

2004 VAMP Hydrologic Summary

Target Flow Period: April 15 - May 15

Target Flow (San Joaquin River near Vernalis): 3,200 cfs

Observed Flows

San Joaquin River near Vernalis

Target Flow Period Average:	3,155 cfs
Min. Mean Daily Flow:	2,370 cfs (April 15)
Max. Mean Daily Flow:	3,380 cfs (May 10)

Ungaged Flow at Vernalis (accretions/depletions)

Target Flow Period Mean:	127 cfs
Min. Mean Daily:	-246 cfs (May 14)
Max. Mean Daily:	430 cfs (April 26)

Estimated Existing Flow (flow without VAMP Supplemental Water): 2,088 cfs

Supplemental Water:

Total Provided:	65,591 acre-feet
Merced ID ¹	37,680 acre-feet
OID/SSJID	11,760 acre-feet
Exchange Contractors ¹	5,000 acre-feet
MID/TID	11,151 acre-feet

Mean Delta Export

Target:	1,500 cfs
Observed:	1,331 cfs

¹ Exchange Contractors supplemental water provided in Merced River by Merced ID.

Appendix A-2, Table 1
2004 Vernalis Adaptive Management Plan (VAMP)
Final Accounting of Supplemental Water Contributions
 Target Flow Period: April 15 - May 15 * Target Flow: 3,200 cfs

