chinook Salmon and daily average discharge at Fair Oaks during the 2023 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 2023 Lower American River rotary screw trap survey season.



Lower American River at Watts Ave (RSTs) – Daily fork length distribution by life stage of unmarked Chinook Salmon measured during the 2023 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 18 April 2023

April precipitation through 4/17/2023 is 0.20 inches, which is 4.1% of the April average of 4.84 inches. Precipitation for the water year to date is 76.76 inches which is 153.0% of average to date (50.16 inches) and 133.9% of the entire water year average of 57.32 inches.

Runoff into the storage reservoir basins is 164.2% of median to date through 4/17/2023.The snowpack is 155.8% of average at selected snow sensors in the Crystal Basin

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

- 266,177 acre feet (21 March was 255,676 acre feet)
- 70.2% full
- 89.1% of historical average (18 April historical average: 260,680 AF)

Individual Reservoir Storage

- Loon Lake: 24,601 AF

- Ice House: 26,928 AF
- Union Valley: 214,648 AF

Last year (on 18 April, 2022), total storage was at 84% (316,924 AF). *Total capacity: 329,210 AF.

Chili Bar releases into the South Fork American River

(Previous month) March 2023 releases:

- Daily average flow: 4,473 cfs
- Total releases: 281,182 AF

(Current month) April 2023 releases (April 1-18)

- Daily average flow so far: 3,707 cfs
- Total releases so far: 124,985 AF

Table 7. South Fork American River Natural Runoff Forecast (in cfs, daily average forecasted flow, forecast 2023-4-18)

BASIN	Fri Apr 21	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
SFA above Slab	980	1,457	1,738	1,859	1,808	1,765
Slab Creek Reservoir	457	507	617	705	649	633
Combined South Fork	1,437	1,965	2,355	2,564	2,457	2,399

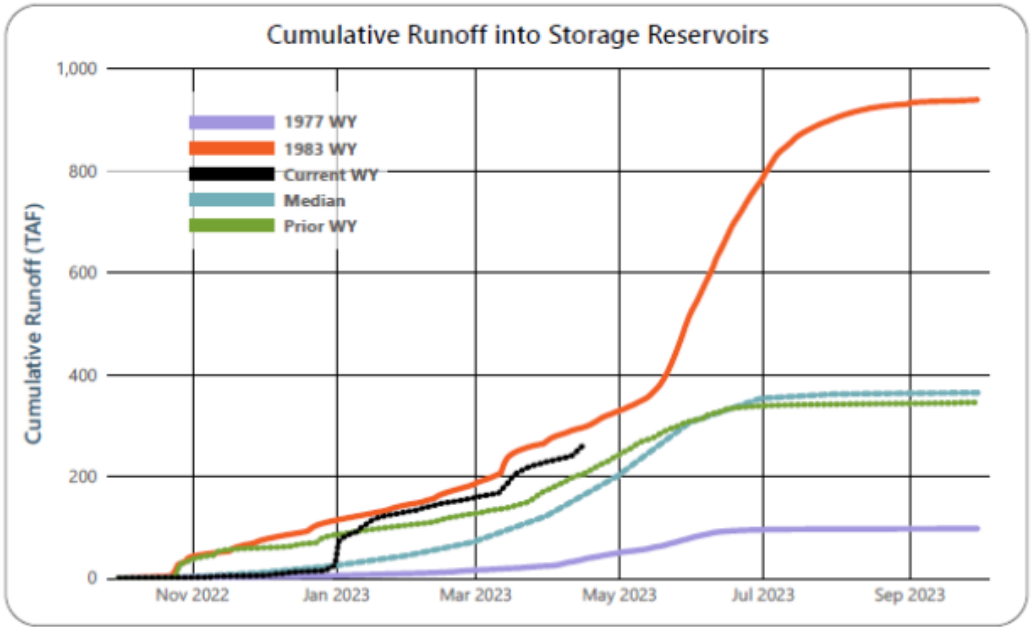


Figure 1. April18, 2023 runoff into storage.

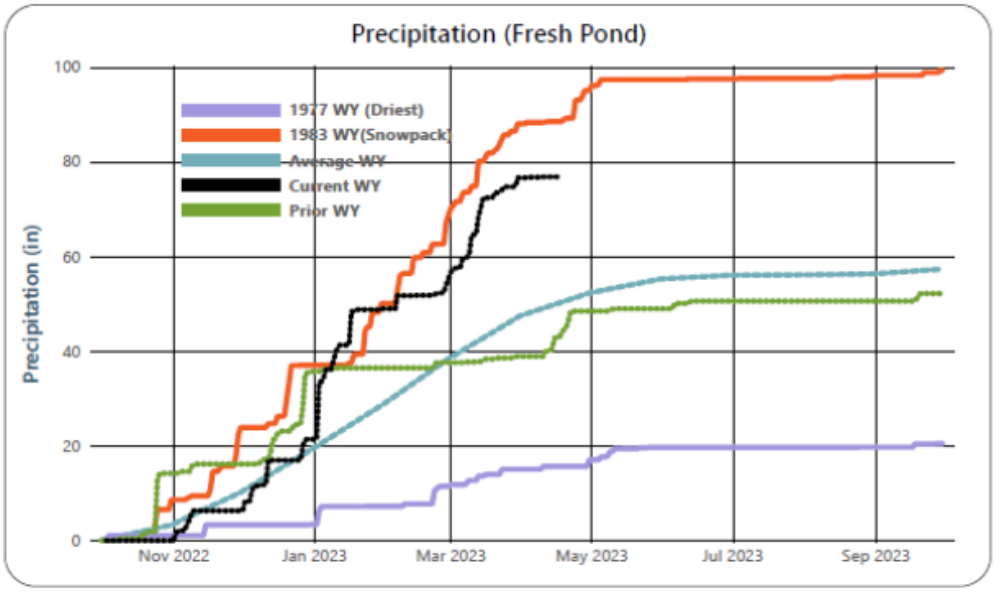


Figure 2. April 18, 2023 FP precipitation.

