BUREAU OF RECLAMATION

Stanislaus Watershed Team

10 a.m. –12 p.m.

Conference Line: 1 (321) 209-6143; Meeting ID: 901 988 581#
Webinar: Join Microsoft Teams Meeting

Wednesday, July 20, 2022

Agenda

1. Introductions
2. Ground Rules[1]
3. Announcements
4. Operations Update and Forecasts/Hydrology
5. Temperature Updates
6. Flow Planning
7. Stanislaus River Forum (SRF) Call Review
8. Fish Monitoring and Studies
9. Restoration Project Updates
10. Progress Update on Proposed Action Elements

[1] The Stanislaus Watershed Team's Ground Rules are as follows:

1. Seek to understand and respect opposing views and suggestions for change (w/in the parameters of the Guidance Document).
2. Seek to leverage collective expertise (including from agencies' & stakeholders' consultants).
3. Hold questions/discussion at the discretion of the presenter.
4. Honor time limits - keep comments and discussion succinct and focused on meeting objectives as needed.
5. Make constructive proposals and suggestions to seek mutually agreeable solutions for all parties.
6. Keep a record of discussion and dialogue.
7. One speaker at a time
8. Take space/make space

a. Spawning and rearing habitat restoration

b. Temperature management study

c. Yellow-billied cuckoo survey

11. Other Discussion Items

a. Curtailments

b. Annual reporting check-in

c. Items to elevate to WOMT

12. Review Action Items

13. Next Meeting: Wednesday, August 17, 2022 (10 a.m.–12 p.m.)

Melones Dam & Lake - Stanislaus River Basin
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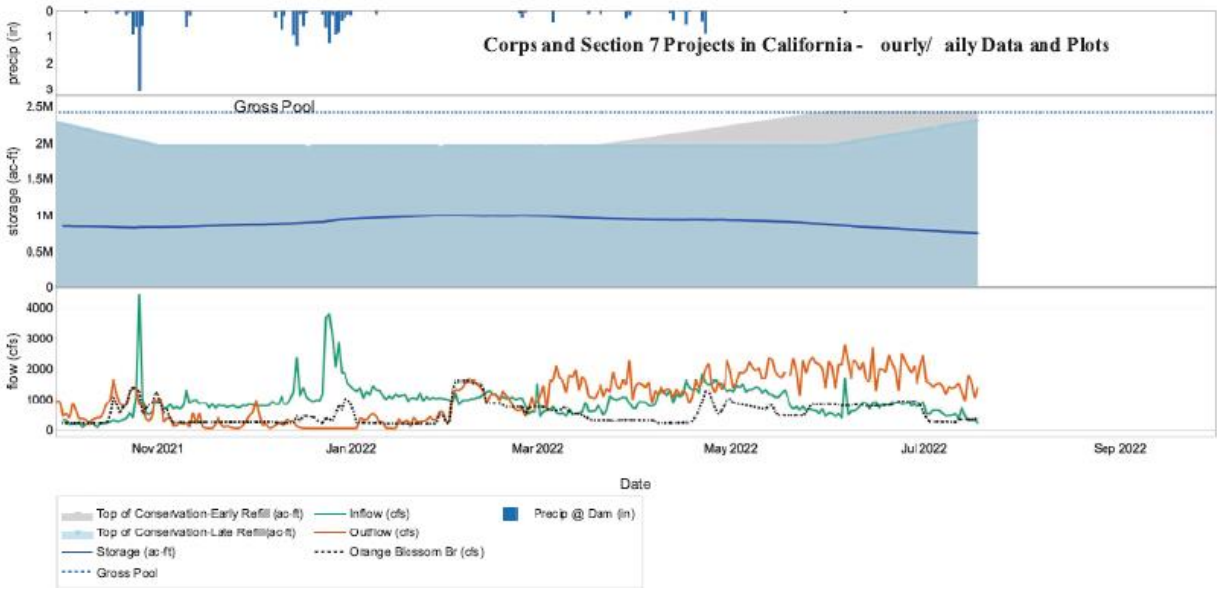


Table 1. Reservoir Releases in Cubic Feet/Second

Reservoir	Dam	WY 2021	WY 2022	15-Year Median
Trinity	Lewiston	451	472	461
Sacramento	Keswick	9,271	4,515	12,323
Feather	Oroville (SWP)	3,000	4,000	12,323
American	Nimbus	1,026	4,496	3,937
Stanislaus	Goodwin	1,502	304	355
San Joaquin	Friant	269	231	350

Table 2. Storage in Major Reservoirs in Thousands of Acre-Feet

Reservoir	Capacity	15-Year Avg	WY 2021	WY 2022	% O 15 Yr Avg
Trinity	2,448	1,544	1,076	688	45
Shasta	4,552	2,962	1,582	1,724	58
Folsom	977	646	261	691	107
New Melones	2,420	1,369	1,120	745	54
Fed. San Luis	966	312	94	198	64
Total North CVP	11,363	6,833	4,133	4,046	59
Millerton	520	377	226	314	83
Oroville (SWP)	3,538	2,130	990	1,563	73

Table 3. Accumulated Inflow for Water Year to Date in Thousands of Acre-Feet

Reservoir	Current WY 2021	WY 1977	WY 1983	15 Yr Avg	% O 15 Yr Avg
Trinity	474	194	2,709	985	48
Shasta	2,562	2,113	10,067	4,220	61
Folsom	1,571	298	6,086	2,203	71
New Melones	523	N/A	2,545	853	61
Millerton	769	236	4,010	1,241	62

Table 4. Accumulated Precipitation for Water Year to Date in Inches

Reservoir	Current WY 2022	WY 1977	WY 1983	Avg (N Yrs)	% of Avg	Last 24 Hours
Trinity at Fish Hatchery	18.88	12.06	54.73	30.78 (60)	61	0.00
Sacramento at Shasta Dam	41.35	17.42	112.56	60.09 (65)	69	0.0
American at Blue Canyon	64.06	15.64	103.88	65.01 (47)	99	0.00
Stanislaus at New Melones	19.39	N/A	45.33	26.82 (44)	72	0.00
San Joaquin at Huntington Lk	24.26	17.20	81.40	40.31 (47)	60	0.00

Oakdale Irrigation District
South San Joaquin Irrigation District
Tri Dams Project-California

Goodwin Reservoir Daily Operations, July 2022, Run Date: July 18, 2022

Day	Elev	Storage (1000 Acre-Feet) in Lake	Storage (1000 Acre-Feet) Change	Tulloch Release	Release C.F.S. - River Outlet	Release C.F.S. – Spill	Canals-Joint Main	Canals-South Main
N/A	N/A	536	N/A	N/A	N/A	N/A	N/A	N/A
1	359.86	527	-9	1,839	0	376	950	471
2	359.86	527	+0	1,786	0	303	939	463
3	359.86	527	+0	1,580	0	305	835	361
4	359.86	527	+0	1,599	0	303	824	375
5	359.86	527	+0	1,560	0	306	815	340
6	359.88	529	+2	1,691	0	303	829	435
7	359.86	527	-2	1,714	0	306	906	451
8	359.86	527	+0	1,630	0	302	917	451
9	359.86	527	+0	1,568	0	302	906	401
10	359.86	527	+0	1,566	0	301	891	410
11	359.86	527	+0	1,540	0	306	888	387
12	359.86	527	+0	1,550	0	306	847	438
13	359.86	527	+0	1,533	0	304	866	401
14	359.86	527	+0	1,626	0	1,781	918	443
15	359.86	527	+0	1,665	0	302	943	460
16	359.86	527	+0	1,630	0	302	923	446
17	359.86	527	+0	1,507	0	304	863	382
Totals	N/A	N/A	**-9**	**27,584**	**0**	**6,712**	**15,060**	**7,115**
Acre-Feet	N/A	N/A	**-9**	**54,713**	**0**	**13,313**	**29,872**	**14,113**

