

**NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT
WATER SUPPLY UPDATE
December 7, 2016**

WATER SOURCE 1: NSJWCD PERMIT 10477

Projected 2016 Supply: Projecting water available beginning Dec. 1 under direct diversion right

No water was stored for NSJWCD during 2016. However, the NSJWCD Permit 10477 direct diversion right begins Dec. 1st. Water may become available under Permit 10477 beginning Dec. 1 if EBMUD is required to bypass inflow due to flood control requirements (which has already been occurring).

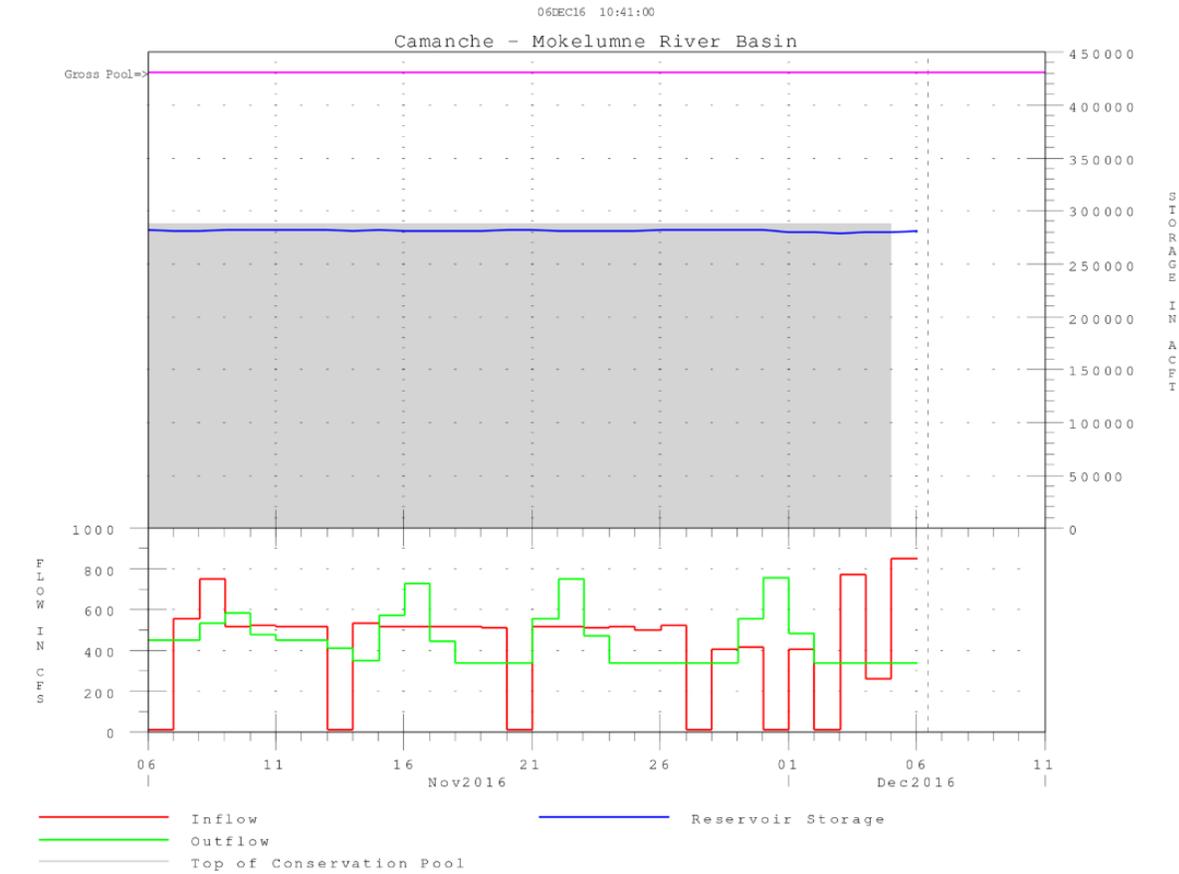
The City of Lodi has requested to purchase 600 AF of water from NSJWCD during December 2016 and January 2017.