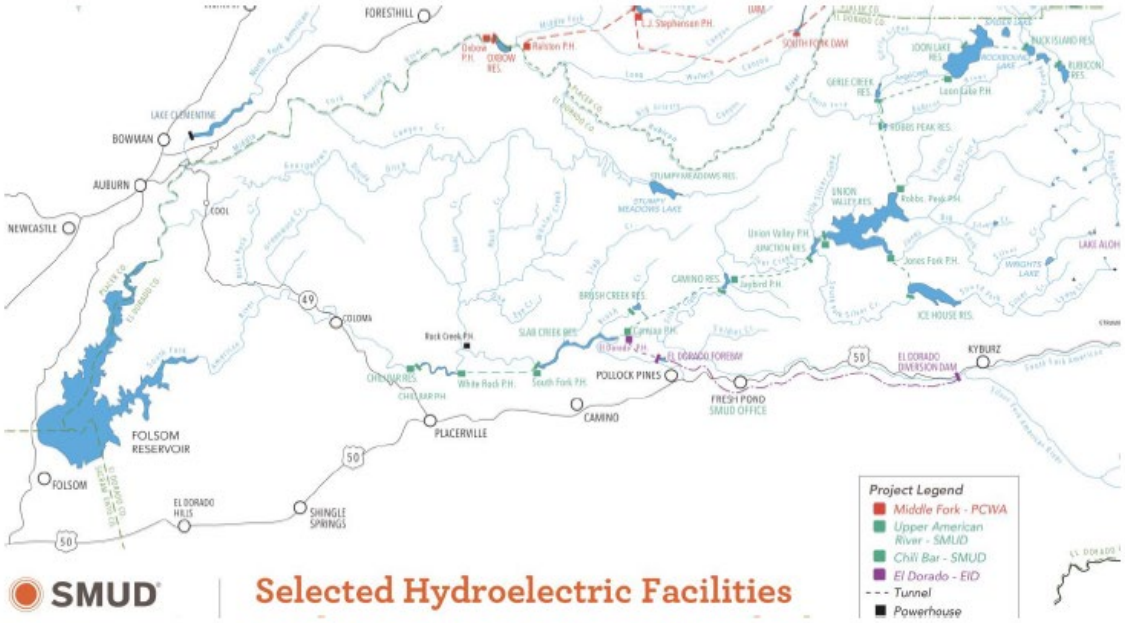
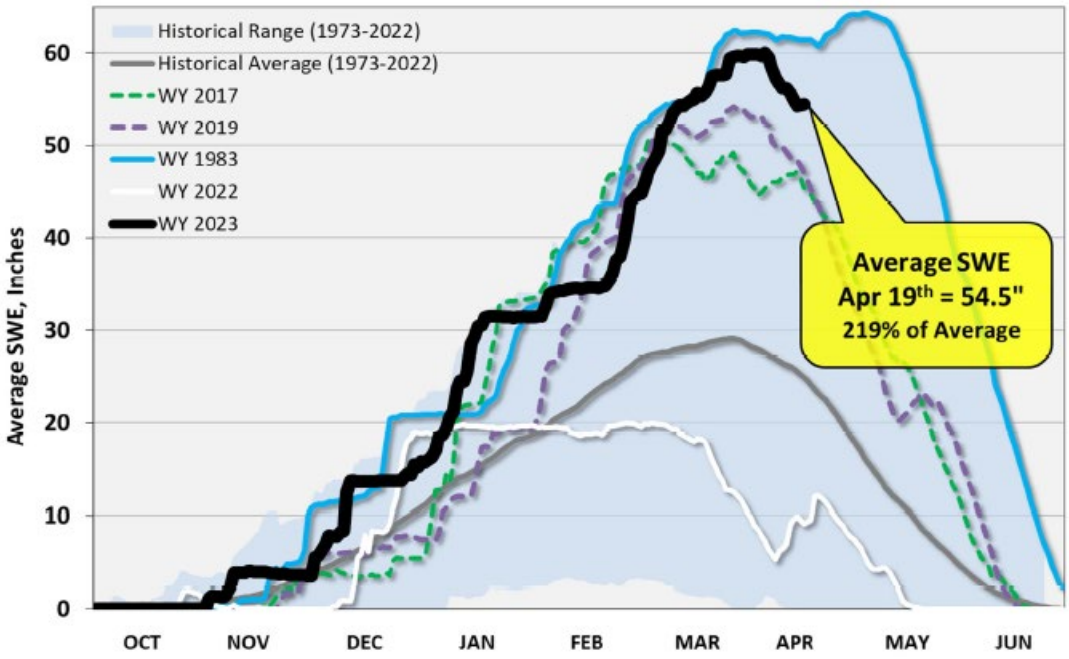


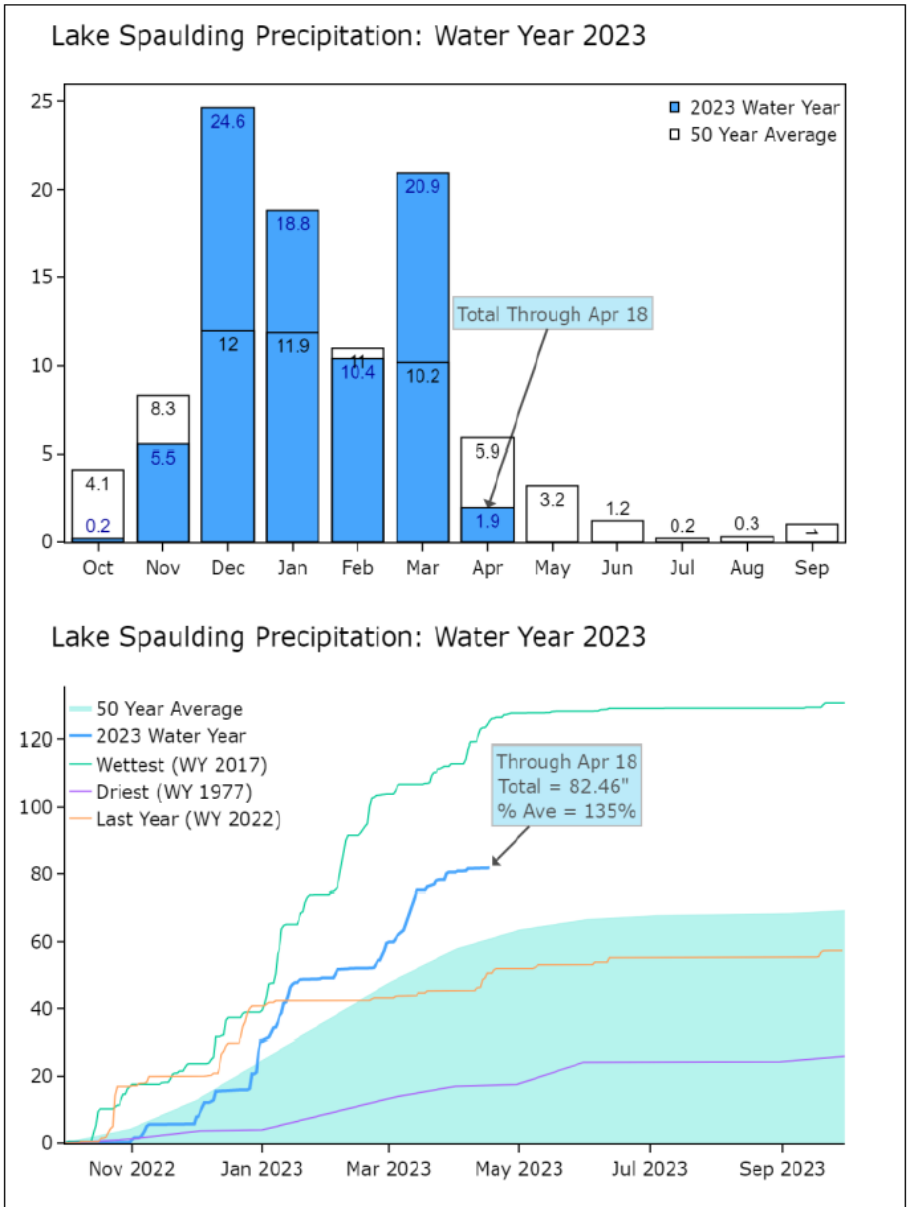
Figure 3. SMUD Hydroelectric Facilities – Upper American River Project

PCWA MFP Operations Overview for American River Operations Group
(Real Time Data as of March 15, 2023)

- French Meadows Storage = 86,000 AF of 136,405 AF = 63% Capacity
    - MFAR above FM Inflow (R24) =7-day AVG ~385 cfs
- Hell Hole Storage = 179,000 AF of 207,590 AF = 86% Capacity
    - Five Lakes Inflow (R23) = 7-day AVG ~200 cfs
    - Rubicon Inflow (R22) = 7-day AVG ~380 cfs
- Combined Storage (FM+HH) = 265,000 AF/342,590 AF = 77% Capacity; 118% of AVG YTD
    - 7 Day Change = +19,000 AF
- MFAR @ R11: 7-day AVG 3,500 cfs
- NFAR @ ARPS: 7-day AVG 6, 250 cfs



Graph showing the Average SWE in inches overtime with the average SWE on April 19, 2023 of 54.5 inches (219% of average).