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	29,872
South Main Canal	14,113
Outlet	0
Spill	13,313
Total	**57,298**

Oakdale Irrigation District
South San Joaquin Irrigation District
Tri Dams Project-California

Goodwin Reservoir Daily Operations, June 2022, Run Date: July 1, 2022

Day	Elev	Storage (1000 Acre-Feet) in Lake	Storage (1000 Acre-Feet) Change	Tulloch Release	Release C.F.S. - River Outlet	Release C.F.S. – Spill	Canals-Joint Main	Canals-South Main
N/A	N/A	547	N/A	N/A	N/A	N/A	N/A	N/A
1	360.14	547	+0	1,929	0	803	689	355
2	360.14	547	+0	2,143	0	803	789	461
3	360.15	548	+1	2,192	0	804	843	461
4	360.14	547	-1	2,175	0	803	839	455
5	360.14	547	+0	1,950	0	805	767	306
6	360.14	547	+0	2,032	0	805	807	348
7	360.14	547	+0	2,079	0	804	790	412
8	360.17	549	+2	2,166	0	808	806	499
9	360.14	547	-2	2,099	0	805	866	471
10	360.15	548	+1	2,054	0	804	869	427
11	360.15	548	+0	2,042	0	804	844	443
12	360.15	548	+0	1,788	0	802	730	311
13	360.15	548	+0	1,796	0	803	730	318
14	360.15	548	+0	1,950	0	807	781	414
15	360.15	548	+0	1,980	0	804	783	441
16	360.17	549	+1	2,007	0	805	798	452
17	360.15	548	-1	2,058	0	804	842	461
18	360.17	549	+1	2,002	0	805	835	413
19	360.17	549	+0	1,917	0	803	778	391
20	360.15	548	-1	1,899	0	803	782	372
21	360.23	553	+5	2,002	0	873	783	411
22	360.23	553	+0	2,040	0	904	777	432
23	360.23	553	+0	1,857	0	905	738	297
24	360.21	552	-1	1,916	0	905	760	341
25	360.21	552	+0	1,984	0	900	799	373
26	360.23	553	+1	1,996	0	901	800	382
27	360.21	552	-1	1,988	0	902	771	402
28	360.23	553	+1	2,064	0	901	802	447
29	360.11	545	-8	1,959	0	764	838	441
30	359.98	536	-9	1,852	0	565	918	420
Totals	N/A	N/A	**-11**	**59,916**	**0**	**24,604**	23,954	**12,157**
Acre-Feet	N/A	N/A	**-11**	**118,843**	**0**	**48,802**	47,513	**24,113**

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	47,513
South Main Canal	24,113
Outlet	0
Spill	48,802
Total	**120,428**

New Melones Lake Daily Operations, July 2022, Run Date: July 18, 2022

Day	Elev	Storage 1000-Acre-Feet in Lake	Storage 1000-Acre-Feet Change	Computed Inflow C.F.S.	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. C.F.S.	Evap. Inches	Precip Inches
N/A	N/A	783.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	909.69	781.3	-2.3	515	1,579	0	0	86	0.43	.00
2	909.33	779.1	-2.2	493	1,527	0	0	84	0.42	.00
3	909.05	777.4	-1.7	611	1,401	0	0	80	0.4	.00
4	908.75	775.5	-1.8	614	1,480	0	0	62	0.31	.00
5	908.43	773.6	-2.0	608	1,540	0	0	57	0.29	.00
6	907.48	767.8	-5.8	-1,427	1,431	0	0	69	0.35	.00
7	907.22	766.2	-1.6	431	1,165	0	0	65	0.33	.00
8	906.88	764.1	-2.1	445	1,418	0	0	71	0.36	.00
9	906.56	762.2	-1.9	457	1,354	0	0	82	0.42	.00
10	906.24	760.2	-1.9	501	1,411	0	0	69	0.35	.00
11	905.83	757.8	-2.5	356	1,527	0	0	80	0.41	.00
12	905.62	756.5	-1.3	679	1,228	0	0	90	0.46	.00
13	905.42	755.3	-1.2	423	948	0	0	84	0.43	.00
14	904.9	752.1	-3.1	298	1,794	0	0	86	0.44	.00
15	904.46	749.5	-2.6	282	1,532	0	0	82	0.42	.00
16	904.18	747.8	-1.7	294	1,060	0	0	82	0.42	.00
17	903.75	745.2	-2.6	202	1,409	0	0	91	0.47	.00
Totals	N/A	N/A	-38.3	5,782	23,804	0	0	1,320	6.71	.00
Acre-Feet	N/A	N/A	**-38,300**	**11,469**	**47,215**	**0**	**0**	**2,618**	N/A	N/A

Comments:
* Computed inflow is the sum of change in storage, releases and evaporation

Summary Precipitation

This Month	.00
July 1, 2021 to Date	.00
October 1, 2021 to Date	19.39

Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	47,215
Spill	0
Outlet	0
Total	47,215

