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Sent: Friday, May 29, 2015 4:00 PM

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

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

Subject: Monthly Water Balance Information

Les,

Attached is the Monthly Water Balance information for May 2015. This includes projected hydrology for the current year and 2105 observed conditions February through April. The projected data is based on project operation forecasts and information prepared in May..

We did not complete a full 99% exceedence forecast for May and this information includes the available data for a May 1, 99% exceedence scenario. These forecasts include an assumed 160 TAF of water transfers from the Sacramento River diverters over the months of May, June, and July.

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	55					
24	70	41					

Deliveries

Values in TAF

SWP - North of Delta M&I Contract Deliveries

SWP - North of Delta Agricultural Contract Deliveries

SWP - South of Delta Sontract 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					
0	12	23					
39	66	76					
NA	NA	77					
1.3	6	11					
2	15 est.	7					
3	3	2					
18	36	26					
15	3	2					
2	6	7					
1	1	1					
12	17	25					
3	4	7					
1	5	6					
<1	<1	<1					
<1	<1	<1					
1	1	1					
3	5	6					

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	6281					
15,800	4980	5360					
870	636	845					
58	120	63					
221	71	30					

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	55					
63	9	7					
720	262	221					
168	65	50					
55	19	17					
338	123	83					

Reservoir Releases

Values in TAF

Trinity

Whiskeytown

Shasta

Folsom

New Melones

Oroville

Carr Powerplant Release

February	March	April	May	June	July	August	September
15	20	59					
62	14	12					
106	180	240					
51	56	43					
12	69	77					
53	50	74					
1	3	37					

Reservoir End of Month Storage

Values in TAF

Trinity

Whiskeytown

Shasta

Folsom

New Melones

Oroville

February	March	April	May	June	July	August	September
1147	1191	1184					
207	205	236					
2613	2689	2662					
564	572	576					
606	554	491					
1736	1794	1782					

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	2	74	7.8
Nov	14		2	230	50	2	83	10.1
Dec	22		4	260	60	2	110	14.6
2016 Jan								
Feb								
Mar								
Apr								
2015 May	34		8	140	58	20	60	3.5
Jun	13		4	125	38	10	68	6.3
Jul	7		2	116	41	10	76	65.7
Aug	4		1	112	46	11	76	79.3
Sep	2		1	109	37	10	69	3.7

River Releases

	Trinity (cfs)	Clear Creek (cfs)	Goodwin (cfs)	Oroville (cfs)
Oct	373	175	200	950
Nov	300	175	200	950
Dec	300	175	206	950
2016 Jan				
Feb				
Mar				
Apr				
2015 May	2924	216	150	2930
Jun	783	150	150	2800
Jul	450	120	150	2600
Aug	450	85	150	2050
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	3500	-750	34	40	13.3	210	29	0	0	-118	258	0
Nov	3500	-68	34	90	14	260	19	0	0	-5	303	0
Dec	3500	785	33	160	13.2	160	11.1	0	0	-2	307	1
2016 Jan												
Feb												
Mar												
Apr												
2015 May	3800	-3000	31	-340	12.2	179	2	0	0	-121	296	1
Jun	3800	-4850	16	-350	12.5	180	2	0	0	-191	286	0
Jul	3800	-5333	17	-435	12.3	120	2	0	0	-268	184	0
Aug	3800	-4245	14	-285	12.4	110	2	0	0	-252	184	0
Sep	3800	-1397	17	-30	12.4	160	2	0	0	-174	179	0

Demands (TAF)

	Folsom Pumping	Folsom South Canal	OID/SSIID	New Melones CVP Contractors	FRSA Demands	CCWD	SWP NOD Contractors	Delta Mendota Canal	Federal Dos Amigos	San Felipe	SWP SOD Contractors	San Joaquin Riparian	Friant Div. Ag/M&I
Oct	11	1.7	10.0	0	30	3.5	0	30	8	0.5	59	10.2	0.4
Nov	5	1.5	0.0	0	131	4.3	0	10	5	0.5	42	9.5	0.4
Dec	5	1.5	0.0	0	96	4.7	0	10	5	0.5	33	9.4	0.4
2016 Jan	4	1.1	0.0	0		4.7		0	5	0.5			
Feb	4	0.8	0.0	0		3.5		20	1	0.5			
Mar	5	1.2	20.0	0		3.5		20	27	1			
Apr	7	1.3	55.0	0		8.7		20	32	1			
2015 May	10	1.7	65.0	0	122	8.7	6	30	55	10.5	58	13.3	5.2
Jun	14	2.1	80.0	0	128	8.7	1	40	61	5	72	14.8	4.8
Jul	15	2.3	80.0	0	129	8.0	3	50	71	5.5	62	15.4	4.3
Aug	14	2.2	70.0	0	118	8.3	1	40	46	5	109	15.3	5.5
Sep	12	2.0	45.0	0	47	8.7	0	40	15	2.7	66	14.9	2.5

NOTE: 1) New Melones Reservoir inflow adapted from OID/SSIID data
 2) Forecast input data includes water assumed to be made available for transfer by the Sacramento River Settlement Contractors in May, June, and July

