



Water Resources ♦ Flood Control ♦ Water Rights

MEMORANDUM

April, 2023

TO: Reclamation District No. 2044
FROM: Michael Moncrief
SUBJECT: April 2023 Engineer's Report

Board Members and Representatives:

Described below are the engineering items to be discussed at your April 2023 meeting.

2021-22 Subventions – Your Subventions Inspection was performed and CDFW has approved your claim. We are waiting for coordination with DWR on the financial review of your claim.

Subventions 2023-24 – Your approved application was submitted for the upcoming Subventions year. At this time, this is the last year where the program has dedicated funding. See attached program resolution for approval and discussion.

Special Projects Multi-Benefit Program Funding – A concept proposal was submitted to DWR for consideration for funding from the Special Projects Program. A copy of the concept proposal is attached to this report. Direction from DWR on formal proposals is to be determined; we'll be ready to start working on yours if we have support for pumpstation element. This proposal would need landowner agreement on developing an easement for the seepage berm and multi-benefit element of the project, initial estimates are 15 acres. The District is waiting for notification from DWR on if the project has been selected for a formal proposal. This formal proposal will need to be submitted within 60-days of notification. If the proposal is awarded grant funding, that funding agreement would likely not be provided until late 2023 or 2024 and would only provide funds for planning, permitting, design elements of the future improvement project.

Interior Canal Encroachment Permit – MBK has been monitoring the condition of the temporary barrier and pump/rain-for-rent container within the District canal. There is a section of that temporary berm that is eroding away. We have attached draft conditions for approval based on the design drawings attached we've received. If the applicant/owner is willing to follow these conditions we will support the District in coordinating with the landowner to develop this project under the easement and conditions approved by the District.

King Island Marina Encroachments – Under the general encroachment permit RD 2044 has provided King Island Trailer Park and Marina, we recommend review of these draft conditions as exhibits or attachments to their general encroachment permit for the following items:

- 1) Re-installation of the pipe crossings at station 290+30 for water and power that had to be removed to address anomalies on the waterside of the levee to support maintenance, repair and flood control of the District; with assurance pipes are set above required minimum invert elevation
- 2) Permitting access and control of ramp feature installed at station 299+80 with conditions of use, including a gate to control vehicle access on the landside shoulder

Emergency Work Performed February 2023 – After the significant emergency flood event in January the District performed two projects, one of which was previously scheduled. The projects were to 1) Address sinkhole anomalies that formed during the emergency event and 2) repair/replace discharge pipe at main pumpstation. The sinkhole work may be eligible for FEMA reimbursement, the pipe replacement work will be submitted through the Subventions Program for reimbursement.

Early Spring 2023 Monitoring-Maintenance Activities – Flood and Spring Runoff

- 1) Erosion Repair – There are 60 small erosion sites that need to be addressed and prioritized for repairs. We recommend submitting a LSAA with CDFW to have permit coverage to perform the repairs, starting with the most critical this later summer/fall. This work could be done under your RMA over several years, it would take 3 years to address the approximately 3,500 LF of erosion damages, at \$75,000 per year. This would require bidding to perform these repairs, limited to no more than 100 foot site repairs annually. The LSAA would allow for longer site repairs to be performed. Total repair cost could exceed \$250,000
- 2) Levee Patrol should evaluate site conditions and minor, when patrolled for active levee movement while repairs are being planned
- 3) Levee sloughing, cracking, rodent repairs, landside anomalies – The District should consider a contract to repair and investigate landside cracking, sloughs and voids in the slope and toe of the levee at multiple locations. This can be done with sole-source contracting starting at our most vulnerable locations to investigate and explore necessary repair or rehabilitation needs. This work should be monitored by MBK or a geotechnical engineer. Start at \$25,000, potential for \$50,000.
- 4) Roadway Maintenance – Significant roadway rutting has occurred, there are several thousand feet of repairs required, suggested budget of \$75,000 to address all sites with an engineered surface at these locations.
- 5) Vegetation Control, spraying as necessary and mowing or livestock \$25,000
- 6) Animal Control, as necessary. Consider installing bait boxes on landside slope of levees and repairs of rodent activity. \$5,000
- 7) Pumpstation repairs to main pumphouse: any additional pipe/pump issues to address? Harris valve replacement?