WATER SOURCE 2: 2014 PROTEST DISMISSAL AGREEMENT BETWEEN NSJWCD, EBMUD, ETC.

Projected 2016 Supply: None. If water is not available under Permit 10477, 6,000AF of dry year supply could have been available under the terms of this Agreement, except that the required banking program and export permit was not yet in place. The District must design this project and comply with CEQA before proceeding.

Flood Control Operations

The current reservoir capacity in comparison to mandatory flood storage space at Camanche Reservoir is displayed below. This information is current as of 12/6/16. Based on the information published on USACE's Water Control Data Site, Camanche and Pardee are at or very near maximum combined storage levels.



RESERVOIR ELEVATION AND STORAGE

	Elevation		Storage		% Full	Max.	Max.	Rlse	Spill
	Feet	Change	Ac-Ft	Change		Feet	Storage Ac-Ft		
EBMUD									
MOKELUMNE									
Pardee	563.14	-0.45	193,890	-980	95%	567.65	203,795	848	0
Camanche	215.53	0.15	280,380	930	67%	235.50	417,120	340	0
EAST BAY									
Briones	573.84	-0.01	57,360	0	97%	576.14	58,960	0	0
Chabot	220.30	0.00	8,130	0	79%	227.25	10,350	0	0
Lafayette	442.50	0.00	3,440	0	81%	449.16	4,250	0	0
San Pablo	307.50	-0.10	33,640	-80	87%	313.68	38,600	0	0
USL	449.85	-0.21	31,620	-130	81%	459.98	38,905	0	0
TOTAL EAST BAY RES.			134,190	-210	89%		151,065		
TOTAL EBMUD STORAGE			608,460	-260	79%		771,980		

PG&E CO.	Storage		% Full	Capacity	
	Ac-Ft	Change			
Old Reservoirs	8,906	41	34%	26,560	
Salt Springs	72,434	-102	51%	141,857	
Lower Bear	21,585	-413	41%	52,025	
TOTAL PG&E STORAGE		102,925	-474	47%	220,442

RIVER FLOWS AND RELEASES

Mokelumne River Natural Flow	206 Cfs
Pardee Reservoir Inflow	445 Cfs
*Pardee Release to JVID	0 Cfs
Pardee Release to Camanche Reservoir	848 Cfs
Camanche Release to Mokelumne River	340 Cfs
Mokelumne River near Elliott Rd	359 Cfs
*WID Diversion	29 Cfs
Mokelumne River below WID	221 Cfs

* Diversions:

JVID - Jackson Valley Irrigation District

WID - Woodbridge Irrigation District

The JSA (Joint Settlement Agreement) dictates required fishery flows based on time of year and year-type. The total combined reservoir capacity in Pardee and Camanche is at or near full capacity. **The Current JSA Year Type is NORMAL/ABOVE. THIS CHANGE OCCURRED IN OCTOBER.**

WATER YEAR TYPE DETERMINATION

Year Type	Normal/Above	Below Normal	Dry	Critically Dry
Oct. - Mar. (1) (Pardee/Camanche Storage)	Max Allowable (2)	Max Allowable to 400 TAF	399 TAF to 270 TAF	269 TAF or Less
Apr. - Sep. (3) (Unimpaired runoff)	890 TAF or More	889 TAF to 500 TAF	499 TAF to 300 TAF	299 TAF or Less (4)

- Notes:
- (1) October through March minimum flows are determined by total Pardee and Camanche storage on November 5th. Year type storage limits are based on the capacities of Pardee and Camanche Reservoirs in 1995.
 - (2) Maximum allowable storage on November 5th, shall be determined in accordance with the Army Corps of Engineer's Water Control Manual for Camanche Dam and Reservoir dated September, 1981.
 - (3) April through September minimum flows are determined by the water year unimpaired runoff into Pardee Reservoir as forecasted by DWR in the April 1st Bulletin 120 Report except when combined Pardee/Camanche Nov. 5 storage is projected to be less than 200 TAF.
 - (4) April through September minimum flows shall be critically dry whenever Nov. 5 combined Pardee/Camanche storage is projected to be 200 TAF or less based on the runoff forecast in DWR bulletin 120, beginning April 1st.

