BUREAU OF RECLAMATION

Stanislaus Watershed Team

10 a.m.–12 p.m., Stanislaus Watershed Team Notes
https://www.usbr.gov/mp/bdo/stanislaus-watershed-team.html

Wednesday, August 18, 2021

1. Actions

    a. JD Wikert - distribute draft pulse flow proposal once completed.

    b. Barb Byrne – share list of pulse flow planning considerations.

    c. Steve Knell - draft brief drought projections and summary explanation for October.

    d. JD Wikert, Barb Byrne, Steve Tsao, Elissa Buttemore - develop ramping rate proposal and share with Peggy.

    e. K&W – add ramping rate proposal to October agenda.

    f. All – reach out to JD Wikert if interested in developing a proposal for the upcoming CVPIA grant opportunity.

    g. All – contact JD Wikert if interested in a floating restoration tour.

    h. Sarah Perrin – check in with Levi Johnson on Proposed Action Elements

    i. Zarela Guerrero - prepare update on the schedule and tasks associated with annual reporting for September SWT.

    j. Rafi Silberblatt- follow up with Erin Foresman on potential Functional Flows presentation for September.

2. Introductions:

    a. USBR: Peggy Manza, Liz Kiteck, Sarah Perrin, Spencer Marshall, Suzanne Manugian, Levi Johnson, Luke Davis, Bradley Hubbard

    b. NMFS: Barb Byrne

    c. USFW: JD Wikert

    d. CDFW: Crystal Rigby, Steve Tsao, Ryan Kok, Ken Kundargi

e. SWRCB: Chris Carr

f. DWR: Vinh Giang

g. OID: Steve Knell

h. SSJID: Brandon Nakagawa

i. WAPA: Mike Prowatzke

j. Kearns & West: Rafi Silberblatt, Susan Ellsworth

3. Announcements

    a. Kearns & West noted that the process of formatting the SWT meeting packet for 508 compliance and visual integrity has resulted in some issues that may impact what is included in the packet.

        i. USBR noted that the issues are primarily associated with tables pulled from its website. One option may be hyperlinking them in the notes.

        ii. NMFS noted that the tables are very useful in looking back at past notes and proposed including a snapshot image with alternate text.

        iii. USBR responded that alternate text is not ideal with regard to 508 compliance.

    b. Levi Johnson, USBR, noted that he will be moving on from his current position to join Central Valley Operations. A new USBR lead for the SWT has not yet been identified.

4. Operations Update and Forecasts/Hydrology

    a. New Melones

        i. Current storage is 944 TAF and steadily dropping. It is anticipated that storage will drop below 900 TAF by 9/1/2021.

        ii. Accumulated inflow is nearly 327 TAF, slightly higher than predicted by DWR. Total inflow for the water year will likely be 360-375 TAF.

        iii. The inflow of -2668 cfs that was recorded on 7/27/21 is a result of gauge recalibration and associated adjustments lumped into one value.

        iv. Total precipitation is currently 16.8" and likely to remain as the total for the water year in the absence of a storm.

    b. Tulloch Reservoir

        i. There is currently sufficient water to meet downstream releases plus diversions to tunnels for contractors.

    c. Goodwin Reservoir

ii. Current releases are 1000 cfs, reducing to 500 cfs on 8/23/21.

d. See meeting handout for details.

5. Temperature Updates

a. Water temperatures in Goodwin Canyon show some seasonal warming but are still cool, in the mid-to-high 50°s, and likely to remain cool.

b. Orange Blossom remains below 60°, though temperatures may continue to increase in coming weeks due to reduced flows. Ripon also remains fairly consistent, with a slight rise due to the recent drop in flows. Vernalis temperatures have also remained steady but may increase due to lower flows.

c. The scale for Figures 6-8 is unchanged from last month and shows water temperatures remaining cooler than normal - considerably better than 2015.

d. Currently, conditions appear better for incoming fall Chinook salmon than in previous years but close monitoring is needed due to planned flow reductions.

e. See meeting handout for details.

6. Flow Planning

a. Fall Pulse Flow initial proposal

iii. USFWS has not yet finished a draft proposal but will distribute to the SWT as soon as it is available. The proposal will reflect a critically dry year and include a spikey pattern for the last two weeks of October. An earlier pulse flow is not being considered this year since there is a risk of water temperatures heating up again afterwards.

1. **[Action]:** JD Wikert to distribute draft proposal as soon as completed.

iv. NMFS noted the need to accommodate different user considerations such as rafting and carcass surveys. **[Action]:** Barb Byrne to share list of considerations with SWT.

a. Drought Planning

v. OID noted that the Climate Prediction Center currently predicts a 66% likelihood of another La Niña year. This could leave New Melones in very poor condition (<300 TAF) at the end of the next water year

1. USBR noted that the Farmer's Almanac similarly predicts a dry winter, with only a few significant rain events. USBR is currently focused on managing through the fall, but intends to undertake further drought planning roughly in the November time frame.

2. **[Action]:** Steve Knell to draft several brief drought projections for October SWT. Drought planning will be revisited in more detail at the November SWT meeting.

b. Ramping rate proposal

vi. USBR noted that the LTO supports the SWT moving forward with a revised ramping rate proposal.

vii. **[Action]:** JD Wikert, Barb Byrne, Steve Tsao and Elissa Buttermore to collaborate on a proposal to be shared in advance of the October SWT meeting.

1. Initial draft will be shared with Peggy Manza to ensure the proposal is acceptable to Jarom Zimmerman, GM for Tri-Dam Project which has operational control over Lake Tulloch.

2. SWT will have a month to review the proposal and then a revised proposal will be sent to LTO in December.

7. Stanislaus River Forum (SRF) Call Review

a. Stanislaus River Forum was held via Teams on August 17, 2021. Barbara Byrne (NMFS), Denisse Barnard (EBMUD), Logan Day (PSMFC), Zarela Guerrero (USBR), James Inman (FishBio), Levi Johnson (USBR), Ryan Kok (CDFW), Peggy Manza (USBR), Spencer Marshall (USBR), Sarah Perrin (USBR), Chris Shutes (public), Cory Starr (PSMFC), Steve Tsao (CDFW) and Jeanne Zolezzi (SEWD) were in attendance. Updates on operations, temperature and fish monitoring were provided and discussed. Barb Byrne relayed a message from Scott Armstrong of All Outdoors Rafting advising that the preferred flows for rafting are 800 and 1,200 cfs or 2,000 and 2,500 cfs, between 10am and 4pm, on the weekends. Ideally Friday would have similar flows than the rest of the weekend so the rafting guides can do a test run (but Friday flows less important than weekend flows). To have these flows Mid-September through mid-October would be ideal. Flows of 1,300 through 1,500 are raftable, but one of the rapids is tricky at those flows and rafts are likely to flip.

8. Fish Monitoring and Studies

a. CDFW carcass surveys to begin the first week of October.

b. See handout for details.

9. Restoration Project Updates

c. The migratory corridor project (renamed Buffington Restoration Project), has identified 10 acres of off-channel habitat in collaboration with the San Joaquin Wildlife Refuge. The next steps will include refining designs and permitting.

d. The City of Oakdale has approved the Stanley Wakefield restoration project. USFWS will be signing a grant to take them through the permitting phase including some support for implementation and monitoring.

e. Gravel augmentation is underway at Goodwin Canyon and likely to continue for another week. Lower flows are currently enabling improved access for heavy equipment to place gravel. Contact Elissa Buttermore, USBR, if interested in a field visit.

f. CVPIA will be publishing a Notice of Funding Opportunity based on their near-term restoration strategy at some indeterminate time in the future.

g. Honolulu Bar restoration habitat is functioning well. Cottonwood cages appear to have been successful at preventing beaver damage. **[Action]:** Contact JD Wikert if interested in a floating restoration tour this fall.

10. Progress Update on Proposed Action Elements

    a. No updates were provided.