TOTAL BUDGET CONSIDERATION for 2023-24 \$250,000 - \$450,000

This budget estimate is regardless of reimbursement (Subventions/FEMA). The Subventions Program only has guaranteed funding through 2023-24 fiscal year at this point. The work to be performed may be submitted to FEMA but there is no certainty that it will be eligible for those funds. FEMA project costs are higher due to the additional permitting element for any waterside repairs.

Flood Fight Supplies/March Storms – Ensure you have adequate flood fight supplies. While we will be experiencing a series of storms, the system still has capacity, although much less than we did in early January. Reservoirs are generally getting full or are at Top of Conservation, except New Melones, Shasta, and Oroville, so with each added storm after this week we get closer to higher sustained flows into the Delta throughout much of the late winter and spring runoff. Fremont Weir is spilling again and the Mokelumne is peaking again this week while the SJ River is rising and may reach monitor stage at Mossdale from this wet pattern. Don't hesitate to contact us with any issues or questions.

FEMA/OES Coordination – The District and MBK will begin their coordination with FEMA/OES soon, we anticipate a call for our briefing and scoping meetings any day. We will continue to work with the District on the recovery side of this emergency. The District needs to pass the OES 130 resolution prior to receiving any funding from the State. The District is working on obtaining a SAM number to allow the receipt of federal grant funding.

North Delta Barriers - DWR has received approval of its geotechnical exploration drilling plan for use in the design of the barriers. DWR is working on scheduling the drilling, which will take approximately 1 week at each of the 4 drilling locations. DWR anticipates drilling to begin the last week of March and continue through the month of April.

DSC Delta Adapts – It has been several months since the Delta Adapts focus groups met, however, three Focus groups will meet during March 2023. The Ag Focus Group met on March 1, the Ecosystem Focus group meets on March 13, and the Flood Focus Group meets on March 20. The March 1 Ag Focus Group was the 3rd meeting of the group. The DSC reported that since the last meeting, the Ag Focus group met, the staff met with 7 groups of landowners/farmers, and the CDFA survey results were reviewed. The March 1 meeting focused on describing ag conditions under 2 possible scenarios including levee rehabilitation and habitat restoration. Under Scenario 1, habitat restoration only occurred on public lands and under Scenario 2, some restoration on private land was added.

Delta Stewardship Council – The DSC approved the Delta Levee Investment strategy rulemaking regulation at its February 23 meeting. No changes were made to the regulation beyond the removal of “increasing the height of a levee” from the definition for “Levee Improvement” and DWR reporting requirement. It will now become part of California Code of Regulations. Many comments were made by Delta stakeholders throughout the process, with essentially none of the comments resulting in changes. We are currently looking into how it may affect the Delta Levees Subventions Program.

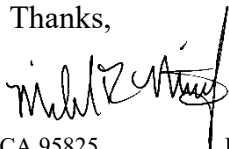
Delta Residents Survey – All households in the Primary Zone of the Delta were mailed a survey at the end of January. Apparently there has been some a mix up with PO Box addresses and slow mail delivery. Also, the envelope is addressed to “Current Delta Resident” with a Sacramento State return address, so it may appear as junk mail. Let your residents know what to expect and that it is important to get as much feedback from Delta residents as possible.

Delta Independent Science Board – The DISB met on February 15. The bulk of the meeting revolved around an initial draft of comments to the Delta Conveyance Project EIS. Even though the DISB members cited improvements over the Draft EIR, they felt that some major issues remain. They discussed the problems they see in the seismic section that uses Bay Area faults which may skew the results. They also suggested the DEIS relies on the DEIR so the same issues they had with the DEIR remain. They indicated the DEIS did very little of its own analyses. The DISB met again on March 3, they are finalizing their DEIS comments as well as discussing their comments on voluntary agreement scientific basis report.

California Central Valley Flood Control Association – The CCVFCA is authoring one of a number of bond funds bills recently introduced in the legislature. SB 638, lead author Susan Talamantes Eggman, describes \$6 billion for various projects and programs that include flood control. As currently drafted, \$500,000,000 would be made available to the Delta Levees Program. The bill was recently introduced, so it may have many changes, or merge with other bonds before it is finalized.


