

Stanislaus Watershed Team

August 16, 2023

Members Attending

- USBR: Claire Hsu, Zarela Guerrero, Peggy Manza, Amanda Snow, Spencer Marshall, Melissa Vignau, Bradley Hubbard
- USFWS: J.D. Wikert, Ryan Kok
- CDFW: Gretchen Murphey, Crystal Rigby, Ryan Kok, Steve Tsao
- NMFS: Barb Byrne, Evan Sawyer
- DWR: Hunter Morris, John Ford
- SWRCB: Chris Carr, Yongxuan Gao
- PSMFC: Logan Day
- SSJID: Brandon Nakagawa
- Fishbio:
- Stockton East Water District (SEWD):
- WAPA:
- Kearns & West: Karis Johnston, Bethany Taylor
- Herum Crabtree Suntag: Lilly Selke

Announcements

- Tulloch Dam and New Melones tours scheduled for 10/04/2023
 - Those wanting to attend should RSVP to Gretchen at least 2 weeks in advance; spots are limited
 - Required: closed-toed shoes, full-length pants, hard hats, high-visibility vests

Action Items

- All – RSVP by 9/20/2023 to Gretchen Murphey’s calendar invitation if planning to attend the Tulloch Dam and New Melones tours on 10/04/2023.
- Gretchen Murphey, CDFW - Inquire with Tulloch Dam about accessibility and amount of stair climbing required. [Complete- at least 3 sets]
- J.D. Wikert, USFWS – Organize call for 8/22/2023 at 2pm to discuss post-Labor Day flow planning and add SWT members requesting to attend. [Complete] Note: call bumped to 8/29 at 2 pm.
- J.D. Wikert, USFWS – Compile spreadsheet with basin pulse flows; share with Chris Carr, SWRCB. [Complete]
- Karis Johnston, Kearns & West – Coordinate second facilities tour if the attendance response is overwhelming.

Operations Update and Forecasts/ Hydrology

New Melones

- Storage level measured 1.984 MAF as of 8/14/2023.

- Inflow peaked in mid-May and has since gradually declined with the exception of the July peak.
- Accumulated inflow for Water Year 2023 measured 2.237 MAF to date.
- Estimated total inflow for Water Year 2023 is expected to reach 2.3 to 2.4 MAF.
- Accumulated precipitation for Water Year 2023 measured 46.91 inches to date.
- Storage at New Melones is dropping at an average of 4 TAF per day.
- July 9 – Storage peaked at 2.086 MAF
- July 10 – Storage began declining
- Water levels are expected to be below the 1.97 MAF target by the end of October.

Tulloch

- Tulloch Dam is releasing through three sources on a near-daily basis to meet downstream needs:
 - Power plant – nearly maxing out releases
 - Spill
 - Outlet

Goodwin

- Joint Main Canal – releasing approximately 900 cfs daily
- South Main Canal – releasing between 360 cfs to 500 cfs daily
- Releases to the river are approximately 1,500 cfs during the week and decrease to 750 cfs on weekends, with ramp-downs happening on Fridays and increases occurring on Sundays late in the day.
- Reclamation is planning to drop flows to about 400 cfs (a) for about 5 days over the Labor Day weekend for recreational safety and to allow FishBio to install the weir after the holiday weekend and (b) for two weeks in late September/early October to accommodate the Wakefield restoration project.

Questions/Comments

- Are [water levels] below the flood conservation stage for the winter months? Are we expecting additional precipitation? Is the gray line [on the chart] showing the potential capacity? Is the main area [of the chart] showing the maximum water we can operate under a flood curve?
 - No, we are not below the winter flood stage. The gray section represents the conditional snow melt, and the main area shows the maximum water amount.
- Concern expressed about the possibility of flood control releases during the up-migration fall pulse. The fall pulse flow is shaped to provide variable flows to deter spawning at the higher flows that will not be sustained throughout spawning and egg incubation. If storage management requires sustained releases of higher flows during spawning, spawning may occur in areas that could be dewatered when flows decrease to winter base flows of 200 cfs.

Water Temperature Updates

- Water temperatures are looking good and are cooler compared with historical temperatures.

- Conditions should be good for holding adult salmon, but if Goodwin releases are back to the Stepped Release Plan (SRP) minimums (for a Wet year, 300 cfs before the fall pulse flow and 200 cfs after), water temperatures will increase. SWT will, as usual, consider the timing of the fall pulse flow in order to avoid a water temperature spike once the fall pulse flow is over.

Stanislaus River Forum (SRF) Call Review

- Meeting on 8/15/2023 was smooth and concise. No members of the public attended.

Fish Monitoring

Rotary Screw Trap Updates:

- Sampling at Caswell ended 7/19/2023.

CDFW Fish Monitoring

- Annual carcass survey to start in mid-September to allow time for staff training and various other tasks.
- As of July, Mossdale Trawl has transitioned back to co-op trawling with staff from both agencies operating the trawl together.
- Two juvenile Chinook salmon were caught on 8/01/2023. The water temperature was 24°C, which is warmer than ideal for Chinook salmon.

Questions/Comments

- N/A

Flow Shaping (Planning)

- Flows will be reduced during Labor Day weekend for recreation, plus two extra days of low flows to allow for weir installation.
 - Plan to decrease flows to 400 cfs for the entire Labor Day weekend through Wednesday 9/06/2023, with a flow ramp-up on Wednesday evening.
 - TBD if flows increase back up to 1,500 cfs, or to a more moderate level.
 - Recommendation from one SWT member to be more liberal with New Melones releases now to avoid problems later with encroachment into the flood space, which might require sustained higher releases that could allow spawning in areas that will later be dewatered.
 - Counter argument is the potential for a changing forecast and a resulting inability to backfill the water supply. It's an operations gamble that happens each year.
 - Trying to make more science-based decisions on shaping fall flows and spring pulses. SWT has been discussing how to operate across the Basin. The Stanislaus has more water available for fall pulse flows; Merced has less. Intend to create a strawman plan for flows.
- Suggestion to discuss flow planning on call for Tuesday, 8/22/2023. J.D. Wikert to organize. Note: meeting was moved to 8/29.

Questions/Comments

- Support shared for the Labor Day flow plan.
- Regarding storage management releases this fall: If New Melones becomes encroached and releases are necessary, NMFS encouraged Reclamation to release a variable flow schedule rather than, for example, a steady 1,500 cfs for two weeks. Steady, high flows are not ideal as fish may start spawning in locations that may later be dewatered.
 - Reclamation noted that Army Corps will want any encroachment addressed quickly, but SWT can discuss this if the situation arises and perform some calculations to see what that might look like on a daily basis.
- Can you clarify whether the Vernalis October requirement will be met for this year?
 - Reclamation will provide Stanislaus River flows based on the SRP in October. Not sure if that meets the Vernalis objective, as it depends on what releases will be from the other tributaries at that time. Note: current anticipated flows should provide an average October flow in excess of the 1,000 cfs Bay-Delta Plan target.
- Recommendation to consider *O. mykiss* spawning that will occur January to March. As for fall-run Chinook, the goal is to avoid sustained high flows at levels that won't be maintained through spawning and egg incubation in order to decrease the risk of dewatering redds.
- Honolulu Bar is not functioning perennially right now (it is disconnecting at base flows of 200 cfs). We would like the pulse flow schedule to drop to 300 cfs to minimize opportunities for fish to spawn or become stranded in the bar until we can retrofit that project.
 - We will accommodate what we can, depending on the flood condition.
- When do you project being at the 1.97 MAF level?
 - We may already have reached that level but have not yet had the opportunity to confirm. We expect to reach 1.97 MAF by the end of the week.
 - Do you have a November 1st projection for the pulse flow, or recreation flows through September? What about carryover from the snowpack melt?
 - A projection plan for September will be developed in the next few days.
 - Nearly all snow would have melted by now; only a minimal amount would be remaining at high altitudes.
 - Precipitation cannot be projected. It will be about shaping the water we have.
- How much water have the districts taken so far this year?
 - We're under the projections provided this past spring. Perhaps close to 200 TAF or less.

Restoration Project Updates

- The Stanley Wakefield Wildlife Area (AKA Kerr park) restoration project is breaking ground with the City of Oakdale. J.D. Wikert, USFWS, has contacted Cramer Fish Sciences about organizing group tours during the back half of the restoration and construction phases. Invitations will be pending.
- Funding for the first phase of Caswell Restoration project is expected in the near future from Reclamation to USFWS. The grant process is expected to begin shortly after.

- Currently compiling the next projects to be targeted. Those wanting to submit proposals for Stanislaus or San Joaquin projects can contact J.D. Wikert.
- We are behind schedule in meeting the floodplain targets from the 2019 Proposed Action.

Progress Update on Proposed Action Elements

- No update.

Other Discussion Items

Curtailments

- All curtailments have ended.

Annual Reporting

- No update.

Items to elevate to WOMT

- No items for WOMT.

Kearns & West Update

- Mia has scheduling conflicts; Bethany is taking over notes and eventually will be sending meeting packets.

Next Meeting

Wednesday, September 20, 10:00 am –12:00 pm.



