
From: Fujitani, Paul [<mailto:pfujitani@usbr.gov>]

Sent: Tuesday, April 28, 2015 2:13 PM

To: Grober, Les@Waterboards; Riddle, Diane@Waterboards; Bartolomeo, Eleanor@Waterboards

Cc: ekiteck@usbr.gov; Pettit, Tracy@DWR; Chu, Andy@DWR; SHERYL LOOPER; RUFINO GONZALEZ

Subject: Monthly Water Balance Information

Les,

Attached is the Monthly Water Balance information for April 2015. This includes projected hydrology for the current year and observed conditions through March. The projected data is based on project operation forecasts and information prepared in April..

We did not complete a full 99% exceedence forecast for April and this information includes the available data for an April 1, 99% exceedence scenario. Transfer proposals in the Central Valley are increasing now that the water supply figures are firming up and we will include transfer information in the near future.

Thanks,
Paul

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(916) 979-2197

Observed 2015 Hydrological Data

Accretions / Depletions

Values in TAF

Sacramento Valley

Net Delta Consumptive Use

February	March	April	May	June	July	August	September
714	188						
24	70						

Deliveries

Values in TAF

SWP - North of Delta M&I Contract Deliveries

SWP - North of Delta Agricultural Contract Deliveries

CVP - Sacramento River Deliveries

CVP - Tehama-Colusa Canal Deliveries

CVP - Contra Costa Canal

CVP - San Joaquin and Mendota Pool

CVP - Exchange Contractors - Pool Delivery

CVP - Refuges - Pool Delivery

CVP - Delta Mendota Canal Delivery

CVP - Refuges - DMC

CVP - San Luis Canal Delivery

CVP - San Felipe Division

CVP - Friant Kern Canal Delivery

CVP - Madera Canal Delivery

CVP - Millerton Lake Delivery

CVP - Folsom South Canal

CVP - Folsom Pumping Plant

February	March	April	May	June	July	August	September
0	0						
0	12						
39	69						
1.3	6						
2	15 est.						
3	3						
18	36						
15	3						
2	6						
1	1						
12	17						
3	4						
1	5						
<1	<1						
<1	<1						
1	1						
3	5						

Delta Flows

Delta Inflow at Freeport (cfs)

Net Delta Outflow Index (cfs)

SJR at Vernalis Flow (cfs)

CVP Export (TAF)

SWP Export (TAF)

February	March	April	May	June	July	August	September
18,000	8042						
15,800	4980						
870	636						
58	60						
221	37						

Transfers

Values in TAF

NOD to SOD

February	March	April	May	June	July	August	September

Reservoir Inflow

Values in TAF

Trinity

Whiskeytown

Shasta

Folsom

New Melones

Oroville

February	March	April	May	June	July	August	September
289	66						
63	9						
720	262						
168	65						
55	19						
338	123						

Reservoir Releases

Values in TAF

Trinity

Whiskeytown

Shasta

Folsom

New Melones

Oroville

February	March	April	May	June	July	August	September
15	20						
62	14						
106	180						
51	56						
12	69						
53	50						

NOTES: 1. CVP Sacramento River Deliveries not reported November through March

2. CVP deliveries represent total turnout delivery regardless of source

3. Additional details on CVP deliveries may be found on : <http://www.usbr.gov/mp/cvo/deliv.html>

90% Exceedence Forecast - Input Data

Inflows (TAF)							
	Trinity	Whiskeytown	Shasta	Folsom	New Melones (1)	Oroville	Millerton
Oct	9		2	200	50	25	74
Nov	14		2	230	50	20	83
Dec	22		4	260	60	20	110
2016 Jan							
Feb							
Mar							
2015 Apr	63		16	200	66	12	98
May	39		8	160	65	11	64
Jun	14		4	125	36	10	72
Jul	8		2	115	38	10	78
Aug	4		1	123	44	10	77
Sep	3		1	128	36	10	67

River Releases				
	Trinity (cfs)	Clear Creek (cfs)	Goodwin (cfs)	Oroville (cfs)
Oct	373	175		577
Nov	300	175		200
Dec	300	175		206
2016 Jan	300	175		261
Feb	300	175		309
Mar	300	175		280
2015 Apr	540	218		500
May	2924	216		150
Jun	783	150		150
Jul	450	120		150
Aug	450	85		150
Sep	450	150		150