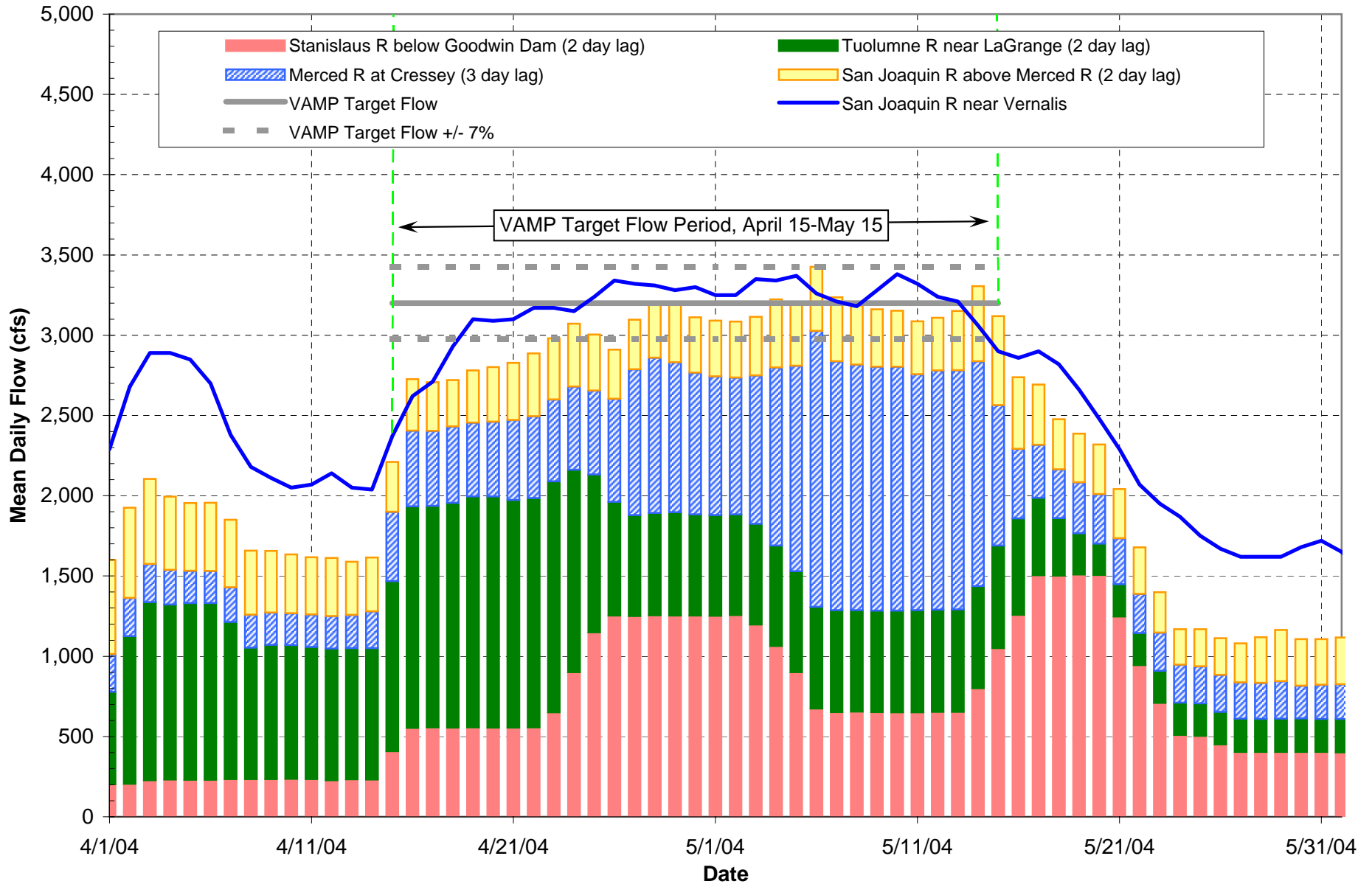
Date	Merced R. at Cressey (3 day Travel Time to Vernalis)			Tuolumne R. blw LaGrange Dam (2 day Travel Time to Vernalis)			Stanislaus R. blw Goodwin Dam (2 day Travel Time to Vernalis)			Upper SJR	Vernalis Unengaged	San Joaquin River at Vernalis		
	Existing Flow (cfs)	Observed Flow (cfs)	VAMP Supple- mental Water [a] (cfs)	Existing Flow (cfs)	Observed Flow (cfs)	VAMP Supple- mental Water (cfs)	Existing Flow (cfs)	Observed Flow (cfs)	VAMP Supple- mental Water (cfs)	Observed Flow (cfs)	Observed Flow (cfs)	Existing Flow (cfs)	Observed Flow (cfs)	VAMP Supple- mental Water (cfs)
04/01/04	217	217		1,110	1,110		226	226		531	690	2,290	2,290	
04/02/04	201	201		1,090	1,090		231	231		457	755	2,680	2,680	
04/03/04	200	200		1,100	1,100		230	230		424	785	2,890	2,890	
04/04/04	215	215		1,100	1,100		230	230		426	895	2,890	2,890	
04/05/04	205	205		980	980		233	233		423	894	2,849	2,849	
04/06/04	202	202		820	820		233	233		400	744	2,700	2,700	
04/07/04	199	199		837	837		233	233		385	529	2,380	2,380	
04/08/04	203	203		833	833		235	235		368	522	2,180	2,180	
04/09/04	202	202		823	823		233	233		358	453	2,110	2,110	
04/10/04	208	208		820	820		227	227		364	415	2,050	2,050	
04/11/04	229	229		817	817		232	232		332	453	2,070	2,070	
04/12/04	250	432	182	819	819		231	231		336	527	2,140	2,140	
04/13/04	250	473	223	700	1,060	360	350	407	57	311	461	2,050	2,050	
04/14/04	250	468	218	900	1,380	480	350	552	202	321	424	2,039	2,039	
04/15/04	250	477	227	900	1,380	480	350	555	205	304	160	1,771	2,370	599
04/16/04	250	460	210	900	1,400	500	350	554	204	289	(106)	1,715	2,620	905
04/17/04	250	467	217	900	1,440	540	350	555	205	326	3	1,807	2,710	903
04/18/04	250	497	247	900	1,440	540	350	554	204	340	210	1,999	2,930	931
04/19/04	250	510	260	900	1,419	519	350	554	204	358	319	2,145	3,100	955
04/20/04	250	509	259	900	1,429	529	350	555	205	393	289	2,129	3,090	961
04/21/04	250	520	270	900	1,440	540	350	649	299	382	272	2,130	3,100	970
04/22/04	250	523	273	900	1,260	360	600	900	300	392	283	2,176	3,170	994
04/23/04	250	643	393	900	983	83	950	1,148	198	350	190	2,072	3,170	1,098
04/24/04	250	907	657	650	708	58	1,150	1,252	102	307	78	2,220	3,150	930
04/25/04	250	967	717	600	629	29	1,150	1,250	100	310	236	2,686	3,240	554
04/26/04	250	935	685	600	638	38	1,150	1,254	104	348	430	2,787	3,340	553
04/27/04	250	883	633	600	644	44	1,150	1,252	102	359	224	2,534	3,320	786
