

NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT
WATER SUPPLY UPDATE
January 19, 2016

WATER SOURCE 1: NSJWCD PERMIT 10477

Projected 2016 Supply: Unknown at this time.

Water may be available under Permit 10477 during 2016. Water is generally available under Permit 10477 when end-of-September storage in Camanche and Pardee, plus projected run-off for the Mokelumne River, exceeds the total demands of prior right holders including riparians, East Bay Municipal Utility District (EBMUD) and Woodbridge Irrigation District as well as required fishery releases and stream carriage losses between Camanche and Woodbridge dam. Water may also be available under Permit 10477 if EBMUD's estimated total system storage at the end of September 2016 is greater than 525 TAF, as provided in the 2014 protest dismissal agreement discussed below. EBMUD currently estimates total system storage at the end of September 2016 of 630 TAF using a 50% exceedance forecast.

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

Projected 2016 Supply: Unknown at this time.

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.

Water Supply Projections

(Runoff Projections as of January 10, 2016)



Forecast	Annual Runoff	Total System Storage (on Sept 30, 2016)
90% Exceedence (9 of 10 years are wetter)	500 TAF	415 TAF
50% Exceedence (5 of 10 years are wetter)	760 TAF	630 TAF
10% Exceedence (1 of 10 years is wetter)	1,100 TAF	630 TAF
Average Year	745 TAF	630 TAF

Monday, January 18, 2016

Data as of midnight. Subject to revision.

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RESERVOIR ELEVATION AND STORAGE

EBMUD	Elevation		Storage		% Full	Max.	Max.	Rlse cfs	Spill cfs
	Feet	Change	Ac-Ft	Change		Elev Feet	Storage Ac-Ft		
MOKELUMNE									
Pardee	540.03	1.08	142,480	1,930	72%	567.65	197,950	11	0
Camanche	175.27	0.14	92,360	430	22%	235.50	417,120	180	0
EAST BAY									
Briones	574.34	0.04	59,220	30	98%	576.14	60,510	0	0
Chabot	216.39	0.58	7,030	150	68%	227.25	10,350	0	0
Lafayette	441.70	0.35	3,350	40	79%	449.16	4,250	0	0
San Pablo	296.54	0.82	25,790	530	67%	313.68	38,600	0	0
USL	444.08	1.68	27,320	970	72%	459.98	37,960	0	0
TOTAL EAST BAY RES.			122,710	1,720	81%	151,670			
TOTAL EBMUD STORAGE			357,550	4,080	47%	766,740			

PRECIPITATION (INCHES)

STATIONS	THIS YEAR			AVERAGE YEAR		
	Today	This Month	Season to-Date	% of Avg.	Season to-Date	Season Total
MOKELUMNE AREA						
Camp Pardee	1.12	3.51	12.48	128%	9.77	21.56
*Salt Springs PH	0.49	5.78	26.40	125%	21.06	45.51
*Tiger Creek PH	0.64	6.15	26.04	122%	21.38	46.08
*Calaveras Big Trees	0.73	6.07	29.39	117%	25.07	54.71
*Caples Lake	0.52	4.35	21.91	100%	21.95	46.75
Snow On Ground			67	128%	53	
Water Content			21.4	131%	16.3	
*4-Station Average	0.60	5.59	26.02	116%	22.38	48.28

RIVER FLOWS AND RELEASES

Mokelumne River Natural Flow	966 Cfs
Pardee Reservoir Inflow	995 Cfs
*Pardee Release to JVID	0 Cfs
Pardee Release to Camanche Reservoir	11 Cfs
Camanche Release to Mokelumne River	180 Cfs
Mokelumne River near Elliott Rd	252 Cfs
*WID Diversion	0 Cfs
Mokelumne River below WID	239 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 Current JSA Year Type is CRITICALLY DRY.**

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 critically dry years are set forth below. For a critically dry year type, the total JSA flow releases are expected to be 130 cfs from December to March, for a total release of about **31.4 TAF** between December and March.

Critically Dry Year Flows

Attachment 1

Critically Dry Year Flows				Agreed Release	Expected Flow
Mokelumne River Minimum Flow Schedule (1)				From	Below
Life Stage	Period	Days		Camanche Dam (cfs)	Woodbridge Dam (cfs)
Adult Immigration	10/1-10/15 (2)	15		100	15
Spawn/Incubation	10/16-10/31 (2)	16		130	75
	11/1-11/30 (3)	30		130	75
	12/1-12/31 (3)	31		130	75
Incubation/Alevin	1/1-1/31 (3)	31		130	75
	2/1-2/28 (3)	28		130	75
Fry Rearing	3/1-3/31 (3)	31		130	75
	4/1-4/15 (4)	15		130	75
	4/16-4/30 (4)	15		130	75
Fry Rearing/Juvenile Rearing/Outmigration	5/1-5/31 (5)	31		100	15
	6/1-6/30 (5)	30		100	15
Oversummer	7/1-9/30	92		100	15
	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 Critically Dry year types is not less than the quantity provided by this flow schedule.
 - (2) During October, EBMUD will maintain minimum flows of 130 cfs below Camanche Dam, and will maintain minimum flows of 15 cfs from Oct. 1 - 15 and 75 cfs from Oct. 16 - 31 below WID dam in Critically Dry 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 130 cfs from Camanche Dam in Critically Dry year types. This release from Camanche dam is expected to provide 75 cfs below WID dam during this period. However, EBMUD shall not be obligated to increase releases above 130 cfs during this period in Critically-Dry year types.
 - (4) During April, EBMUD will maintain minimum flows of 130 cfs below Camanche Dam and 75 cfs below WID's dam in Critically Dry year types.
 - (5) During May and June outmigrating smolts will be trapped, tagged, and transported around the Delta in Critically Dry year types.

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.

There was no water available under Permit 10477 as of May 2015, therefore there is no transfer for the period October 15, 2015 to March 30, 2016.

NSJWCD will notify the City by May 1, 2016 of water availability. If water is available for transfer, the City will submit a schedule the NSJWCD by July 1, 2016.