11. Other Discussion Items

    a. Annual Reporting
        - **[Action]:** Zarela Guerrero will provide an update on the schedule and tasks associated with annual reporting at the September SWT meeting.
    b. Future presentations
        - **[Action]:** Rafi to follow up with Erin Foresman on potential Functional Flows presentation.

    c. Items to elevate to WOMT
        - No items to elevate to WOMT

12. Next Meeting
    a. Wednesday, September 15, 2021 (10am-12pm)

BUREAU OF RECLAMATION

Stanislaus Watershed Team Agenda

10:00 AM – 12:00 PM
Conference Line: 1 (321) 206143; Meeting ID: 901 988 581# MS Teams webinar
Stanislaus Watershed Team Notes
https://www.usbr.gov/mp/bdo/stanislaus-watershed-team.html

Wednesday, August 18, 2021

1. Introductions
2. Ground Rules[1]
3. Announcements
4. Operations Update and Forecasts/Hydrology
5. Temperature Updates
6. Flow Planning
    a. Drought Planning
    b. Fall Pulse Flow initial proposal review
7. Stanislaus River Forum (SRF) Call Review
8. Fish Monitoring and Studies
9. Restoration Project Updates
10. Progress Update on Proposed Action Elements
11. Other Discussion Items
    a. Ramping rates proposal
    b. Items to elevate to WOMT

[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

c. Annual reporting check-in

d. Future presentations

i. Functional flows

12. Review Action Items

13. Next Meeting: Wednesday, September 15, 2021 (10am-12pm)

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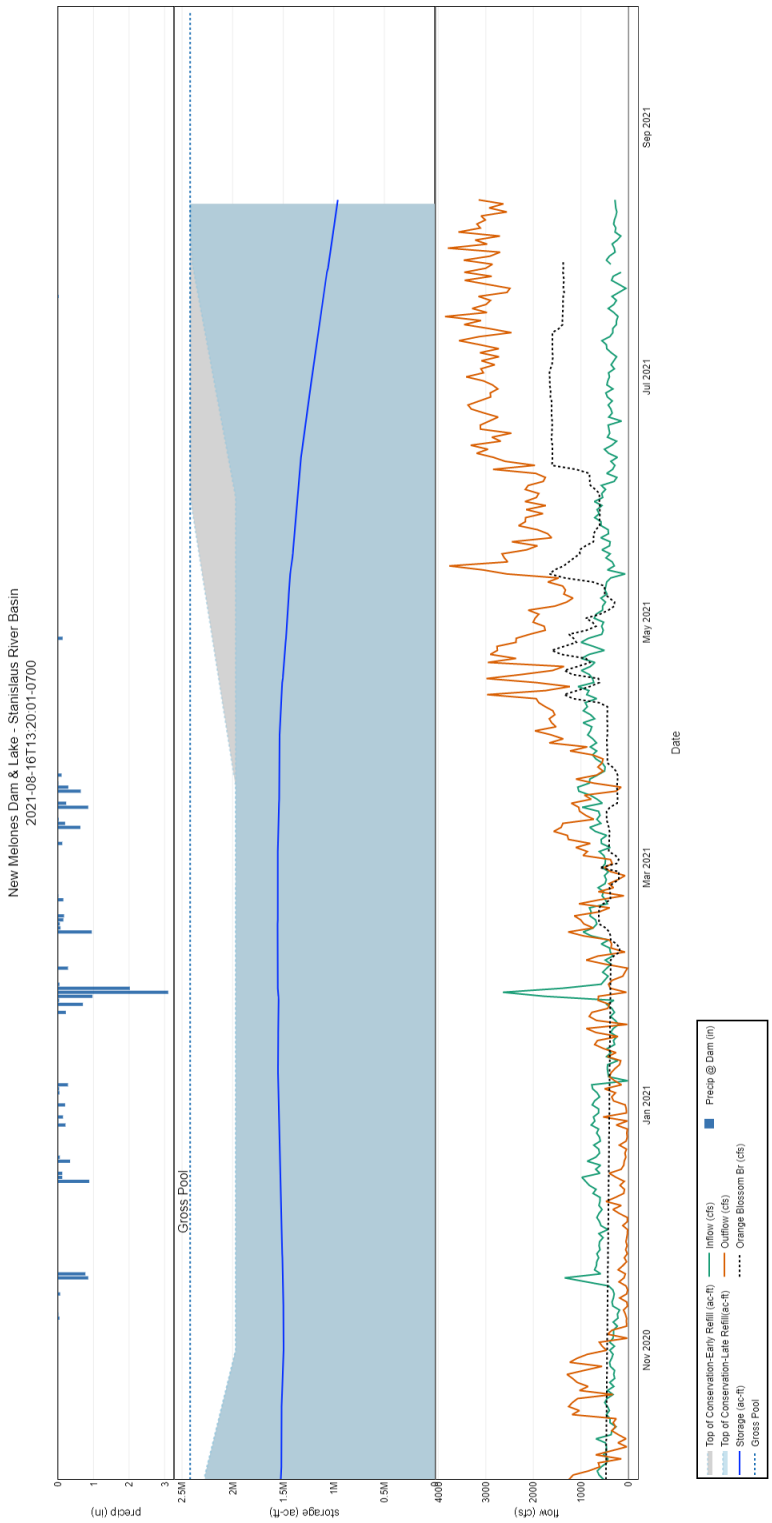

Figure 1. New Melones Dam & Lake - Stanislaus River Basin, 2021-08-16T13:20:01-0700; Graph shows Top of Conservation - Early Refill (ac-ft), Top of Conservation-Late Refill (ac-ft), Storage (ac-ft), Gross Pool, Inflow (cfs), Outflow (cfs), Orange Blossom Br (cfs), Precip at Damn (in); from November 2020 - August 2021; for more information, please call the BDO Office at (916) 414-2400

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA

DAILY CVP WATER SUPPLY REPORT, AUGUST 15, 2021; RUN DATE: August 16, 2021

Table 1. RESERVOIR RELEASES IN CUBIC FEET/SECOND

RESERVOIR	DAM	WY 2020	WY 2021	15 YR MEDIAN
TRINITY	LEWISTON	453	456	456
SACRAMENTO	KESWICK	10,107	8,550	10,138
FEATHER	OROVILLE (SWP)	2,300	1,750	4,000
AMERICAN	NIMBUS	2,547	1,008	2,748
STANISLAUS	GOODWIN	202	1,001	277
SAN JOAQUIN	FRIANT	433	275	352

Table 2. STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET

RESERVOIR	CAPACITY	15 YR AVG	WY 2020	WY 2021	% O 15 YR AVG
TRINITY	2,448	1,498	1,566	925	62
SHASTA	4,552	2,660	2,494	1,327	50
FOLSOM	977	519	505	237	46
NEW MELONES	2,420	1,345	1,601	952	71
FED. SAN LUIS	966	235	210	-14	-6
TOTAL NORTH CVP	11,363	6,257	6,376	3,427	55
MILLERTON	520	307	228	224	73
OROVILLE (SWP)	3,538	1,877	1,763	827	44

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	335	201	2,828	1,014	33
SHASTA	2,231	2,286	10,356	4,456	50
FOLSOM	776	318	6,301	2,277	34
NEW MELONES	327	----	2,663	900	36
MILLERTON	526	298	4,374	1,360	39

Table 4. ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES

RESERVOIR	CURRENT WY 2021	WY 1977	WY1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	16.21	12.11	55.19	31.15 (59)	52	0.00
SACRAMENTO AT SHASTA DAM	23.66	17.42	112.58	60.62 (64)	39	0.00
AMERICAN AT BLUE CANYON	31.62	15.64	103.88	65.23 (46)	48	0.00
STANISLAUS AT NEW MELONES	16.80	----	45.33	27.09 (43)	62	0.00
SAN JOAQUIN AT HUNTINGTON LK	17.68	17.20	81.80	40.90 (46)	43	0.00

United States Department of the Interior
U.S. Bureau of Reclamation-Central Valley Project-California

Table 5. New Melones Lake Daily Operations, August 2021, Run Date: August 16, 2021

