
From: Yamanaka, Dan@DWR
Sent: Thursday, February 25, 2016 4:59 PM
To: Grober, Les@Waterboards
Cc: Stein, Russell@DWR; Rea, Maria@NOAA; Wilcox, Carl@Wildlife; George, Michael@Waterboards; Rico, Christine@Waterboards; Castleberry, Dan@fws; Garwin.Yip@noaa.gov; Riddle, Diane@Waterboards; Satkowski, Rich@Waterboards; Long, Kevin@Waterboards; RMILLIGAN@usbr.gov; Pettit, Tracy@DWR; Mizell, James@DWR; Leahigh, John@DWR; ekiteck@usbr.gov; PManza@usbr.gov; Hinojosa, Tracy@DWR; Allen, Kaylee; JSandberg@usbr.gov; Miller, Aaron@DWR; Giorgi, Bryant@DWR; Chu, Andy@DWR; Masier, Guy@DWR
Subject: Electronic Transmittal: Final TUC Order Accounting 2015
Attachments: Final TUC Order Accounting_February thru November 2015.pdf

Les--

Attached is a complete set of tables showing final accounting for the entire February-November 2015 period under the TUC Orders. We have reviewed the entire TUC Order period as a whole, and the volume of flow which was unavailable to meet the Bay-Delta standards in 2015 is substantially unchanged. (Only one small change was made to September's accounting value, but the final amount for the year did not change.) From February through November 2015, the total deficiency was approximately 910 TAF.

If you have any questions or would like more information, please contact me at (916) 574-0456 or Liz Kiteck at (916) 979-2684.

Thanks

Dan

Dan Yamanaka

Chief, Delta Compliance & Modeling Section

Operations Control Office

3310 El Camino Avenue, Suite 300

Sacramento, California 95821

(916) 574-0456 - Office

February 2015 Date	Historical Daily Outflow (cfs)	Historical 3-day Outflow (cfs)	Daily EC at CLL	Daily EC at CHP	14-day EC at CLL	14-day EC at CHP	TUCP in effect?			Daily Combined Exports (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
							X2 (CHP)	X2 (CLL)	DCC		(cfs)	(TAF)
2/1/2015	6,073	5,173	6.62	10.59	5.86	9.57		x		3,440	1,027	2.04
2/2/2015	5,901	5,581	6.43	10.20	5.95	9.65		x		3,463	1,199	2.38
2/3/2015	6,152	6,042	6.20	9.78	5.98	9.66		x		3,464	954	1.89
2/4/2015	7,194	6,416	6.52	10.03	6.02	9.67		x		2,473	0	0.00
2/5/2015	7,001	6,782	6.77	10.96	6.12	9.81		x		2,580	0	0.00
2/6/2015	7,197	7,131	6.85	11.93	6.24	10.02				2,593	0	0.00
2/7/2015	9,393	7,864	6.75	10.79	6.36	10.16				4,081	0	0.00
2/8/2015	18,243	11,611	5.23	9.75	6.37	10.24				5,184	0	0.00
2/9/2015	24,498	17,378	3.90	7.55	6.24	10.13				5,790	0	0.00
2/10/2015	39,822	27,521	1.46	3.72	5.92	9.71				5,885	0	0.00
2/11/2015	39,878	34,733	0.76	2.11	5.55	9.17				6,664	0	0.00
2/12/2015	36,707	38,802	0.51	1.31	5.16	8.56				6,904	0	0.00
2/13/2015	33,818	36,801	0.43	1.07	4.71	7.88				6,905	0	0.00
2/14/2015	29,485	33,337	0.40	1.20	4.20	7.21				5,806	0	0.00
2/15/2015	24,398	29,234	0.39	1.35	3.76	6.55				6,321	0	0.00
2/16/2015	20,306	24,730	0.43	1.56	3.33	5.94				6,313	0	0.00
2/17/2015	17,399	20,701	0.53	1.83	2.92	5.37				5,715	0	0.00
2/18/2015	14,977	17,561	0.50	1.52	2.49	4.76				5,149	0	0.00
2/19/2015	13,243	15,206	0.52	1.50	2.05	4.09				5,195	0	0.00
2/20/2015	11,699	13,306	0.55	1.60	1.60	3.35				5,158	0	0.00
2/21/2015	10,260	11,734	0.57	1.94	1.16	2.72				5,712	0	0.00
2/22/2015	10,228	10,729	0.84	1.98	0.84	2.16				5,177	0	0.00
2/23/2015	10,671	10,386	0.88	1.61	0.63	1.74				4,091	0	0.00
2/24/2015	9,866	10,255	0.71	1.75	0.57	1.60				4,085	0	0.00
2/25/2015	8,970	9,836	0.72	1.79	0.57	1.57				4,087	0	0.00
2/26/2015	7,558	8,798	0.79	2.13	0.59	1.63				4,891	0	0.00
2/27/2015	6,633	7,720	1.08	2.90	0.64	1.76				5,636	0	0.00
2/28/2015	5,805	6,665	1.25	2.94	0.70	1.89				5,641	0	0.00