04/28/04	250	865	615	600	631	31	1,150	1,252	102	345	103	2,451	3,310	859
04/29/04	250	853	603	600	627	27	1,150	1,251	101	348	90	2,449	3,280	831
04/30/04	250	925	675	600	627	27	1,150	1,255	105	350	189	2,534	3,300	766
05/01/04	250	1,110	860	600	628	28	1,150	1,196	46	365	159	2,507	3,250	743
05/02/04	250	1,280	1,030	600	627	27	1,060	1,062	2	424	165	2,515	3,250	735
05/03/04	250	1,720	1,470	600	629	29	900	900	0	380	236	2,601	3,350	749
05/04/04	250	1,550	1,300	600	633	33	600	673	73	400	117	2,451	3,340	889
05/05/04	250	1,530	1,280	600	635	35	400	651	251	400	181	2,311	3,370	1,059
05/06/04	250	1,520	1,270	600	632	32	400	654	254	369	(166)	1,684	3,260	1,576
05/07/04	250	1,520	1,270	600	632	32	400	651	251	359	(26)	1,624	3,210	1,586
05/08/04	250	1,470	1,220	600	633	33	400	650	250	350	(5)	1,614	3,180	1,566
05/09/04	250	1,490	1,240	600	636	36	400	650	250	330	118	1,727	3,280	1,553
05/10/04	250	1,490	1,240	600	637	37	400	652	252	330	227	1,827	3,380	1,553
05/11/04	250	1,400	1,150	600	639	39	400	652	252	370	234	1,814	3,320	1,506
05/12/04	250	874	624	600	637	37	400	799	399	470	131	1,711	3,240	1,529
05/13/04	250	433		600	639	39	400	1,050	650	556	59	1,679	3,210	1,531
05/14/04	250	332		602	602		565	1,256		447	(246)	1,474	3,060	1,586
05/15/04	250	304		481	481		565	1,504		375	(219)	1,587	2,900	1,313
05/16/04	250	318		358	358		565	1,501		313	121	2,859	2,859	
05/17/04	250	308		257	257		565	1,508		304	208	2,900	2,900	
05/18/04	250	288		196	196		565	1,505		310	343	2,819	2,819	
05/19/04	245	245		200	200		565	1,247		307	273	2,660	2,660	
05/20/04	237	237		200	200		565	943		290	161	2,480	2,480	
05/21/04	237	237		201	201		565	708		253	248	2,290	2,290	
05/22/04	230	230		202	202		508	508		222	392	2,070	2,070	
05/23/04	230	230		204	204		502	502		232	551	1,950	1,950	
05/24/04	227	227		203	203		450	450		229	701	1,870	1,870	
05/25/04	225	225		207	207		403	403		243	582	1,750	1,750	
05/26/04	233	233		206	206		403	403		285	558	1,670	1,670	
05/27/04	204	204		207	207		403	403		321	540	1,620	1,620	
05/28/04	212	212		208	208		403	403		292	501	1,620	1,620	
05/29/04	215	215		207	207		402	402		286	456	1,620	1,620	
05/30/04	233	233		209	209		400	400		293	573	1,680	1,680	
05/31/04	225	225		173	173		404	404		276	612	1,719	1,719	
VAMP Period														
Average (cfs):	250	944		702	883		647	838		362	127	2,088	3,155	
Supplemental Water (ac-ft):			42,680 [a]			11,151			11,760					65,591