Day	Elev	Storage 1,000 Acre-Feet In Lake	Storage 1,000 Acre-Feet Change	Computed * Inflow cfs	Release-cfs Power	Release-cfs Spill	Release-cfs Outlet	Evap cfs	Evap Inches	Precip Inches
		1,036.0								
1	946.39	1,028.8	-7.1	300	3,797	0	0	100	.42	.00
2	945.64	1,023.3	-5.5	344	2,972	0	0	142	.60	.00
3	944.81	1,017.3	-6.1	235	3,224	0	0	66	.28	.00
4	944.09	1,012.0	-5.2	163	2,705	0	0	99	.42	.00
5	943.16	1,005.3	-6.7	283	3,576	0	0	105	.45	.00
6	942.35	999.5	-5.8	267	3,116	0	0	98	.42	.00
7	941.53	993.6	-5.9	311	3,186	0	0	98	.42	.00
8	940.76	988.0	-5.5	297	3,010	0	0	69	.30	.00
9	939.95	982.3	-5.8	265	3,099	0	0	83	.36	.00
10	939.28	977.5	-4.8	248	2,558	0	0	92	.40	.00
11	938.51	972.0	-5.5	269	2,930	0	0	92	.40	.00
12	937.82	967.2	-4.9	272	2,631	0	0	100	.44	.00
13	936.99	961.3	-5.8	285	3,151	0	0	82	.36	.00
14	936.24	956.0	-5.3	396	2,960	0	0	88	.39	.00
15	935.60	951.6	-4.5	227	2,397	0	0	86	.38	.00
TOTALS			**-84.4**	**4,162**	**45,312**	**0**	**0**	**1,400**	**6.04**	**.00**
ACRE-FEET			**-84,400**	**8,255**	**89,876**	**0**	**0**	**2,777**		

COMMENTS:
* COMPUTED INFLOW IS THE SUM OF CHANGE IN STORAGE, RELEASES AND EVAPORATION.

SUMMARY
RELEASE (ACRE-FEET)
Power 89, 876
Spill 0
Outlet 0
Total 89,876

PRECIPITATION
This month = .00
July 1, 2021 to Date= .02
Oct 1, 2020 to Date= 16.80

United States Department of the Interior
U.S. Bureau of Reclamation-Central Valley Project-California

Table 6. Tulloch Reservoir Daily Operations, August 2021, Run Date: August 16, 2021

Day	Elev	Storage Acre-Feet Res.	Storage Acre-Feet Change	Computed * Inflow cfs	New Melones Release-cfs	Release-cfs Power	Release-cfs Spill	Release cfs Outlet	Evap cfs (1)
		64,186							
1	508.90	65,597	+1,411	3,769	3,797	2,485	395	161	17
2	508.91	65,609	+12	2,989	2,972	2,492	400	67	24
3	509.25	66,032	+423	3,225	3,224	2,491	400	110	11
4	508.53	65,141	-891	2,738	2,705	2,487	396	287	17
5	509.09	65,832	+691	3,456	3,576	2,488	396	206	18
6	509.03	65,757	-75	3,162	3,116	2,492	401	290	17
7	509.17	65,932	+175	1,166	3,186	493	401	167	17
8	509.11	65,857	-75	2,992	3,010	2,493	400	125	12
9	509.32	66,119	+262	3,105	3,099	2,492	401	65	15
10	508.68	65,326	-793	2,575	2,558	2,489	402	68	16
11	508.45	65,043	-283	2,874	2,930	2,480	399	122	16
12	507.93	64,404	-639	2,648	2,631	2,486	396	71	17
13	508.61	65,240	+836	3,118	3,151	2,475	115	93	14
14	509.56	66,419	+1,179	3,011	2,960	2,401	0	0	16
15	509.45	66,282	-137	2,367	2,397	2,421	0	0	15
TOTALS			**+2,096**	**43,195**	**45,312**	**35,165**	**4,902**	**1,832**	**242**
ACRE-FEET			**+2,096**	**85,677**	**89,876**	**69,750**	**9,723**	**3,634**	**480**

*COMPUTED INFLOW IS SUM OF CHANGE IN STORAGE, RELEASES, AND EVAPORATION.
(1) EVAPORATION RECORDS TAKEN FROM NEW MELONES PAN.

SUMMARY

RELEASE (ACRE-FEET)
Power 69,750
Spill 9,723
Outlet 3,634
Total 83,107

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

Table 7. Goodwin Reservoir Daily Operations, August 2021, Run Date: August 16, 2021

Day	Elev	Storage Acre-Feet Res	Storage Acre-Feet Change	Tulloch Release	Release-cfs River Outlet	Release-cfs River Spill	Release-cfs Canals Joint Main	Release-cfs Canals South Main
		576						
1	360.55	576	+0	3,041	0	1,501	949	415
2	360.55	576	+0	2,959	0	1,500	926	361
3	360.55	576	+0	3,001	0	1,503	917	397
4	360.55	576	+0	3,170	0	1,505	979	473
5	360.55	576	+0	3,090	0	1,504	976	477
6	360.55	576	+0	3,183	0	1,503	986	498
7	360.55	576	+0	1,061	0	1,501	952	423
8	360.55	576	+0	3,018	0	1,504	900	435
9	360.55	576	+0	2,958	0	1,505	914	371
10	360.55	576	+0	2,959	0	1,502	931	370
11	360.55	576	+0	3,001	0	1,501	909	442
12	360.55	576	+0	2,953	0	1,503	873	430
13	360.30	558	-18	2,683	0	1,238	874	428
14	360.30	558	+0	2,401	0	1,002	904	331
15	360.30	558	+0	2,421	0	1,001	914	331
TOTALS			**-18**	**41,899**	**0**	**21,273**	**13,904**	**6,182**
ACRE-FEET			**-18**	**83,107**	**0**	**42,195**	**27,579**	**12,262**

Join Main Operated by SSJID and OID.

SUMMARY

RELEASE (ACRE-FEET)	
Joint Main Canal	27,579
South Main Canal	12,263
Outlet	0
Spill	41,195
Total	**82,036**

United States Department of the Interior
U.S. Bureau of Reclamation-Central Valley Project-California

Table 8. New Melones Lake Daily Operations, August 2021, Run Date: August 3, 2021

Day	Elev	Storage 1,000 Acre-Feet In Lake	Storage 1,000 Acre-Feet Change	Computed * Inflow cfs	Release -cfs Power	Release -cfs Spill	Release -cfs Outlet	Evap cfs	Evap Inches	Precip Inches
		1,215.9								
1	969.88	1,210.5	-5.5	420	3,051	0	0	121	.46	.00
2	969.17	1,204.7	-5.8	297	3,103	0	0	100	.38	.00
3	968.54	1,199.6	-5.1	366	2,811	0	0	126	.48	.00
4	967.83	1,193.9	-5.7	303	3,092	0	0	102	.39	.00
5	967.19	1,188.7	-5.2	251	2,723	0	0	125	.48	.00
6	966.48	1,183.0	-5.7	363	3,124	0	0	112	.43	.00
7	965.89	1,178.3	-4.7	457	2,726	0	0	114	.44	.00
8	965.20	1,172.8	-5.5	465	3,131	0	0	111	.43	.00
9	964.42	1,166.6	-6.2	560	3,563	0	0	126	.49	.00
10	963.70	1,160.9	-5.7	392	3,139	0	0	133	.52	.00
11	963.13	1,156.4	-4.5	329	2,462	0	0	141	.55	.00
12	962.44	1,150.9	-5.4	332	2,927	0	0	148	.58	.00
13	961.60	1,144.3	-6.6	256	3,456	0	0	130	.51	.00
14	960.85	1,138.4	-5.9	252	3,100	0	0	116	.46	.00
15	959.90	1,131.0	-7.4	221	3,855	0	0	106	.42	.00
16	959.19	1,125.5	-5.5	308	2,976	0	0	116	.46	.00
17	958.43	1,119.6	-5.9	426	3,287	0	0	110	.44	.00
18	957.71	1,114.0	-5.6	309	2,995	0	0	120	.48	.00
19	957.00	1,108.6	-5.5	254	2,902	0	0	112	.45	.00
20	956.25	1,102.8	-5.8	346	3,154	0	0	94	.38	.02
21	955.61	1,097.9	-4.9	210	2,554	0	0	126	.51	.00
22	954.94	1,092.8	-5.1	55	2,493	0	0	143	.58	.00
23	954.17	1,086.9	-5.9	202	3,005	0	0	150	.61	.00
24	953.33	1,080.6	-6.4	356	3,445	0	0	122	.50	.00
25	952.63	1,075.3	-5.3	322	2,875	0	0	115	.47	.00
26	951.78	1,068.9	-6.4	346	3,450	0	0	124	.51	.00
27	950.25	1,057.4	-11.5	-2,668	3,0020	0	0	109	.45	.00
28	949.56	1,052.3	-5.1	375	2,860	0	0	108	.45	.00
29	948.74	1,046.2	-6.1	463	3,465	0	0	70	.29	.00
30	948.04	1,041.0	-5.2	402	2,912	0	0	105	.44	.00
31	947.36	1,036.0	-5.0	282	2,699	0	0	112	.47	.00
TOTALS			**-180.1**	**7,252**	**94,337**	**0**	**0**	**3,647**	**14.51**	**.02**