Lake Spaulding Precipitation: Water Year 2023 – Total through Apr 18 are 1.9 with a 50-Year average of 5.9

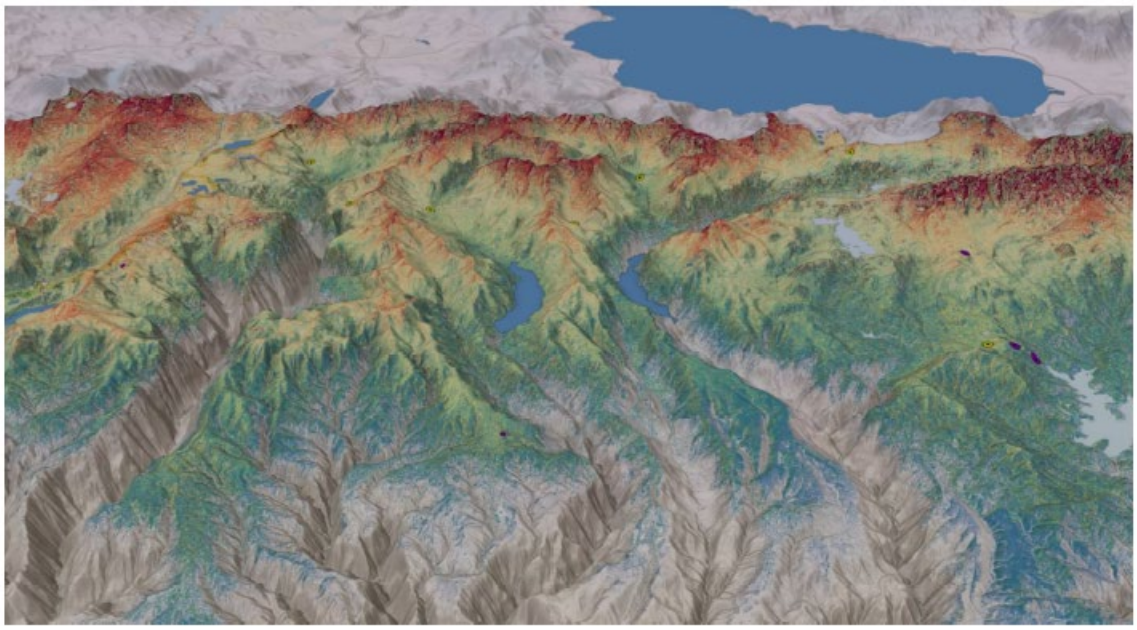


Figure 4. ASO Lidar (January 31, 2023).

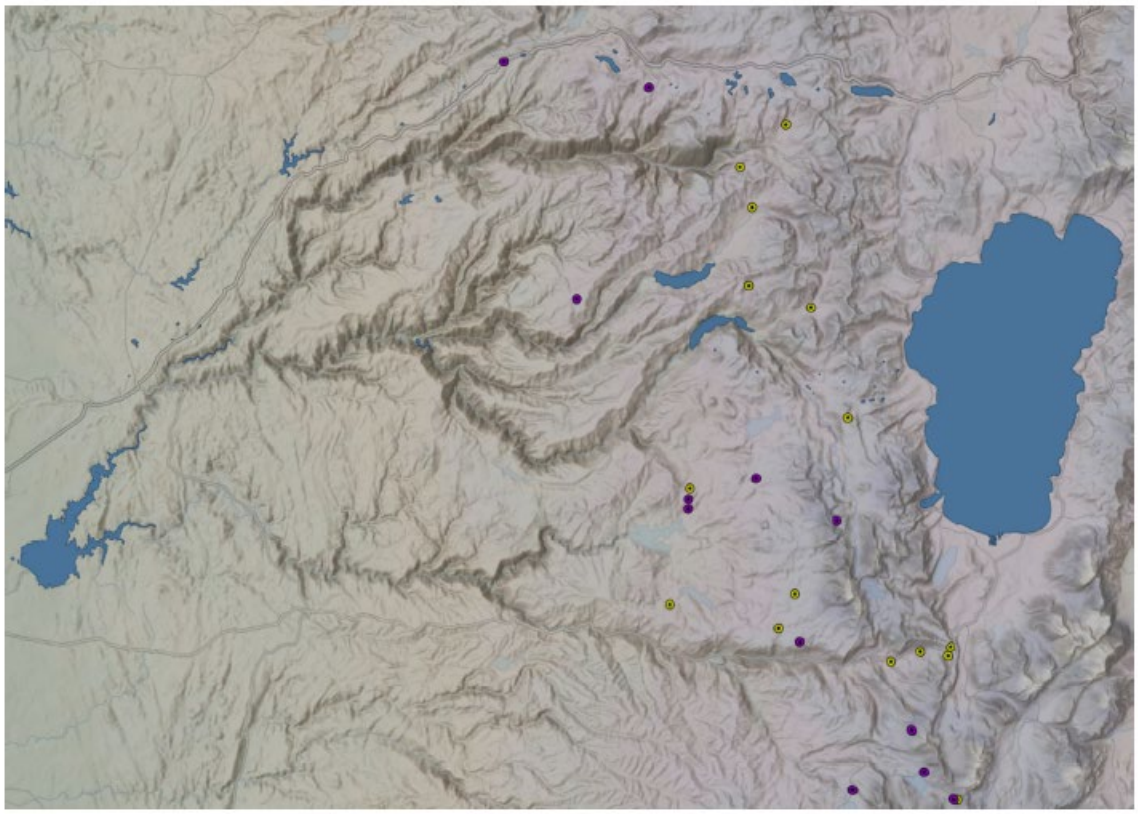


Figure 5. American River snow courses and snow sensors.