Monthly Average 15,835

Total (TAF) 6.31

Running Total (TAF) 6.31

D1641 Standards		
Chipps X2	1 Day(s)	
EC (CHP)	2.64 umhos/cm	14-day/Daily
NDOI (CHP)	11,400 cfs	3-day
Collinsville X2	28 Day(s)	
EC (CLL)	2.64 umhos/cm	14-day/Daily
NDOI (CLL)	7,100 cfs	3-day
DCC Gates	Closed	

March 2015 Date	Historical Daily Outflow (cfs)	Historical 3-day Outflow (cfs)	Daily EC at CLL	Daily EC at CHP	14-day EC at CLL	14-day EC at CHP	Carry- Over used?	TUCP in effect?			Daily Combined Exports (cfs)	Total Additional Water Required to Meet All D- 1641 Objectives	
								X2 (CHP)	X2 (CLL)	DCC		(cfs)	(TAF)
3/1/2015	5,926	6,121	1.37	2.87	0.77	2.00					5,624	0	0.00
3/2/2015	5,923	5,884	1.65	3.85	0.85	2.16					5,123	0	0.00
3/3/2015	5,231	5,693	1.57	3.75	0.93	2.30					5,007	0	0.00
3/4/2015	5,411	5,521	1.68	3.75	1.01	2.45					4,964	0	0.00
3/5/2015	5,397	5,346	1.51	3.61	1.08	2.61					4,579	0	0.00
3/6/2015	5,359	5,389	1.71	3.97	1.17	2.77	x				4,397	0	0.00
3/7/2015	4,610	5,122	2.03	4.44	1.27	2.95	x				4,475	0	0.00
3/8/2015	4,680	4,883	2.46	5.14	1.39	3.18	x				3,961	0	0.00
3/9/2015	4,306	4,532	2.88	5.34	1.53	3.44	x				4,075	0	0.00
3/10/2015	4,183	4,389	3.04	5.61	1.70	3.72	x				4,078	0	0.00
3/11/2015	4,513	4,334	3.31	5.75	1.88	4.00	x				3,671	0	0.00
3/12/2015	5,485	4,727	3.00	5.43	2.04	4.24	x				3,785	0	0.00
3/13/2015	5,825	5,274	3.21	5.84	2.19	4.45	x				3,593	0	0.00
3/14/2015	5,104	5,471	3.38	6.35	2.34	4.69	x				3,588	0	0.00
3/15/2015	4,696	5,208	4.49	7.58	2.56	5.03	x				3,581	0	0.00
3/16/2015	5,625	5,142	4.75	7.72	2.79	5.31	x		x		2,382	1,475	2.92
3/17/2015	5,583	5,301	5.42	8.78	3.06	5.66	x		x		1,849	1,517	3.01
3/18/2015	5,562	5,590	5.19	8.40	3.31	6.00	x		x		1,439	1,538	3.05
3/19/2015	5,556	5,567	5.24	8.23	3.58	6.33	x		x		1,599	1,544	3.06
3/20/2015	5,345	5,487	5.60	8.85	3.86	6.68	x		x		1,450	1,755	3.48
3/21/2015	4,901	5,267	5.66	8.87	4.12	6.99	x		x		1,446	2,199	4.36
3/22/2015	4,897	5,047	5.67	9.18	4.35	7.28	x		x		1,488	2,203	4.37
3/23/2015	4,442	4,747	5.64	9.07	4.54	7.55	x		x		1,478	2,658	5.27
3/24/2015	4,668	4,669	5.67	9.01	4.73	7.79	x		x		1,487	6,732	13.35
3/25/2015	4,546	4,552	5.51	8.37	4.89	7.98	x		x		1,486	6,854	13.59
3/26/2015	4,524	4,579	5.22	8.18	5.05	8.17		x	x		1,478	6,876	13.64
3/27/2015	4,536	4,535	5.60	8.67	5.22	8.37		x	x		1,480	6,864	13.61
3/28/2015	4,351	4,470	5.45	8.48	5.36	8.53		x	x		1,470	7,049	13.98
3/29/2015	4,865	4,584	5.71	8.60	5.45	8.60		x	x		1,460	6,535	12.96
3/30/2015	4,240	4,486	6.14	9.26	5.55	8.71		x	x		1,481	7,160	14.20
3/31/2015	4,111	4,405	6.41	10.08	5.62	8.80		x	x		1,482	7,289	14.46

Monthly Average 4,981

Total (TAF) 139.34

Running Total (TAF) 145.64

D1641 Standards		
Chipps X2	31 Day(s)	
Carry-Over	20 Day(s)	
EC (CHP)	2.64 umhos/cm	14-day/Daily
NDOI (CHP)	11,400 cfs	3-day
Collinsville X2	31 Day(s)	
EC (CLL)	2.64 umhos/cm	14-day/Daily
NDOI (CLL)	7,100 cfs	3-day
DCC Gates	Closed	