— BUREAU OF —
RECLAMATION

Stanislaus Watershed Team

10:00 AM – 12:00 PM

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

Webinar: [Join Microsoft Teams Meeting](#)

Wednesday, August 16, 2023

Agenda

1. Introductions
2. Ground Rules¹
3. Announcements
 - a. Meeting will be recorded for notetaking purposes
 - b. Updates on Tulloch and New Melones Dam Tour. October 04, 2023
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
 - a. Restoration Tracker

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

10. Other Discussion Items

- a. Tulloch and New Melones Dam Tour
- b. Items to elevate to WOMT

11. Review Action Items

12. Next Meeting: Wednesday, September 20, 2023 (10am-12pm)



Tables for BDO

United States Department of the Interior
Bureau of Reclamation, Central Valley Project-
California Daily CVP Water Supply Report

August 13, 2023

Run Date: August 14, 2023

Table 4. Reservoir Releases in Cubic Feet Per Second

Reservoir	Dam	WY 2020	WY 2021	15-Year Median
Trinity	Lewiston	452	445	454
Sacramento	Keswick	4,680	10,241	10,241
Feather	Oroville (SWP)	3,000	5,500	5,500
American	Nimbus	3,492	4,026	3,340
Stanislaus	Goodwin	251	937	275
San Joaquin	Friant	249	353	354

Table 5. Storage in Major Reservoirs in Thousands of Acre-Feet

Reservoir	Capacity	15-Yr Avg	WY 2021	WY 2021	% O 15 Yr Avg
Trinity	2,448	1,442	641	1,382	96
Shasta	4,552	2,769	1,642	3,723	134
Folsom	977	563	521	800	142
New Melones	2,420	1,348	679	1,984	147
Fed. San Luis	966	296	168	826	279
Total North CVP	11,363	6,418	3,651	8,715	136
Millerton	521	328	258	428	131
Oroville (SWP)	3,538	1,974	1,384	3,059	155

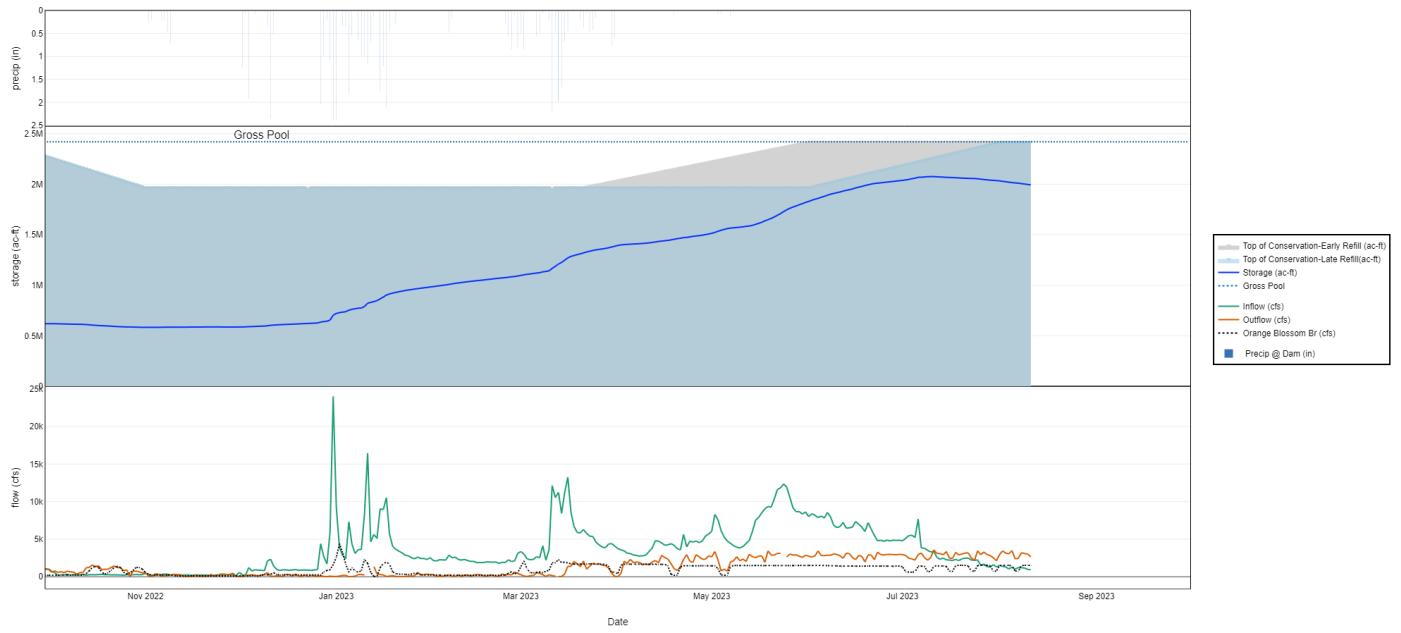
Table 6. Accumulated Inflow for water Year to Date in Thousands of Acre-Feet

Reservoir	Current WY 2023	WY 1977	WY 1983	15-Yr Avg	% O 15 Yr Avg
Trinity	1,516	670	1,978	1,043	145
Shasta	5,308	3,237	8,643	4,486	118
Folsom	4,497	1,026	5,878	2,512	179
New Melones	2,237	NA	2,093	1,013	221
Millerton	3,993	687	2,840	1,558	256

Table 7. Accumulated Precipitation for Water Year to Date in Inches

Reservoir	Current WY 2023	WY 1977	WY 1983	Avg (N Yrs)	% of Avg	Last 24 Hours
Trinity at Fish Hatchery	36.99	22.68	40.07	30.04 (63)	123	0.00
Sacramento at Shasta Dam	72.74	33.37	86.50	58.67 (68)	124	0.00
American at Blue Canyon	77.92	0.01	113.32	64.06 (49)	122	0.00
Stanislaus at New Melones	46.91	N/A	36.75	26.76 (46)	175	0.00
San Joaquin at Huntington LK	65.94	11.50	67.10	40.11 (50)	164	0.00

New Melones Dam & Lake - Stanislaus River Basin
WY 2023 | Generated: 2023-08-11T14:06:27-0700



New Melones Dam & Lake – Stanislaus River
Basin 2023-02-14T08:06:21-0800

Oakdale Irrigation District
 South San Joaquin Irrigation
 District Tri Dams Project-California
 Goodwin Reservoir Daily Operations, August 2023, Run Date: 08/15/2023

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	576	N/A	N/A	N/A	N/A	N/A	N/A
1	360.58	578	2	3,082	0	1,505	914	453
2	360.57	577	-1	3,207	0	1,501	980	502
3	360.57	577	0	3,185	0	1,052	975	481
4	360.20	551	-26	2,907	0	1,283	973	452
5	360.17	549	-2	2,365	0	752	937	464
6	360.57	577	28	2,419	0	933	910	371
7	360.57	577	0	2,934	0	1,500	892	360
8	360.57	577	0	3,008	0	1,505	906	416
9	360.57	577	0	2,979	0	1,504	915	380
10	360.57	577	0	3,058	0	1,501	927	437
11	360.21	552	-25	2,800	0	1,280	932	396
12	360.17	549	-3	2,492	0	751	928	443
13	360.58	578	29	2,492	0	937	929	403
Totals	N/A	N/A	2	36,928	0	16,004	12,118	5,558
Acre-Feet	N/A	N/A	2	73,247	0	31,744	24,036	11,024

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	24,036
South Main Canal	11,024
Outlet	0
Spill	31,744
Total	66804.28

Oakdale Irrigation District
 South San Joaquin Irrigation
 District Tri Dams Project-California
 Goodwin Reservoir Daily Operations, July 2023, Run Date: 08/10/2023

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	550	N/A	N/A	N/A	N/A	N/A	N/A
1	360.15	548	-2	2,339	0	753	948	410
2	360.15	548	0	2,298	0	751	929	381
3	360.15	548	0	2,252	0	751	928	332
4	360.55	576	28	2,445	0	943	872	381
5	360.55	576	0	3,005	0	1,502	872	384
6	360.57	577	1	3,111	0	1,502	899	433
7	360.18	550	-27	2,932	0	1,294	939	452
8	360.17	549	-1	2,320	0	751	910	405
9	360.55	576	27	2,508	0	942	891	403
10	360.57	577	1	3,053	0	1,504	893	382
11	360.55	576	-1	3,143	0	1,503	930	443
12	360.55	576	0	3,082	0	1,502	930	391
13	360.55	576	0	3,073	0	1,502	930	390
14	360.15	550	-26	2,840	0	1,272	959	380
15	360.55	548	-2	2,368	0	750	934	434
16	360.55	576	28	2,552	0	940	929	422
17	360.55	576	0	3,054	0	1,500	898	421
18	360.55	576	0	3,052	0	1,502	934	445
19	360.55	576	0	3,198	0	1,500	937	388
20	360.55	576	0	3,198	0	1,501	952	488
21	360.18	550	-26	2,940	0	1,274	930	455
22	360.15	548	-2	2,478	0	752	971	495
23	360.55	576	28	2,574	0	921	973	418
24	360.55	576	0	3,198	0	1,501	971	472
25	360.55	576	0	3,104	0	1,503	941	410
26	360.55	576	0	3,061	0	1,502	892	420
27	360.55	576	0	3,042	0	1,503	814	462
28	360.20	551	-25	2,879	0	1,292	952	412
29	360.15	548	-3	2,327	0	754	968	391
30	360.57	577	29	2,488	0	932	916	407

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
31	360.55	576	-1	2,972	0	1,501	907	350
Totals	N/A	N/A	26	86,886	0	37,600	28,649	12,857
Acre-Feet	N/A	N/A	26	172,338	0	74,580	56,825	25,502