Day	Elev	Storage 1,000 Acre-Feet In Lake	Storage 1,000 Acre-Feet Change	Computed * Inflow cfs	Release -cfs Power	Release -cfs Spill	Release -cfs Outlet	Evap cfs	Evap Inches	Precip Inches
ACRE -FEET			**-180,100**	**14,384**	**187,117**	**0**	**0**	**7,234**		

COMMENTS: * COMPUTED INFLOW IS THE SUM OF CHANGE IN STORAGE, RELEASES AND EVAPORATION.

SUMMARY

RELEASE (ACRE-FEET)
Power 187, 117
Spill 0
Outlet 0
Total 187, 117

PRECIPITATION
This month = .02
July 1, 2021 to Date= .02
Oct1, 2020 to Date= 16.80

United States Department of the Interior
U.S. Bureau of Reclamation-Central Valley Project-California

Table 9. Tulloch Reservoir Daily Operations, July 2021, Run Date: August 1, 2021

Day	Elev	Storage Acre-Feet Res.	Storage Acre-Feet Change	Computed * Inflow cfs	New Melones Release-cfs	Release-cfs Power	Release-cfs Spill	Release cfs Outlet	Evap cfs (1)
		66,269							
1	509.28	66,069	-200	3,063	3,051	2,478	402	265	19
2	509.23	66,007	-62	3,143	3,103	2,384	471	304	15
3	508.70	65,351	-656	2,812	2,811	2,462	503	159	19
4	508.81	65,486	+135	3,101	3,092	2,481	495	41	16
5	508.42	65,006	-480	2,761	2,723	2,481	423	80	19
6	508.57	65,191	+185	3,158	3,124	2,490	397	161	17
7	508.09	64,600	-591	2,714	2,726	2,447	395	153	17
8	508.30	64,858	+258	3,185	3,131	2,485	392	161	17
9	509.20	65,970	+1,112	3,610	3,563	2,487	396	149	17
10	509.28	66,069	+99	3,193	3,139	2,490	402	230	21
11	508.26	64,809	-1,260	2,438	2,462	2,490	398	163	22
12	507.99	64,477	-332	2,961	2,927	2,489	448	168	23
13	508.39	64,969	+492	3,448	3,456	2,485	490	205	20
14	508.27	64,821	-148	3,113	3,100	2,489	495	186	18
15	509.33	66,132	+1,311	3,803	3,855	2,490	496	139	17
16	509.12	65,870	-262	3,022	2,976	2,491	498	147	18
17	509.16	65,920	+50	3,170	3,287	2,489	502	136	18
18	509.22	65,995	+75	3,055	2,995	2,483	499	16	19
19	509.62	66,494	+499	3,255	2,902	2,486	358	141	18
20	509.14	65,895	-599	2,653	3,154	2,489	299	152	15
21	508.64	65,277	-618	2,656	2,554	2,490	300	158	20
22	508.00	64,489	-788	2,675	2,493	2,486	356	230	0
23	508.27	64,821	+332	3,255	3,005	2,484	390	190	24
24	508.63	65,265	+444	3,398	3,445	2,488	395	271	20
25	508.21	64,748	-517	2,918	2,875	2,483	392	285	19
26	508.81	65,486	+738	3,451	3,450	2,487	394	178	20
27	508.67	65,314	-172	3,016	3,002	2,485	393	207	18
28	508.30	64,858	-456	2,844	2,860	2,488	394	174	18
29	508.84	65,523	+665	3,431	3,465	2,487	391	206	12
30	508.45	65,043	-480	2,892	2,912	2,490	397	229	18
31	507.75	64,186	-857	2,707	2,699	2,484	392	244	19
TOTALS			**-2,083**	**94,901**	**94,337**	**76,918**	**12,953**	**5,528**	**553**

Day	Elev	Storage Acre-Feet Res.	Storage Acre-Feet Change	Computed * Inflow cfs	New Melones Release-cfs	Release-cfs Power	Release-cfs Spill	Release cfs Outlet	Evap cfs (1)
ACRE-FEET			**-2,083**	**188,236**	**187,117**	**152,567**	**25,692**	**10,965**	**1,097**

*COMPUTED INFLOW IS SUM OF CHANGE IN STORAGE, RELEASES, AND EVAPORATION.
(1) EVAPORATION RECORDS TAKEN FROM NEW MELONES PAN.

SUMMARY

RELEASE (ACRE-FEET)

Power	152,567
Spill	25,692
Outlet	10,965
Total	189,224

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

Table 10. Goodwin Reservoir Daily Operations, June 2021, Run Date: August 1, 2021

Day	Elev	Storage Acre-Feet Res	Storage Acre-feet Change	Tulloch Release	Release-cfs River Outlet	Release-cfs River Spill	Release-cfs Canals Joint Main	Release-cfs Canals South Main
		575						
1	360.54	575	0	3,145	0	1,505	92	496
2	360.52	573	-2	3,159	0	1,505	924	496
3	360.52	573	0	3,124	0	1,503	925	477
4	360.52	573	0	3,017	0	1,502	905	421
5	360.52	573	0	2,984	0	1,501	866	406
6	360.52	573	0	3,048	0	1,502	867	453
7	360.52	573	0	2,995	0	1,502	838	453
8	360.52	573	0	3,038	0	1,504	835	452
9	360.52	573	0	3,032	0	1,503	876	405
10	360.52	573	0	3,122	0	1,502	920	451
11	360.52	573	0	3,051	0	1,503	894	401
12	360.52	573	0	3,105	0	1,506	933	435
13	360.54	575	2	3,180	0	1,502	976	490
14	360.52	573	-2	3,170	0	1,503	977	479
15	360.54	575	2	3,125	0	1,501	953	462
16	360.52	573	-2	3,136	0	1,500	973	461
17	360.54	575	2	3,127	0	1,502	989	446
18	360.54	575	0	2,998	0	1,503	917	386
19	360.54	575	0	2,985	0	1,501	912	377
20	360.52	573	-2	2,940	0	1,501	865	387
21	360.54	575	2	2,948	0	1,502	893	380
22	360.55	576	1	3,072	0	1,503	912	496
23	360.52	573	-3	3,064	0	1,501	959	436
24	360.52	573	0	3,154	0	1,501	991	466
25	360.54	575	2	3,160	0	1,501	991	473
26	360.54	575	0	3,059	0	1,502	992	377
27	360.55	576	1	3,085	0	1,500	957	451
28	360.55	576	0	3,056	0	1,502	936	441
29	360.55	576	0	3,084	0	1,503	958	451
30	360.55	576	0	3,116	0	1,502	976	462
31	360.55	576	0	3,120	0	1,500	971	472
TOTALS			1	**95,399**	**0**	**46,568**	**27,973**	**13,739**
ACRE-FEET			1	**189,224**	**0**	**92,368**	**55,484**	**27,251**

Join Main Operated by SSJID and OID.