Bureau of Reclamation
Historical Archive and Report Database
Daily CVP Water Supply
April 18, 2023 | Run Date: 4/19/2023

Reservoir Releases in Cubic Feet/Second

Reservoir	Dam	WY 2022	WY 2023	15 Yr Median
Trinity	Lewiston	450	10,018	325
Sacramento	Keswick	3,233	3,318	4,648
Feather	Oroville (SWP)	800	15,000	1,550
American	Nimbus	1,010	7,008	2,050
Stanislaus	Goodwin	307	306	1,279
San Joaquin	Friant	1,003	8,952	502

Storage in Major Reservoirs in Thousands of Acre-Feet

Reservoir	Capacity	15 Yr Avg	WY 2022	WY 2023	% of 15 Yr Avg
Trinity	2,448	1,634	801	898	55
Shasta	4,552	3,560	1758	4,247	119
Folsom	977	684	654	728	106
New Melones	2,420	1,458	928	1,455	100
Fed. San Luis	966	681	350	963	141
Total North CVP	11,363	8,017	4,491	8,291	103
Millerton	521	295	350	175	59
Oroville (SWP)	3,538	2,498	1,764	3,144	126

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

Reservoir	Current WY 2023	WY 1977	WY 1983	15 Yr Avg	% of 15 Yr Avg
Trinity	612	361	1,341	632	97
Shasta	3,716	2,260	6,782	3,312	112
Folsom	2,725	767	4,085	1,622	168
New Melones	1,059	N/A	1,163	548	193
Millerton	1,420	461	1,105	607	234

Accumulated Precipitation for Water Year to Date in Inches

Reservoir	Current WY 2023	WY 1977	WY 1983	Average (N Years)	% of Average	Last 24 Hours
Trinity at Fish Hatchery	34.95	21.65	37.91	27.21 (63)	128	0.07
Sacramento at Shasta Dam	68.96	32.91	83.60	53.53 (68)	129	0.03
American at Blue Canyon	77.92	N/A	112.06	58.20 (49)	134	0.57

Reservoir	Current WY 2023	WY 1977	WY 1983	Average (N Years)	% of Average	Last 24 Hours
Stanislaus at New Melones	46.28	N/A	36.55	24.64 (46)	188	0.10
San Joaquin at Huntington Lk	65.66	11.50	65.00	36.34 (50)	181	0.00

April 2023 | Folsom Lake Daily Operations | Run Date: 4/19/2023

Day	Elev	Storage (1000 Acre-Feet) in Lake	Storage (1000 Acre-Feet) Change	Compu-ted* Inflow C.F.S.	Release - C.F.S. River Power	Release - C.F.S. River Spill	Release - C.F.S. River Outlet	Pump-ing Plant	Evap. - C.F.S.	Evap. - Inches	Precip Inches
		667.0									
1	435.78	666.4	-0.6	7,069	5,767	1,494	0	56	34	0.11	0.00
2	435.89	667.4	1.0	7,881	7,265	0	0	53	47	0.15	0.00
3	436.02	668.7	1.2	8,215	7,019	466	0	51	68	0.22	0.00
4	436.20	670.3	1.7	7,947	6,507	491	0	51	47	0.15	0.00
5	436.36	671.8	1.5	7,961	6,686	412	0	60	47	0.15	0.00
6	436.30	671.3	-0.6	7,151	6,637	701	0	56	40	0.13	0.00
7	436.38	672.0	0.8	7,539	6,533	521	0	54	53	0.17	0.00
8	436.45	672.7	0.7	7,505	7,077	3	0	57	37	0.12	0.00
9	436.52	673.3	0.7	7,850	7,411	0	0	58	50	0.16	0.00
10	436.93	677.2	3.8	8,982	6,921	0	0	68	56	0.18	0.00
11	437.66	684.1	6.9	10,732	6,493	620	0	87	60	0.19	0.00
12	438.68	693.7	9.7	12,256	6,480	776	0	70	54	0.17	0.00
13	439.50	701.6	7.8	10,997	4,918	1,997	0	68	67	0.21	0.00
14	440.21	708.4	6.8	10,622	3,290	3,758	0	75	67	0.21	0.00
15	440.73	713.4	5.0	9,772	4,556	2,553	0	82	55	0.17	0.00
16	441.33	719.2	5.8	10,158	4,953	2,132	0	87	61	0.19	0.00
17	441.89	724.6	5.4	10,094	5,045	2,166	0	87	58	0.18	0.00
18	442.28	728.4	3.8	8,933	4,856	2,035	0	85	42	0.13	0.02
Totals			61.4	161,664	108,414	20,125	0	1,205	943	2.99	0.02
Acre-Feet			61,400	320,661	215,039	39,918	0				

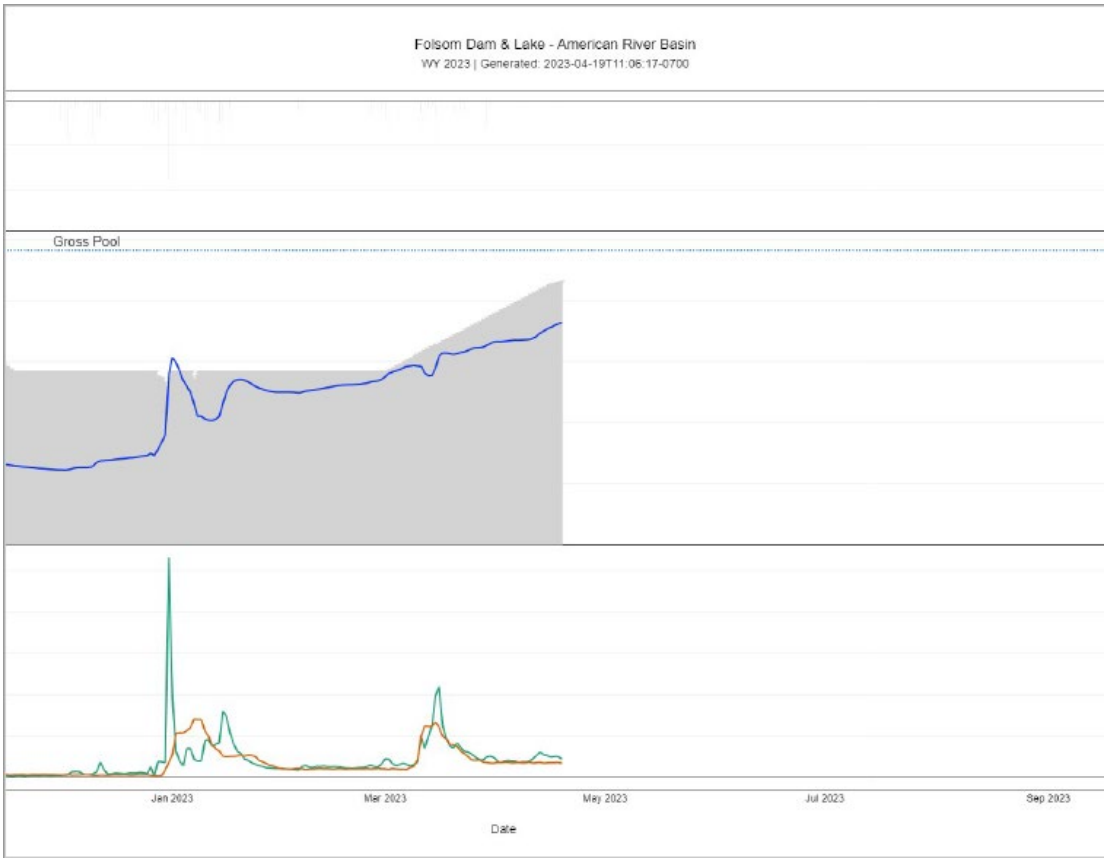
* Computed inflow is the sum of change in storage, releases, pumping, and evaporation

Summary: Release (acre-feet)

Power	215,039
Spill	39,918
Outlet	0
Pumping Plant	2,390
Total Releases	257,347

Summary: Precipitation (Month/Inches)