Delta Plan Restoration Forum– The Restoration Forum was held February 8. The hybrid was well attended. The Delta Conservancy and Delta Stewardship Council co-sponsored the event. They are planning more events like this to discuss how the habitat restoration of the Delta Plan will be implemented. They are hope future forums get more participation from local residents and stakeholders.

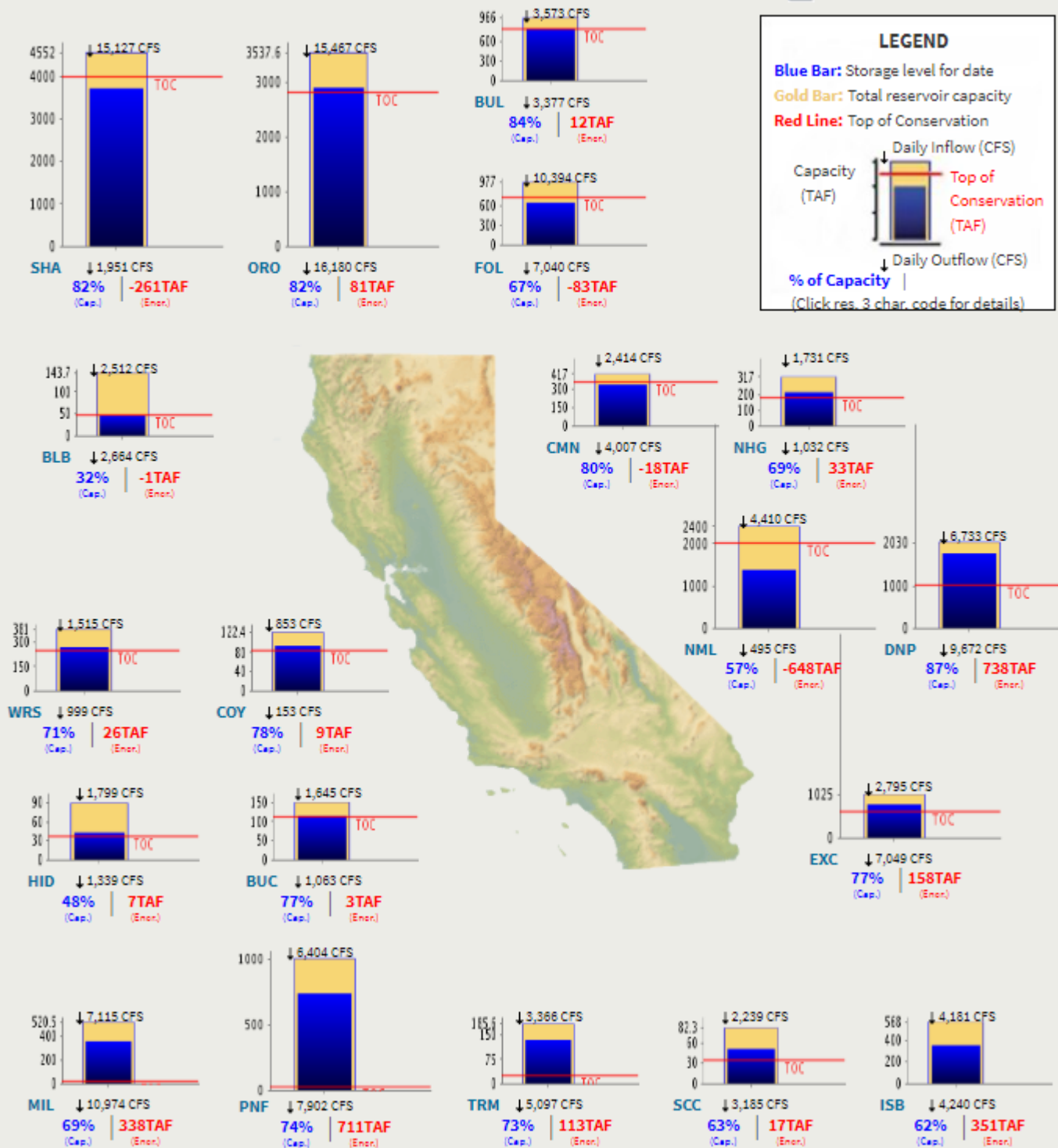
Thanks,



**TOP OF CONSERVATION CONDITIONS:
CENTRAL VALLEY AND RUSSIAN RIVER FLOOD CONTROL RESERVOIRS: 29-MAR-2023**

Midnight: 29-Mar-2023

Change Date:  29-Mar-2023



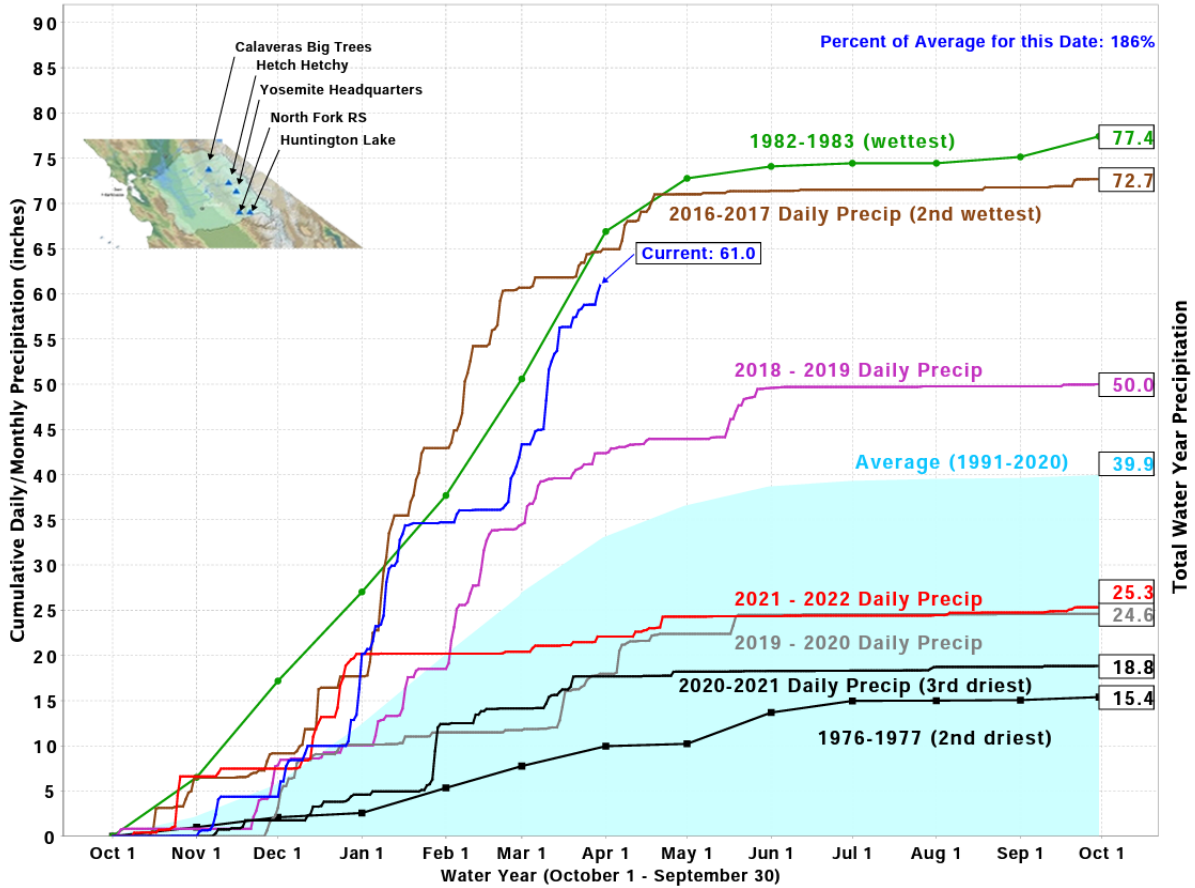
[Click for printable version of current data.](#)