SUMMARY

RELEASE (ACRE-FEET)	
Joint Main Canal	55,484
South Main Canal	27,251
Outlet	0
Spill	92,368
Total	**175,103**

August 2021 Water Temperature and Fish Monitoring Update

Year-to-Date Flows

The SRP flow schedule for Critical years requires 150 cfs through the summer; recent releases have been higher than the SRP minimum flow for Delta needs. Goodwin releases since October 1, 2020 are shown in Figure 1.

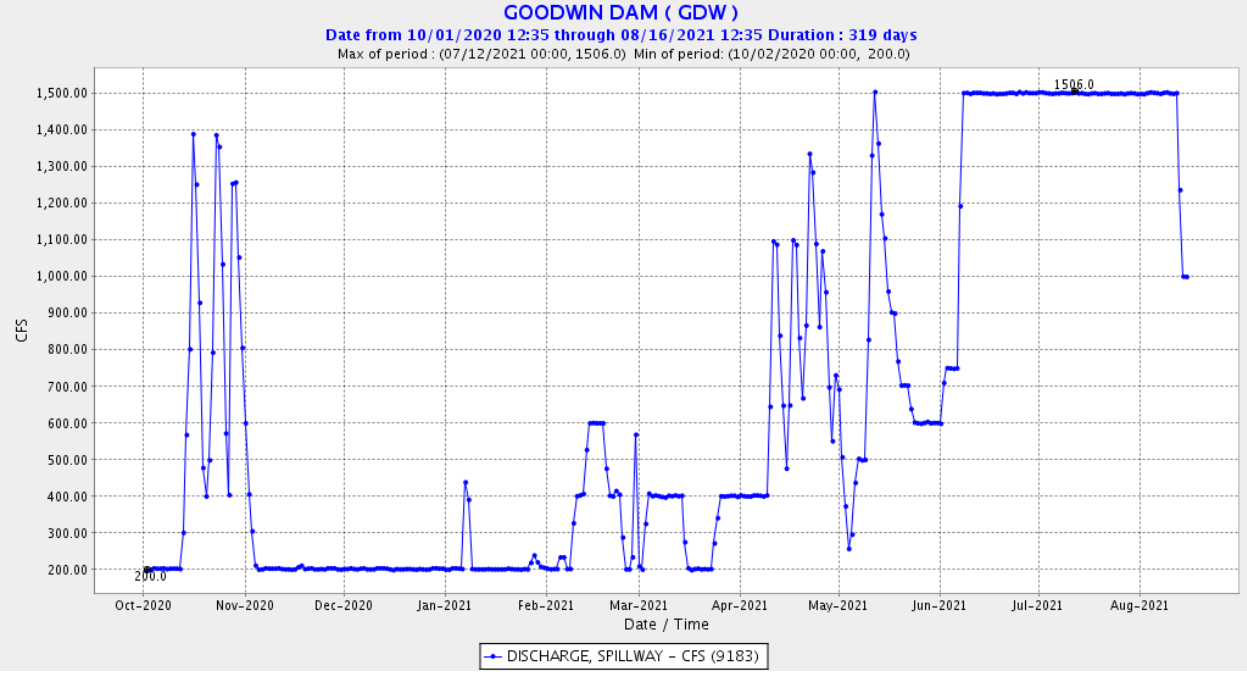

Figure 2. Goodwin (daily) releases to the Stanislaus River since October 1, 2020. Data from GDW station on CDEC.

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

Water temperatures in the Stanislaus River since March 1, 2021 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, 2021 are shown below at Vernalis (Figure5). Current-year water temperatures are plotted along with historical temperatures for Orange Blossom Bridge

[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

(Figure 6), Ripon (Figure 7), and Vernalis (Figure 8). A compilation of Stanislaus River water temperatures and Goodwin releases is provided in Figure 9.

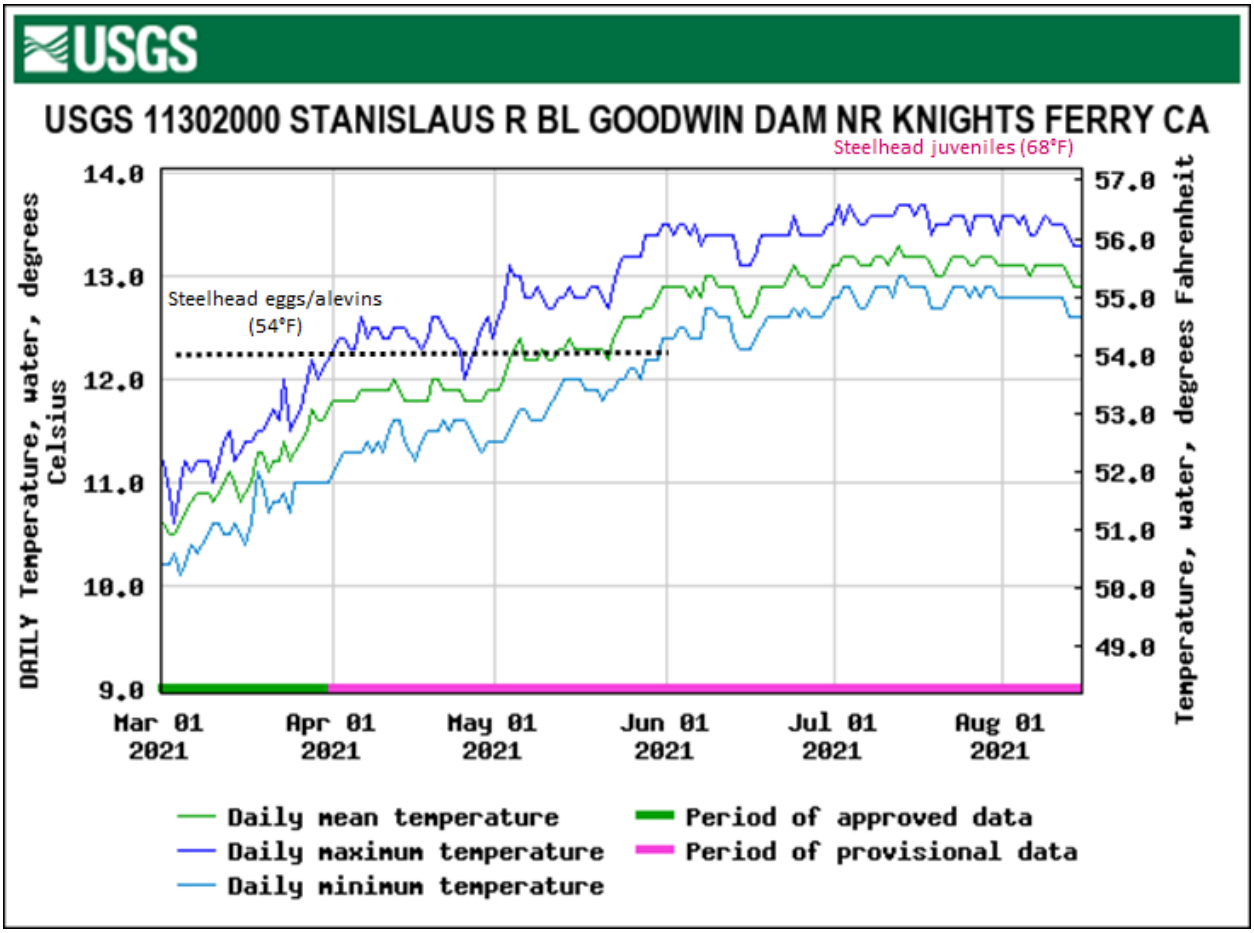

Figure 3. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since March 1, 2021. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

