

**NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
WATER SUPPLY UPDATE  
September 19, 2016**

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**WATER SOURCE 1: NSJWCD PERMIT 10477**

**Projected 2016 Supply: None at this time.**

EBMUD has informed NSJWCD that no water is available under Permit 10477 as of current conditions. Water may become available under Permit 10477 during 2016 if inflows are greater than projected or demand is less than projected.

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

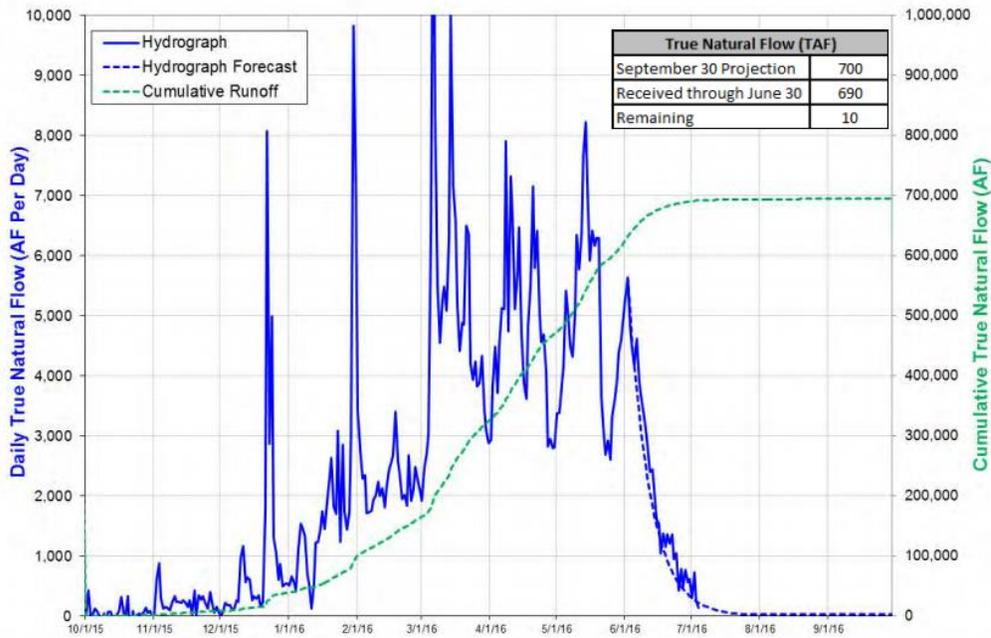
**Projected 2016 Supply: None. If water is not available under Permit 10477, 6,000AF of dry year supply could be available under the terms of this Agreement, except that the banking program will not yet be in place.**

The 2014 Agreement provides that EBMUD shall provide additional dry year water for NSJWCD when certain conditions are met:

- Up to 6,000 acre feet (AF) when EBMUD's Projected End-of-September (EOS) Total System Storage (TSS) is greater than 550 TAF (after 6 TAF releases assumed for NSJWCD).
- Up to 3,000 AF when EBMUD's Projected End-of-September (EOS) Total System Storage (TSS) is greater than 525 TAF but less than 550 TAF (after 3 TAF releases assumed for NSJWCD).
- Water is not otherwise available to NSJWCD under Permit 10477 and the October 11, 1963 Agreement between NSJWCD and EBMUD.
- Water quality conditions in Camanche Reservoir are stable (28 TAF hypolimnion through October).
- Release of the Dry Year Supply will not cause a "dry" or "critically dry" year pursuant to Attachment 1 of the 1998 Joint Settlement Agreement.
- NSJWCD has submitted a request to EBMUD for the Dry Year Water on or before May 1st.
- Other conditions of the agreement are met related to the ability of EBMUD to bank half of the provided water. To date, no banking program is in place.

**EBMUD Projections as of July 2016 (As of 9/19 EBMUD has not released new water supply projections for the Mokelumne River Watershed):**

EBMUD is estimating a Total Natural Flow (“TNF”) of 700 Thousand Acre-Feet (“TAF”) and an end of September storage of 600 TAF.