Hydrology													
	Wilkin's Target (cfs)	Kes-Wilkin's Acc/Dep (cfs)	SJR Above Stan (TAF)	Sac Gross Acc/Dep (TAF)	Freeport Treatment Plant (TAF)	East Side Streams (cfs)	Misc. Creeks (TAF)	Yolo Bypass (TAF)	Transfer Inflow (TAF)	Delta Consumptive Use (TAF)	Delta Outflow (TAF)	X-Channel Gate	
Oct	3500	-750	34	40		13.3	210	29	0	0	-118	184	0
Nov	3500	-68	34	90		14	260	19	0	0	-55	208	0
Dec	3500	785	33	160		13.2	160	11.1	0	0	-2	215	1
2016 Jan	4000	2456	36	300		13.8	98	0.8	0	0	56	369	1
Feb	0	1969	39	240		12	810	0.9	0	0	37	633	1
Mar	0	2789	44	320		12.1	671	1.2	0	0	10	701	1
2015 Apr	3000	-996	29	-42		11.5	390	1.8	0	0	-63	238	1
May	3000	-4000	31	-280		12.2	280	32.3	0	0	-121	246	1
Jun	3000	-4850	16	-296		12.5	180	17.4	0	0	-191	238	0
Jul	3000	-5333	17	-415		12.3	120	15.4	0	0	-268	184	0
Aug	3800	-4245	14	-273		12.4	110	25.5	0	0	-252	184	0
Sep	3800	-1397	17	-30		12.4	160	25.5	0	0	-174	179	0

Demands (TAF)													
	Folsom Pumping	Folsom South Canal	OID/SSJID	New Melones CVP Contractors	FRSA Demands	CCWD	SWP NOD Contractors	Delta Mendota Canal	Federal Dos Amigos	San Felipe	SWP SOD Contractors	San Joaquin Riparian	San Friant Div. Ag/M&I
Oct	11	1.7	10.0	0	30	3.5	0	30	8	3	72		
Nov	5	1.5	0.0	0	131	4.3	0	10	5	2	30		
Dec	5	1.5	0.0	0	96	4.7	0	10	5	2	8		
2016 Jan	4	1.1	0.0	0	0	4.7	0	0	5	2			
Feb	4	0.8	0.0	0	0	3.5	0	20	1	2			
Mar	5	1.2	20.0	0	12	3.5	0	20	27	3			
2015 Apr	7	1.3	50.0	0	11	8.7	0	20	32	3	64	11.3	1.5
May	10	1.7	85.0	0	122	8.7	6	40	55	4	57	12.4	5.4
Jun	14	2.1	85.0	0	128	8.7	1	50	61	3	72	13.7	5
Jul	15	2.3	75.0	0	129	8.0	3	60	71	3	80	14.1	4.5
Aug	14	2.2	72.0	0	118	8.3	1	50	46	3	108	14.7	5.7
Sep	12	2.0	53.0	0	47	8.7	0	40	15	3	64	15	45.7

NOTE: 1) New Melones Reservoir inflow adapted from OID/SSJID data

50% Exceedence Forecast - Input Data

Inflows (TAF)

	Trinity	Whiskeytown	Shasta	Folsom	New Melones	Oroville	Millerlton
Oct	14	3	240	90	35	77	
Nov	32	7	300	100	35	83	
Dec	58	16	380	120	40	110	
2016 Jan							
Feb							
Mar							
2015 Apr	90	25	285	76	28	98	8.9
May	77	16	250	72	22	84	7
Jun	24	8	170	40	22	92	3.4
Jul	12	3	155	47	13	100	67.8
Aug	7	2	155	50	10	99	61.8
Sep	5	2	146	40	7	90	61.7

River Releases

	Trinity (cfs)	Clear Creek (cfs)	Goodwin (cfs)	Oroville (cfs)
Oct	373	200	577	950
Nov	300	200	354	950
Dec	300	175	206	950
2016 Jan	300	175	261	
Feb	300	175	309	
Mar	300	175	270	
2015 Apr	540	218	500	1150
May	2924	216	150	2850
Jun	783	150	150	800
Jul	450	120	150	2200
Aug	450	120	150	2400
Sep	450	150	150	800

Hydrology

	Wilkin's Target (cfs)	Kes-Wilkin's Acc/Dep (cfs)	SJR Above Stan (TAF)	Sac Gross Acc/Dep (TAF)	Freeport Treatment Plant (TAF)	East Side Streams (cfs)	Misc. Creeks (TAF)	Yolo Bypass (TAF)	Transfer Inflow (TAF)	Delta Consumptive Use (TAF)	Delta Outflow (TAF)	X-Channel Gate
Oct	4000	-253	55	100	13.3	650	29	0	0	-118	184	0
Nov	4000	495	57	150	14	889	19	0	0	-55	208	1
Dec	4000	2495	58	330	13.2	1260	11.1	0	0	-2	215	1
2016 Jan	4000	4241	58	490	13.8	228	0.8	0	0	56	369	1
Feb	0	4133	65	440	12	828	0.9	0	0	37	633	1
Mar	0	6412	83	650	12.1	244	1.2	0	0	10	701	1
2015 Apr	3800	2585	57	300	11.5	185	1.8	0	0	-63	238	1
May	3800	-4166	71	-250	12.2	325	32.3	0	0	-121	246	1
Jun	3800	-5277	26	-330	12.5	336	17.4	0	0	-191	238	0
Jul	3800	-6291	23	-420	12.3	325	15.4	0	0	-268	246	0
Aug	3800	-4553	20	-270	12.4	325	25.5	0	0	-252	184	0
Sep	3800	-1385	21	0	12.4	336	25.5	0	0	-174	179	0