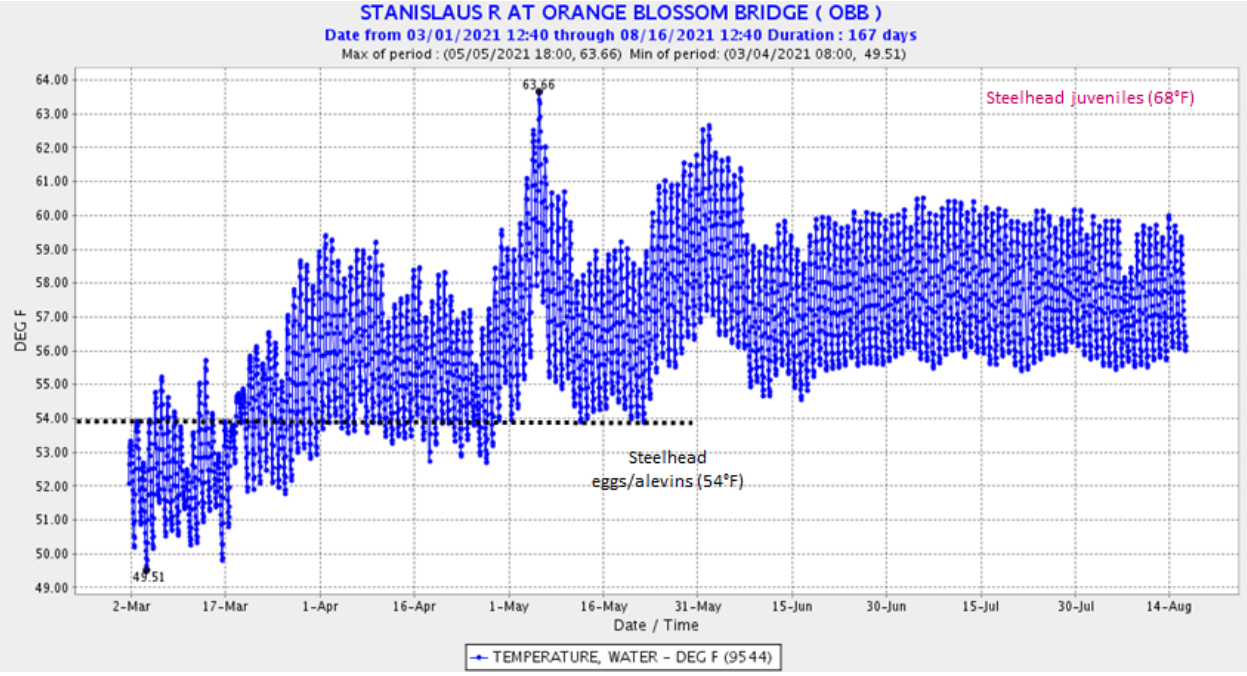

Figure 4. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since March 1, 2021. Data from OBB station on CDEC; temperature threshold reference line added by SWT.

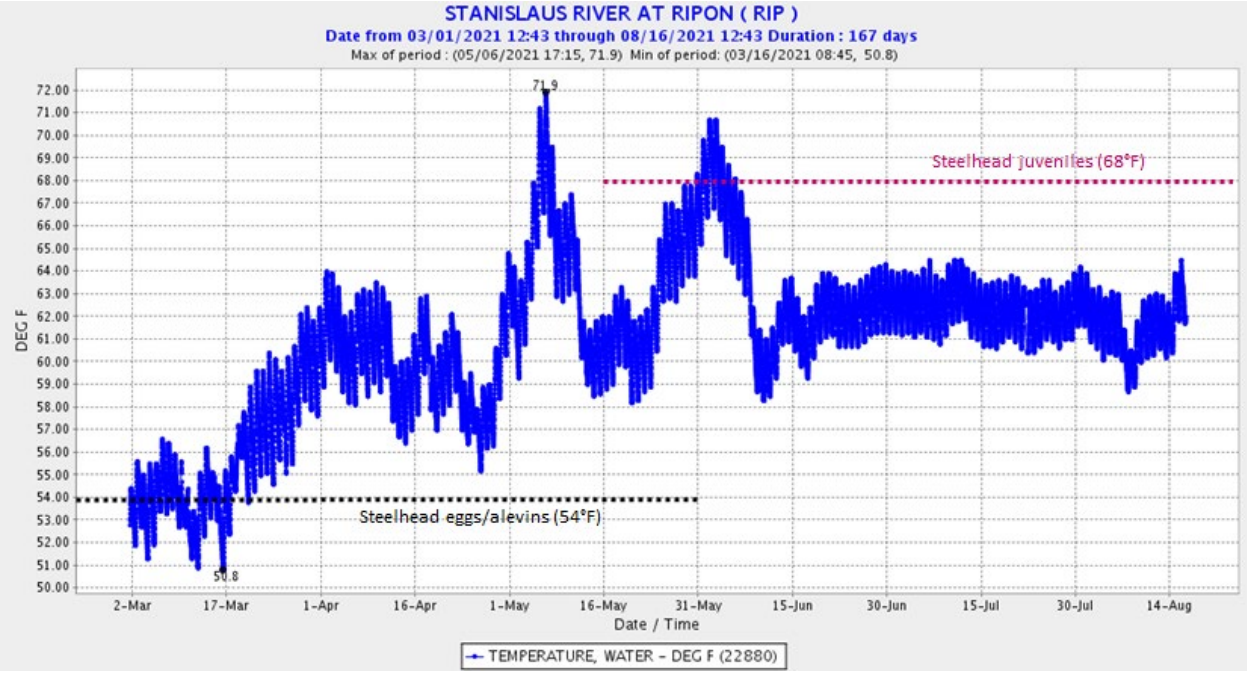

Figure 5. Stanislaus (15-minute) water temperatures at Ripon since March 1, 2021. Data from RIP station on CDEC; temperature threshold reference lines added by SWT.

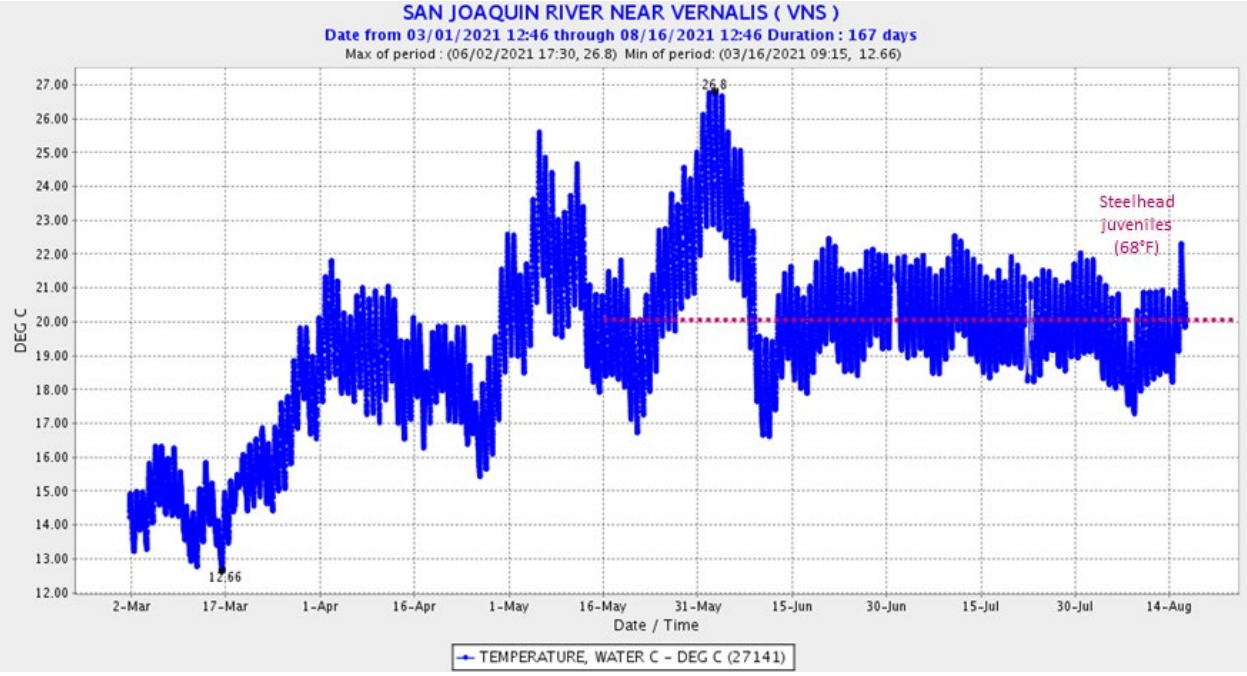

Figure 6. San Joaquin River (15-minute) water temperatures at Vernalis since March 1, 2021.Data from VNS station on CDEC; temperature threshold reference line added by SWT. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 16°C=60.8°F; 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; 30°C=86.0°F.