New Melones Lake Daily Operations, June 2022, Run Date: July 5, 2022

Day	Elev	Storage 1000-Acre-Feet in Lake	Storage 1000-Acre-Feet Change	Computed Inflow C.F.S.	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. C.F.S.	Evap. Inches	Precip Inches
N/A	N/A	862.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	921.96	859.3	-3.2	515	2,062	0	0	74	0.35	.00
2	921.65	857.3	-2.0	413	1,354	0	0	80	0.38	.00
3	921.13	853.9	-3.4	504	2,147	0	0	70	0.33	.00
4	920.58	850.3	-3.6	370	2,111	0	0	63	0.3	.00
5	920.23	848	-2.3	1,679	2,767	0	0	59	0.28	.00
6	919.69	844.5	-3.5	481	2,219	0	0	27	0.13	.00
7	919.34	842.3	-2.3	593	1,656	0	0	79	0.38	.00
8	918.8	838.8	-3.5	589	2,276	0	0	71	0.34	.00
9	918.3	835.5	-3.2	632	2,184	0	0	71	0.34	.00
10	917.9	833	-2.6	739	1,961	0	0	75	0.36	.00
11	917.47	830.2	-2.8	896	2,200	0	0	85	0.41	.00
12	917.2	828.5	-1.7	857	1,630	0	0	99	0.48	.00
13	916.9	826.6	-1.9	659	1,591	0	0	35	0.17	.00
14	916.31	822.8	-3.8	881	2,691	0	0	87	0.42	.00
15	916.17	821.9	-0.9	904	1,274	0	0	80	0.39	.00
16	915.74	819.2	-2.7	691	1,985	0	0	84	0.41	.00
17	915.35	816.7	-2.5	818	1,987	0	0	78	0.38	.00
18	915	814.5	-2.2	804	1,871	0	0	53	0.26	.00
19	914.46	811.1	-3.4	791	2,445	0	0	65	0.32	.00
20	914.04	808.4	-2.7	906	2,172	0	0	71	0.35	.00
21	913.67	806.1	-2.3	856	1,954	0	0	75	0.37	.00
22	913.52	805.2	-0.9	897	1,281	0	0	91	0.45	.00
23	912.97	801.7	-3.5	821	2,500	0	0	63	0.31	.00
24	912.5	798.8	-2.9	838	2,236	0	0	83	0.41	.00
25	912.11	796.3	-2.4	911	2,045	0	0	95	0.47	.00
26	911.73	794	-2.4	757	1,858	0	0	93	0.46	.00
27	911.29	791.2	-2.7	812	2,095	0	0	97	0.48	.00
28	911.02	789.5	-1.7	734	1,495	0	0	86	0.43	.00
29	910.58	786.8	-2.7	784	2,069	0	0	88	0.44	.00
30	910.06	783.6	-3.2	903	2,436	0	0	90	0.45	.00
Totals	**N/A**	**N/A**	**-78.9**	**23,035**	**60,552**	**0**	**0**	**2,267**	**11.05**	**.08**
Acre-Feet	**N/A**	**N/A**	**-78,900**	**45,690**	**120,105**	**0**	**0**	**4,497**	**N/A**	**N/A**

Comments:
* Computed inflow is the sum of change in storage, releases and evaporation

Summary Precipitation

This Month	0.08
July 1, 2021 to Date	19.43
October 1, 2021 to Date	19.39

Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	120,105
Spill	0
Outlet	0
Total	120,105

Tulloch Reservoir Daily Operations, July 2022, Run Date: July 18, 2022

Day	Elev	Storage (Acre Feet) Reservoir	Storage (Acre-Feet) Change	Computed Inflow C.F.S.	New Melones Release	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. C.F.S. (1)
N/A	N/A	65,622	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	508.79	65,461	-161	1,775	1,579	1,839	0	0	17
2	508.77	65,437	-24	1,791	1,527	1,786	0	0	17
3	508.73	65,388	-49	1,571	1,401	1,580	0	0	16
4	508.61	65,240	-148	1,536	1,480	1,599	0	0	12
5	509.15	65,907	+667	1,908	1,540	1,560	0	0	12
6	509.09	65,832	-75	1,667	1,431	1,691	0	0	14
7	508.64	65,277	-555	1,447	1,165	1,714	0	0	13
8	508.63	65,265	-12	1,638	1,418	1,630	0	0	14
9	508.64	65,277	+12	1,591	1,354	1,568	0	0	17
10	508.89	65,585	+308	1,735	1,411	1,566	0	0	14
11	509.34	66,144	+559	1,839	1,527	1,540	0	0	17
12	508.89	65,585	-559	1,286	1,228	1,550	0	0	18
13	508.18	64,711	-874	1,109	948	1,533	0	0	17
14	508.82	65,498	+787	2,041	1,794	1,626	0	0	18
15	508.87	65,560	+62	1,713	1,532	1,665	0	0	17
16	508.33	64,895	-665	1,312	1,060	1,630	0	0	17
17	508.62	65,252	+357	1,706	1,409	1,507	0	0	19
Totals	N/A	N/A	**-370**	**27,665**	**23,804**	**27,584**	**0**	**0**	**269**
Acre-Feet	N/A	N/A	**-370**	**54,874**	**47,215**	**54,713**	**0**	**0**	**534**

Comments:
* Computed inflow is the sum of change in storage, releases and evaporation
(1) Evaporation records taken from New Melones Pan.

Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	54,713
Spill	0
Outlet	0
Total	54,713

Tulloch Reservoir Daily Operations, June 2022, Run Date: July 1, 2022

Day	Elev	Storage (Acre Feet) Res.	Storage (Acre-Feet) Change	Computed Inflow C.F.S.	New Melones Release	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. C.F.S. (1)
N/A	N/A	65,597	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	509.13	65,882	+285	2,087	2,062	1,929	0	0	14
2	507.8	64,247	-1,635	1,334	1,354	2,143	0	0	15
3	507.63	64,041	-206	2,101	2,147	2,192	0	0	13
4	507.56	63,956	-85	2,144	2,111	2,175	0	0	12
5	508.88	65,572	+1,616	2,776	2,767	1,950	0	0	11
6	509.21	65,982	+410	2,244	2,219	2,032	0	0	5
7	508.46	65,055	-927	1,627	1,656	2,079	0	0	15
8	508.62	65,252	+197	2,279	2,276	2,166	0	0	14
9	508.81	65,486	+234	2,231	2,184	2,099	0	0	14
10	508.59	65,215	-271	1,931	1,961	2,054	0	0	14
11	508.78	65,449	+234	2,176	2,200	2,042	0	0	16
12	508.54	65,154	-295	1,655	1,630	1,788	0	0	16
13	508.16	64,686	-468	1,567	1,591	1,796	0	0	7
14	509.2	65,970	+1,284	2,614	2,691	1,932	0	0	17
15	508.23	64,772	-1,198	1,391	1,274	1,980	0	0	15
16	508.15	64,674	-98	1,974	1,985	2,007	0	0	16
17	507.98	64,465	-209	1,968	1,987	2,058	0	0	15
18	507.72	64,150	-315	1,853	1,871	2,002	0	0	10
19	508.6	65,228	+1,078	2,473	2,445	1,917	0	0	13
20	508.97	65,683	+455	2,142	2,172	1,899	0	0	14
21	508.89	65,585	-98	1,967	1,954	2,002	0	0	14
22	507.64	64,053	-1,532	1,286	1,281	2,040	0	0	18
23	508.64	65,277	+1,224	2,492	2,500	1,857	0	0	18
24	509.17	65,932	+655	2,262	2,236	1,916	0	0	16
25	509.12	65,870	-62	1,972	2,045	1,984	0	0	19
26	508.8	65,474	-396	1,814	1,858	1,996	0	0	18
27	508.92	65,622	+148	2,082	2,095	1,988	0	0	19
28	507.95	64,428	-1,194	1,479	1,495	2,064	0	0	17
Totals	508.07	64,575	**+147**	**2,050**	**2,069**	**1,959**	**0**	**0**	**17**
Acre-Feet	508.92	65,622	**+1,047**	**2,398**	**2,436**	**1,852**	**0**	**0**	**18**

Comments:
* Computed inflow is the sum of change in storage, releases and evaporation
(1) Evaporation records taken from New Melones Pan.

Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	118,808
Spill	0
Outlet	36
Total	118,844

July 2022 Water Temperature and Fish Monitoring Update

Year-to-Date Flows

Goodwin releases since October 1, 2021 are shown in Figure 1 (note that recent releases have remained at 300 cfs; the spike in Figure 1 on July 14 is a data error on CDEC). The releases greater than 200 cfs that occurred in December and early January were for storage management at Tulloch Reservoir due to side flows from storm events. After the late January winter instability flow, Goodwin releases increased again for the Vernalis flow requirement through early April. After the spring pulse flow, Goodwin releases higher than 150 cfs (the Critical SRP minimum between the spring pulse flow and fall pulse flow) may be needed for flow or salinity requirements at Vernalis, or dissolved oxygen requirements at Ripon.

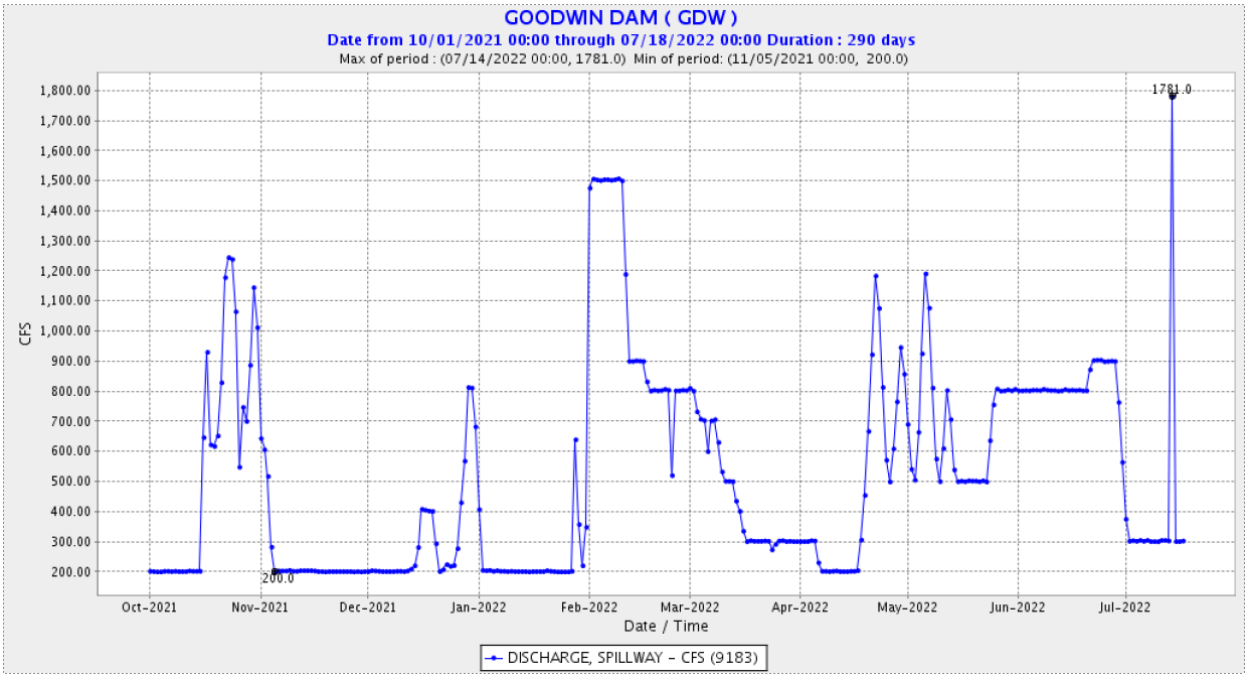


Figure 1. Goodwin (daily) releases to the Stanislaus River since October 1, 2021. Data from GDW station on CDEC.

Water Temperature

The temperature thresholds included in Figures 2-9, below, are the thresholds used in the 2019 NMFS LTO BiOp[1] (see Incidental Take Statement on p. 807) to define the extent of take anticipated from water temperature effects in the Stanislaus River. It is important to note that many of the temperature figures provide subdaily information or information at locations other than Orange Blossom Bridge and thus don't reflect the specific metrics for take in the 2019 NMFS LTO BiOp. Temperature thresholds have been added to these figures at the request of

[1] The 2019 NMFS LTO BiOp is available online at: https://www.fisheries.noaa.gov/resource/document/biological-opinion-reinitiation-consultation-long-term-operation-central-valley

Stanislaus Watershed Team members to provide a general reference of water temperature suitability.

Water temperatures in the Stanislaus River since March 1, 2022 are shown below at Goodwin Canyon (Figure 2), Orange Blossom Bridge (Figure 3), and at Ripon (Figure 4). Water temperatures in the San Joaquin River since March 1, 2022 are shown below at Vernalis (Figure 5). Current-year water temperatures are plotted along with historical temperatures for Orange Blossom Bridge (Figure 6), Ripon (Figure 7), and Vernalis (Figure 8). A compilation of Stanislaus River water temperatures and Goodwin releases for calendar year 2022 is provided in Figure 9.