Demands (TAF)

	Folsom Pumping	Folsom South Canal	OID/SSIID	New Melones CVP Contracto rs	FRSA Demand	CCWD	SWP NOD Demand	Mendota Canal	Federal Dos Amigos	Delta San Felipe	SWP SOD Contracto rs	San Joaquin Riparian	Friant Div. Ag/M&I
Oct	10	2.4	14.0	0	30	8.4	1	50	8	3	129		
Nov	8	1.8	0.0	0	131	9.2	1	20	5	2	86		
Dec	6	1.2	0.0	0	96	9.2	1	10	5	2	49		
2016 Jan	6	1.2	0.0	0		7.0		10	5	2			
Feb	6	1.2	0.0	0		7.0		30	1	2			
Mar	6	1.5	14.0	0		6.4		30	27	3			
2015 Apr	13	1.8	59.0	0	11	11.9	1	40	32	3	61	11.3	0
May	13	2.7	85.0	0	122	11.9	3	70	55	4	76	12.4	0
Jun	14	3.6	85.0	0	128	10.4	4	90	61	3	167	13.7	14.3
Jul	15	4.5	85.0	0	129	11.1	5	100	71	3	171	14.1	19.9
Aug	19	4.5	85.0	0	118	11.9	5	90	46	3	182	14.7	62.6
Sep	10	3.6	65.0	0	47	12.5	2	70	15	3	120	15	17.1

99% Exceedence Forecast - Input Data

Inflows (TAF)		Trinity	Whiskeytown	Shasta	Folsom	New Melones	Oroville	Millerton
Oct			2	200	50		74	11.4
Nov			2	230	50		83	2.6
Dec			4	260	60		110	2.2
2016 Jan								
Feb								
Mar								
2015 Apr			16	205	36		96	4.8
May			8	130	62		57	17.8
Jun			4	100	35		65	10.3
Jul			2	100	33		71	37.8
Aug			1	116	40		70	39.1
Sep			1	120	34		57	37.7

River Releases		Trinity (cfs)	Clear Creek (cfs)	Goodwin (cfs)	Oroville (cfs)
Oct					950
Nov					950
Dec					950
2016 Jan					
Feb					
Mar					
2015 Apr					1150
May					2200
Jun					2100
Jul					2765
Aug					1450
Sep					800

Hydrology		Wilkin's Target (cfs)	Kes-Wilkin's Acc/Dep (cfs)	SJR Above Stan (TAF)	Sac Gross Acc/Dep (TAF)	Freeport Treatment Plant (TAF)	East Side Streams (cfs)	Misc. Creeks (TAF)	Yolo Bypass (TAF)	Transfer Inflow (TAF)	Delta Consumptive Use (TAF)	Delta Outflow (TAF)	X-Channel Gate
Oct					-25	12.4	210		0	0	-118	264	0
Nov					88	12.4	260		0	0	-55	358	0
Dec					137	13.3	160		0	0	-2	307	1
2016 Jan													
Feb													
Mar													
2015 Apr					80	12.0	185		0	0	-63	321	1
May					-290	12.1	163		0	0	-121	246	1
Jun					-306	11.5	168		0	0	-191	239	0
Jul					-420	12.2	163		0	0	-268	185	0
Aug					-278	12.5	163		0	0	-252	185	0
Sep					-40	12.3	168		0	0	-174	179	0

Demands (TAF)		Folsom Pumping	Folsom South Canal	OID/SSJID	New Melones CVP Contractors	FRSA Demand	CCWD	SWP NOD Demand	Delta Mendota Canal	Federal Dos Amigos	San Felipe	SWP SOD Contracts	San Joaquin Riparian	Friant Div. Ag/M&I
Oct						30	4	0				72	10.2	0.6
Nov						131	4	0				30	9.5	0.6
Dec						65	4	0				8	9.4	0.6
2016 Jan														
Feb														
Mar														
2015 Apr						11	6	0				64	11.3	1.5
May						122	4	6				57	12.4	1.8
Jun						128	4	1				72	13.7	1.4
Jul						129	4	3				80	14.1	4.5
Aug						118	4	1				108	14.7	5.7
Sep						47	4	0				64	15	2.7