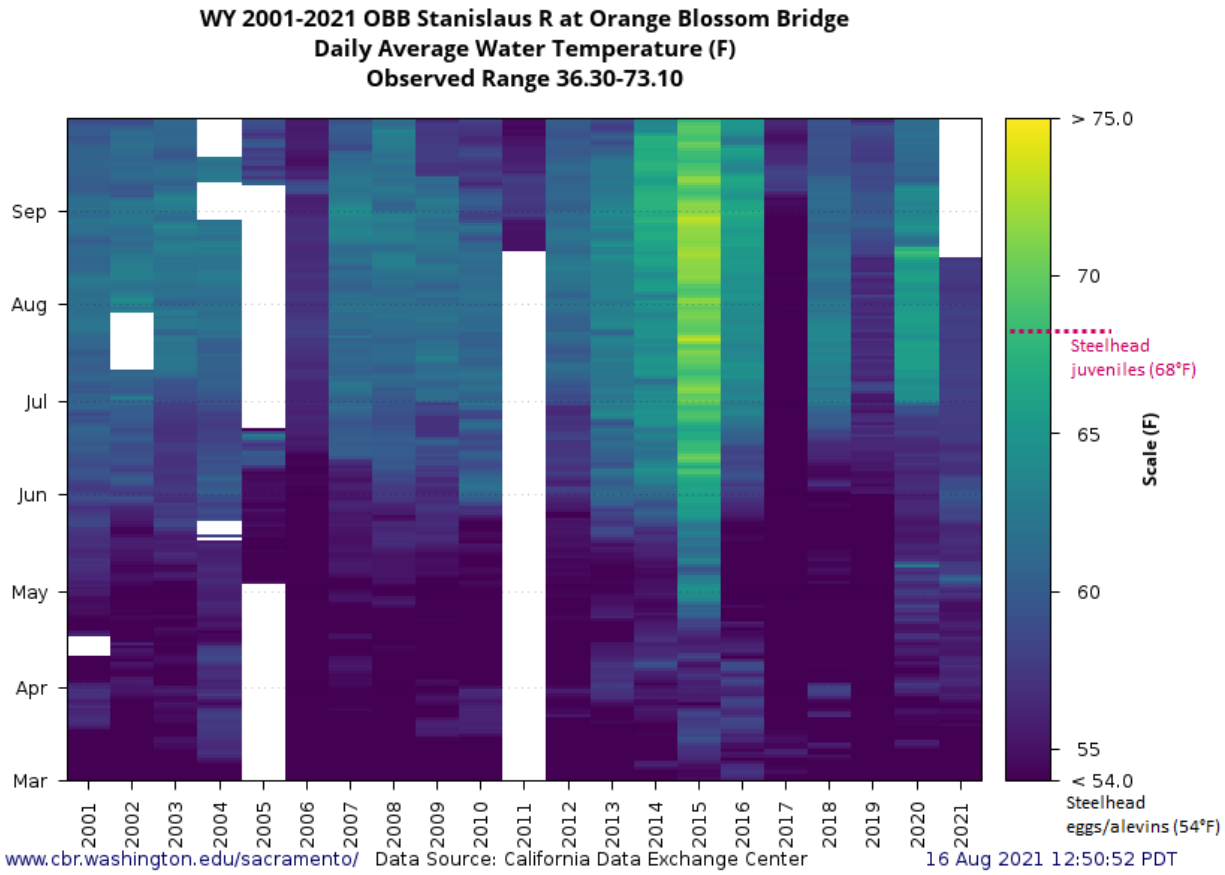

Figure 7. Stanislaus River water temperatures at Orange Blossom Bridge for March through September from 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT. http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

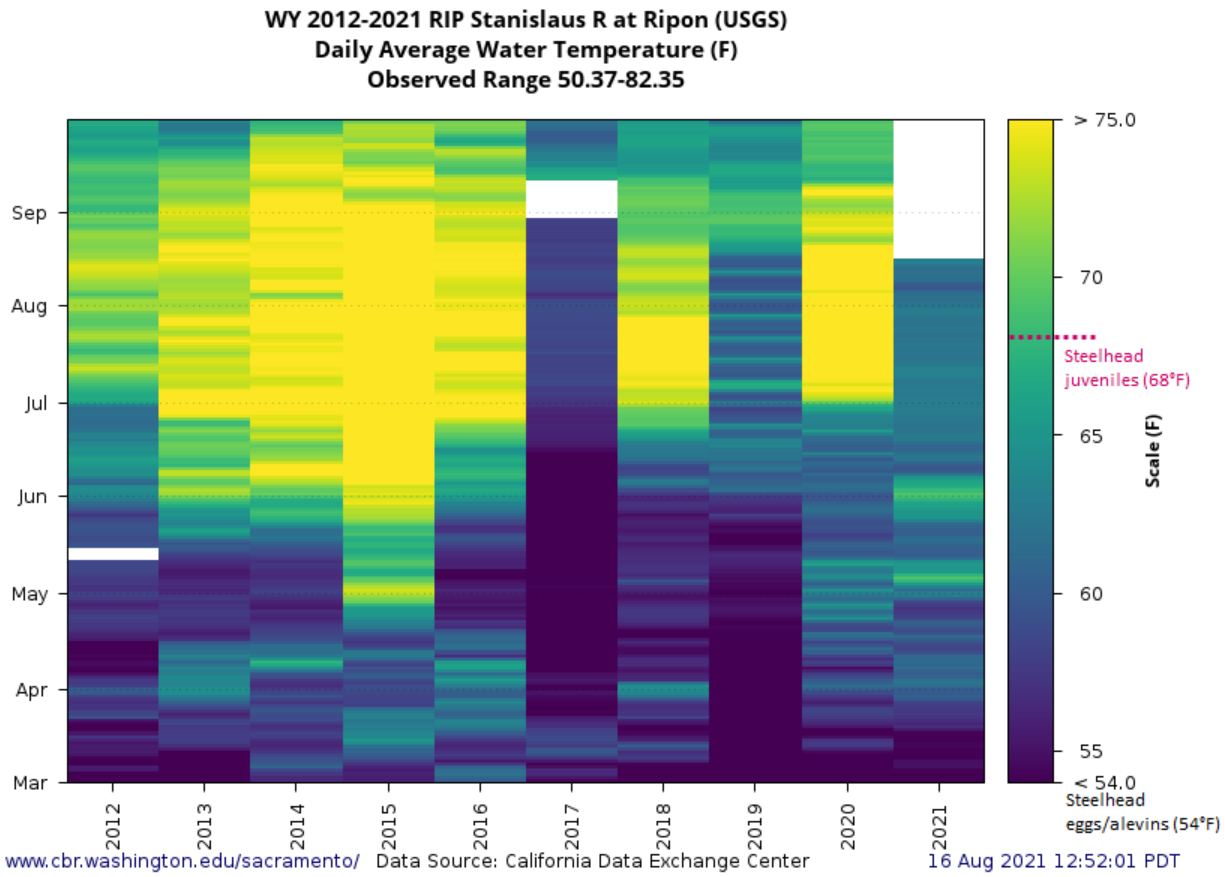

Figure 8. Stanislaus River water temperatures at Ripon for March through September from 2012 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference lines added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