Report Generated: 30-Mar-2023 10:39 AM

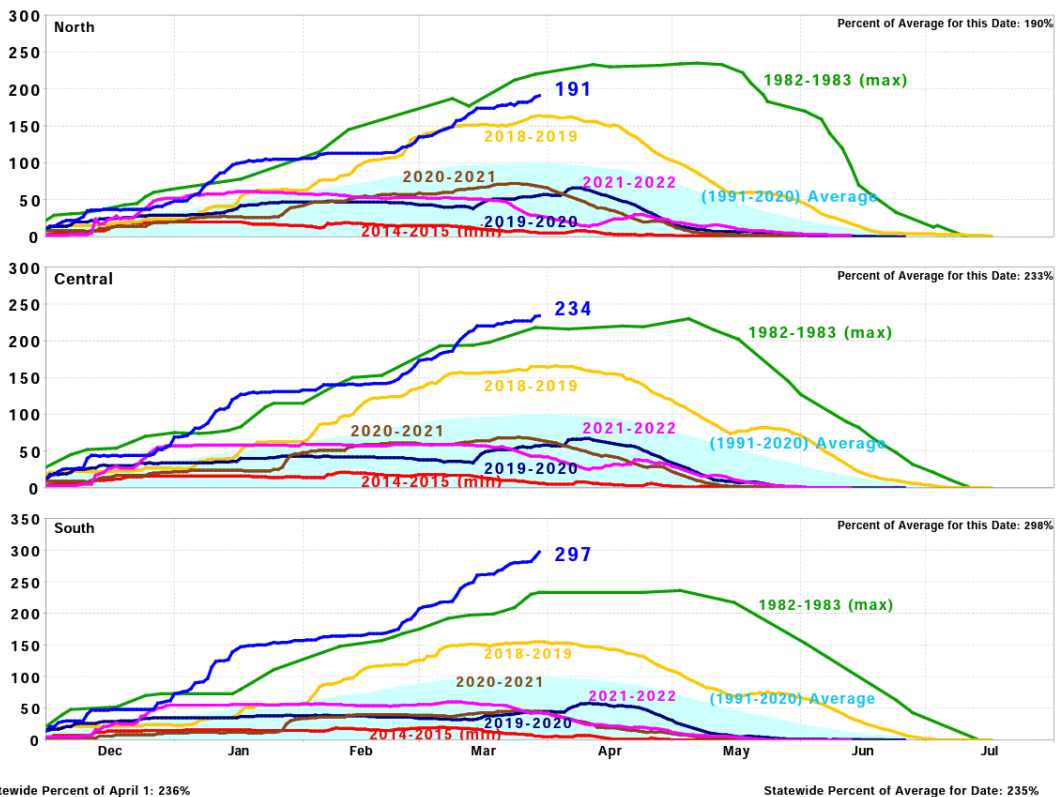
DATA AS OF 3/30/2023 at 11AM

Reservoir Name	StaID	Capacity (AF)	Elevation (FT)	Storage (AF)	Storage Change	% of Capacity	Average Storage	% of Average	Outflow (CFS)	Inflow (CFS)	Storage-Year Ago This Date
TRINITY RIVER											
TRINITY LAKE	CLE	2,447,650	2,244.25	906,490	2,080	37	1,789,542	51	1,022	2,110	807,817
WHISKEYTOWN	WHI	241,100	1,205.75	227,654	1,585	94	212,990	107	1,114	1,913	210,215
LEWISTON	LEW	14,660	1,901.18	14,046	216	96	13,936	101	1,142	1,254	13,793
RUSSIAN RIVER											
SONOMA(WARM SPRINGS)	WRS	381,000	460.62	271,154	1,015	71	240,691	113	999	1,515	145,506
MENDOCINO (COYOTE)	COY	122,400	752.84	94,882	1,379	78	80,362	118	153	853	44,174
SACRAMENTO RIVER											
SHASTA	SHA	4,552,000	1,037.26	3,720,336	26,134	82	3,582,284	104	1,951	15,127	1,732,319
KESWICK	KES	23,772	581.91	20,633	228	87	21,121	98	3,320	3,435	19,536
FEATHER RIVER											
OROVILLE	ORO	3,537,577	856.98	2,903,075	-1,374	82	2,487,568	117	16,180	15,467	1,676,429
ANTELOPE	ANT	22,566	5,002.38	22,918	-18	102	20,448	112	---	---	20,579
FRENCHMAN	FRD	55,477	5,581.82	46,243	239	83	37,868	122	---	---	37,314
LAKE DAVIS	DAV	83,000	5,766.14	52,751	217	64	58,677	90	---	---	49,227
YUBA RIVER											
BULLARDS BAR	BUL	966,000	1,921.12	808,043	427	84	741,087	109	3,377	3,572	701,574
ENGLEBRIGHT	ENG	70,000	529.11	71,699	-34	102	66,278	108	---	8,493	66,461
AMERICAN RIVER											
FOLSOM	FOL	977,000	435.01	659,258	6,653	67	605,783	109	7,040	10,394	578,328
UNION VALLEY	UNV	266,369	4,848.24	207,960	50	78	180,310	115	---	---	223,440
LOON LAKE	LON	69,306	6,378.34	31,812	-282	46	36,120	88	---	---	37,177
ICE HOUSE	ICH	43,496	5,426.20	28,883	-255	66	24,872	116	---	44	34,391
NIMBUS	NAT	9,000	122.99	7,787	-230	87	7,762	100	7,064	6,948	8,148
CACHE CREEK											