[a] - Includes San Joaquin River Exchange Contractors Water Authority supplemental water contribution of 5,000 acre-feet.

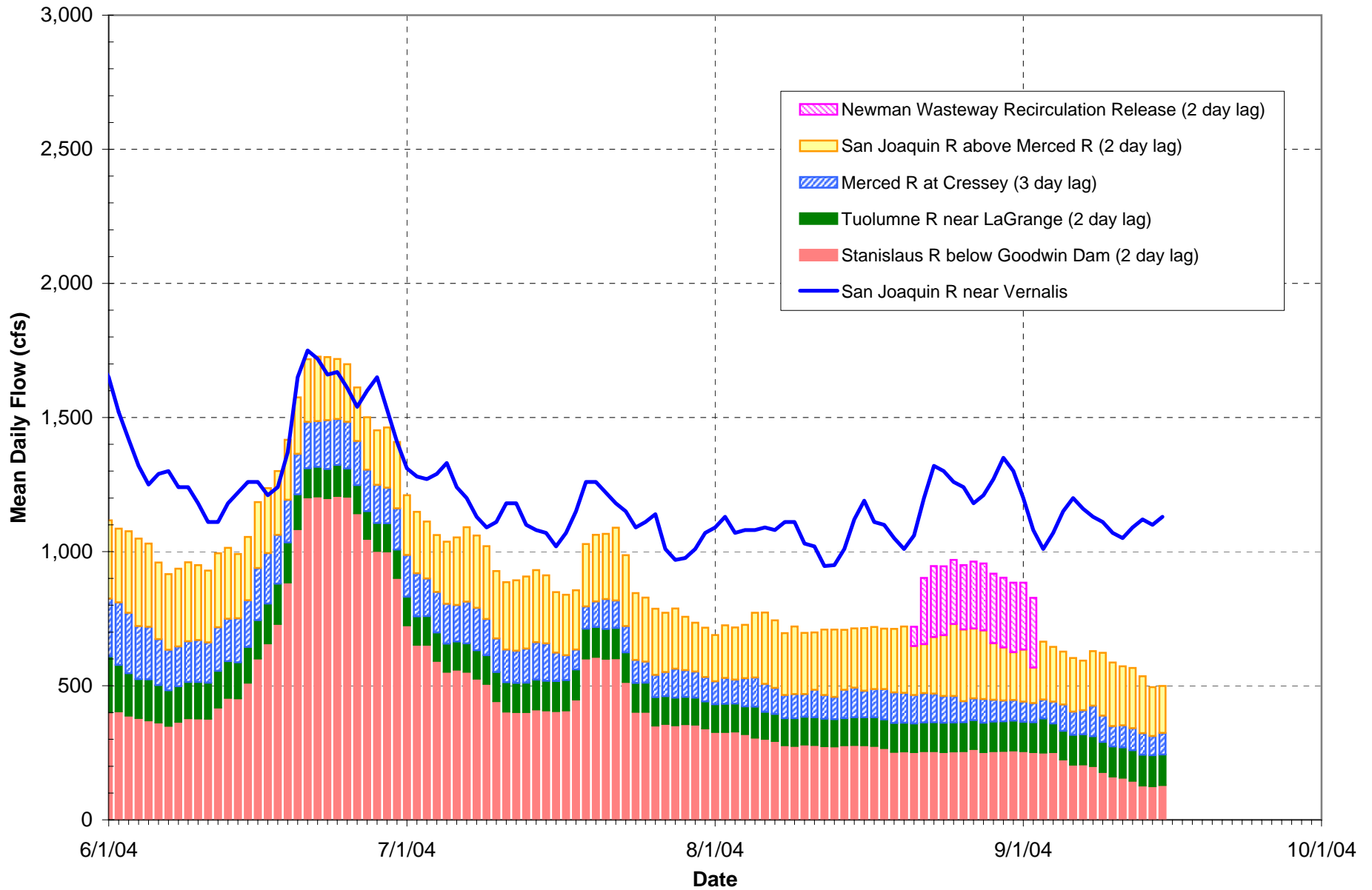
Observed Flow Sources:

- Merced River at Cressey (CA DWR B05155): California DWR, San Joaquin District, 6/22/04
- Tuolumne River below LaGrange Dam near LaGrange (USGS 11289650): USGS, provisional data as of 7/2/04
- Stanislaus River below Goodwin Dam: USBR, Goodwin Reservoir Daily Operations Report - OID/SSJID/Tri-Dams, 5/20/04 (April report) and 6/18/04 (May report)
- San Joaquin River near Vernalis (USGS 11303500): USGS, provisional data as of 7/2/04