This month	0.02
October 1, 2022 to date	30.29



Folsom Dam & Lake – American River Basin
2023-04-19T11:06:17-0700

Isobath 03/01–03/31 (Mean Daily Temperature, Release, Storage, Unit Shutter Position/Load Percentage

MDT = Mean Daily Temperature (°F)
USP/LP = Unit Shutter Position/Load Percentage

Date	MDT, Water, NFA	MDT, Water, ARP	MDT, Water, AFD[1]	MDT, Water, AFO	MDT, Water, AWP	MDT, Water, AWB	MDT, Air, CSU	Release (CFS) Nimbus	Storage (TAF) Folsom	USP/LP Unit 1	USP/LP Unit 2	USP/LP Unit 3
Feb	42.5	41.4	45.3	46.2	45.9	46.2	47.1	519		T	T	T
03/01	40.8	43.2	45.0	45.8	45.4	45.8	43.8	4013	562	T 53	T 15	T 32
03/02	41.1	42.8	45.0	46.1	45.8	46.3	46.0	4017	566	T 40	T 24	T 35
03/03	42.2	42.9	44.9	46.5	46.3	46.9	48.6	3983	570	T 3	T 43	T 54
03/04	42.8	41.9	44.3	46.2	46.0	46.6	47.3	4011	574	T 31	T 30	T 39
03/05	42.3	41.8	44.2	45.6	45.5	46.3	45.8	4019	580	T 57	T 40	T 3
03/06	41.9	41.6	44.5	45.4	45.1	45.6	44.5	4012	585	T 55	T 16	T 29
03/07	42.6	42.7	44.6	45.7	45.5	46.1	46.8	4346	587	T 44	T 14	T 43
03/08	42.8	42.6	44.6	45.8	45.7	46.3	48.0	4974	588	T 40	T 32	T 28
03/09	42.2	41.0	44.9	45.6	45.1	45.4	46.6	9284	587	T 41	T 30	T 29
03/10	43.8	45.6	45.2	46.0	45.7	46.2	54.1	23762	585	T 34	T 33	T 33
03/11	44.3	45.4	45.6	46.2	45.7	46.1	51.9	30039	564	T 34	T 33	T 33
03/12	45.2	45.7	45.5	46.4	46.0	46.4	55.4	29840	554	T 33	T 33	T 33
03/13	45.9	47.5	45.6	46.4	46.1	46.6	58.5	29999	555	T 33	T 33	T 34
03/14	46.5	48.6	45.8	46.5	46.2	46.6	56.3	30089	580	T 33	T 33	T 34
03/15	45.9	47.6	46.4	47.1	46.7	47.0	51.1	24934	619	T 33	T 33	T 34
03/16	46.8	47.2	46.8	47.8	47.4	47.8	52.9	19862	629	T 33	T 33	T 34
03/17	47.1	47.6	47.0	48.0	47.7	48.1	54.2	18582	629	T 34	T 33	T 33
03/18	47.4	47.5	47.0	48.0	47.7	48.1	55.6	16012	627	T 33	T 33	T 33
03/19	47.6	47.5	46.6	47.6	47.4	47.8	54.6	16077	624	T 33	T 33	T 33
03/20	47.5	48.4	46.7	47.6	47.5	47.7	52.8	12779	628	T 34	T 33	T 33
03/21	47.0	47.0	47.3	48.1	47.8	47.9	50.8	12887	631	T 34	T 33	T 33
03/22	46.5	47.2	47.3	48.4	48.2	#	51.5	11172	633	T 34	T 33	T 33
03/23	46.6	47.6	47.2	48.4	48.2	#	52.1	9547	638	T 34	T 33	T 33
03/24	46.5	47.7	47.4	48.3	48.2	#	49.9	8644	643	T 23	T 38	T 39
03/25	46.0	46.9	47.8	48.7	48.6	#	50.6	7975	646	T 34	T 33	T 33
03/26	45.6	46.3	47.6	48.9	48.7	#	48.5	8177	647	T 34	T 33	T 33
03/27	45.4	46.0	47.5	48.8	48.6	#	49.9	7583	648	T 33	T 33	T 33
03/28	45.6	45.6	47.1	48.3	48.0	48.5	47.9	7036	653	T 33	T 33	T 34
03/29	44.3	45.4	47.5	48.0	47.5	47.9	45.5	7064	659	T 34	T 34	T 33

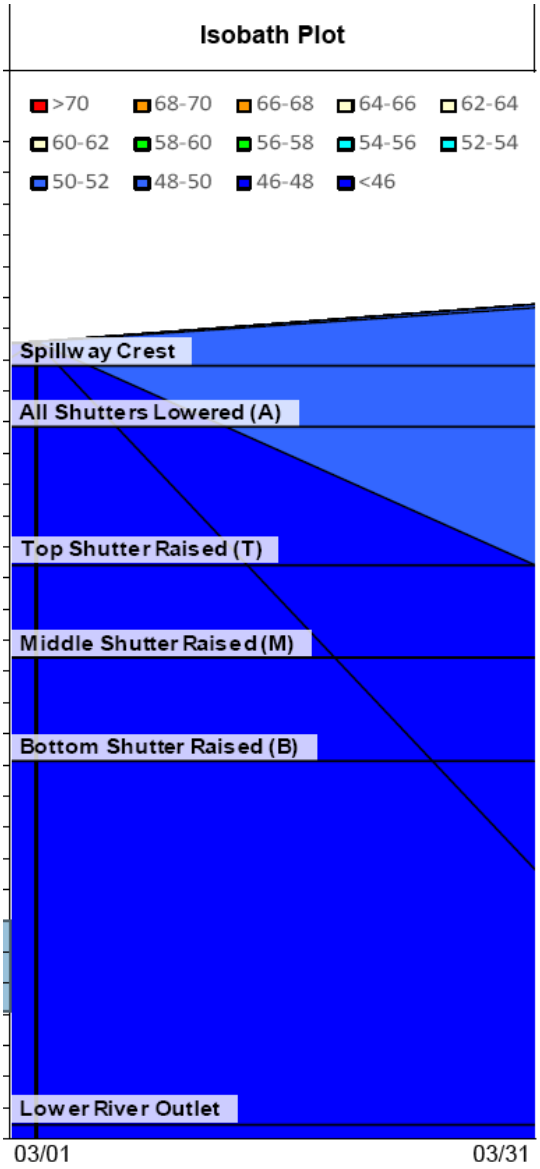
Date	MDT, Water, NFA	MDT, Water, ARP	MDT, Water, AFD[1]	MDT, Water, AFO	MDT, Water, AWP	MDT, Water, AWB	MDT, Air, CSU	Release (CFS) Nimbus	Storage (TAF) Folsom	USP/LP Unit 1	USP/LP Unit 2	USP/LP Unit 3
03/30	44.9	46.0	47.5	48.6	!	48.8	49.5	7055	665	T 34	T 33	T 34
03/31	46.1	46.0	47.3	48.8	48.7	49.3	51.5	6869	667	T 33	T 34	T 34
Nov	44.9	45.5	46.2	47.2	46.9	47.0	50.4	610				
						Total	AF	770858				

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:
[1] AFD is a weighted average based on hourly flow values, including generation, bypass and spill