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	56,825
South Main Canal	25,502
Outlet	0
Spill	74,580
Total	156906.751

United States Department of the Interior
 Bureau of Reclamation-Central Valley Project- California
 New Melones Lake Daily Operations, August 2023, Run Date: 08/14/2023

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	2,032.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	1,054.83	2,028.5	-4.4	1,389	3,437	0	0	148	0.41	0.00
2	1,054.48	2,024.6	-3.9	1,302	3,143	0	0	126	0.35	0.00
3	1,054.10	2,020.3	-4.2	1,042	3,063	0	0	115	0.32	0.00
4	1,053.69	2,015.8	-4.6	1,288	3,475	0	0	111	0.31	0.00
5	1,053.42	2,012.8	-3.0	998	2,388	0	0	122	0.34	0.00
6	1,053.18	2,010.1	-2.7	1,231	2,439	0	0	136	0.38	0.00
7	1,052.80	2,005.9	-4.2	1,206	3,195	0	0	136	0.38	0.00
8	1,052.43	2,001.8	-4.1	1,164	3,090	0	0	140	0.39	0.00
9	1,052.04	1,997.5	-4.3	983	3,017	0	0	143	0.40	0.00
10	1,051.71	1,993.8	-3.6	932	2,655	0	0	114	0.32	0.00
11	1,051.36	1,990.0	-3.9	1,105	2,932	0	0	121	0.34	0.00
12	1,051.10	1,987.1	-2.9	945	2,273	0	0	118	0.33	0.00
13	1,050.80	1,983.8	-3.3	1,047	2,588	0	0	125	0.35	0.00
Totals	N/A	N/A	-49.1	14,632	37,695	0	0	1,655	4.62	0.00
Acre- Feet	N/A	N/A	-49,100	29,023	74,768	0	0	3,283	N/A	N/A

Comments:

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

Summary Precipitation

This Month 0.00
 July 1, 2021 to Date N/A
 October 1, 2021 to Date 46.91

Summary: Release (acre-
feet)

Release (acre-feet)	N/A
Power	74,768
Spill	0
Outlet	0
Total	74,768

United States Department of the Interior
 Bureau of Reclamation-Central Valley Project- California
 New Melones Lake Daily Operations, July 2023, Run Date: 08/10/2023

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	2,038.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	1,056.06	2,042.2	4.3	5,113	2,831	0	0	138	0.38	0.00
2	1,056.56	2,047.8	5.6	5,466	2,463	0	0	174	-0.48	0.00
3	1,057.09	2,053.8	6.0	5,527	2,374	0	0	153	0.42	0.00
4	1,057.59	2,059.4	5.6	5,213	2,218	0	0	157	0.43	0.00
5	1,058.40	2,068.5	9.1	7,683	2,936	0	0	142	0.39	0.00
6	1,058.49	2,069.6	1.0	3,828	3,169	0	0	146	0.40	0.00
7	1,058.68	2,071.7	2.1	3,791	2,577	0	0	132	0.36	0.00
8	1,058.89	2,074.1	2.4	3,524	2,207	0	0	121	0.33	0.00
9	1,059.00	2,075.3	1.2	3,301	2,547	0	0	128	0.35	0.00
10	1,058.95	2,074.8	-0.6	3,387	3,570	0	0	102	0.28	0.00
11	1,058.83	2,073.4	-1.4	2,565	3,116	0	0	132	0.36	0.00
12	1,058.67	2,071.6	-1.8	2,326	3,080	0	0	157	0.43	0.00
13	1,058.56	2,070.3	-1.2	2,475	2,938	0	0	164	0.45	0.00
14	1,058.34	2,067.9	-2.5	2,251	3,354	0	0	150	0.41	0.00
15	1,058.27	2,067.1	-0.8	2,223	2,471	0	0	150	0.41	0.00
16	1,058.19	2,066.2	-0.9	2,175	2,459	0	0	172	0.47	0.00
17	1,058.00	2,064.0	-2.1	2,310	3,246	0	0	146	0.40	0.00
18	1,057.84	2,062.2	-1.8	2,151	2,906	0	0	153	0.42	0.00
19	1,057.70	2,060.6	-1.6	2,389	3,035	0	0	149	0.41	0.00
20	1,057.55	2,059.0	-1.7	2,459	3,147	0	0	164	0.45	0.00
21	1,057.40	2,057.3	-1.7	2,488	3,179	0	0	160	0.44	0.00
22	1,057.32	2,056.4	-0.9	2,218	2,505	0	0	167	0.46	0.00
23	1,057.29	2,056.0	-0.3	2,172	2,171	0	0	171	0.47	0.00
24	1,057.05	2,053.3	-2.7	2,244	3,453	0	0	153	0.42	0.00
25	1,056.78	2,050.3	-3.0	1,538	2,925	0	0	142	0.39	0.00
26	1,056.47	2,046.8	-3.5	1,692	3,300	0	0	145	0.40	0.00
27	1,056.16	2,043.3	-3.5	1,345	2,947	0	0	152	0.42	0.00
28	1,055.86	2,040.0	-3.4	1,289	2,831	0	0	152	0.42	0.00
29	1,055.67	2,037.8	-2.1	1,607	2,537	0	0	141	0.39	0.00
30	1,055.50	2,035.9	-1.9	1,312	2,125	0	0	145	0.40	0.00
31	1,055.22	2,032.8	-3.1	1,514	2,941	0	0	152	0.42	0.00
Totals	N/A	N/A	-5.2	89,576	87,558	0	0	4,610	12.66	0.00

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
Acre- Feet	N/A	N/A	-52,000	177,674	173,671	0	0	9,144	N/A	N/A

Comments:

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

Summary Precipitation

This Month	0.00
July 1, 2021 to Date	N/A
October 1, 2021 to Date	46.91

Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	173,671
Spill	0
Outlet	0
Total	173,671

United States Department of the Interior
 Bureau of Reclamation-Central Valley Project- California
 Tulloch Reservoir Daily Operations, August 2023, Run Date: 08/14/2023

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	64,600	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	508.57	65,191	591	3,396	3,437	2,472	395	215	16
2	508.40	64,981	-210	3,115	3,143	2,472	457	278	14
3	508.15	64,674	-307	3,043	3,063	2,470	493	222	13
4	509.02	65,745	1,071	3,459	3,475	2,468	289	150	12
5	509.06	65,795	50	2,404	2,388	2,365	0	0	14
6	509.04	65,770	-25	2,421	2,439	2,313	76	30	15
7	509.36	66,169	399	3,150	3,195	2,475	302	157	15
8	509.40	66,219	50	3,049	3,090	2,479	304	225	16
9	509.38	66,194	-25	2,982	3,017	2,478	305	196	16
10	508.71	65,363	-831	2,652	2,655	2,474	363	221	13
11	508.80	65,474	111	2,870	2,932	2,457	233	110	14
12	508.84	65,523	49	2,530	2,273	2,355	101	36	13
13	508.84	65,523	0	2,506	2,588	2,355	101	36	14
Totals	N/A	N/A	923	37.577	37,695	31,633	3,419	1,876	185
Acre-Feet	N/A	N/A	923	74,534	74,768	62,744	6,782	3,721	367

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	62,744
Spill	0
Outlet	3,721
Total	73,247

United States Department of the Interior
 Bureau of Reclamation-Central Valley Project- California
 Tulloch Reservoir Daily Operations, July 2023, Run Date: 08/10/2023

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	64,563	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	508.85	65,535	972	2,844	2,831	2,339	0	0	15
2	509.06	65,795	260	2,448	2,463	2,298	0	0	19
3	509.21	65,982	187	2,363	2,374	2,252	0	0	17
4	508.74	65,400	-582	2,169	2,218	2,325	0	120	17
5	508.63	65,265	-135	2,953	2,936	2,471	211	323	16
6	508.78	65,449	184	3,220	3,169	2,464	300	347	16
7	508.17	64,698	-751	2,567	2,577	2,468	188	276	14
8	507.92	64,392	-306	2,179	2,207	2,320	0	0	13
9	507.98	64,465	73	2,559	2,547	2,362	99	47	14
10	508.81	65,486	1,021	3,579	3,570	2,478	397	178	11
11	508.74	65,400	-86	3,114	3,116	2,476	462	205	14
12	508.72	65,375	-25	3,086	3,080	2,480	500	102	17
13	508.39	64,969	-406	2,886	2,938	2,476	396	201	18
14	509.17	65,932	963	3,342	3,354	2,468	132	240	16
15	509.30	66,094	162	2,467	2,471	2,368	0	0	17
16	509.11	65,857	-237	2,452	2,459	2,399	126	27	19
17	509.35	66,157	300	3,221	3,246	2,478	499	77	16
18	508.78	65,449	-708	2,712	2,906	2,476	496	80	17
19	508.71	65,363	-86	3,171	3,035	2,474	494	230	16
20	508.71	65,363	0	3,216	3,147	2,474	494	230	18
21	509.07	65,807	444	3,182	3,179	2,477	323	140	18
22	509.05	65,782	-25	2,483	2,505	2,468	0	10	18
23	509.38	64,957	-825	2,177	2,171	2,419	100	55	19
24	508.72	65,375	418	3,426	3,453	2,471	397	330	17
25	508.45	65,043	-332	2,953	2,925	2,475	398	231	16
26	508.81	65,486	443	3,300	3,300	2,475	397	189	16
27	508.65	65,289	-197	2,960	2,947	2,487	397	158	17
28	508.59	65,215	-74	2,859	2,831	2,471	232	176	17
29	508.83	65,511	296	2,492	2,537	2,327	0	0	16
30	508.23	64,772	-739	2,131	2,125	2,358	100	30	16

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)
31	508.09	64,600	-172	2,902	2,941	2,472	396	104	17
Totals	NA	NA	37	87,413	87,558	75,246	7,534	4,106	507
Acre-Feet	NA	NA	37	173,384	173,671	149,250	14,944	8,144	1,006

Comments:

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

(1) Evaporation records taken from New Melones Pan.