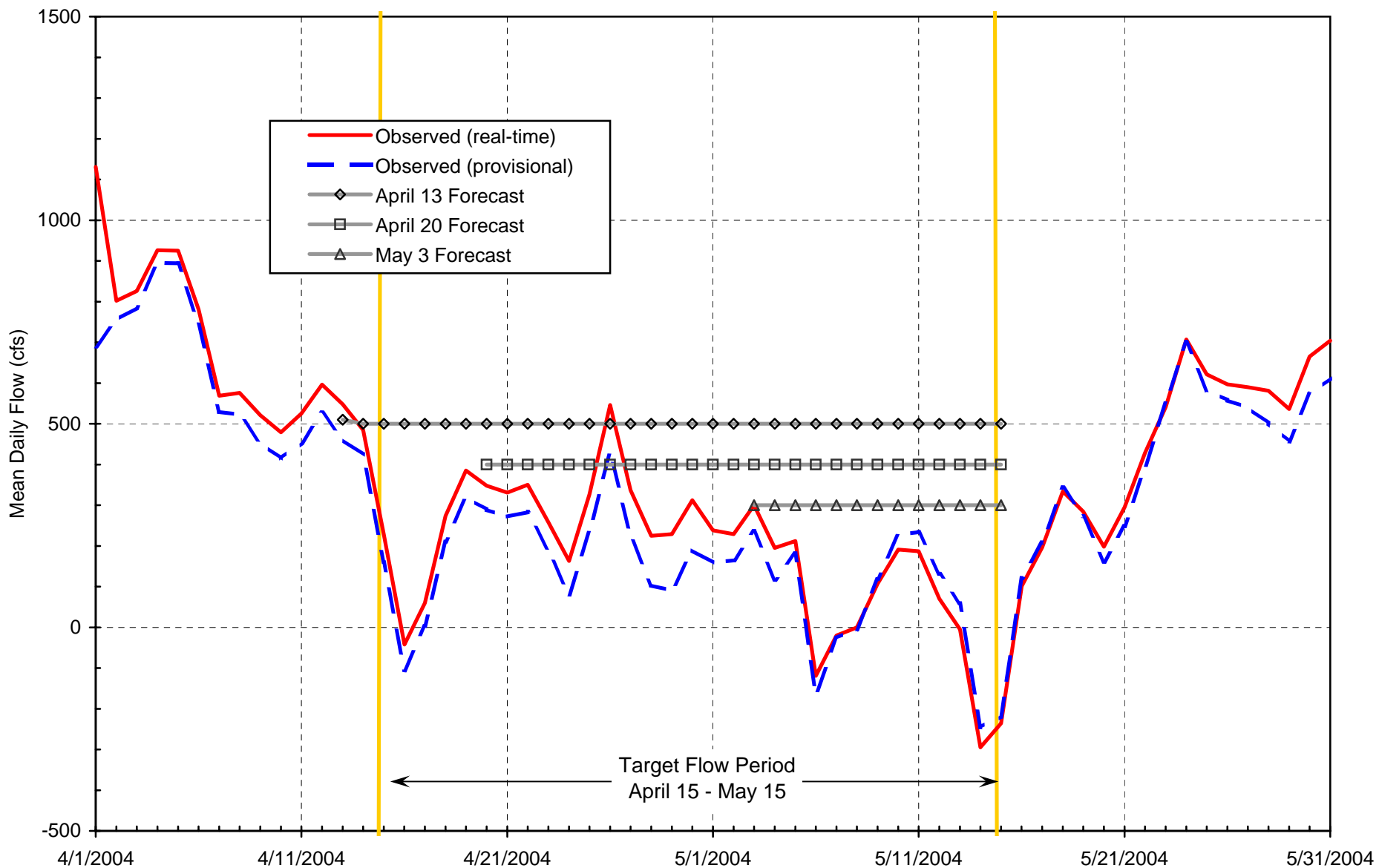
San Joaquin River near Vernalis, APRIL-MAY 2004 With Lagged Contributions from Primary Sources