## Water Supply Projections

### End of September Storage



Sunday, September 18, 2016  
 Data as of midnight. Subject to revision.  
 Report generated on 9/19/2016 1:00:00 PM

## RESERVOIR ELEVATION AND STORAGE

EBMUD	Elevation		Storage		%	Max. Elev	Max. Storage	Rlse	Spill
	Feet	Change	Ac-Ft	Change	Full	Feet	Ac-Ft	cfs	cfs
MOKELUMNE									
Pardee	561.12	0.02	183,760	40	93%	567.65	197,950	11	0
Camanche	217.82	-0.07	294,750	-440	71%	235.50	417,120	216	0
EAST BAY									
Briones	567.12	0.24	54,170	160	90%	576.14	60,510	0	0
Chabot	220.38	-0.01	8,160	0	79%	227.25	10,350	0	0
Lafayette	442.60	0.00	3,460	0	81%	449.16	4,250	0	0
San Pablo	308.53	0.12	34,440	100	89%	313.68	38,600	0	0
USL	455.10	-0.07	34,420	-40	91%	459.98	37,960	0	0
TOTAL EAST BAY RES.			134,650	220	89%	151,670			
TOTAL EBMUD STORAGE			613,160	-180	80%	766,740			
PG&E CO.			Storage	%	Capacity				
			Ac-Ft	Change	Full	Ac-Ft			
Old Reservoirs			10,092	-80	38%	26,560			
Salt Springs			87,689	-424	62%	141,857			
Lower Bear			27,818	-404	53%	52,025			
TOTAL PG&E STORAGE			125,599	-908	57%	220,442			

## RIVER FLOWS AND RELEASES

Mokelumne River Natural Flow	-38 Cfs
Pardee Reservoir Inflow	420 Cfs
*Pardee Release to JVID	0 Cfs
Pardee Release to Camanche Reservoir	11 Cfs
Camanche Release to Mokelumne River	216 Cfs
Mokelumne River near Elliott Rd	222 Cfs
*WID Diversion	70 Cfs
Mokelumne River below WID	31 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 April 1<sup>st</sup> forecast for total unimpaired runoff was between 708 and 942 TAF. **The Current JSA Year Type is BELOW NORMAL.**

**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 below normal years are set forth below. For a below normal year type, the total JSA flow releases are expected to be 250 cfs from April 1 to June 30, while releases from July 1 to September 30 are expected to be 100 cfs. As a result, the total amount of mandatory releases from Comanche under the JSA is about **63,261 AF between April 1 and September 30.**

**Below Normal Year Flows**

Attachment 1

Below Normal Year Flows Mokolumne River Minimum Flow Schedule (1)			Agreed Release From Camanche Dam (cfs)	Expected Flow Below Woodbridge Dam (cfs)
Life Stage	Period	Days		
Adult Immigration	10/1-10/15 (2)	15	250	100
Spawn/Incubation	10/16-10/31 (2)	16	250	100
	11/1-11/30 (3)	30	250	100
	12/1-12/31 (3)	31	250	100
Incubation/Alevin	1/1-1/31 (3)	31	250	100
	2/1-2/28 (3)	28	250	100
Fry Rearing	3/1-3/31 (3)	31	250	100
	4/1-4/15 (4),(5)	15	250	150
	4/16-4/30 (4),(5)	15	250	150
Fry Rearing/Juvenile Rearing/ Outmigration	5/1-5/31 (5)	31	250	200
	6/1-6/30 (5)	30	250	200
Oversummer	7/1-9/30	92	100	20
	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 Below Normal year types is not less than the quantity provided by this flow schedule.
  - (2) During October, EBMUD will maintain minimum flows of 250 cfs below Camanche Dam and 100 cfs below WID dam in Below Normal 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 a minimum release of 250 cfs from Camanche Dam in Below Normal 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 250 cfs during this period in Below Normal year types.
  - (4) During April, EBMUD will maintain minimum flows of 250 cfs below Camanche Dam and 150 cfs below WID's dam in Below Normal year types.
  - (5) For the months of April, May, and June in Below Normal 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 1<sup>st</sup> of each year. The potential transfer period is the following October 15<sup>th</sup> to March 30<sup>th</sup>.

We notified the City of Lodi that no water was available as of May 1, 2016 and we will update them as the situation evolves.