INDIAN VALLEY	INV	300,000	1,451.72	181,148	---	60	183,302	99	10	749	49,355
PUTAH CREEK											
BERRYESSA	BER	1,602,000	428.58	1,342,392	8,698	84	1,356,593	99	---	---	1,013,783
STONY CREEK											
BLACK BUTTE	BLB	143,700	447.10	46,525	-307	32	81,606	57	2,664	2,512	46,903
CALAVERAS RIVER											
NEW HOGAN	NHG	317,000	687.28	218,028	1,370	69	169,980	128	1,032	1,730	132,143
MOKELUMNE RIVER											
CAMANCHE	CMN	417,120	222.84	327,440	-4,559	79	263,958	124	4,005	1,337	234,860
PARDEE	PAR	203,795	563.03	193,656	2,086	95	184,241	105	---	---	174,440
STANISLAUS RIVER											
DONNELL'S	DON	64,320	---	---	---	---	15,691	---	---	---	14,389
BEARDSLEY	BRD	97,800	---	---	---	---	46,944	---	---	---	61,331
TULLOCH	TUL	67,000	501.68	57,137	761	85	56,934	100	492	877	57,972
NEW MELONES	NML	2,400,000	989.66	1,378,103	7,748	57	1,487,938	93	495	4,410	937,318
TUOLUMNE RIVER											
DON PEDRO	DNP	2,030,000	808.60	1,766,990	-1,862	87	1,526,088	116	9,034	8,447	1,241,280
HETCH HETCHY	HTH	360,000	---	250,198	-1,384	69	206,617	121	1,349	---	295,704
CHERRY VALLEY	CHV	273,500	---	184,731	-310	68	192,433	96	1,138	---	234,762
MERCED RIVER											
MC CLURE (EXCHEQUER)	EXC	1,024,600	829.59	783,701	-2,377	76	546,530	143	---	---	320,309
CHOWCHILLA RIVER											
EASTMAN (BUCHANAN)	BUC	150,000	566.01	115,625	1,147	77	79,520	145	1,062	1,645	15,189
FRESNO RIVER											
HENSLEY (HIDDEN)	HID	90,000	504.78	43,182	907	48	41,293	105	1,338	1,799	16,735
SAN JOAQUIN RIVER											
MILLERTON (FRIANT)	MIL	520,500	539.49	350,957	-7,115	67	365,308	96	---	---	307,325
LOS BANOS	LBS	34,600	330.53	21,879	131	63	20,213	108	---	---	19,694

San Joaquin Precipitation: 5-Station Index, March 30, 2023



California Snow Water Content, March 30, 2023, Percent of April 1 Average



SAN JOAQUIN RIVER - MOSSDALE (MOSC1)

Latitude: 37.79° N Longitude: 121.31° W
 Location: San Joaquin County in California