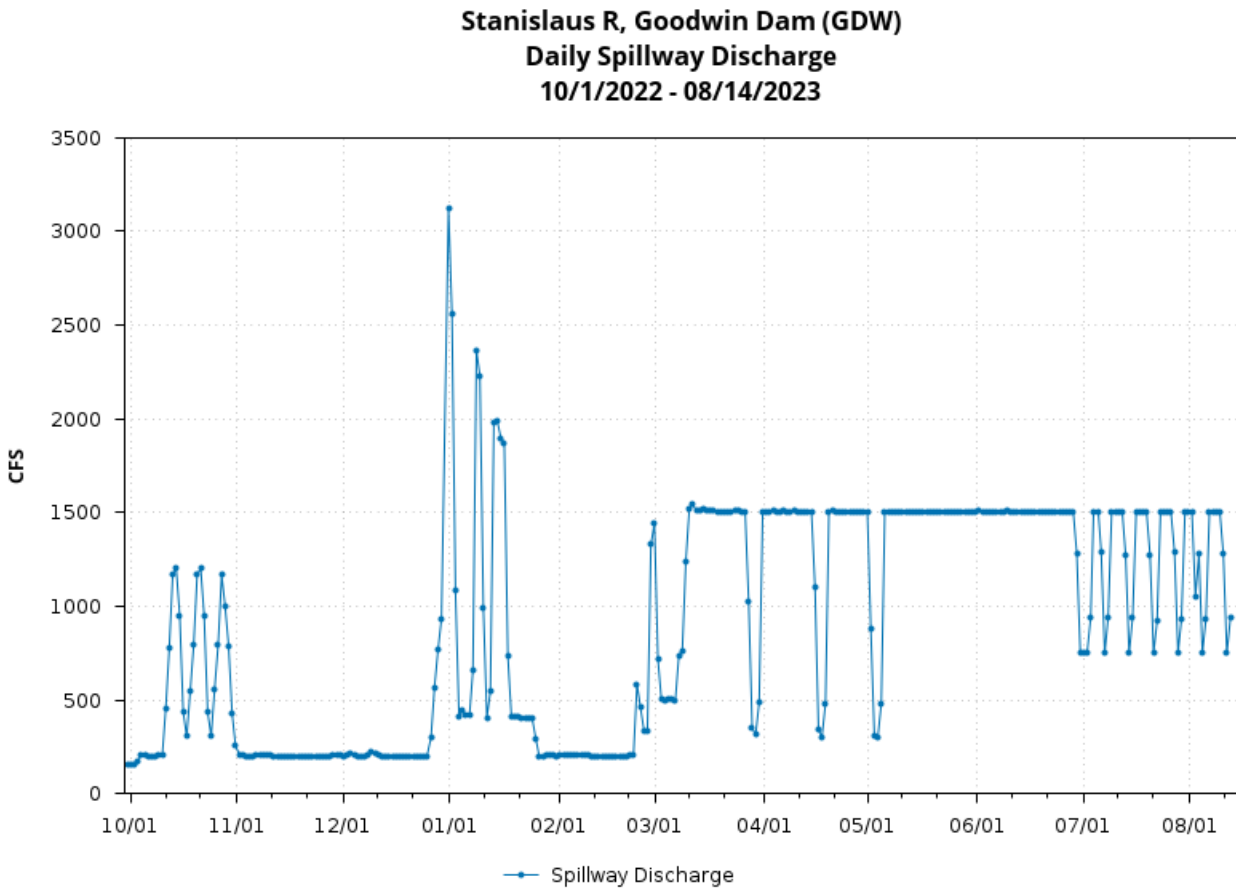
Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	149,250
Spill	0
Outlet	8,144
Total	172,338

June 2023 Water Temperature and Fish Monitoring Update

Year-to-Date Flows

Goodwin releases since October 1, 2022, are shown in Figure 1. 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.



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15 Aug 2023 06:59:01 PDT

Figure 1. Goodwin (daily) releases to the Stanislaus River since October 1, 2022. 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 BiOp¹ (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

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>

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 June 2023 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 February 2023 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.

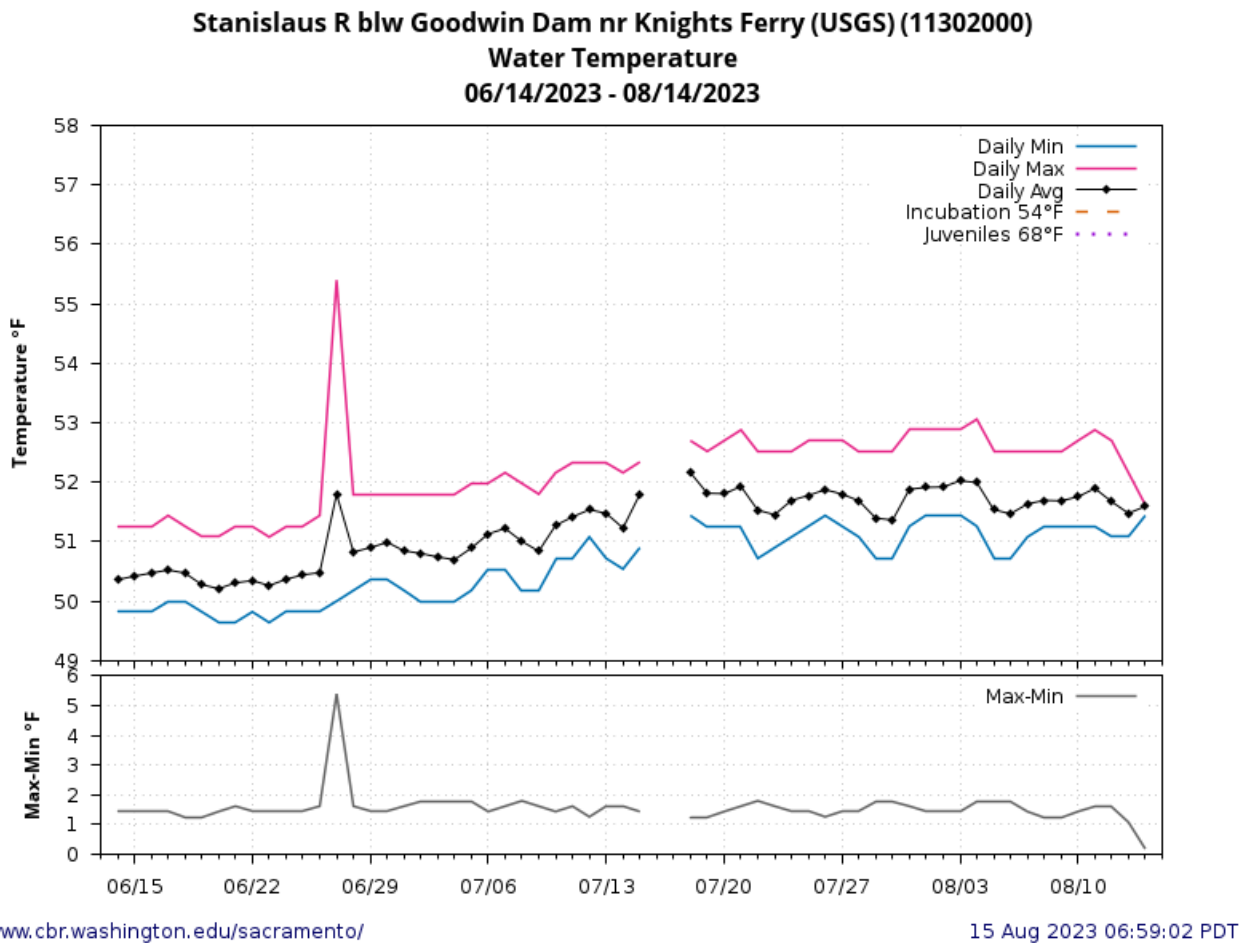
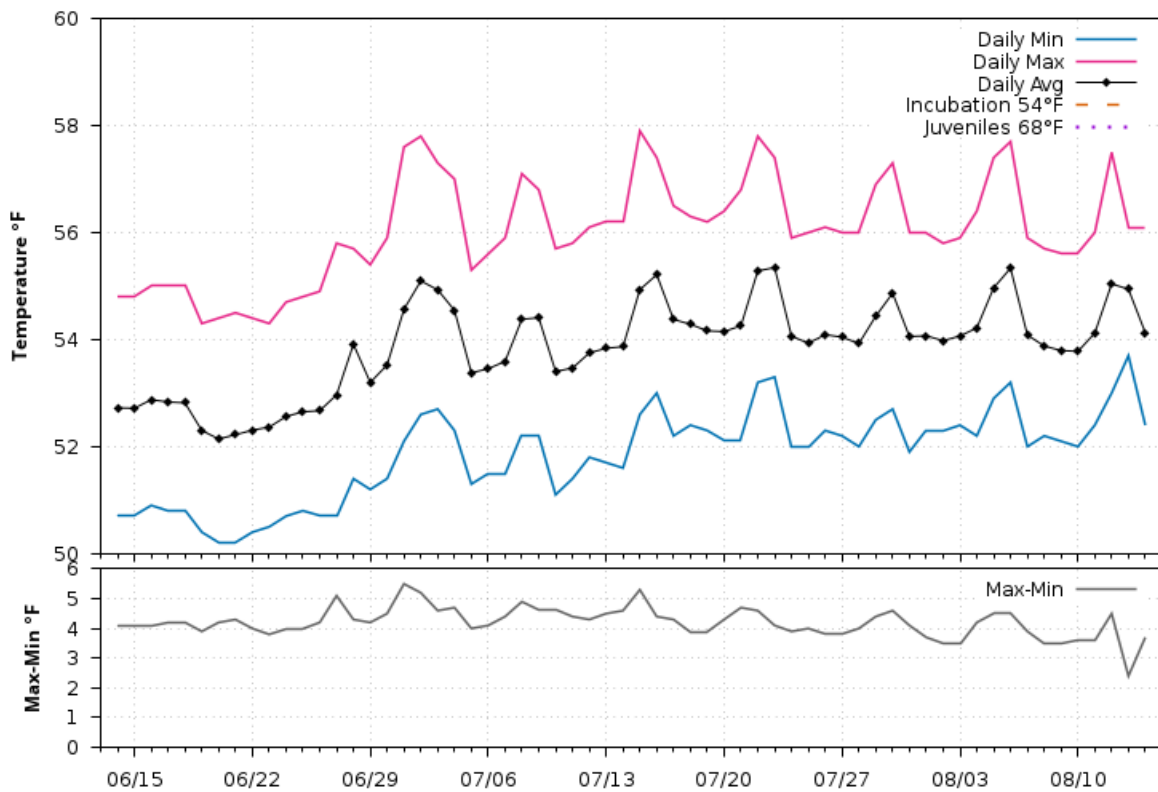


Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since June 14, 2023. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

**Stanislaus R at Orange Blossom Bridge (OBB)
Water Temperature
06/14/2023 - 08/14/2023**



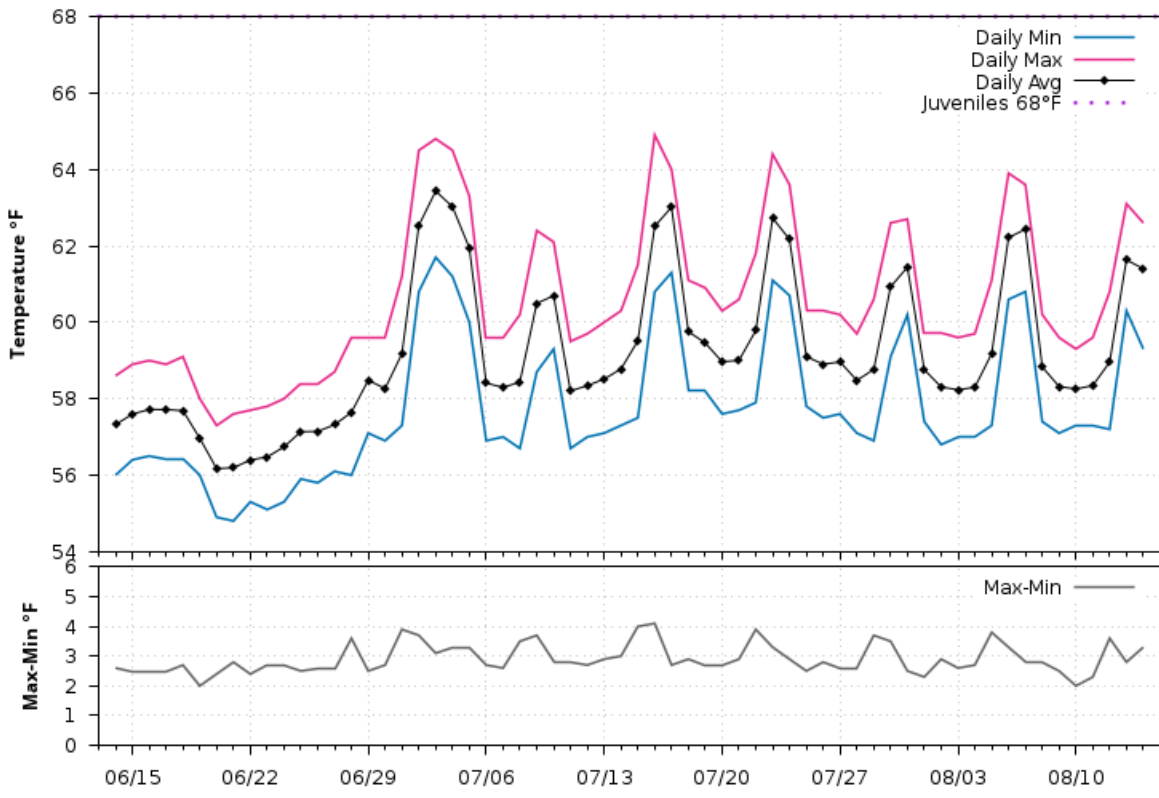
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Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since June 14, 2023. Data from OBB station on CDEC.

Chart: Stacked chart for daily water temperatures Stanislaus River at Orange Blossom Bridge for current 60 days period. Top chart: Daily Min, Max and average water temperatures (in degrees Fahrenheit). Bottom chart: Daily difference between Max and Min measured water temperature in degrees Fahrenheit. Data from OBB station retrieved from CDEC; figure generated by SacPAS (including date-based water temperature threshold reference lines). For more information, please call (916) 414-2400.

Stanislaus R at Ripon (USGS) (RIP)
Water Temperature
06/14/2023 - 08/14/2023

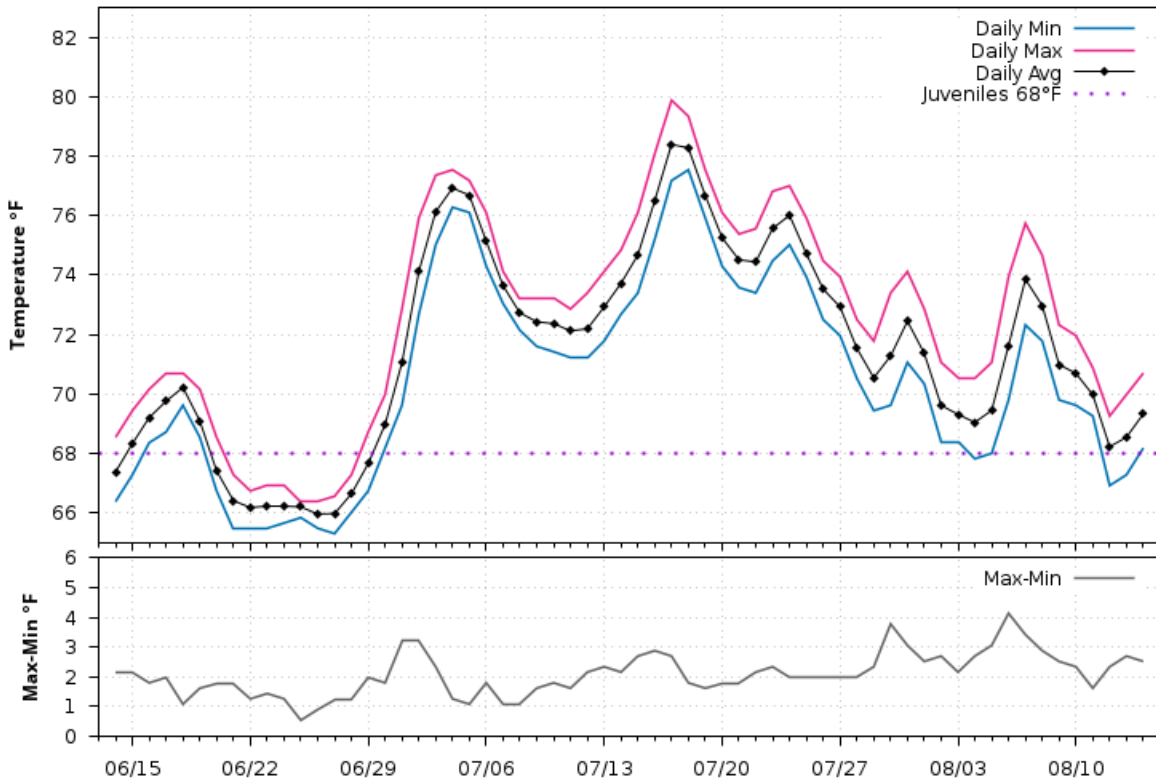


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Figure 4. Stanislaus water temperatures at Ripon since June 14, 2023. Data from RIP station on CDEC.

**San Joaquin R nr Vernalis (VNS)
Water Temperature
06/14/2023 - 08/14/2023**



www.cbr.washington.edu/sacramento/

15 Aug 2023 06:59:02 PDT

Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since June 14, 2023. 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.

