

Pre-project (1922-1944)Unimpaired Runoff at Vernalis
(TAF)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	31	78	413	449	912	1126	1190	2220	1932	667	140	43	9202
AN	42	93	221	389	765	639	1158	1765	1305	409	89	35	6908
BN	42	148	116	138	388	644	807	1427	759	258	64	20	4811
D	68	65	77	96	203	356	882	815	605	136	37	27	3367
C	30	34	65	98	160	288	502	684	376	88	23	12	2359
All Years	40	80	205	270	549	653	942	1481	1104	351	78	29	5782

Unimpaired Runoff at Vernalis
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	501	1305	6718	7304	16438	18306	20003	36103	32465	10846	2279	728	
AN	680	1555	3591	6328	13784	10385	19459	28691	21930	6653	1442	580	
BN	683	2482	1886	2244	6985	10477	13569	23209	12756	4190	1035	342	
D	1111	1092	1252	1561	3664	5783	14824	13252	10162	2217	602	454	
C	488	578	1057	1590	2883	4676	8437	11122	6319	1424	367	195	
All Years	648	1338	3328	4398	9900	10622	15832	24076	18553	5710	1264	487	

All Years (1922-2004)Unimpaired Runoff at Vernalis
(TAF)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	57	150	518	885	926	1173	1316	2223	2000	910	228	99	10485
AN	74	258	374	462	707	629	973	1686	1146	355	90	38	6792
BN	37	120	132	193	317	468	850	1293	932	260	59	24	4686
D	50	98	136	155	237	407	719	951	525	113	35	34	3462
C	47	49	62	83	159	324	541	675	372	96	34	20	2463
All Years	54	138	278	418	524	665	927	1461	1105	410	105	49	6134

Unimpaired Runoff at Vernalis
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	920	2518	8422	14395	16681	19080	22119	36149	33612	14802	3708	1663	
AN	1200	4340	6088	7505	12732	10233	16356	27417	19262	5765	1464	632	
BN	608	2018	2151	3142	5707	7611	14285	21027	15656	4231	965	404	
D	820	1653	2218	2528	4269	6621	12092	15460	8822	1838	570	576	
C	772	820	1009	1355	2861	5273	9093	10980	6250	1564	547	340	
All Years	879	2318	4514	6789	9443	10815	15579	23756	18578	6666	1707	829	

Contemporary Basin (1984-2004)Unimpaired Runoff at Vernalis
(TAF)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	51	133	368	1226	1127	1352	1254	2004	1840	979	233	91	10658
AN	129	393	495	506	715	634	839	1641	981	285	98	53	6768
BN	12	194	203	256	220	395	654	1547	1117	199	90	37	4923
D	43	102	170	181	243	512	829	1065	430	100	33	25	3734
C	49	51	61	89	160	407	632	725	405	124	40	23	2764
All Years	58	140	238	499	534	729	878	1325	936	390	105	48	5879

Unimpaired Runoff at Vernalis
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	833	2238	5984	19939	20310	21986	21068	32578	30928	15911	3786	1526	
AN	2100	6604	8043	8228	12878	10302	14103	26677	16492	4634	1600	883	
BN	191	3261	3297	4160	3956	6416	10996	25160	18775	3235	1458	625	
D	707	1721	2758	2940	4372	8332	13939	17320	7227	1627	540	416	
C	800	850	986	1444	2889	6611	10617	11781	6807	2009	653	386	
All Years	948	2350	3870	8112	9627	11850	14752	21543	15732	6341	1700	800	

All Years (1922-2004)

Unimpaired Runoff at Vernalis
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Wet	920	2518	8422	14395	16681	19080	22119	36149	33612	14802	3708	1663
AN	1200	4340	6088	7505	12732	10233	16356	27417	19262	5765	1464	632
BN	608	2018	2151	3142	5707	7611	14285	21027	15656	4231	965	404
D	820	1653	2218	2528	4269	6621	12092	15460	8822	1838	570	576
C	772	820	1009	1355	2861	5273	9093	10980	6250	1564	547	340
All Years	879	2318	4514	6789	9443	10815	15579	23756	18578	6666	1707	829

Unimpaired Runoff at Vernalis
(TAF)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	57	150	518	885	926	1173	1316	2223	2000	910	228	99	10485
AN	74	258	374	462	707	629	973	1686	1146	355	90	38	6792
BN	37	120	132	193	317	468	850	1293	932	260	59	24	4686
D	50	98	136	155	237	407	719	951	525	113	35	34	3462
C	47	49	62	83	159	324	541	675	372	96	34	20	2463
All Years	54	138	278	418	524	665	927	1461	1105	410	105	49	6134