April 2015 Date	Historical Daily Outflow (cfs)	Historical 3-day Outflow (cfs)	Daily EC at CLL	Daily EC at CHP	14-day EC at CLL	14-day EC at CHP	Carry- Over used?	TUCP in effect?				Daily Combined Exports (cfs)	Historical Emmaton (14- day EC)	Total Additional Water Required to Meet All D- 1641 Objectives	
								X2 (CHP)	X2 (CLL)	Emmaton EC	DCC			(cfs)	(TAF)
4/1/2015	4,110	4,154	5.49	8.61	5.64	8.82			x			1,482	1.25	2,990	5.93
4/2/2015	4,099	4,107	5.55	8.24	5.67	8.82			x			1,459	1.23	3,001	5.95
4/3/2015	4,112	4,107	5.59	8.72	5.66	8.81			x			1,467	1.24	2,988	5.93
4/4/2015	3,478	3,896	6.26	9.78	5.71	8.87			x			1,458	1.26	3,622	7.19
4/5/2015	3,529	3,706	6.61	10.28	5.77	8.95			x			1,474	1.28	3,571	7.08
4/6/2015	4,592	3,866	6.48	10.12	5.83	9.03			x			1,491	1.30	2,508	4.98
4/7/2015	5,401	4,507	7.38	11.46	5.96	9.20			x			1,473	1.36	1,699	3.37
4/8/2015	9,748	6,580	6.56	9.76	6.03	9.30		x	x			1,481	1.38	1,652	3.28
4/9/2015	10,785	8,645	6.22	9.47	6.10	9.40		x				1,501	1.40	615	1.22
4/10/2015	9,556	10,030	6.70	10.04	6.18	9.49		x				1,481	1.43	1,844	3.66
4/11/2015	8,993	9,778	6.81	10.13	6.28	9.61						1,453	1.46	0	0.00
4/12/2015	8,808	9,119	6.37	9.50	6.33	9.68						1,504	1.47	0	0.00
4/13/2015	4,738	7,513	6.83	9.65	6.38	9.70						1,395	1.48	2,362	4.68
4/14/2015	4,220	5,922	6.35	9.29	6.37	9.65			x			1,267	1.46	2,880	5.71
4/15/2015	5,259	4,739	5.96	8.82	6.40	9.66			x			1,481	1.45	1,841	3.65
4/16/2015	4,960	4,813	6.37	9.30	6.46	9.74			x			1,477	1.49	2,140	4.24
4/17/2015	3,879	4,700	7.20	10.59	6.58	9.87			x			1,474	1.54	3,221	6.39
4/18/2015	3,798	4,212	8.25	11.88	6.72	10.02			x			1,472	1.60	3,302	6.55
4/19/2015	3,451	3,709	9.49	13.20	6.93	10.23			x			1,486	1.69	3,649	7.24
4/20/2015	3,319	3,522	10.04	13.94	7.18	10.50			x			1,506	1.82	3,781	7.50
4/21/2015	3,889	3,553	10.47	14.36	7.40	10.71			x			1,469	1.94	3,211	6.37
4/22/2015	3,644	3,617	9.42	13.01	7.61	10.94			x			1,469	2.06	3,456	6.86
4/23/2015	3,751	3,761	9.69	13.38	7.85	11.22			x			1,364	2.18	3,349	6.64
4/24/2015	2,821	3,405	9.82	13.99	8.08	11.50			x			1,270	2.32	4,279	8.49
4/25/2015	2,894	3,155	9.30	13.17	8.25	11.72			x			1,258	2.42	4,206	8.34
4/26/2015	6,426	4,047	8.26	11.88	8.39	11.89			x			1,401	2.49	674	1.34
4/27/2015	7,293	5,538	7.69	11.03	8.45	11.99			x			1,428	2.50	0	0.00
4/28/2015	6,736	6,818	8.45	12.02	8.60	12.18			x			1,454	2.58	364	0.72
4/29/2015	6,060	6,696	8.59	12.06	8.79	12.42			x			1,457	2.68	1,040	2.06
4/30/2015	6,433	6,409	8.63	12.02	8.95	12.61			x			1,475	2.74	667	1.32

Monthly Average 5,359

Total (TAF) 136.68
Running Total (TAF) 282.33

D1641 Standards		
Chippis X2	1 Day(s)	
Carry-Over	0 Day(s)	
EC (CHP)	2.64 umhos/cm	14-day/Daily
NDOI (CHP)	11,400 cfs	3-day
Collinsville X2	30 Day(s)	
EC (CLL)	2.64 umhos/cm	14-day/Daily
NDOI (CLL)	7,100 cfs	3-day
Emmaton	2.78 umhos/cm	14-day
DCC Gates	Closed	