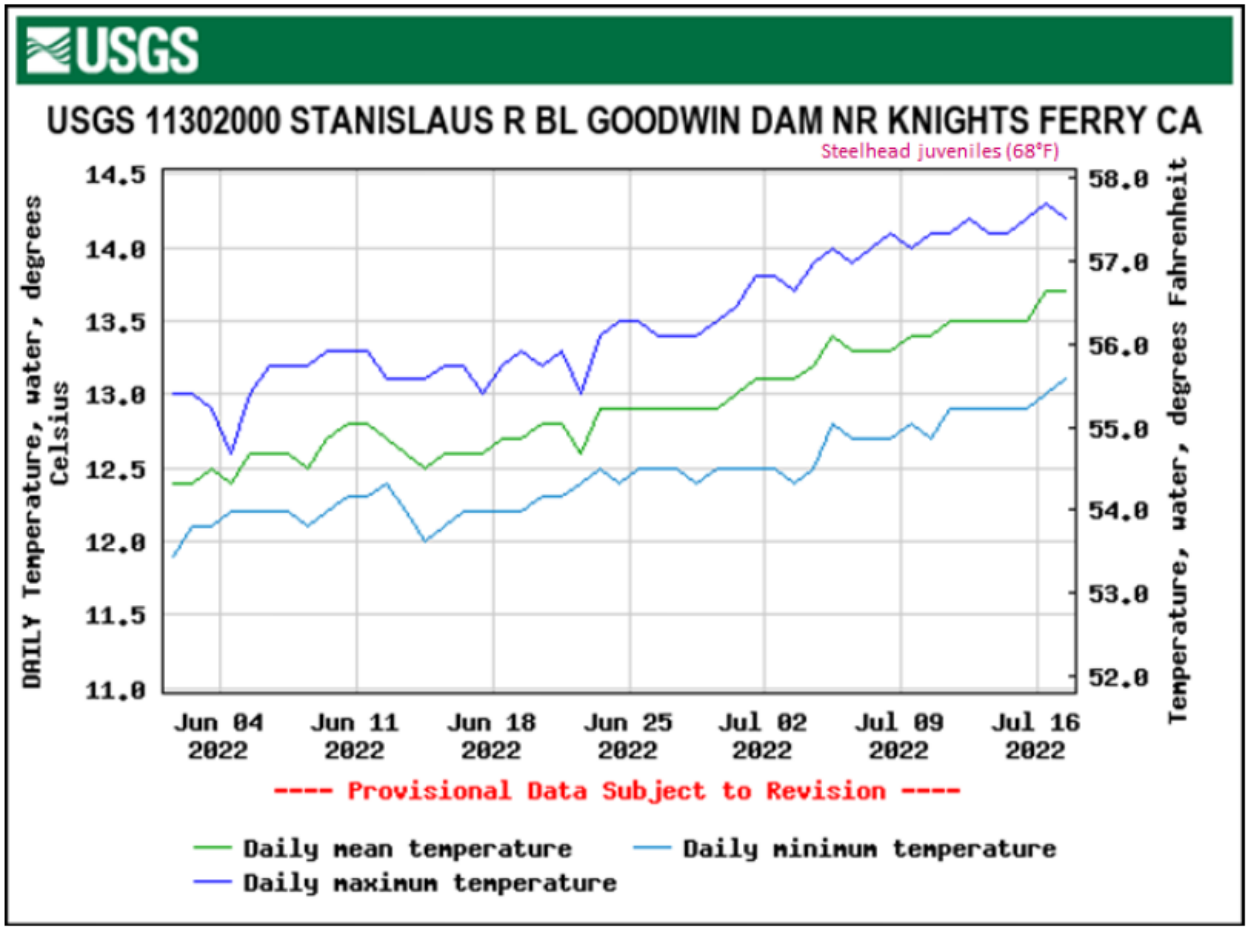


Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since June 1, 2022. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

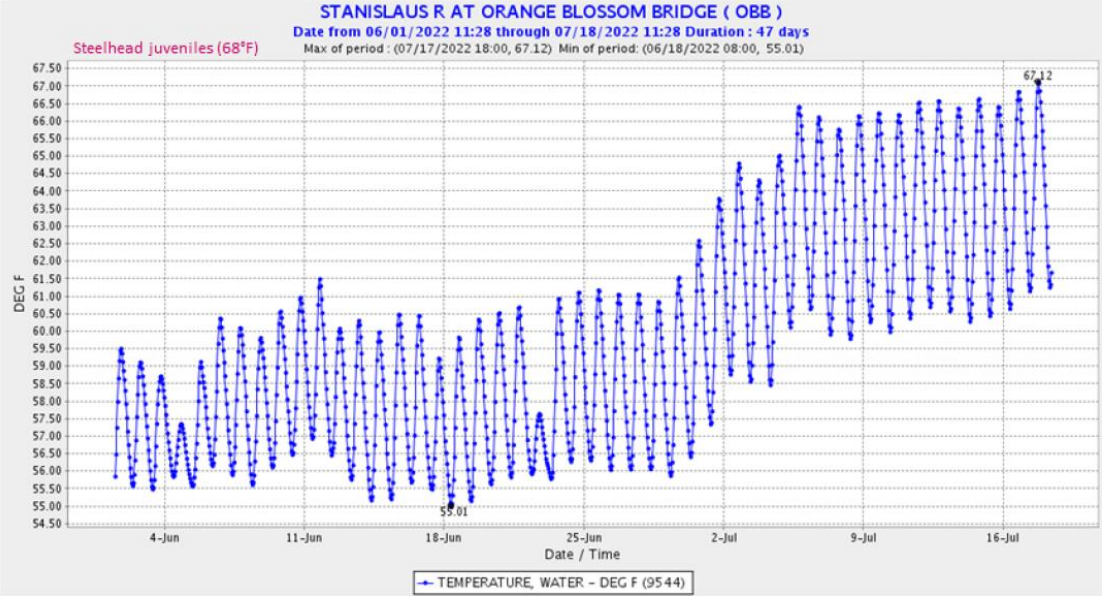


Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since June 1, 2022. Data from OBB station on CDEC; temperature threshold reference line added by SWT.

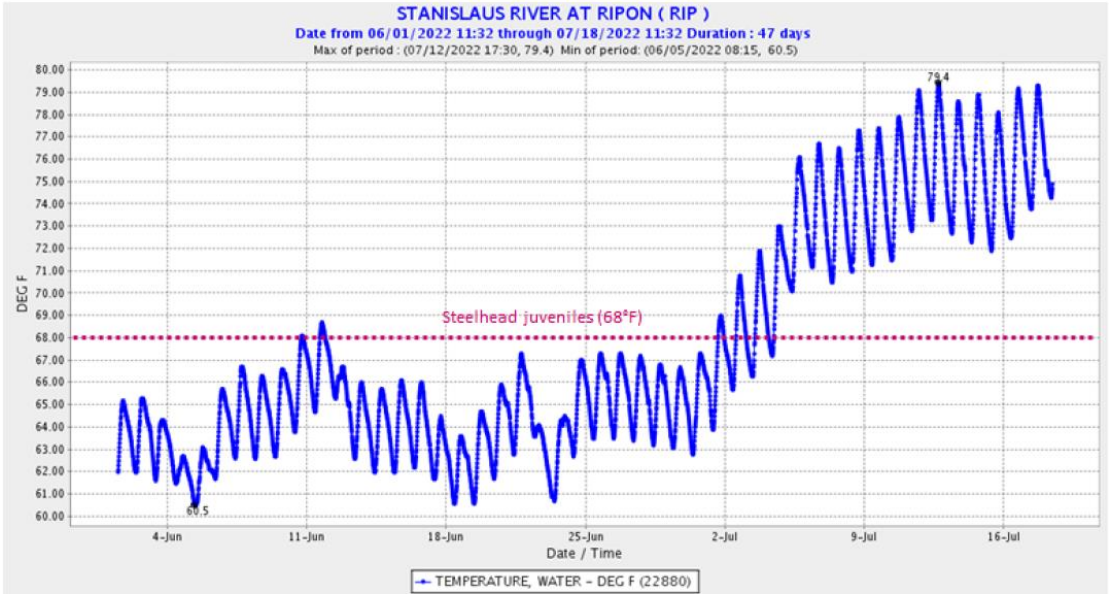


Figure 4. Stanislaus (15-minute) water temperatures at Ripon since June 1, 2022. Data from RIP station on CDEC.