Pre-project (1922-1944)Measured Flow at Vernalis - USGS
(TAF)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	121	123	250	378	830	1234	1017	1244	1290	455	121	106	7168
AN	74	79	107	222	506	585	736	908	786	208	69	80	4361
BN	130	116	147	165	165	295	137	235	201	77	67	71	1806
D	133	169	171	187	199	116	108	105	187	57	42	65	1541
C	111	85	110	116	97	93	77	70	65	35	30	40	929
All Years	109	108	163	236	445	588	543	661	652	215	72	76	3868

Measured Flow at Vernalis - USGS
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	1965	2063	4063	6139	14955	20062	17088	20233	21683	7398	1962	1783	
AN	1211	1327	1744	3603	9112	9519	12376	14763	13212	3383	1116	1347	
BN	2108	1952	2387	2689	2966	4792	2300	3826	3384	1245	1091	1199	
D	2168	2848	2784	3048	3590	1881	1807	1709	3150	935	691	1092	
C	1800	1431	1795	1892	1749	1516	1287	1143	1087	571	488	667	
All Years	1770	1812	2652	3841	8023	9563	9126	10752	10956	3495	1168	1272	

Contemporary Basin (1984-2004)Measured Flow at Vernalis - USGS
(TAF)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	158	112	216	508	865	920	765	673	463	322	189	215	5407
AN	451	320	515	666	564	572	312	279	160	121	130	144	4235
BN	96	96	120	119	107	135	158	165	133	91	88	82	1390
D	160	134	163	168	146	180	161	173	93	98	96	83	1654
C	109	93	98	86	88	131	108	98	73	66	64	63	1076
All Years	181	139	205	307	390	429	337	306	204	154	116	123	2890

Measured Flow at Vernalis - USGS
(cfs)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total
Wet	2563	1883	3506	8267	15577	14965	12853	10950	7789	5240	3076	3613	
AN	7332	5375	8380	10831	10165	9309	5245	4534	2695	1965	2106	2428	
BN	1563	1619	1950	1930	1922	2188	2656	2691	2230	1481	1431	1383	
D	2608	2248	2650	2725	2634	2924	2707	2813	1559	1594	1556	1396	
C	1780	1570	1597	1405	1584	2127	1812	1586	1223	1065	1039	1051	
All Years	2944	2335	3329	4988	7024	6976	5668	4969	3421	2507	1890	2061	