May 2015 Date	Historical Daily Outflow (cfs)	Historical 3-day Outflow (cfs)	Daily EC at CLL	14-day EC at CLL	Historical Vernalis (cfs)	TUCP in effect?				Daily Combined Exports (cfs)	Historical Emmaton (14-day EC)	Modeled Emmaton (14-day EC)	Additional Vernalis Required (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
						X2 (CLL)	Emmaton EC	DCC	Vernalis					(cfs)	(TAF)
5/1/2015	4,240	5,577	9.68	9.13	396	x	x		x	1,195	2.81	0.89	314	2,546	5.67
5/2/2015	3,649	4,774	11.32	9.35	387	x	x		x	1,016	2.90	0.89	323	3,128	6.84
5/3/2015	4,093	3,994	12.08	9.53	392	x	x		x	441	3.00	0.89	318	2,689	5.96
5/4/2015	3,962	3,901	11.98	9.67	397	x	x		x	808	3.08	0.89	313	2,825	6.22
5/5/2015	4,918	4,324	11.00	9.71	420	x	x		x	489	3.09	0.89	290	1,893	4.33
5/6/2015	4,866	4,582	10.88	9.81	411	x	x		x	855	3.15	0.91	299	1,935	4.43
5/7/2015	5,246	5,010	10.63	9.88	408	x	x		x	399	3.19	0.92	302	1,552	3.68
5/8/2015	5,401	5,171	10.30	9.91	399	x	x		x	877	3.20	0.94	311	1,388	3.37
5/9/2015	5,800	5,482	11.01	10.04	405	x	x		x	357	3.25	0.96	305	995	2.58
5/10/2015	5,387	5,529	10.67	10.21	452	x	x		x	772	3.35	0.98	258	1,455	3.40
5/11/2015	5,319	5,502	10.12	10.38	458	x	x		x	479	3.47	0.99	252	1,529	3.53
5/12/2015	4,859	5,188	9.96	10.49	449	x	x		x	883	3.53	0.99	261	1,981	4.45
5/13/2015	5,620	5,266	9.70	10.57	401	x	x		x	551	3.57	1.00	309	1,171	2.94
5/14/2015	4,994	5,157	9.83	10.65	377	x	x		x	926	3.63	1.00	333	1,773	4.18
5/15/2015	5,964	5,526	10.29	10.70	409	x	x		x	540	3.68	1.01	301	835	2.25
5/16/2015	5,447	5,468	10.23	10.62	413	x	x		x	984	3.68	1.03	297	1,356	3.28
5/17/2015	6,090	5,834	10.70	10.52	408	x	x		x	519	3.65	1.05	302	708	2.00
5/18/2015	5,476	5,671	10.82	10.44	440	x	x		x	991	3.61	1.08	270	1,353	3.22
5/19/2015	5,866	5,811	10.69	10.42	467	x	x		x	738	3.58	1.10	243	991	2.45
5/20/2015	6,199	5,847	10.73	10.40	450	x	x		x	746	3.56	1.11	260	641	1.79
5/21/2015	6,150	6,072	10.61	10.40	422	x	x		x	718	3.53	1.12	288	662	1.88
5/22/2015	6,422	6,257	9.83	10.37	384	x	x		x	718	3.45	1.12	326	352	1.34
5/23/2015	6,055	6,209	9.09	10.23	385	x	x		x	725	3.33	1.13	325	720	2.07
5/24/2015	6,057	6,178	8.87	10.10	386	x	x		x	726	3.26	1.12	324	719	2.07
5/25/2015	5,656	5,923	8.73	10.00	411	x	x		x	734	3.20	1.12	299	1,145	2.86
5/26/2015	5,160	5,624	9.05	9.94	435	x	x		x	1,218	3.15	1.12	275	1,665	3.85
5/27/2015	4,710	5,175	8.80	9.88	422	x	x		x	1,233	3.10	1.11	288	2,102	4.74
5/28/2015	4,277	4,716	8.74	9.80	385	x	x		x	1,472	3.04	1.09	325	2,498	5.60
5/29/2015	4,460	4,482	8.91	9.70	331	x	x		x	977	2.96	1.07	379	2,261	5.24
5/30/2015	3,857	4,198	9.22	9.63	323	x	x		x	1,402	2.90	1.04	387	2,856	6.43
5/31/2015	3,903	4,073	9.82	9.56	254	x	x		x	980	2.85	1.01	456	2,740	6.34

Monthly Average 5,165 403 Total (TAF) 119.00
Running Total (TAF) 401.33

D1641 Standards	
Chipps X2	0 Day(s)
Collinsville X2	31 Day(s)
EC (CLL)	2.64 umhos/cm 14-day/Daily
NDOI (CLL)	7,100 cfs 3-day
Emmaton EC	2.78 umhos/cm 14-day
DCC Gates	Closed
Vernalis	710 cfs 3-day