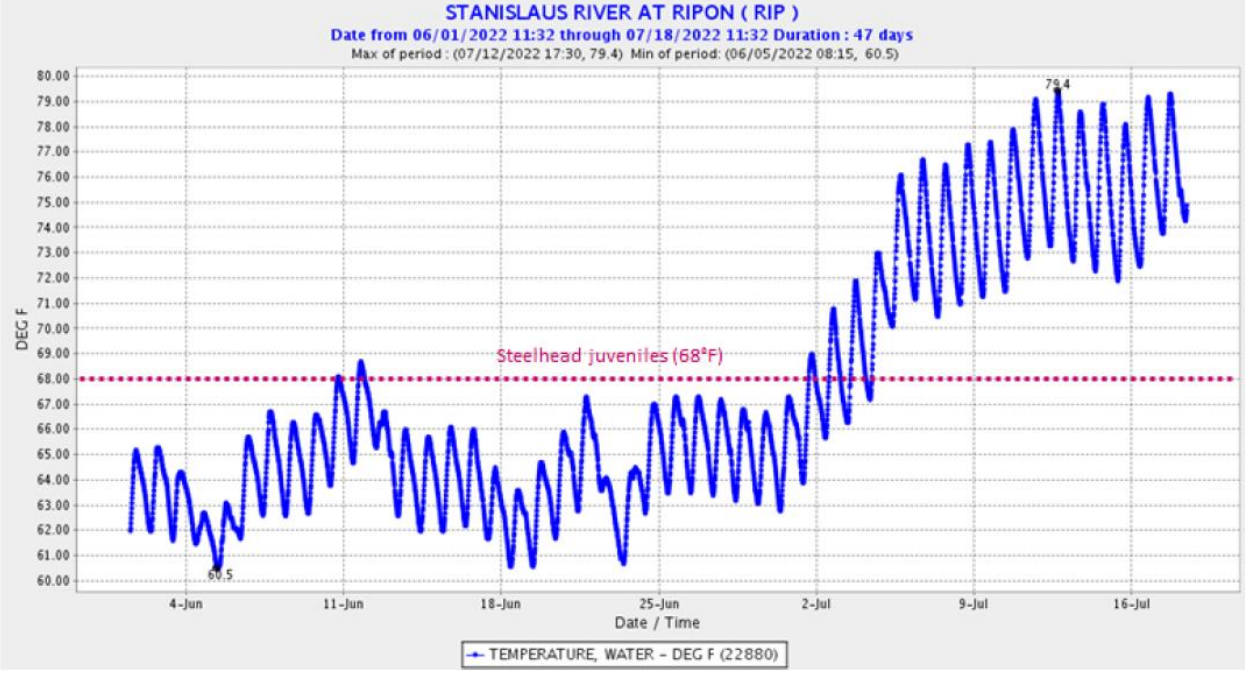


Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since June 1, 2022. Data from VNS station on CDEC. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 8°C=46.4°F; 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 16°C=60.8°F; 18°C=64.4°F; 20°C=68.0°F; 22°C=71.6°F; 24°C=75.2°F; 26°C=78.8°F; 28°C=82.4°F.

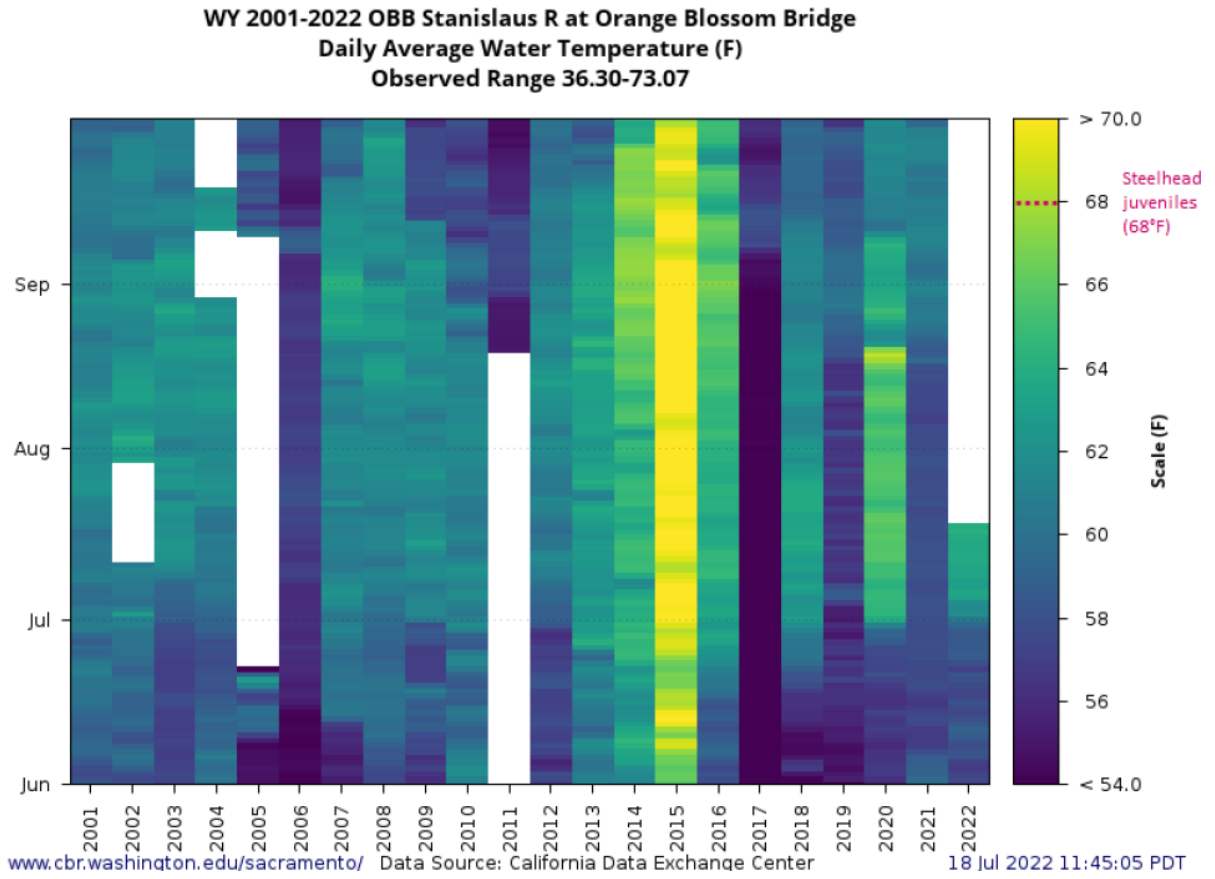


Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for June through September from WY 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