Measured Flow in Excess of Unimpaired

(cfs)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	60-20-20
1922													4.54 W
1923													3.55 AN
1924													1.42 C
1925													2.93 BN
1926													2.30 D
1927													3.56 AN
1928													2.63 BN
1929													2.00 C
1930													2.02 C
1931													1.20 C
1932													3.41 AN
1933													2.44 D
1934													1.44 C
1935													3.56 AN
1936													3.74 AN
1937													3.90 W
1938													5.89 W
1939													2.20 D
1940													3.36 AN
1941													4.43 W
1942													4.44 W
1943													4.03 W
1944													2.76 BN
1945													3.59 AN
1946													3.30 AN
1947													2.18 D
1948													2.70 BN
1949													2.53 BN
1950													2.85 BN
1951													3.14 AN
1952													5.17 W
1953													3.03 BN
1954													2.72 BN
1955													2.30 D
1956													4.46 W
1957													3.01 BN
1958													4.77 W
1959													2.21 D
1960													1.85 C
1961													1.38 C
1962													3.07 BN
1963													3.57 AN
1964													2.19 D
1965													3.81 W
1966													2.51 BN
1967													5.25 W
1968													2.21 D
1969													6.09 W
1970													3.18 AN
1971													2.89 BN
1972													2.16 D
1973													3.50 AN
1974													3.90 W
1975													3.85 W
1976													1.57 C
1977													0.84 C
1978													4.58 W
1979													3.67 AN
1980													4.73 W
1981													2.44 D
1982													5.45 W
1983													7.22 W
1984	9037	-5811	-1268	13058	2543	-2825	-7715	-22777	-12224	-3706	423	2178	3.69 AN
1985	2545	-875	2348	1885	-864	-3443	-13096	-14080	-5311	1012	1901	1169	2.40 D
1986	966	-558	-1844	-4087	-32890	-6920	-3669	-22799	-21380	-4879	922	2820	4.31 W
1987	2716	2304	2974	1459	-331	-1253	-6696	-7969	-2077	656	1074	1311	1.86 C
1988	800	271	-413	-1656	-1605	-2800	-6241	-8414	-3953	-351	874	1133	1.48 C
1989	785	501	152	-257	-1612	-9668	-14000	-12002	-7207	-472	616	748	1.96 C
1990	-371	126	372	-514	-1121	-4143	-9531	-7224	-4296	-811	626	691	1.51 C
1991	765	830	626	442	326	-6969	-7386	-15000	-14104	-3162	-325	104	1.96 C
1992	57	-76	-48	-358	-3941	-4075	-10531	-9418	-2377	-2220	-233	282	1.56 C
1993	344	183	-1230	-12986	-7647	-14355	-15806	-32439	-25558	-10198	-1108	1376	4.20 W
1994	2106	1083	612	607	-848	-2480	-7249	-11343	-5081	-242	72	385	2.05 C
1995	161	-1324	-1277	-13862	-3338	-20441	-4391	-17764	-31680	-24018	-4415	2650	5.95 W
1996	4755	1766	-1041	-3590	-8868	-791	-11839	-23152	-15397	-4450	392	1544	4.12 W
1997	2130	-3037	-9801	-31191	20502	493	-11173	-21137	-11490	-2118	-35	1171	4.13 W
1998	2020	838	325	-4319	3843	-113	-2415	-12475	-33329	-18366	-21	2962	5.65 W
1999	4733	941	1247	-1284	-1129	512	-6592	-21692	-16246	-2762	416	972	3.59 AN
2000	1928	1182	1032	-3965	-9553	-669	-12266	-21960	-12919	-1538	680	1486	3.38 AN
2001	1893	1502	1223	860	-54	-4881	-8254	-17055	-2292	168	999	1074	2.20 D
2002	1546	461	-2265	-2059	-2255	-4534	-12807	-15052	-9199	-506	665	872	2.34 D
2003	1371	-1641	-1347	-2231	-2033	-4228	-8340	-22469	-16545	-1754	-28	757	2.82 BN
2004	1623	1021	-1740	-1545	-3779	-8775	-10769	-11844	-5870	-804	500	806	2.21 D

Goodwin Release in Excess of Unimpaired - Stanislaus River

(cfs)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1922												
1923												
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1983												
1984	838	-1536	2093	2452	-73	-1231	-2132	-4324	-2302	-438	87	343
1985	307	-574	269	524	-334	-916	-2860	-2381	-465	1265	1152	214
1986	230	-442	-363	-1222	-7984	-835	-2670	-3830	-2533	-316	807	677
1987	235	391	536	241	284	42	-760	-862	288	313	293	275
1988	127	120	-63	-301	-408	189	-627	-529	182	527	637	592
1989	284	306	176	-108	-340	-1842	-3091	-1643	-805	147	176	247
1990	-111	-81	-43	-275	-292	-489	-1820	-974	-285	354	443	224
1991	123	128	104	107	137	-1175	-1394	-2700	-1594	-78	92	54
1992	15	-27	-71	-153	-1122	-1000	-1626	-1249	-77	-67	156	198
1993	232	68	-233	-2477	-1736	-3518	-3653	-5229	-3623	-910	-53	119
1994	392	98	57	38	-246	-22	-1276	-2118	-229	391	381	159
1995	330	-118	-137	-3261	-1541	-6237	-3775	-6608	-7234	-3984	-548	100
1996	230	100	-414	-1109	-3422	-317	-2688	-4814	-2027	-22	336	320
1997	359	-358	-1015	-4717	4405	-38	-1851	-2274	-833	-41	119	260
1998	479	66	31	-1406	-998	-1544	-2189	-3498	-6784	-2125	1134	1164
1999	1489	8	-40	51	17	-269	-1531	-4565	-2287	-152	252	111
2000	268	74	154	-1166	-1997	-626	-2585	-3253	-1259	-87	188	138
2001	278	165	179	-48	-353	-1290	-1328	-2086	36	351	311	203
2002	363	-5	-595	-708	-497	-1170	-2574	-2615	-1134	166	153	134
2003	281	-220	-502	-641	-422	-1002	-1677	-4427	-1773	74	117	173
2004	416	112	-513	-455	-983	-2445	-2327	-1726	-374	139	107	58