Isobath Plot 03/01-03/31 (Showing Spillway Crest, All Shutters Lowered (A), Top Shutter Raised (T), Middle Shutter Raised (M), Bottom Shutter Raised (B), and Lower River Outlet)

Isobath 04/01–04/18 (Mean Daily Temperature, Release, Storage, Unit Shutter Position/Load Percentage

MDT = Mean Daily Temperature (°F)
USP/LP = Unit Shutter Position/Load Percentage

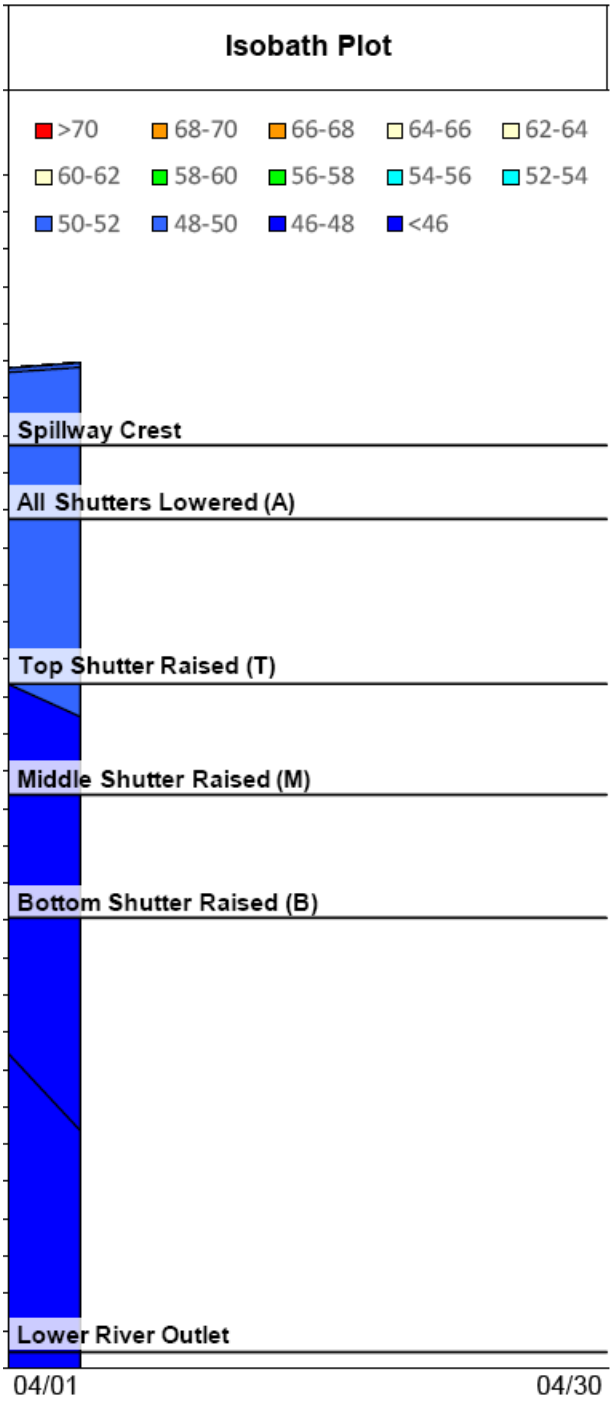
Date	MDT, Water, NFA	MDT, Water, ARP	MDT, Water, AFD[1]	MDT, Water, AFO	MDT, Water, AWP	MDT, Water, AWB	MDT, Air, CSU	Release (CFS) Nimbus	Storage (TAF) Folsom	USP/LP Unit 1	USP/LP Unit 2	USP/LP Unit 3
Mar	44.9	45.5	46.2	47.2	46.9	47.0	50.4	610		T	T	T
04/01	47.4	47.1	47.6	48.8	48.8	49.5	53.7	7048	666	T 32.9	T 33.4	T 34
04/02	48.2	46.9	47.0	48.9	49.0	49.9	53.5	4050	667	T 33.5	T 33.4	T 33
04/03	47.6	46.5	47.5	48.1	48.1	48.9	49.8	7020	669	T 26.4	T 36.7	T 37
04/04	45.8	45.9	47.7	48.9	48.7	#	49.2	7004	670	T 20.6	T 39.7	T 40
04/05	45.6	45.3	47.7	49.0	49.0	#	51.0	6981	672	T 25.7	T 37.9	T 36
04/06	46.5	45.3	47.8	49.1	49.1	#	54.5	6994	671	T 35.3	T 26.0	T 39
04/07	47.7	45.5	47.6	49.1	49.1	#	55.0	7015	672	T 33.4	T 27.7	T 39
04/08	48.8	47.0	47.6	49.1	49.1	#	57.9	7020	673	T 33.6	T 33.4	T 33
04/09	50.1	47.9	47.6	49.1	49.4	#	60.6	7032	673	T 34.0	T 33.5	T 33
04/10	51.3	48.6	47.5	49.3	49.6	#	64.7	7058	677	T 37.2	T 28.7	T 34
04/11	51.8	49.6	47.8	49.4	49.7	50.8	61.3	7078	684	T 38.6	T 39.0	T 22
04/12	50.3	49.7	48.1	49.4	49.4	50.1	54.3	7003	694	T 39.3	T 31.8	T 29
04/13	48.7	48.8	49.3	49.8	49.6	50.3	56.5	6949	702	T 14.9	T 49.9	T 35
04/14	48.2	48.5	49.8	51.4	51.3	51.9	56.6	7032	708	T 1.4	T 43.4	T 55
04/15	48.6	48.5	49.0	51.8	51.9	52.6	57.2	7036	713	T 0.5	T 49.9	T 50
04/16	49.5	48.6	48.6	50.9	51.2	52.1	55.6	7036	719	T 0.5	T 50.4	T 49
04/17	49.4	48.0	48.6	50.4	50.4	51.2	53.8	7043	725	T 0.5	T 49.5	T 50
04/18	48.1	48.3	48.8	50.2	50.3	51.0	52.5	7008	728	T 0.8	T 49.0	T 50
04/19										T	T	T
04/20										T	T	T
04/21										T	T	T
04/22										T	T	T
04/23										T	T	T
04/24										T	T	T
04/25										T	T	T
04/26										T	T	T
04/27										T	T	T
04/28										T	T	T
04/29										T	T	T
04/30										T	T	T
-										T	T	T
Apr	48.5	47.5	48.1	49.6	49.6	50.7	55.4	688				
						Total AF		250723				

Legend:
? = 1-9 hours of data missing
! = 10 or more hours of data missing
= Station out of service