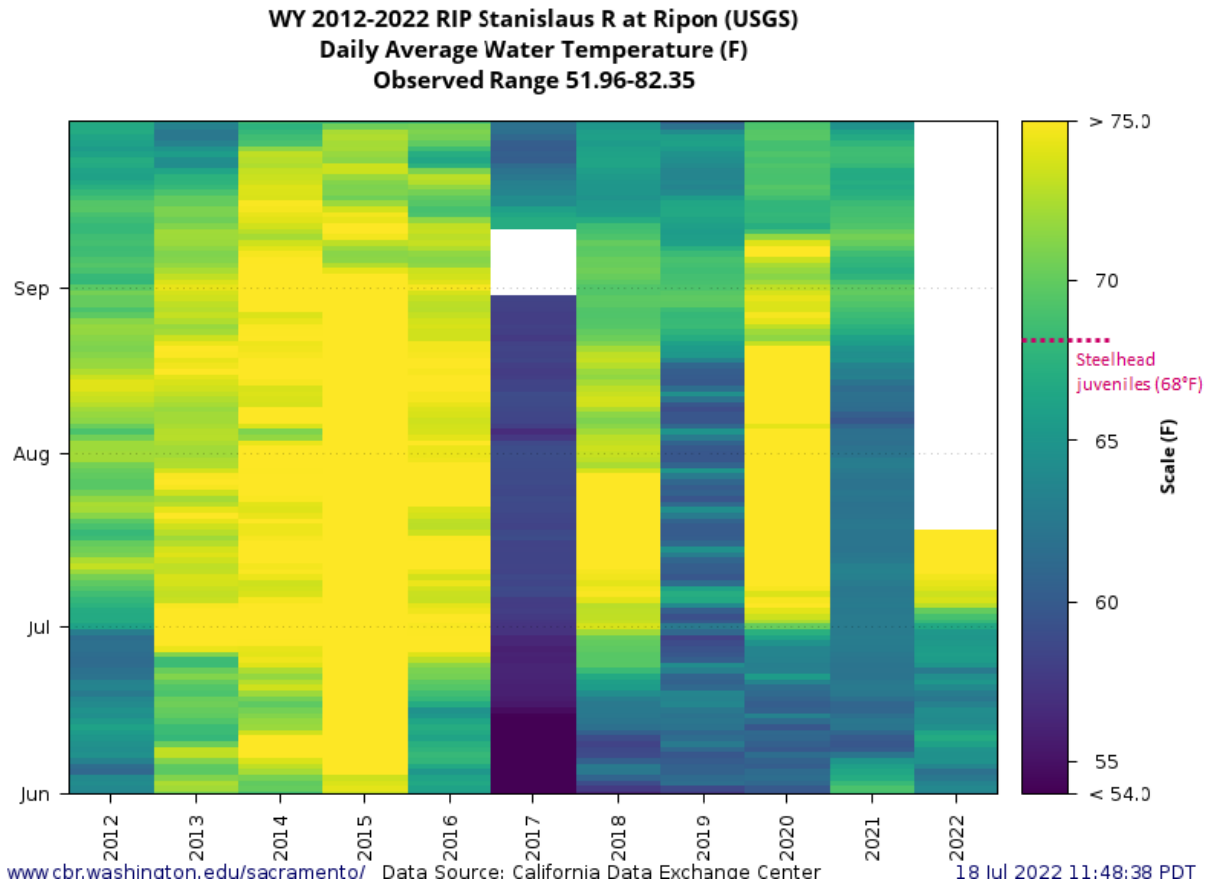


Figure 7. Stanislaus River water temperatures at Ripon for June through September from Water Year 2012 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

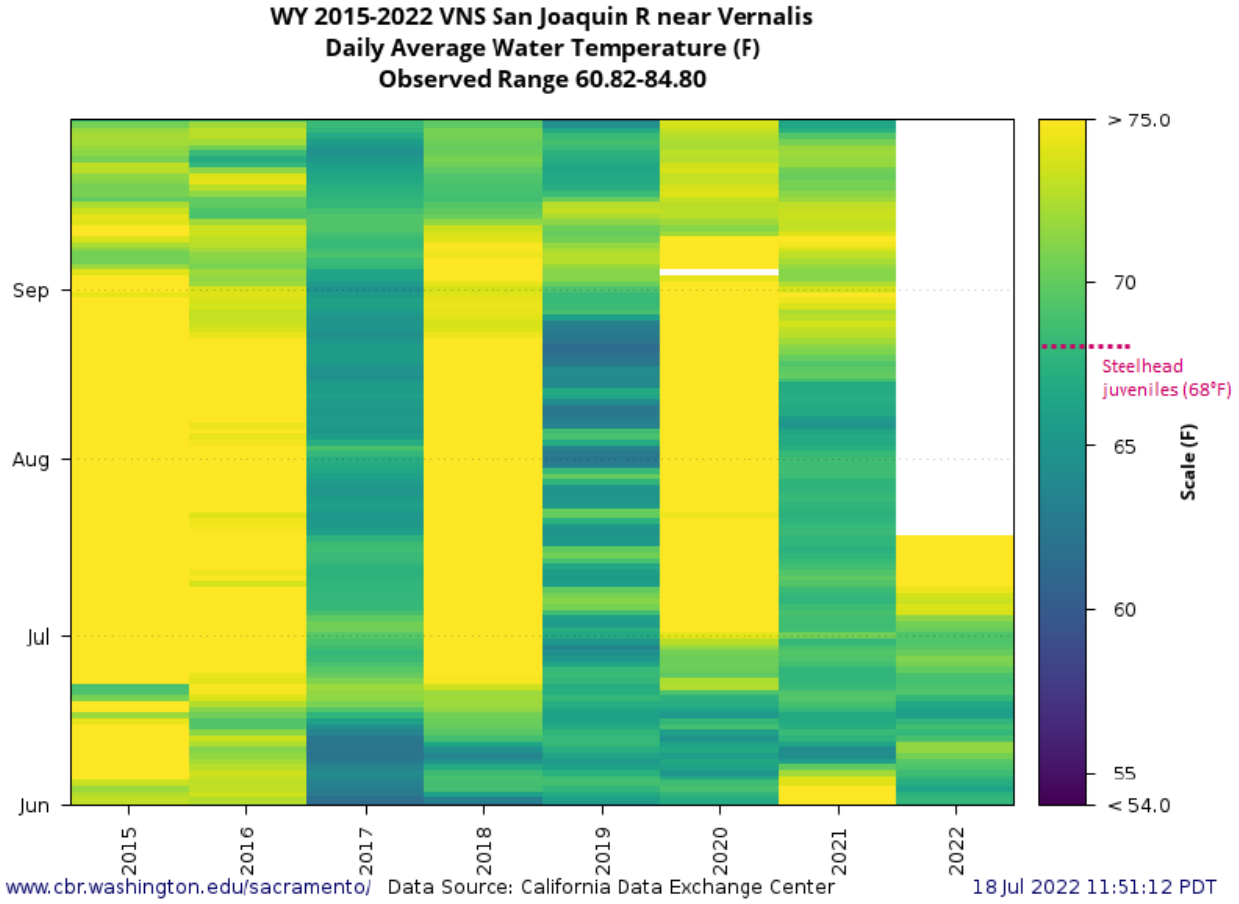


Figure 8. San Joaquin River water temperatures at Vernalis for June through September from Water Year 2015 to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