50% Exceedence Forecast - Input Data

Inflows (TAF)

	Trinity	Whiskeytown	Shasta	Folsom	New Melones	Oroville	Millerton
Oct	14	3	240	90	35	74	7
Nov	32	7	300	100	35	83	9
Dec	58	16	380	120	40	110	5
2016 Jan							
Feb							
Mar							
Apr							
2015 May	45	16	180	74	20	60	1.2
Jun	16	8	161	41	10	83	3.3
Jul	8	3	150	48	10	93	68
Aug	5	2	140	51	11	93	59
Sep	3	2	136	40	10	87	61

River Releases

	Trinity (cfs)	Clear Creek (cfs)	Goodwin (cfs)	Oroville (cfs)
Oct	373	200	200	950
Nov	300	200	200	950
Dec	300	175	200	950
2016 Jan				
Feb				
Mar				
Apr				
2015 May	2924	216	150	2930
Jun	783	150	150	2260
Jul	450	120	150	1250
Aug	450	120	150	1500
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	34	100	13.3	650	29	0	0	-118	184	0
Nov	4000	495	34	150	14	889	19	0	0	-55	208	1
Dec	4000	2495	33	330	13.2	1260	11.1	0	0	-2	215	1
2016 Jan												
Feb												
Mar												
Apr												
2015 May	3800	-3900	31	-250	12.2	325	2	0	0	-121	295	1
Jun	3800	-5277	16	-330	12.5	336	2	0	0	-191	286	0
Jul	3800	-6291	17	-420	12.3	325	2	0	0	-268	246	0
Aug	3800	-4553	14	-270	12.4	325	2	0	0	-252	184	0
Sep	3800	-1385	17	0	12.4	336	2	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 Contractors	San Joaquin Riparian	Friant Div. Ag/M&I
Oct	10	2.4	10.0	0	30	8.4	0	40	8	3	59	10.2	3
Nov	8	1.8	0.0	0	131	9.2	0	20	5	2	42	9.5	0
Dec	6	1.2	0.0	0	96	9.2	0	10	5	2	33	9.4	0
2016 Jan	6	1.2	0.0	0		7.0		10	5	2			
Feb	6	1.2	0.0	0		7.0		20	1	2			
Mar	6	1.5	20.0	0		6.4		20	27	3			
Apr	13	1.8	55.0	0		11.9		30	32	3			
2015 May	13	2.7	65.0	0	122	11.9	6	50	50	4	58	13.3	0
Jun	14	3.6	80.0	0	128	10.4	1	70	56	3	72	14.8	9.1
Jul	15	4.5	80.0	0	129	11.1	3	80	66	3	62	15.4	19.9
Aug	19	4.5	70.0	0	118	11.9	1	70	46	3	109	15.3	56.8
Sep	10	3.6	45.0	0	47	12.5	0	60	15	3	66	14.9	12.1

NOTE: 1) New Melones Reservoir inflow adapted from OID/SSJID data
 2) Forecast input data includes water assumed to be made available for transfer by the Sacramento River Settlement Contractors in May, June, and July

99% Exceedence Forecast - Input Data

Inflows (TAF)

	Trinity	Whiskeytown	Shasta	Folsom	New Melones	Oroville	Millerton
Oct				200	50	74	11.4
Nov				230	50	83	2.6
Dec				260	60	110	2.2
2016 Jan							
Feb							
Mar							
Apr							
2015 May				191	53	60	11.9
Jun				161	41	83	6.3
Jul				150	48	93	35.8
Aug				140	51	93	38
Sep				136	40	87	37

River Releases

	Trinity (cfs)	Clear Creek (cfs)	Goodwin (cfs)	Oroville (cfs)
Oct				950
Nov				950
Dec				950
2016 Jan				
Feb				
Mar				
Apr				
2015 May				2930
Jun				2260
Jul				1500
Aug				1250
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 (cfs)	X-Channel Gate
Oct				-25		10					4200	
Nov				88		15					5500	
Dec				137		10					5000	
2016 Jan												
Feb												
Mar												
Apr												
2015 May				-240		20					5300	
Jun				-330		20					4800	
Jul				-420		20					3000	
Aug				-270		20					3000	
Sep				0		20					3000	

Demands (TAF)

	Folsom Pumping	Folsom South Canal	OID/SS/ID	New Melones CVP Contractors	FRSA Demand	CCWD	SWP NOD Demand	Delta Mendota Canal	Federal Dos Amigos	San Felipe	SWP SOD Contractors	San Joaquin Riparian	Friant Div. Ag/M&I
Oct						30	0				59	10.2	0.4
Nov						131	0				42	9.5	0.4
Dec						96	0				33	9.4	0.4
2016 Jan													
Feb													
Mar													
Apr													
2015 May						122	6				58	13.3	5.2
Jun						128	1				72	14.8	4.8
Jul						129	3				62	15.4	4.3
Aug						118	1				109	15.3	15.5
Sep						47	0				66	14.9	2.5