

Table 1: D1641 Vernalis Flow Requirement and Recorded Flows - CFS (with VAMP incorporated in requirement)

Pulse Target	Year	Feb		Mar		Apr Non-Pulse		Apr Pulse		April Meld		May Pulse		May Non-Pulse		May Meld		Jun	
		Req	Actual	Req	Actual	Req	Actual	Req	Actual	Req	Actual	Req	Actual	Req	Actual	Req	Actual	Req	Actual
3,200	2003	2,280	1,879	1,140	2,193	1,126	2,045	3,200	3,213	2,232	2,668	3,200	3,233	2,224	2,055	2,696	2,625	2,280	2,034
3,200	2004	2,280	2,201	2,280	3,361	2,280	2,380	3,200	3,075	2,771	2,751	3,200	3,240	1,864	2,091	2,510	2,647	1,420	1,404
>7,000	2005	3,420	5,303	3,420	8,065	3,420	12,729	7,000	7,899	5,329	10,060	7,000	8,599	3,295	12,104	5,088	10,410	3,420	9,979
>7,000	2006	3,420	6,458	3,420	11,700	3,420	24,414	7,000	31,019	5,329	27,940	7,000	27,900	3,420	24,325	5,152	26,050	3,420	15,690
3,200	2007	863	2,534	2,280	2,555	1,109	1,755	3,200	2,802	2,224	2,225	3,200	3,141	710	2,896	1,915	2,898	710	1,745
3,200	2008	2,280	2,369	2,280	2,115	2,022	2,014	3,200	2,754	2,650	2,409	3,200	3,239	724	2,339	1,922	2,755	724	1,033
Dry Yr Off	2009	1,048	1,427	1,140	1,422	2,280	1,166	2,000	1,767	2,131	1,516	2,000	2,467	1,642	1,813	1,815	2,130	2,137	1,099
Post VAMP	2010	2,280	2,426	2,280	2,934	2,194	3,239	5,394	4,944	3,901	4,277	6,937	5,332	3,337	4,476	5,079	5,065	2,861	4,000
Post VAMP	2011	3,420	8,699	3,420	13,640	3,420	29,293	8,620	23,813	6,193	26,380	8,620	14,480	3,420	10,931	5,936	12,650	3,377	10,660
Post VAMP	2012	1,048	1,584	710	1,615	1,140	2,250	3,540	2,717	2,420	2,499	4,880	3,529	2,280	2,446	3,538	2,992	1,420	1,592
Post VAMP	2013	2,280	2,230	756	1,510	1,054	1,417	3,454	2,814	2,334	2,162	3,124	3,604	724	1,113	1,885	2,318	710	737
Post VAMP	2014	710	822	802	847	1,068	804	3,468	2,631	2,348	1,779	3,110	2,259	710	855	1,871	1,534	710	325
Post VAMP	2015	725	912	1,140	639	724	934	3,124	823	2,004	875	3,110	361	710	318	1,871	339	710	191
Post VAMP	2016	2,280	1,049	1,140	1,993	2,280	995	4,880	2,441	3,667	1,766	4,769	2,651	2,169	1,307	3,427	1,957	1,449	610

San Joaquin Index Year Types are set by first of month forecasts, 75% exceedence. During VAMP era, differences in gage, forecasting and pulse timing assumptions may have occurred. Full compliance with VAMP occurred. Final year type is based on May 1 75% exceedence forecast. 8-River Index for previous month, through June, is used for Table 4 X2 days at, or West of Chipps Island. Period of non-compliance to D1641 Vernalis Flow Requirements.

Table 2: Triggering Parameters for D1641 San Joaquin Vernalis Requirement

Year	Feb 1	Feb 1	Req	Mar 1	Mar 1	Req	Apr 1	Apr 1	Req	May 1	May 1	Req	Jun 1	Jun 1	Req
	75% WSI	8RI - PMI	Condition	75% WSI	8RI - PMI	Condition	75% WSI	8RI - PMI	Condition	75% WSI	8RI - PMI	Condition	75% WSI	8RI - PMI	Condition
2003	2.2	3400	D/28	2.0	1660	C/31	2.0	2520	C/29	2.7	3270	BN/29		4820	BN/31
2004	2.3	1900	D/28	2.6	3980	BN/31	2.4	3470	D/30	2.2	2640	D/16		2290	D/0
2005	3.5	2490	AN/28	3.7	2010	AN/31	4.1	3750	AN/30	4.2	3180	W/28	May 1	7230	W/30
2006	3.6	5160	AN/28	3.5	3420	AN/31	4.4	5380	W/30	5.5	8560	W/31		6840	W/30
2007	2.0	870	C/10	2.3	2140	D/31	2.0	2070	C/26	1.9	1740	C/0	Forecast	1670	C/0
2008	2.4	1700	D/28	2.6	1810	BN/31	2.3	1790	D/21	2.1	1890	C/1		2680	C/1
2009	1.7	960	C/22	2.1	2320	C/31	2.4	3640	D/30	2.4	2400	D/8	is	4210	D/25
2010	2.6	2480	BN/28	2.8	2310	BN/31	2.9	2310	BN/27	3.5	3250	AN/29		3700	AN/17
2011	3.8	2100	W/28	3.9	1960	W/31	5.1	6200	W/30	5.1	5230	W/31	Final	4940	W/29
2012	2.0	960	C/22	1.7	740	C/0	1.9	3030	C/30	2.2	3700	D/31		2270	D/0
2013	2.4	1340	D/28	1.9	1080	C/3	1.8	1710	C/24	1.6	2020	C/1		1430	C/0
2014	1.1	360	C/0	1.1	1220	C/6	1.1	2050	C/25	1.1	1710	C/0		1180	C/0
2015	1.1	810	C/1	0.9	2230	C/31	0.7	840	C/1	0.7	770	C/0		830	C/0
2016	2.4	3666	D/28	2.1	2100	C/31	2.4	6507	D/30	2.4	2920	D/27		2521	D/1

Required Condition Example: "D/28" depicts hydrology of the SJ 602020 (75% forecast) is to be "Dry" and the 8-River Index of the previous month requires 28 days of X2 to be at, or West of Chipps Island (the higher of the two tiers of Vernalis flow requirements).