June 2015 Date	Historical Daily Outflow (cfs)	Historical 3-day Outflow (cfs)	Daily EC at CLL	14-day EC at CLL	Historical Vernalis (cfs)	TUCP in effect?			Daily Combined Exports (cfs)	Historical Emmaton (14-day EC)	Modeled Emmaton (14-day EC)	Additional Vernalis Required (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
						X2 (CLL)	Emmaton EC	Vernalis					(cfs)	(TAF)
6/1/2015	3,264	3,675	9.68	9.13	281	x	x	x	994	2.82	1.87	429	3,407	7.61
6/2/2015	4,590	3,919	11.32	9.35	320	x	x	x	493	2.81	1.86	390	2,120	4.98
6/3/2015	3,996	3,950	12.08	9.53	319	x	x	x	1,015	2.80	1.84	391	2,712	6.16
6/4/2015	4,426	4,338	11.98	9.67	294	x	x	x	433	2.81	1.82	416	2,257	5.30
6/5/2015	4,338	4,254	11.00	9.71	250	x	x	x	919	2.91	1.88	460	2,302	5.48
6/6/2015	4,892	4,552	10.88	9.81	216	x	x	x	487	3.07	2.00	494	1,715	4.38
6/7/2015	4,442	4,557	10.63	9.88	228	x	x	x	969	3.16	2.05	482	2,177	5.27
6/8/2015	5,533	4,955	10.30	9.91	260	x	x	x	447	3.22	2.06	450	1,117	3.11
6/9/2015	4,835	4,936	11.01	10.04	272	x	x	x	885	3.29	2.10	438	1,826	4.49
6/10/2015	4,899	5,089	10.67	10.21	238	x	x	x	432	3.34	2.12	472	1,729	4.37
6/11/2015	5,841	5,192	10.12	10.38	201	x	x	x	1,007	3.40	2.15	509	749	2.50
6/12/2015	5,384	5,375	9.96	10.49	180	x	x	x	550	3.47	2.19	530	1,186	3.40
6/13/2015	4,470	5,232	9.70	10.57	183	x	x	x	1,021	3.55	2.25	527	2,103	5.22
6/14/2015	4,357	4,737	9.83	10.65	174	x	x	x	556	3.66	2.33	536	2,207	5.44
6/15/2015	3,971	4,266	10.29	10.70	166	x	x	x	976	3.76	2.39	545	2,584	6.21
6/16/2015	3,731	4,020	10.23	10.62	158	x	x	x	472	3.83	2.43	552	2,818	6.68
6/17/2015	3,371	3,691	10.70	10.52	147	x	x	x	951	3.89	2.46	563	3,166	7.40
6/18/2015	3,697	3,600	10.82	10.44	153	x	x	x	464	3.97	2.50	557	2,847	6.75
6/19/2015	3,481	3,517	10.69	10.42	168	x	x	x	819	3.99	2.49	542	3,076	7.18
6/20/2015	3,792	3,657	10.73	10.40	175	x	x	x	572	3.97	2.44	535	2,773	6.56
6/21/2015	3,595	3,623	10.61	10.40	166	x	x	x	556	4.00	2.44	544	2,961	6.95
6/22/2015	3,459	3,615	9.83	10.37	156	x	x	x	602	4.01	2.43	554	3,087	7.22
6/23/2015	3,813	3,622	9.09	10.23	156	x	x	x	604	3.99	2.37	554	2,733	6.52
6/24/2015	3,471	3,581	8.87	10.10	143	x	x	x	597	4.00	2.36	567	3,062	7.20
6/25/2015	3,281	3,522	8.73	10.00	122	x	x	x	620	4.01	2.34	588	3,231	7.58
6/26/2015	3,271	3,341	9.05	9.94	135	x	x	x	661	4.04	2.35	575	3,254	7.60
6/27/2015	3,127	3,226	8.80	9.88	156	x	x	x	702	4.04	2.33	554	3,419	7.88
6/28/2015	2,963	3,120	8.74	9.80	128	x	x	x	702	4.00	2.27	582	3,555	8.21
6/29/2015	3,113	3,068	8.91	9.70	154	x	x	x	600	3.98	2.22	556	3,431	7.91
6/30/2015	3,484	3,187	9.22	9.63	179	x	x	x	593	3.98	2.20	531	3,085	7.17

Monthly Average	4,030				196								Total (TAF)	182.70
													Running Total (TAF)	584.03

D1641 Standards		
Chippis X2	0 Day(s)	
Collinsville X2	30 Day(s)	
EC (CLL)	2.64 umhos/cm	14-day/Daily
NDOI (CLL)	7,100 cfs	3-day
Emmaton EC	2.78 umhos/cm	14-day
Vernalis	710 cfs	3-day