**Stanislaus R at Orange Blossom Bridge (OBB)
2001-2023 Daily Average Water Temperature
Observed Range 36.3-73.1
06/16 - 10/14**

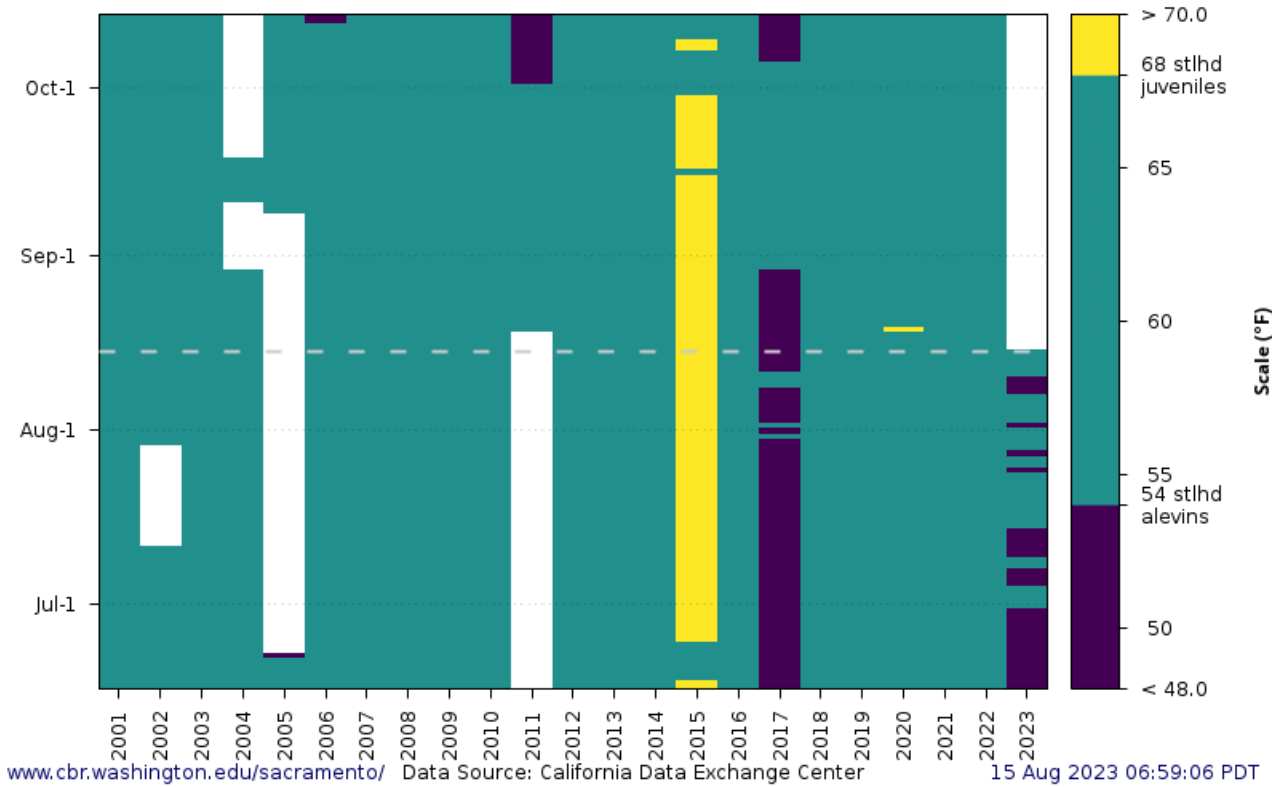


Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for WY 2000 to present. Data from SacPAS; temperature threshold reference lines added by SWT.
http://www.cbr.washington.edu/sacramento/dataquery_river_allyears.html

Stanislaus R at Ripon (USGS) (RIP)
2012-2023 Daily Average Water Temperature
Observed Range 53.6-82.4
06/16 - 10/14



Figure 7. Stanislaus River water temperatures at Ripon for WY 2011 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

**San Joaquin R nr Vernalis (VNS)
2014-2023 Daily Average Water Temperature
Observed Range 57.9-84.8
06/16 - 10/14**



Figure 8. San Joaquin River water temperatures at Vernalis for WY 2014 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

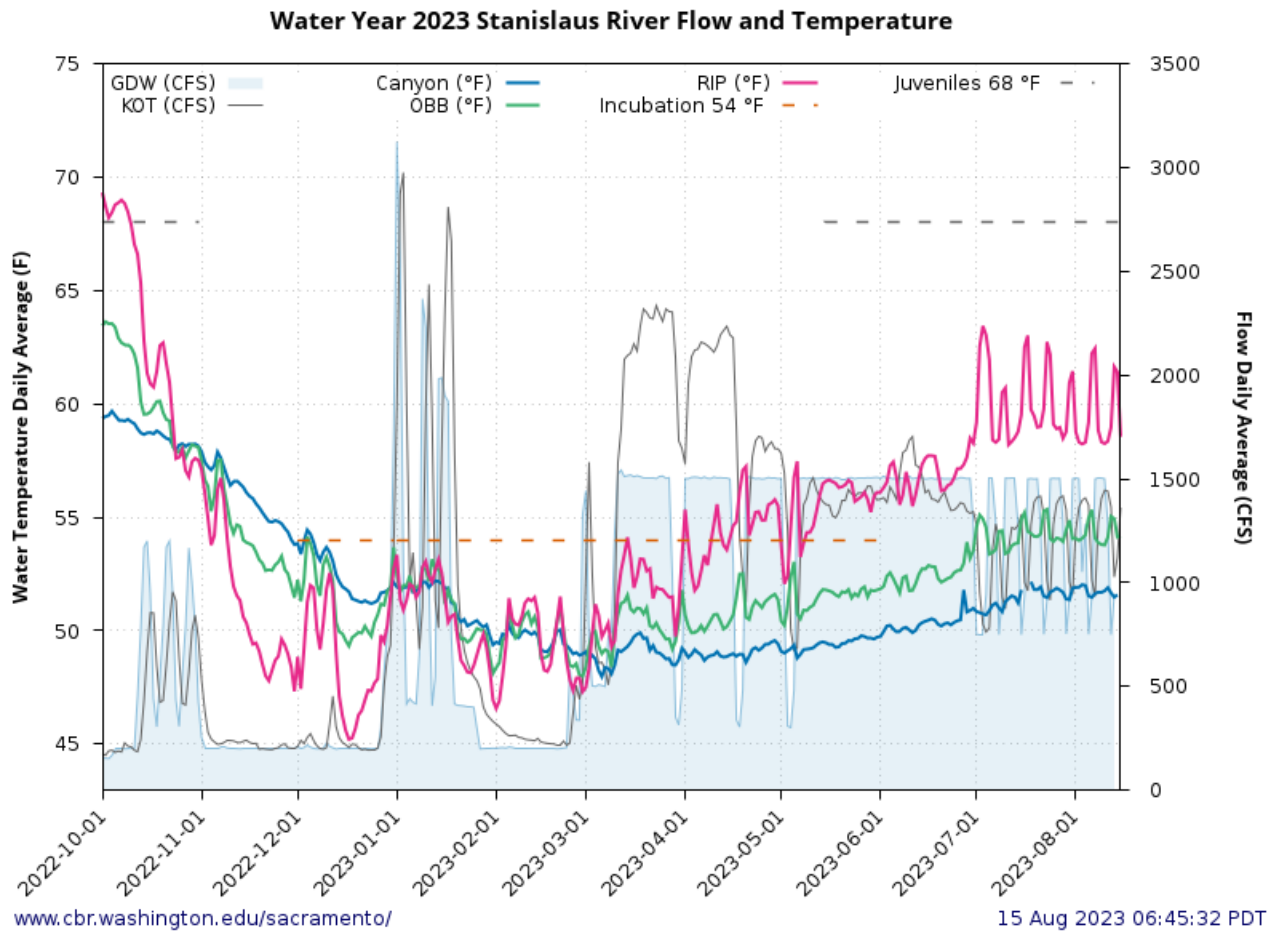


Figure 9. Stanislaus River flow and water temperatures from October 1, 2022 to August 15, 2023. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

NMFS updates:

Weir near Riverbank:

Planning to install in September 2023.

Rotary Screw Traps

Rotary screw trapping is conducted at Oakdale (by FISHBIO) and Caswell [by the Pacific States Marine Fisheries Commission (PSMFC)] for monitoring of outmigrating juvenile salmonids). For the 2023 outmigration season, sampling began at Oakdale on January 20, 2023 and ended on June 23, 2023 with last update in the July handout; sampling at Caswell began on January 21, 2023 and ended on July 19, 2023.

Chinook Caswell is summarized in Figure F-2 (Caswell); fish lengths and life stages are provided in Figure F-3 for the Chinook catch at Caswell. Through July 19, 2023, the trap at Caswell has captured a total of 2,293 unmarked Chinook Salmon, 2 unmarked O. mykiss, and 175 lamprey. More detailed information can be found at the Caswell RST CalFish webpage, which includes catch spreadsheets, annual reports, and other project information:

<https://www.calfish.org/ProgramsData/ConservationandManagement/CentralValleyMonitoring/SacramentoValleyTributaryMonitoring/StanislausRiver-RSTMonitoring.aspx>

Stanislaus River at Caswell Memorial State Park (RSTs):

Daily catch of unmarked Chinook Salmon and daily average discharge at Ripon during the 2023 Stanislaus River rotary screw trap survey season.