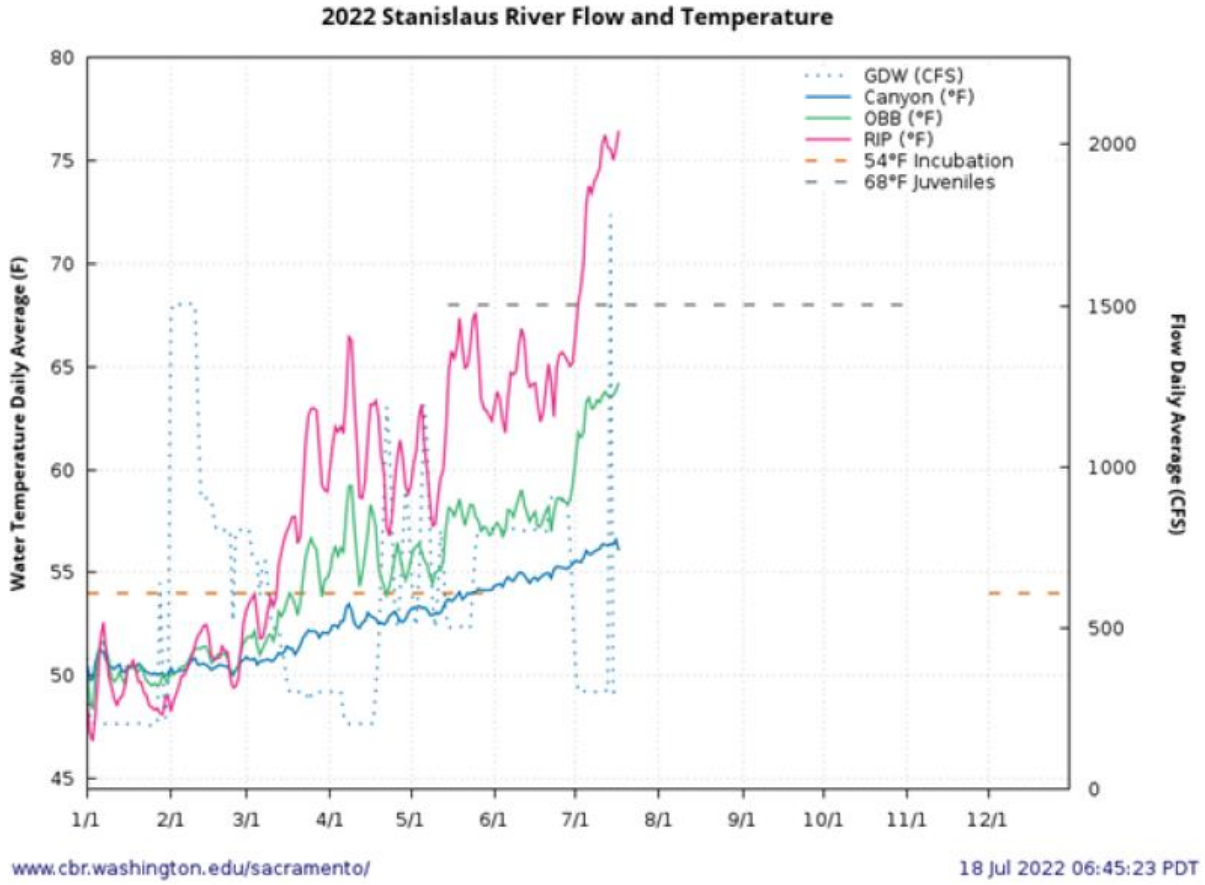


Figure 9. Stanislaus River flow and water temperatures from January 1, 2022 to present. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

Update on Fish Monitoring (Adults)

Weir

Fishbio installed the weir near Riverbank and began monitoring for upstream passage of adult salmonids on September 8, 2021; sampling concluded on May 23, 2022. The last >16" Oncorhynchus mykiss was observed in February. A total of 50 O. mykiss passages (27 >16") were observed over the entire sampling season.

Update on Fish Monitoring (Juveniles)

Mossdale Trawl

CDFW operated the Mossdale trawl from April through June of 2022. Over the course of the season a total of 62 non-marked Chinook salmon were captured. All salmon were caught between early April and mid-May (April 8- May 14). In addition, 3 O. mykiss smolts were captured. O. mykiss captures occurred on April 19, May 16, and May 26th. USFWS and CDFW began cooperative trawl operations on July 6th. Since then, 0 salmonids have been captured.

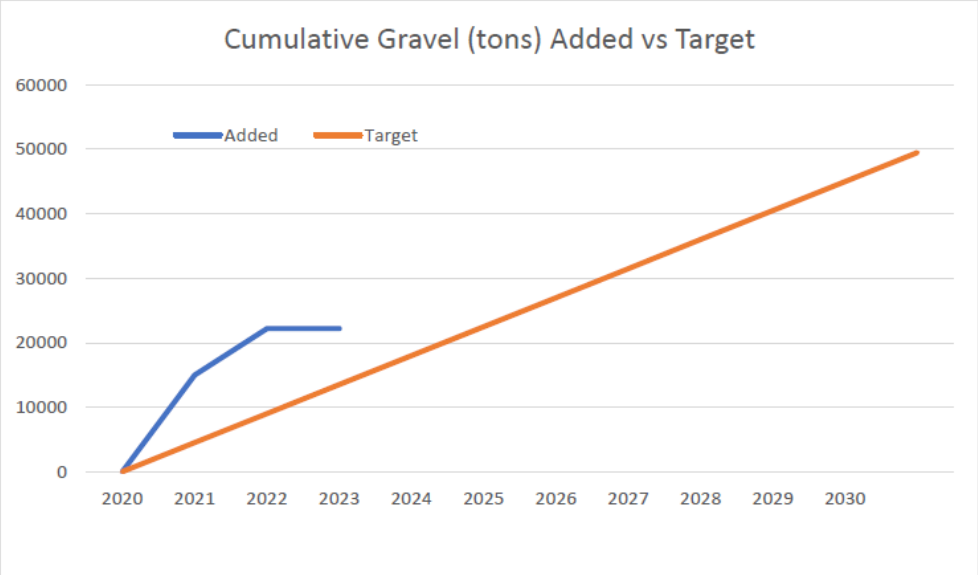
Progress Update on Proposed Action Elements

Spawning and Rearing Habitat Restoration

In August and September 2021, Reclamation placed 4,700 tons of gravel in the Float Tube Pool and 2,500 tons in the Cable Crossing Area below Goodwin Dam on the Stanislaus River. Reclamation has exceeded the annual average goal of 4,500 since implementation of the 2020 ROD (Section 4.10.6.2 of Proposed Action). Currently, Reclamation is two years ahead of schedule in implementing gravel placement projects on the Stanislaus River.

Table 1. Stanislaus spawning habitat restoration progress towards meeting annual average of 4,500 tons through 2030. Project implementation will only occur over the summer when in-water work will not impact salmonids.

Water Year	Gravel Added (Tons)	Cumulative Gravel Added (Tons)	Cumulative Target (Tons)	Percent of Cumulative Target Achieved
2020	15,000	15,000	4,500	333
2021	7,200	22,200	9,000	247
2022		22,200	13,500	164
2023		22,200	18,000	123
2024		22,200	22,500	99
2025		22,200	27,000	82
2026		22,200	31,500	70
2027		22,200	36,000	62
2028		22,200	40,500	55
2029		22,200	45,000	49
2030		22,200	49,500	45



Cumulative Gravel (tons) Added vs. Target

Table 2. Stanislaus rearing habitat restoration progress towards meeting the goal of constructing an additional 50 acres of rearing habitat adjacent to the Stanislaus River by 2030. The total target acres schedule was developed by the technical team tasked with implementing the Stanislaus River Habitat Restoration non-flow charter. Project implementation will only occur over the summer when in-water work will not impact salmonids.

Water Year	**Annual Restoration Completed (Acres)**	Cumulative Restoration Completed (Acres)	Cumulative l Target (Acres)	Percent of Cumulative Target Achieved
2020	0.25	0.25	0.25	100.0
2021		0.25	0.25	100.0
2022		0.25	3	8.3
2023		0.25	6	4.2
2024		0.25	9	2.8
2025		0.25	14	1.8
2026		0.25	19	1.3
2027		0.25	24	1.0
2028		0.25	32	0.8
2029		0.25	40	0.6
2030		0.25	50	0.5