JSA Fishery Flows for ABOVE NORMAL years are set forth below. For An ABOVE normal year type, the total JSA flow releases are expected to be 325 cfs from October 1 to March 30. As a result, the total amount of mandatory releases from Comanche under the JSA is about **117,120 AF between October 1 and March 31.**

Average/Above Average Year Flows

Normal and Above Year Flows Mokelumne River Minimum Flow Schedule (1)			Attachment 1	
Life Stage	Period	Days	Agreed Release From Camanche Dam (cfs)	Expected Flow Below Woodbridge Dam (cfs)
Adult Immigration	10/1-10/15 (2)	15	325	100
Spawn/Incubation	10/16-10/31 (2)	16	325	100
	11/1-11/30 (3)	30	325	100
	12/1-12/31 (3)	31	325	100
Incubation/Alevin	1/1-1/31 (3)	31	325	100
	2/1-2/28 (3)	28	325	100
Fry Rearing	3/1-3/31 (3)	31	325	100
	4/1-4/15 (4),(5)	15	325	150
	4/16-4/30 (4),(5)	15	325	150
Fry Rearing/Juvenile Rearing/ Outmigration	5/1-5/31 (5)	31	325	300
	6/1-6/30 (5)	30	325	300
Oversummer	7/1-9/30	92	100	25
	Total Days	365		

NOTES:

- (1) Due to changes in water conditions or to optimize fishery conditions, EBMUD may modify the above Flow Standards upon written concurrence of CDF&G and USFWS, provided the total quantity of water released for fishery purposes in Normal and Above year types is not less than the quantity provided by this flow schedule.
- (2) During October, EBMUD will maintain minimum flows of 325 cfs below Camanche Dam and 100 cfs below WID's dam in Normal and Above year types.
- (3) During the period when WID dam boards are pulled out and Lodi Lake is empty (approximately Nov. 1 through March 31), EBMUD shall make minimum releases of 325 cfs from Camanche Dam in Normal and Above year types. This release from Camanche dam is expected to provide at least 100 cfs below WID dam during this period. However, EBMUD shall not be obligated to increase releases above 325 cfs during this period in Normal and Above year types.
- (4) During April, EBMUD will maintain minimum flows of 325 cfs below Camanche Dam and 150 cfs below WID's dam in Normal and Above year types.
- (5) For the months of April, May, and June during Normal and Above year types, additional release of up to 200 cfs is required depending on combined Pardee and Camanche storage levels relative to the maximum allowable for the end of the prior month as follows:
 - Less than 10 TAF below maximum allowable storage (BMAS), additional release is 200 cfs for subsequent month.
 - 10 TAF <= BMAS < 20 TAF, additional release is 150 cfs for subsequent month.
 - 20 TAF <= BMAS < 30 TAF, additional release is 100 cfs for subsequent month.
 - 30 TAF <= BMAS < 40 TAF, additional release is 50 cfs for subsequent month.

CITY OF LODI TRANSFER AGREEMENT

NSJWCD's obligation to transfer up to 1,000 AF to the City of Lodi is contingent on 20,000 AF of water being available under Permit 10477 as of May 1st of each year. The potential transfer period is the following October 15th to March 30th. However, Lodi may also purchase water that becomes available under NSJWCD's direct diversion right.

We notified the City of Lodi that water may be available this winter. Lodi has requested 600 AF of water between December 2016 and January 2017. We are working to coordinate between Lodi, WID and EBMUD for delivery.