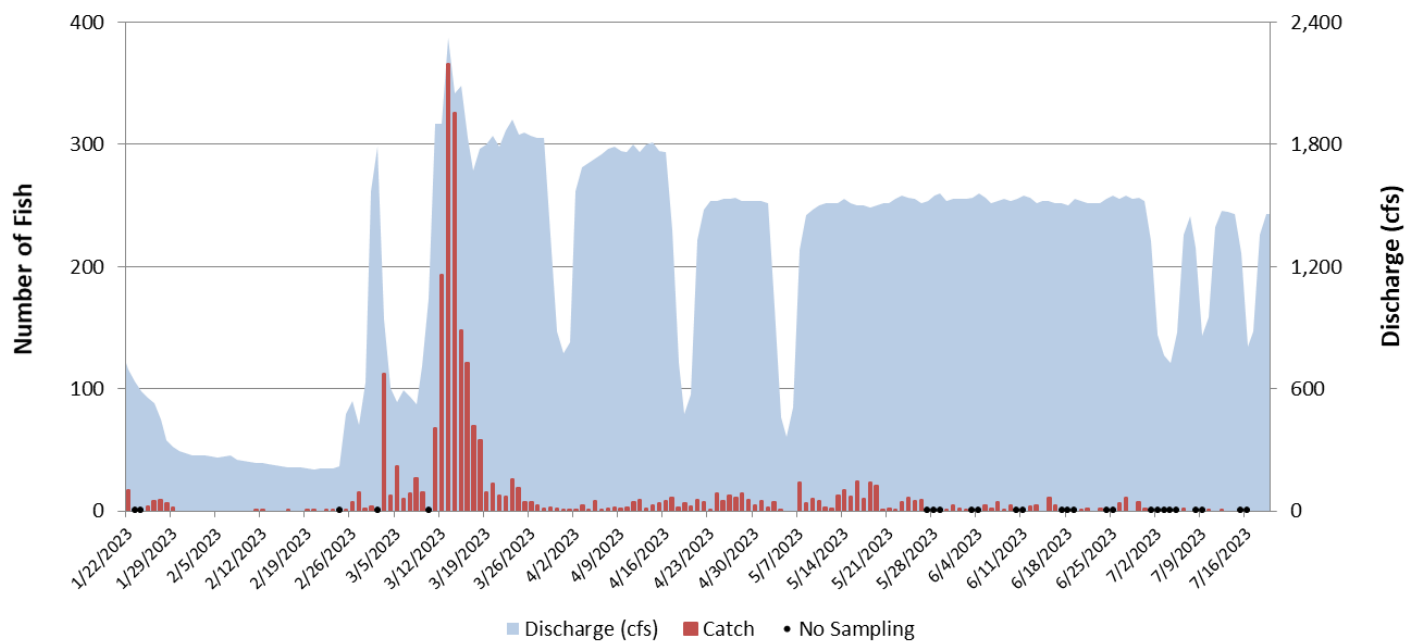


Figure 10. Daily juvenile Chinook catch through July 19, 2023, at the rotary screw trap near Caswell State Park. Discharge data is at Ripon. Figure courtesy of Pacific States Marine Fisheries Commission.

Update on Fish Monitoring (Adults)

Chinook carcass and redd surveys

No current adult monitoring.

Table F-1. Results from the CDFW's O mykiss redd surveys, SH- O mykiss, CHN- Chinook, PL-Pacific Lamprey.

Date	Week	# SH Live >40	# SH Live <40	# SH Redds	# CHN Live	# CHN Redds	# PL Live	# PL Redds	Comments
1-2-23	1	0	0	0	1	2	0	0	None
1-9-23	2	0	0	0	0	0	0	0	**No Canyon Survey
1-16-23	3	NA	NA	NA	NA	NA	NA	NA	**No Survey – too turbid
1-23-23	4	NA	NA	NA	NA	NA	NA	NA	**No Survey – too turbid
1-30-23	5	1	1	1	1	0	0	0	SH Redd with 1 fish on (>40 cm)
2-6-23	6	3	2	1	0	0	0	0	SH redd with 2 fish on (1 >40, 1 <40). 2 >40 fish at redd from week 5
2-13-23	7	0	3	5	0	0	0	0	None
2-20-23	8	0	3	6	0	0	0	1	None
2-27-23	9	NA	NA	NA	NA	NA	NA	NA	**No Survey – high flows/turbidity
3-6-23	10	NA	NA	NA	NA	NA	NA	NA	**No Survey – too turbid
3-13-23	11	NA	NA	NA	NA	NA	NA	NA	**No Survey – high flows/turbidity
3-20-23	12	NA	NA	NA	NA	NA	NA	NA	**No Survey – high flows/turbidity
3-27-23	13	0	0	0	0	0	0	0	**Partial Survey due to higher than expected runoff/turbidity
4-3-23	14	NA	NA	NA	NA	NA	NA	NA	**No Survey – high flows/turbidity
4-10-23	15	0	0	0	0	0	0	0	High flows, may have missed fish/redds
4-17-23	16	0	5	1	0	0	0	0	NA
4-24-23	17	0	1	0	0	0	0	0	High flows, may have missed fish/redds, no canyon survey

Update on Fish Monitoring (Juveniles)

Mossdale Trawl:

In addition to Chinook catch, the Mossdale Trawl has been catching large numbers (50+) of Splittail since 5/18 (range 66- ~13,276)

Table F-2. Counts of Chinook catch from Mossdale trawl.

Date	Catch	Comments
1-3-2023	2	fry
1-3-2023	1 (190 FL PIT tagged, ad-clipped)	Spring Run from SJRRP
1-4-2023	1	fry
1-6-2023	1	fry
1-11-2023	2	fry
1-17-2023	1	fry
1-18-2023	3	2 fry, 1 sac fry
1-20-2023	1	1 sac fry
2-3-2023	1	1 fry
2-10-2023	1	parr
3-13-2023	1	parr
4-24-23	1 – ad clipped	Retained for CWT decoding
4-24-23	1	NA
4-27-23	1 – ad clipped	Retained for CWT decoding
5-2-23	1	NA
5-4-23	2 (1 ad clipped)	Ad clip – retained for CWT decoding
5-5-23	4	NA
5-6-23	6	NA
5-8-23	4	NA
5-9-23	1	NA
5-11-23	1	NA
5-12-23	2	NA
5-13-23	3	NA
5-15-23	4	NA

Date	Catch	Comments
5-16-23	2	NA
5-18-23	7	NA
5-19-23	2	NA
5-20-23	11	NA
5-22-23	14	1 with dye mark – Red line on head
5-23-23	2 (1 ad clipped)	Ad clip-retained for CWT decoding
5-25-23	3	NA
5-26-23	24	NA
5-27-23	1	NA
5-30-23	13	NA
6-1-23	4	NA
6-2-23	6	NA
6-3-23	5	NA
6-5-23	2	NA
6-6-23	6	NA
6-9-23	3	NA
6-10-23	16	1 O. mykiss
6-12-23	18	NA
6-13-23	10	NA
6-15-23	15	NA
6-16-23	20	NA
6-17-23	19 (1 ad-clipped)	Ad clip-retained for CWT decoding
6-19-23	13	NA
6-20-23	9	NA
6-21-23	3	NA
6-23-23	13	NA
6-24-23	6	NA
6-26-23	15	NA
6-27-23	11	NA
6-29-23	9	NA

6-30-23	5	NA
7-1-23	19	NA
7-3-23	13	NA
7-5-23	3	NA
7-7-23	13	NA
7-12-23	2	NA
7-14-23	1	NA
8-1-23	2	CDFW gear

Stanislaus River at Caswell Memorial State Park (RSTs):

Daily catch of unmarked Chinook Salmon and daily average discharge at Ripon from June 1st to July 19th during the 2023 Stanislaus River rotary screw trap survey season.

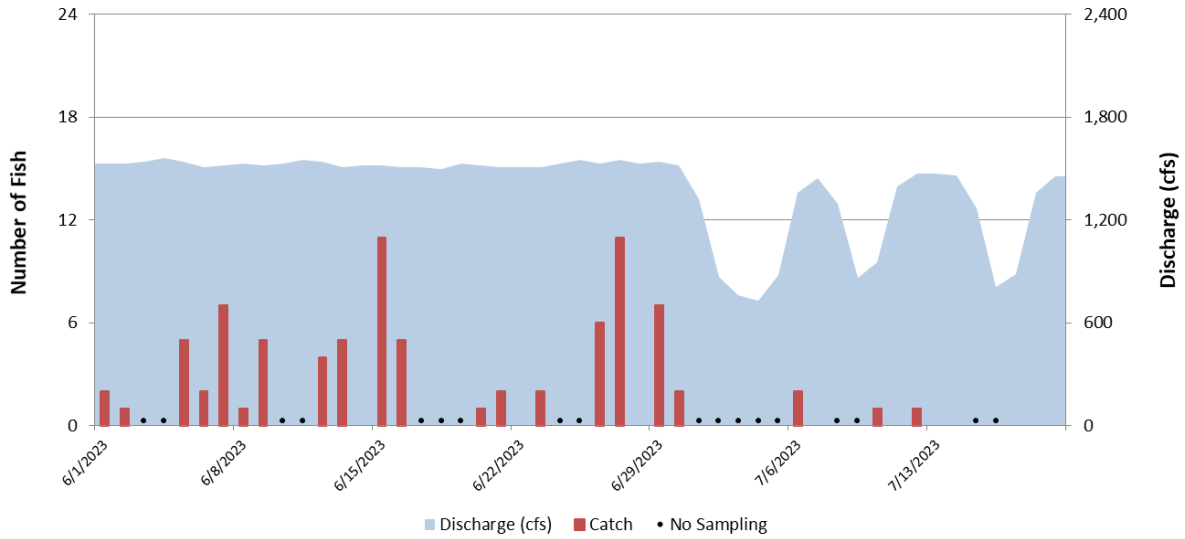


Figure 11. Daily juvenile Chinook catch through July 19, 2023, at the rotary screw trap near Caswell State Park. Discharge data is at Ripon. Figure courtesy of Pacific States Marine Fisheries Commission.