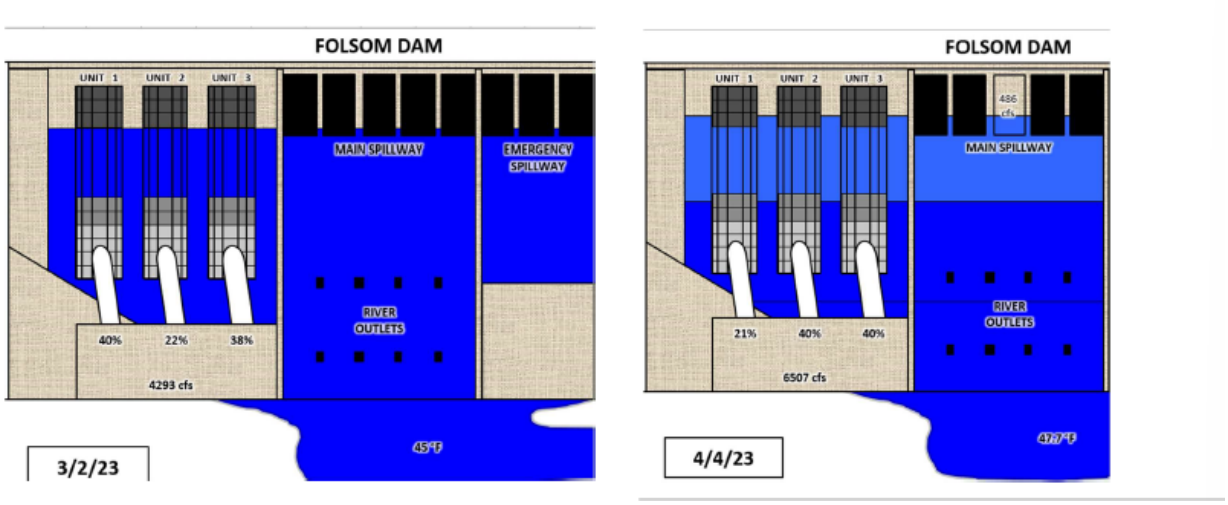
November Monthly Averages

A = All Shutters Lowered
T = Top Shutter Raised
M = Middle Shutter Raised
B = Bottom Shutter Raised
O = Unit Outage

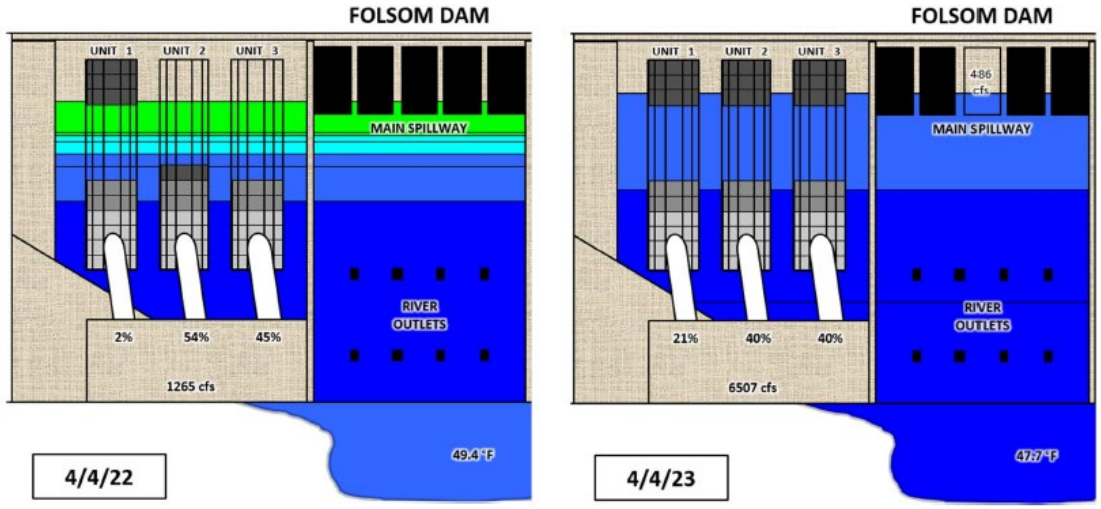
Notes:
[1] AFD is a weighted average based on hourly flow values, including generation, bypass and spill



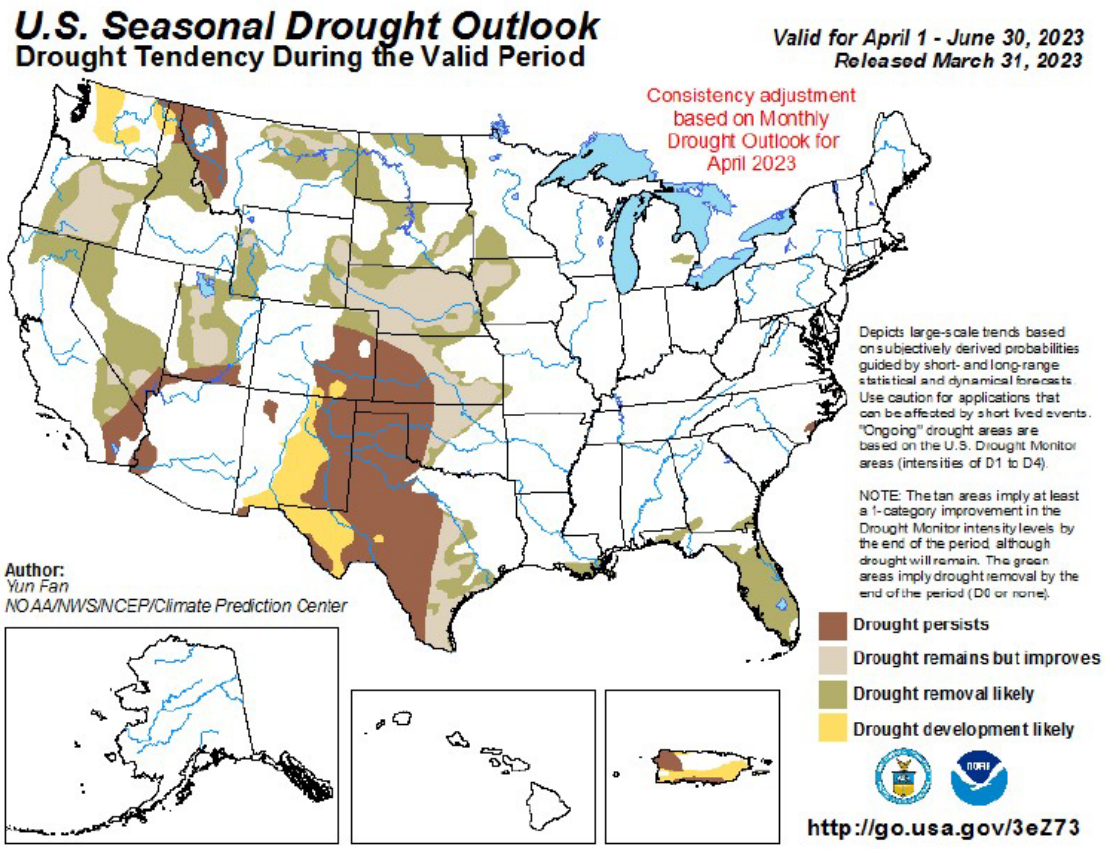
Isobath Plot 04/01-04/30. Showing Spillway Crest, All Shutters Lowered (A), Top Shutter Raised (T), Middle Shutter Raised (M), Bottom Shutter Raised (B), and Lower River Outlet