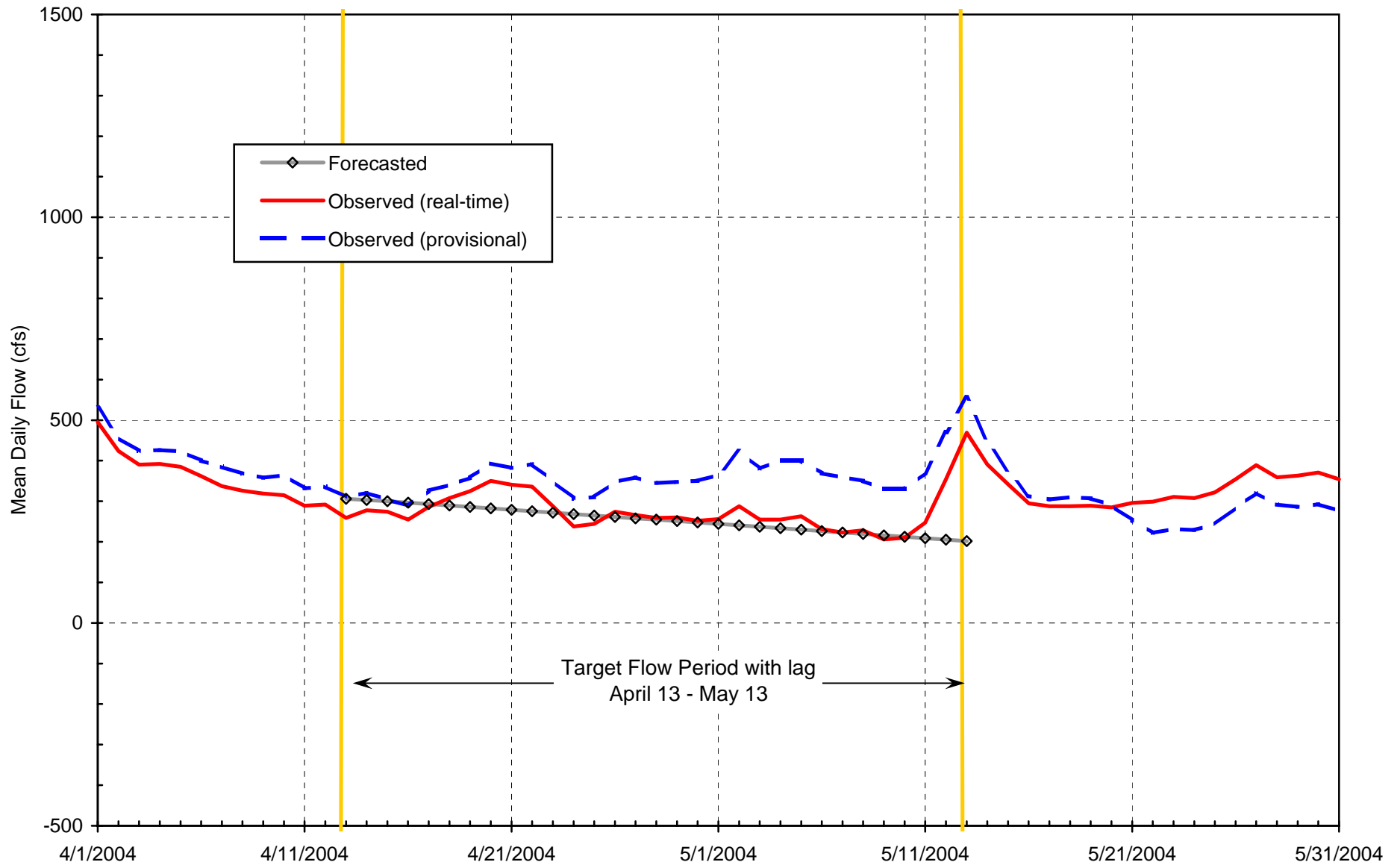
San Joaquin River near Vernalis, JUNE-AUGUST 2004 With Lagged Contributions from Primary Sources