Stanislaus River at Caswell Memorial State Park (RSTs):

Daily fork length distribution by life stage of unmarked Chinook Salmon measured during the 2023 Stanislaus River rotary screw trap survey season.

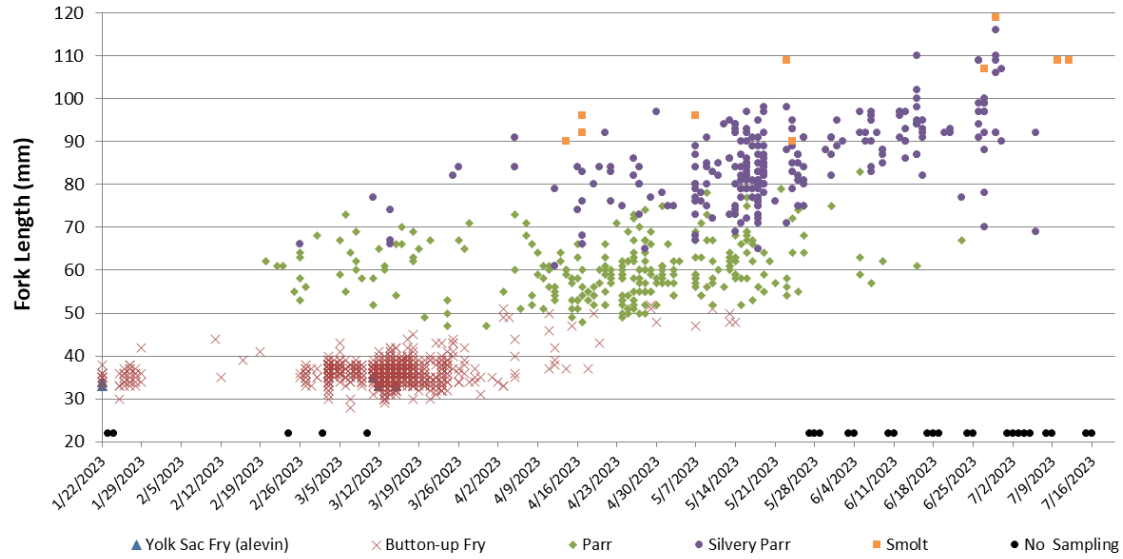


Figure 12. Daily juvenile Chinook catch (plotted by fork length and life stage) through July 19, 2023, at the rotary screw trap near Caswell State Park. Figure courtesy of Pacific States Marine Fisheries Commission.

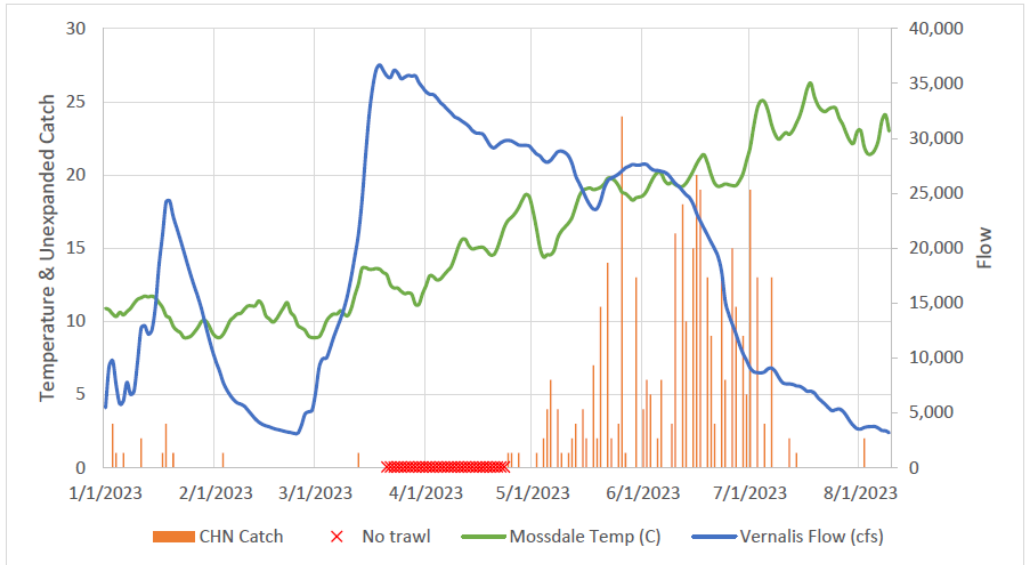


Figure 13. Graph of Chinook catch and temperature at Mossdale and flow at Vernalis No trawl identifies days trawl was suspended due to river stage (does not denote scheduled “off” days)

Figure 13. Graph of Chinook catch at Mossdale and flow at Vernalis. No trawl identifies days trawl was suspended due to river stage (does not denote scheduled “off” days).

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 exceeded the annual average goal of 4,500 during Water Years 2020 and 2021 (Section 4.10.6.2 of Proposed Action). Currently, Reclamation is on schedule for 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	0	22,200	13,500	164
2023	0	22,200	18,000	123
2024	NA	22,200	22,500	99
2025	NA	22,200	27,000	82
2026	NA	22,200	31,500	70
2027	NA	22,200	36,000	62
2028	NA	22,200	40,500	55
2029	NA	22,200	45,000	49
2030	NA	22,200	49,500	45

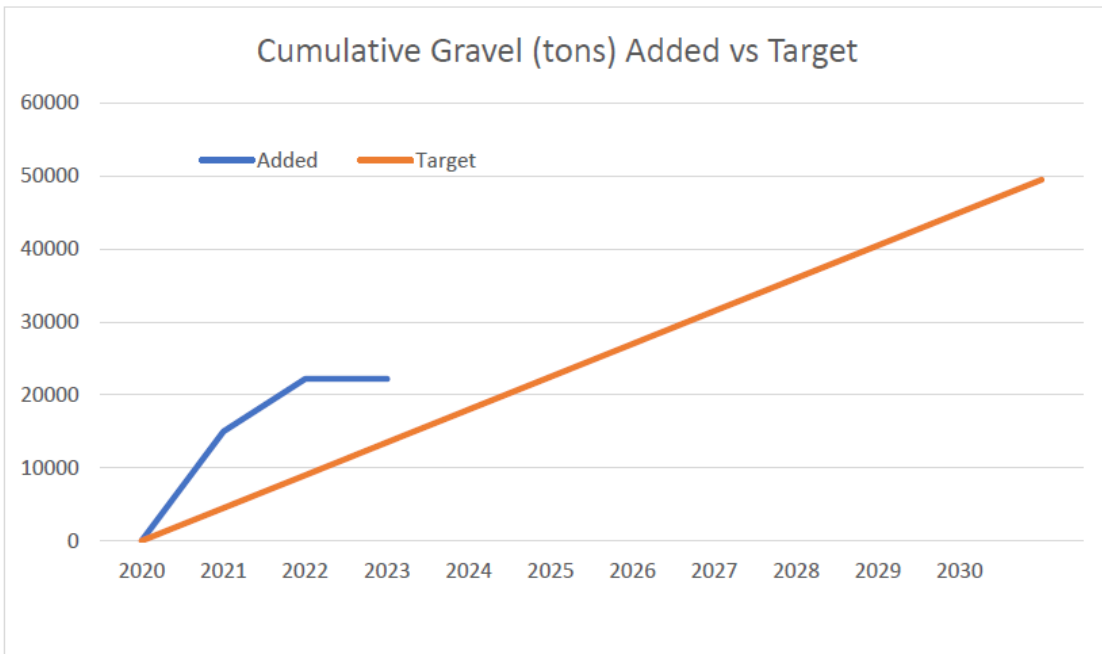


Table 2. Stanislaus rearing habitat restoration progress towards meeting the goal of constructing an additional 50 acres of rearing habitat adjacent to the Stanislaus River by 2030. The total target acres schedule was developed by the technical team tasked with implementing the Stanislaus River Habitat 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 Target (Acres)	Percent of Cumulative Target Achieved
2020	0.25	0.25	0.25	100.0
2021	0	0.25	0.25	100.0
2022	0	0.25	3	8.3
2023	0	0.25	6	4.2
2024	NA	0.25	9	2.8
2025	NA	0.25	14	1.8
2026	NA	0.25	19	1.3
2027	NA	0.25	24	1.0
2028	NA	0.25	32	0.8
2029	NA	0.25	40	0.6
2030	NA	0.25	50	0.5

Table 3. Planned or potential Stanislaus Spawning and Rearing Habitat Restoration Projects

Project Name	River Mile	Anticipated Completion Date	Anticipated Area Restored (Acres)	Anticipated Gravel (Tons)
Mohler Tract Rearing	NA	NA	NA	NA
Tortuga Tract Rearing	NA	NA	NA	NA
Goodwin Canyon Gravel	NA	NA	NA	NA