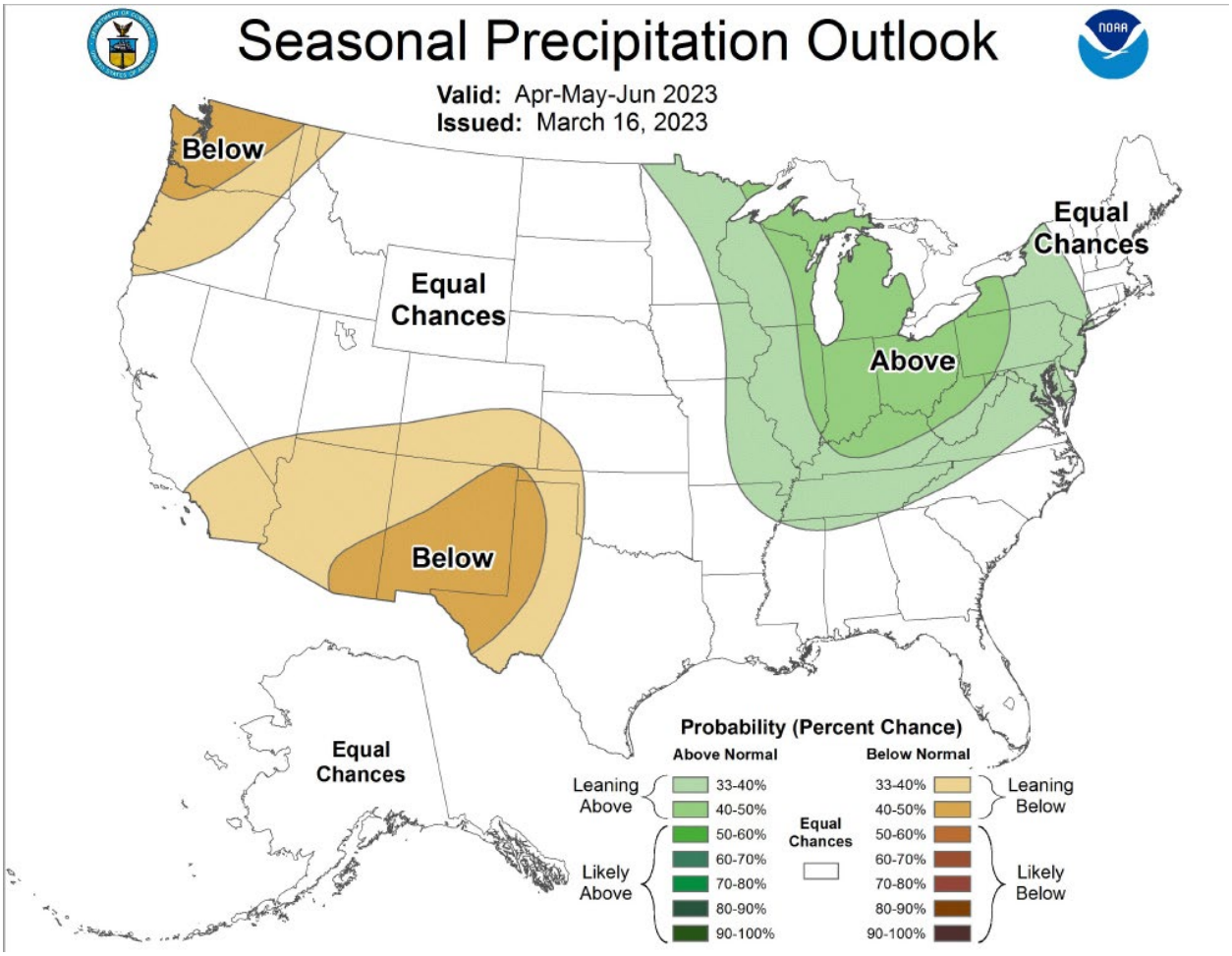
Graphic showing Folsom Dam on 03/02/23 with a temperature of 45 ˚F and 04/04/23 with a temperature of 47.7 ˚F



Graphic showing Folsom Dam on 04/04/22 with a temperature of 49.4 ˚F and 04/04/23 with a temperature of 47.7 ˚F



Map – U.S. Seasonal Drought Outlook, Drought Tendency During the Valid Period, Valid for April 1, 2023 – June 30, 2023; Released March 31, 2023.



Map – Seasonal Precipitation Outlook; Valid Apr-May-Jun 2023; Issued March 16, 2023

American River Summary Conditions – April (On-going)

Releases are currently at 20,000 cfs

- March 15, 2023, from 30,000 cfs to 20,000 cfs
- March 17, 2023, from 20,000 cfs to 16,000 cfs
- March 20, 2023, from 16,000 cfs to 14,000 cfs
- March 21, 2023, from 14,000 cfs to 12,000 cfs
- March 22, 3033, from 12,000 cfs to 10,000 cfs
- March 23, 2023, from 10,000 cfs to 9,000 cfs
- March 24, 2023, from 9,000 cfs to 8,000 cfs
- March 27, 2023, from 8,000 cfs to 7,000 cfs

Temperature Management:

- Top Shutters: Units 1, 2, and 3 -- raised
- Middle Shutters: Units 1, 2, and 3 -- lowered
- Bottom Shutters: Units 1, 2, and 3 -- lowered

Folsom Shutter Configuration and Changes:
Scheduled to lower the top shutters

American River 90% Outlook:
March 90% Exceedance

Storages

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

Facility	Mar	Apr	May	Jun	Jul	Aug	Sept
Folsom Storage	752	866	961	924	708	489	447
Folsom Elevation	445	456	465	461	440	415	410

Monthly River Release (TAF/cfs)

Facility	Mar	Apr	May	Jun	Jul	Aug	Sept
American TAF	492	268	307	268	318	320	133
American cfs	8000	4500	5000	4506	5177	5203	2234

Storages

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

Facility	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
Folsom Storage	812	950	911	778	653	646	563	487	427	432
Folsom Elevation	451	464	460	447	434	434	424	415	407	408

Monthly River Release (TAF/cfs)

Facility	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
American TAF	416	461	416	293	246	119	123	119	123	108
American cfs	7000	7500	7000	4759	4000	2000	2004	2000	2000	1750

American River Baseflow Table

Month	Index Used for Index-based MRR	Index Based MRR	RDPB-based MRR for fall-run Chinook salmon (applicable in Jun and Feb)	RDPB-based MRR for steelhead (applicable Feb to May)	Controlling MRR	Actual Average Monthly Nimbus releases[1]
October	May ARI[2] (50% exceedance)	1,326 cfs	Not applicable	Not applicable	1,326 cfs	1,462 cfs
November	May ARI[2] (50% exceedance)	1,326 cfs	Not applicable	Not applicable	1,326 cfs	1,352 cfs
December	May ARI[2] (50% exceedance)	1,326 cfs	Not applicable	Not applicable	1,326 cfs	1, 928 cfs
January	January SRI (75% exceedance)	1,750 cfs	1,326 cfs	Not applicable	1,326 cfs	14,060 cfs
February	February ARI (50% exceedance)	1,750 cfs	1,750 cfs	1,750 cfs	1,750 cfs	4,021 cfs
March	March ARI (50% exceedance)	1,750 cfs	1,750 cfs	1,750 cfs	1,750 cfs	12,616 cfs
March	March ARI[3] (90% exceedance)	1,750 cfs	1,750 cfs	1,750 cfs	1,750 cfs	12,616 cfs
April	April ARI (50% exceedance)	1,750 cfs	Not applicable	1,750 cfs	1,750 cfs	
April	April ARI[3] (90% exceedance)	1,750 cfs	Not applicable	1,750 cfs	1,750 cfs	

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–December of the next water year unless there is an update to the ARI after May.