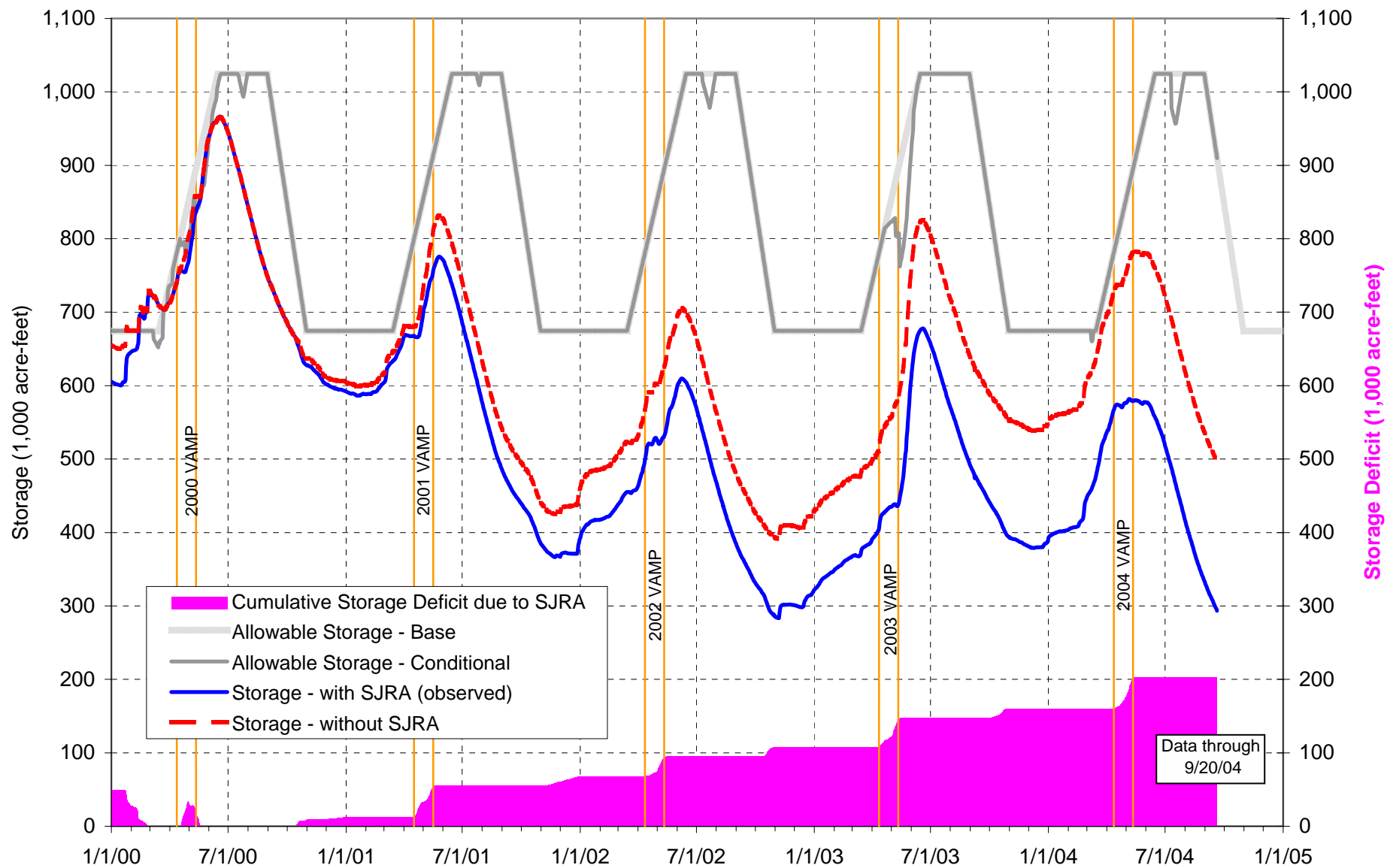
2004 VAMP - Ungaged Flow in San Joaquin River at Vernalis Comparison of Forecasted and Observed



2004 VAMP - San Joaquin River above Merced River Comparison of Forecasted and Observed



SJRA Storage Impacts, 2000-2004 Lake McClure (Merced River)



SJRA Storage Impacts, 2000-2004 New Don Pedro Reservoir (Tuolumne River)