July 2015 Date	Historical Daily Outflow (cfs)	Historical 7-day Outflow (cfs)	TUCP in effect?		Daily Combined Exports (cfs)	Historical Emmaton (14-day EC)	Modeled Emmaton (14-day EC)	Additional Outflow Needed (cfs)	Additional Water for Emmaton (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
			NDOI	Emmaton EC						(cfs)	(TAF)
7/1/2015	3,512	3,250	x	x	699	4.01	2.21	488	4,500	4,988	9.89
7/2/2015	3,153	3,232	x	x	701	4.06	2.24	847	4,500	5,347	10.61
7/3/2015	2,809	3,166	x	x	696	4.17	2.31	1,191	5,000	6,191	12.28
7/4/2015	2,928	3,137	x	x	696	4.30	2.40	1,072	5,000	6,072	12.04
7/5/2015	2,899	3,128	x	x	696	4.46	2.49	1,101	5,000	6,101	12.10
7/6/2015	2,701	3,069	x	x	699	4.62	2.58	1,299	5,000	6,299	12.49
7/7/2015	3,312	3,045	x	x	548	4.74	2.64	688	5,000	5,688	11.28
7/8/2015	3,072	2,982	x	x	546	4.89	2.72	928	5,000	5,928	11.76
7/9/2015	2,854	2,939	x	x	543	5.03	2.78	1,146	5,000	6,146	12.19
7/10/2015	3,498	3,038	x	x	554	5.10	2.77	502	5,000	5,502	10.91
7/11/2015	3,851	3,170	x	x	556	5.15	2.74	149	4,500	4,649	9.22
7/12/2015	3,722	3,287	x	x	557	5.21	2.73	278	4,500	4,778	9.48
7/13/2015	4,018	3,475	x	x	546	5.23	2.69	0	0	0	0.00
7/14/2015	4,169	3,598	x	x	556	5.27	2.67	0	0	0	0.00
7/15/2015	3,907	3,717	x	x	554	5.27	2.62	93	0	93	0.18
7/16/2015	3,881	3,864	x	x	527	5.27	2.58	119	0	119	0.24
7/17/2015	3,681	3,890	x	x	536	5.24	2.54	319	0	319	0.63
7/18/2015	4,138	3,931	x	x	531	5.20	2.50	0	0	0	0.00
7/19/2015	4,201	3,999	x	x	540	5.03	2.35	0	0	0	0.00
7/20/2015	4,388	4,052	x	x	537	4.88	2.25	0	0	0	0.00
7/21/2015	3,360	3,937	x	x	551	4.79	2.20	640	0	640	1.27
7/22/2015	3,358	3,858	x	x	305	4.67	2.14	642	0	642	1.27
7/23/2015	3,148	3,753	x	x	309	4.53	2.07	852	0	852	1.69
7/24/2015	3,079	3,667	x	x	644	4.39	2.00	921	0	921	1.83
7/25/2015	3,025	3,508	x	x	649	4.26	1.95	975	0	975	1.93
7/26/2015	3,183	3,363	x	x	649	4.16	1.92	817	0	817	1.62
7/27/2015	2,775	3,132	x	x	630	4.09	1.93	1,225	0	1,225	2.43
7/28/2015	3,509	3,154	x	x	631	4.03	1.94	491	0	491	0.97
7/29/2015	3,364	3,155	x	x	635	4.02	1.99	636	0	636	1.26
7/30/2015	3,357	3,185	x	x	621	4.03	2.05	643	0	643	1.28
7/31/2015	3,521	3,248	x	x	621	4.05	2.12	479	0	479	0.95

Monthly Average 3,431

Total (TAF) 151.82

D1641 Standards		
Emmaton EC	2.78 umhos/cm	14-day
NDOI	4,000 cfs	Monthly

Running Total (TAF) 735.85

August 2015 Date	Historical Daily Outflow (cfs)	Historical 7-day Outflow (cfs)	TUCP in effect?	Daily Combined Exports (cfs)	Historical Emmaton (14-day EC)	Modeled Emmaton (14-day EC)	Additional Water for Emmaton (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
			Emmaton EC					(cfs)	(TAF)
8/1/2015	3,908	3,374	x	631	4.07	2.17	3,500	3,500	6.94
8/2/2015	3,823	3,465	x	633	4.18	2.29	3,500	3,500	6.94
8/3/2015	3,637	3,589	x	639	4.31	2.41	3,500	3,500	6.94
8/4/2015	3,726	3,619	x	638	4.39	2.47	4,000	4,000	7.93
8/5/2015	3,653	3,661	x	629	4.41	2.47	4,000	4,000	7.93
8/6/2015	3,947	3,745	x	619	4.44	2.47	3,500	3,500	6.94
8/7/2015	3,791	3,784	x	638	4.54	2.54	3,500	3,500	6.94
8/8/2015	3,887	3,781	x	641	4.62	2.60	3,500	3,500	6.94
8/9/2015	3,821	3,780	x	647	4.64	2.60	0	0	0.00
8/10/2015	3,877	3,815	x	638	4.68	2.63	0	0	0.00
8/11/2015	3,605	3,797	x	638	4.71	2.65	0	0	0.00
8/12/2015	3,550	3,783	x	635	4.65	2.61	0	0	0.00
8/13/2015	3,804	3,762	x	630	4.53	2.50	0	0	0.00
8/14/2015	3,745	3,756	x	621	4.38	2.39	0	0	0.00
8/15/2015	3,714	3,731	x	626	4.19	2.22	0	0	0.00
8/16/2015	3,505	3,686		638	4.01	2.09	0	0	0.00
8/17/2015	2,964	3,556		775	3.88	2.00	0	0	0.00
8/18/2015	2,528	3,402		721	3.85	2.02	0	0	0.00
8/19/2015	1,700	3,137		880	3.89	2.12	0	0	0.00
8/20/2015	1,965	2,874		882	3.93	2.20	0	0	0.00
8/21/2015	2,133	2,644		890	3.92	2.25	0	0	0.00
8/22/2015	1,887	2,383		896	3.90	2.27	0	0	0.00
8/23/2015	2,313	2,213		888	3.88	2.30	0	0	0.00
8/24/2015	2,584	2,159		868	3.80	2.28	0	0	0.00
8/25/2015	2,753	2,191		1,272	3.71	2.24	0	0	0.00
8/26/2015	3,195	2,404		1,775	3.66	2.24	0	0	0.00
8/27/2015	3,231	2,585		1,857	3.63	2.25	0	0	0.00
8/28/2015	1,613	2,511		3,846	3.62	2.27	0	0	0.00
8/29/2015	1,730	2,489		3,941	3.66	2.35	0	0	0.00
8/30/2015	1,694	2,400		4,150	3.68	2.40	0	0	0.00
8/31/2015	1,644	2,266		4,531	3.66	2.41	0	0	0.00