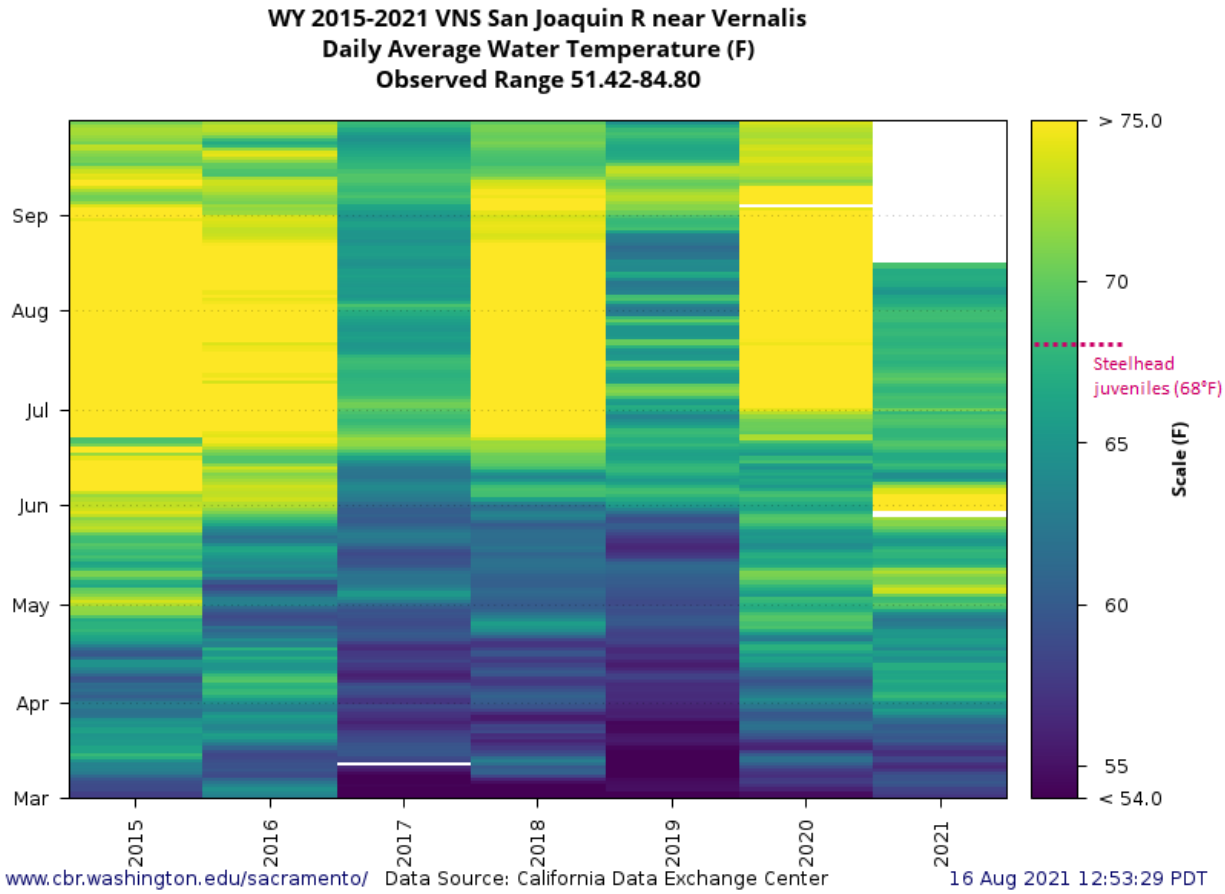

Figure 9. San Joaquin River water temperatures at Vernalis for March through September from 2015to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

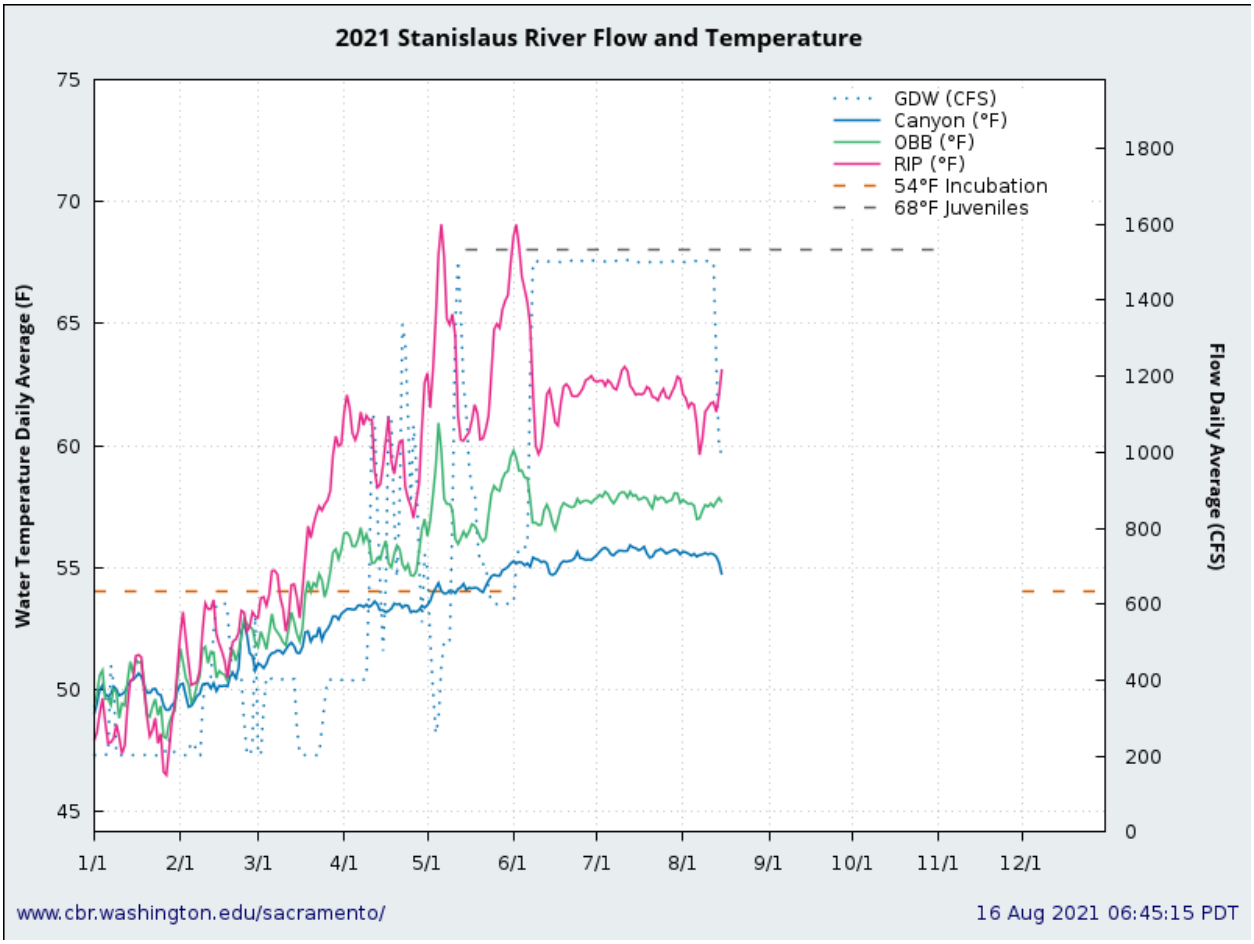

Figure 10. Stanislaus River flow and water temperatures from January 1, 2021 to present. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

Update on Fish Monitoring

Rotary screw trapping at Oakdale (conducted by FISHBIO) and Caswell [conducted by the Pacific States Marine Fisheries Commission (PSMFC)] for the 2020/2021 outmigration season (for monitoring of outmigrating juvenile salmonids) began in early January and was concluded in June.

Mossdale Trawl

No salmonids have been caught in the Mossdale trawl sampling since June 14, 2021.