Elevation: 32 Feet
 River Group: San Joaquin

Issuance Time: Mar 30 2023 at 8:58 AM PDT

Next Issuance: Mar 30 2023 at 3:00 PM PDT

Monitor Stage: 19.5 Feet

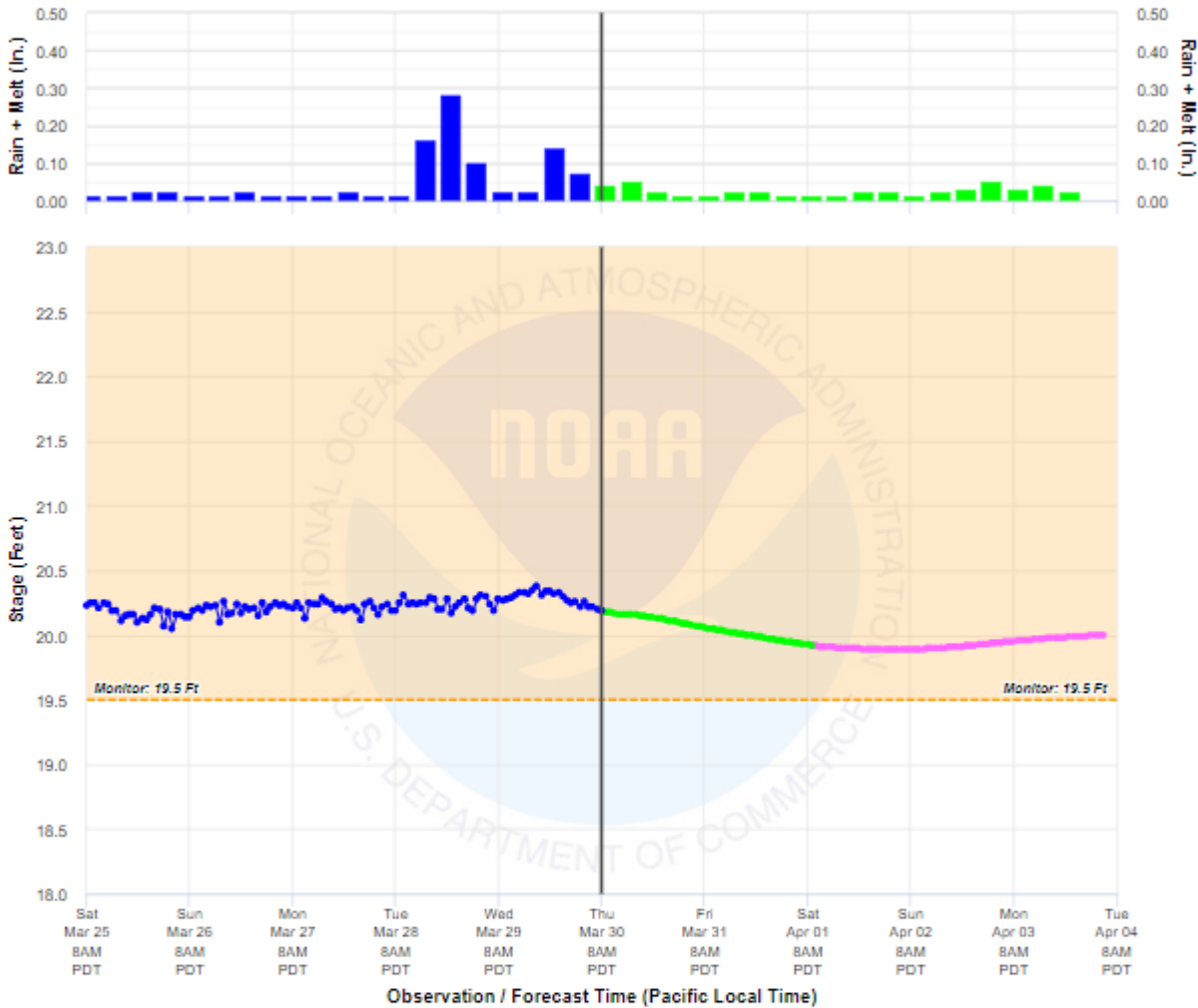
Flood Stage: 28.5 Feet

Danger Stage: 29.5 Feet

Plot Type:

**San Joaquin River - Mossdale (MOSC1)
 River Forecast Plot**

Forecast Posted: 03/30/2023 at 8:44 AM PDT • Graphic Created: 03/30/2023 at 8:59 AM PDT



NOAA / NWS / California Nevada River Forecast Center • California Department of Water Resources
 - Observed - Forecast - Guidance - Monitor Stage - Flood Stage - Danger Stage

Observed Data Credit



Raw streamflow data is provided by the California Department of Water Resources.
 View CA DWR Data for this station location.

Verification - Historical Graphical RVF

Month: Day: Year: Cycle:

To view other verification locations, use our [Historical Graphical River Forecast Interface](#).

Historical Stage/Flow Data

Water Year	Peak Discharge (cfs)	Stage (feet)	Date
Most Recent 5 Years			
2021	--	6.74	Jun 27, 2021
2020	--	7.93	Dec 13, 2019
2019	--	14.31	Jun 6, 2019
2018	--	10.43	Apr 8, 2018
2017	--	21.70	Feb 23, 2017