Monthly Average 3,030

Total (TAF) 57.52

D1641 Standards	
Emmaton EC	2.78 umhos/cm
NDOI	3,000 cfs

Running Total (TAF) 793.37

September 2015 Date	Historical Daily Outflow (cfs)	Historical 7-day Outflow (cfs)	TUCP in effect?	Daily Combined Exports (cfs)	Daily Rio Vista (cfs)	7-day Rio Vista (cfs)	Additional Water for Rio Vista (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
			Rio Vista					(cfs)	(TAF)
9/1/2015	3,908	2,243	x	631	3,268	3,242	0	0	0.00
9/2/2015	3,823	2,217	x	633	3,117	3,277	0	0	0.00
9/3/2015	3,637	2,158	x	639	3,006	3,285	0	0	0.00
9/4/2015	3,726	2,363	x	638	3,216	3,283	0	0	0.00
9/5/2015	3,653	2,514	x	629	3,022	3,231	0	0	0.00
9/6/2015	3,947	2,715	x	619	3,235	3,195	0	0	0.00
9/7/2015	3,791	2,889	x	638	3,088	3,136	0	0	0.00
9/8/2015	3,887	2,926	x	641	3,072	3,108	0	0	0.00
9/9/2015	3,821	2,915	x	647	3,074	3,102	0	0	0.00
9/10/2015	3,877	2,919	x	638	3,041	3,107	0	0	0.00
9/11/2015	3,605	2,909	x	638	3,042	3,082	0	0	0.00
9/12/2015	3,550	2,951	x	635	3,033	3,083	0	0	0.00
9/13/2015	3,804	2,944	x	630	2,965	3,045	49	49	0.10
9/14/2015	3,745	2,961	x	621	2,869	3,014	185	185	0.37
9/15/2015	3,714	2,997	x	626	2,832	2,979	237	237	0.47
9/16/2015	3,505	3,077	x	638	3,011	2,970	0	0	0.00
9/17/2015	2,964	3,236	x	775	3,341	3,013	0	0	0.00
9/18/2015	2,528	3,356	x	721	3,198	3,035	0	0	0.00
9/19/2015	1,700	3,428	x	880	2,992	3,030	11	11	0.02
9/20/2015	1,965	3,585	x	882	2,856	3,014	204	204	0.40
9/21/2015	2,133	3,801	x	890	2,810	3,006	268	268	0.53
9/22/2015	1,887	3,969	x	896	2,615	2,975	545	545	1.08
9/23/2015	2,313	4,051	x	888	2,475	2,898	742	742	1.47
9/24/2015	2,584	4,177	x	868	3,020	2,852	0	0	0.00
9/25/2015	2,753	4,309	x	1,272	2,933	2,814	95	95	0.19
9/26/2015	3,195	4,418	x	1,775	2,661	2,767	479	479	0.95
9/27/2015	3,231	4,508	x	1,857	2,940	2,779	85	85	0.17
9/28/2015	1,613	4,512	x	3,846	2,759	2,772	341	341	0.68
9/29/2015	1,730	4,504	x	3,941	2,516	2,758	685	685	1.36
9/30/2015	1,694	4,555	x	4,150	2,626	2,779	529	529	1.05

Monthly Average	3,076				2,954			Total (TAF)	8.84
								Running Total (TAF)	802.21

D1641 Standards	
Rio Vista Flow	3,000 cfs
NDOI	3,000 cfs

October 2015 Date	Historical Daily Outflow (cfs)	Historical 7-day Outflow (cfs)	TUCP in effect?	Daily Combined Exports (cfs)	Daily Rio Vista (cfs)	7-day Rio Vista (cfs)	Additional Water for Rio Vista (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
			Rio Vista					(cfs)	(TAF)
10/1/2015	4,787	4,548	x	1,037	2,889	2,760	158	158	0.31
10/2/2015	6,227	4,760	x	1,055	3,169	2,794	0	0	0.00
10/3/2015	6,483	5,064	x	1,076	3,317	2,888	0	0	0.00
10/4/2015	5,673	5,193	x	1,077	2,738	2,859	371	371	0.73
10/5/2015	6,399	5,461	x	1,076	3,243	2,928	0	0	0.00
10/6/2015	6,383	5,769	x	1,069	3,211	3,027	0	0	0.00
10/7/2015	4,815	5,824	x	1,074	2,775	3,049	318	318	0.63
10/8/2015	4,768	5,821	x	1,080	2,733	3,027	378	378	0.75
10/9/2015	4,776	5,614	x	1,070	2,716	2,962	402	402	0.80
10/10/2015	4,856	5,381	x	1,072	2,726	2,877	387	387	0.77
10/11/2015	3,615	5,088	x	1,870	2,386	2,827	868	868	1.72
10/12/2015	4,166	4,768	x	1,878	2,776	2,760	317	317	0.63
10/13/2015	4,277	4,468	x	1,883	2,826	2,705	247	247	0.49
10/14/2015	3,957	4,345	x	1,886	2,627	2,684	528	528	1.05
10/15/2015	3,649	4,185	x	1,898	2,418	2,639	823	823	1.63
10/16/2015	3,964	4,069	x	1,890	2,577	2,619	598	598	1.19
10/17/2015	4,416	4,006	x	1,893	2,745	2,622	360	360	0.71
10/18/2015	5,160	4,227	x	1,299	2,698	2,667	427	427	0.85
10/19/2015	5,503	4,418	x	1,061	2,808	2,671	271	271	0.54
10/20/2015	5,674	4,617	x	1,104	3,058	2,705	0	0	0.00
10/21/2015	5,476	4,834	x	1,146	3,067	2,767	0	0	0.00
10/22/2015	4,620	4,973	x	1,194	2,627	2,797	527	527	1.05
10/23/2015	4,908	5,108	x	1,242	2,742	2,821	364	364	0.72
10/24/2015	4,811	5,164	x	1,240	2,567	2,796	612	612	1.21
10/25/2015	4,512	5,072	x	1,245	2,433	2,758	802	802	1.59
10/26/2015	3,983	4,855	x	1,239	2,067	2,652	1,319	1,319	2.62
10/27/2015	4,619	4,704	x	1,233	2,138	2,520	1,219	1,219	2.42
10/28/2015	4,935	4,627	x	1,225	2,035	2,373	1,365	1,365	2.71
10/29/2015	5,328	4,728	x	1,219	2,008	2,284	1,403	1,403	2.78
10/30/2015	5,850	4,862	x	1,226	3,680	2,418	735	735	1.46
10/31/2015	5,065	4,899	x	1,468	3,343	2,529	0	0	0.00

Monthly Average 4,953 2,727 Total (TAF) 29.35

D1641 Standards	
Rio Vista Flow	3,000 cfs
NDOI	3,000 cfs

Running Total (TAF) 831.56

November 2015 Date	Historical Daily Outflow (cfs)	Historical 7-day Outflow (cfs)	TUCP in effect?	Daily Combined Exports (cfs)	Daily Rio Vista (cfs)	7-day Rio Vista (cfs)	Additional Water for Rio Vista (cfs)	Total Additional Water Required to Meet All D-1641 Objectives	
			Rio Vista					(cfs)	(TAF)
11/1/2015	4,794	4,939	x	1,527	2,066	2,477	2,029	2,029	4.02
11/2/2015	5,630	5,174	x	1,494	2,443	2,530	1,495	1,495	2.97
11/3/2015	9,574	5,882	x	2,325	3,595	3,069	0	0	0.00
11/4/2015	10,219	6,637	x	2,476	4,037	3,027	0	0	0.00
11/5/2015	9,802	7,276	x	2,888	3,913	3,297	0	0	0.00
11/6/2015	8,765	7,693	x	2,889	3,350	3,250	212	212	0.42
11/7/2015	7,707	8,070	x	2,889	3,026	3,204	670	670	1.33
11/8/2015	2,538	7,748	x	2,890	1,684	3,150	2,569	2,569	5.10
11/9/2015	3,083	7,384	x	2,898	1,813	3,060	2,386	2,386	4.73
11/10/2015	4,937	6,721	x	2,894	2,468	2,899	1,459	1,459	2.89
11/11/2015	5,680	6,073	x	2,894	3,034	2,755	659	659	1.31
11/12/2015	5,680	5,484	x	2,889	2,905	2,611	841	841	1.67
11/13/2015	5,553	5,025	x	2,890	4,388	2,760	0	0	0.00
11/14/2015	4,653	4,589	x	2,900	3,535	2,832	0	0	0.00
11/15/2015	2,701	4,612	x	2,910	2,000	2,877	2,122	2,122	4.21
11/16/2015	3,210	4,630	x	2,900	1,991	2,903	2,134	2,134	4.23
11/17/2015	5,605	4,726	x	2,383	3,329	3,026	242	242	0.48
11/18/2015	4,129	4,504	x	2,377	2,375	2,932	1,592	1,592	3.16
11/19/2015	3,795	4,235	x	2,446	3,617	3,033	0	0	0.00
11/20/2015	3,929	4,003	x	2,411	4,576	3,060	0	0	0.00
11/21/2015	2,786	3,736	x	2,412	2,745	2,947	1,067	1,067	2.12
11/22/2015	4,067	3,931	x	1,116	1,876	2,930	2,296	2,296	4.55
11/23/2015	3,697	4,001	x	1,096	1,611	2,876	2,672	2,672	5.30
11/24/2015	3,534	3,705	x	1,096	1,491	2,613	2,841	2,841	5.63
11/25/2015	4,130	3,705	x	1,095	1,547	2,495	2,762	2,762	5.48
11/26/2015	5,003	3,878	x	1,087	2,314	2,309	1,677	1,677	3.33
11/27/2015	4,934	4,022	x	1,087	2,267	1,979	1,744	1,744	3.46
11/28/2015	4,882	4,321	x	1,081	2,238	1,906	1,784	1,784	3.54
11/29/2015	4,590	4,396	x	1,096	2,082	1,936	2,005	2,005	3.98
11/30/2015	4,177	4,464	x	1,095	1,979	1,988	2,152	2,152	4.27

Monthly Average	5,126				2,676			Total (TAF)	78.17
								Running Total (TAF)	909.73

D1641 Standards	
NDOI	3,500 cfs
DCC Gates closed	up to 45 Days
Rio Vista	3,000 cfs