

Stanislaus Watershed Team

July 19, 2023

Members Attending

- USBR: Claire Hsu, Zarela Guerrero, Liz Kiteck, Peggy Manza, Amanda Snow
- USFWS: J.D. Wikert
- CDFW: Gretchen Murphey, Crystal Rigby, Erica Meyers, Steve Tsao
- NMFS: Barb Byrne, Evan Sawyer
- DWR:
- SWRCB: Chris Carr
- PSMFC:
- SSJID: Brandon Nakagawa
- Fishbio:
- Stockton East Water District (SEWD):
- WAPA:
- Kearns & West: Karis Johnston, Bethany Taylor

Action Items

- Kearns & West – Include the “New Melones Dam & Lake – Stanislaus River Basin” slide from USACE in the meeting packet.
- JD Wikert, USFWS – Send Restoration tracker to Karis.
- Kearns & West – Begin coordination efforts for Tulloch Dam Reservoir site visit ([Tuolumne County Alliance for Resources and Environment Tours](#))
- All – There is space available on the August 18 group rafting trip. If interested, please contact JD Wikert.

Operations Update and Forecasts/ Hydrology

Stanislaus Flow Update

- Daily average releases for 7/16/23 were 940 cfs, with releases at 750 cfs for the majority of the day before ramping up to 1,500 cfs in the evening.
- Current releases are at 1500 cfs.

New Melones

- Storage was 2.066 MAF on 7/17/23.
- Peak storage reached 2.078 MAF and is currently decreasing.
- Accumulated inflow for WY23 is 2.151 MAF to date. This represents 223% of the 15-year average with more expected to accumulate.
- Accumulated precipitation remains at 46.91 inches for WY 2023 with minimal chances between now and the end of WY 2023 for additional precipitation.
- Storage increased from July 1-9 and started decreasing on July 10.
- This year's peak storage has been later than normal due to the amount of snowpack melt.
- Storage is expected to keep decreasing through the month of July.
- The USACE flood curve figure depicts the New Melones storage line as it starts to slightly decrease. It also shows the dramatic inflow drop from April/May/June to July. Inflow is expected to drop below outflow levels for the remainder of the summer.

Tulloch

- There was no spill or outlet release from July 1-3; all releases came through the power plant.
- Releases were lower through the holiday weekend.
- Demands have been high enough out of Goodwin Dam for both downstream release and diversions to Stockton East, Oakdale, and South San Joaquin that Tulloch is often releasing through the power plant as well as spill and outlet releases to provide enough water for downstream management.

Goodwin

- The spill pattern for releases for the first half of July (1,500 cfs during the week and 750 cfs over the weekend) is expected to continue through the remainder of summer for recreational purposes.
- Irrigation demand is expected to peak for July and August, which typically see the highest air temperatures of the year. Deliveries at Goodwin were approximately 1,200 cfs before increasing to 1,300-1,350 cfs at the end of June.
- June releases were approximately 1,500 cfs. Releases began decreasing on 6/30/23 for the holiday weekend.

Questions:

- NMFS and CDFW are interested in understanding where on Tulloch Dam the "spill" and "outlet" releases come from. USBR will ask TriDam and get back to the group if she is able to determine the answer.

- [From the Chat] Suggestion to invite Tri-Dam to present on how Tulloch operates at an upcoming SWT meeting.
 - There is a company that coordinates free tours of Tulloch Dam and Powerhouse: [Tuolumne County Alliance for Resources and Environment Tours](#)

Water Temperature Updates

- The mid-May flow spike seen in the graph of Figure 9 is inaccurate. NMFS will work to get the GDW data corrected on CDEC.
- Water temperatures are generally cooler than average.
- Water release amounts affect and correlate to water temperatures. You can see drops in temperatures as water releases are increased.

Stanislaus River Forum (SRF) Call Review

- A member of the public from a rafting company sent an email to thank the group for the flexibility with lowering flows during the weekends, creating a safer environment for weekend recreation.

Fish Monitoring

Rotary Screw Trap Updates:

- Sampling at Oakdale concluded on 6/23/23.
- Sampling at Caswell will end on 7/20/23, with trap removal scheduled on either 7/24/23 or 7/25/23.
- NMFS provided a brief demonstration of the acoustic-tagging fish tracking information available on CalFishTrack
 - One of the 198 O. mykiss tagged and released at Knights Ferry in March made it out past Benicia Bridge!

CDFW Fish Monitoring

- No adult salmonid monitoring currently happening
- On 7/03/23, operations at Mossdale Trawl were switched from 5 days per week of solely CDFW operation to 3 days per week by both CDFW and USFWS.
- Staff stopped seeing large catches of splittail in early July.
 - Catch numbers and release flows are included in the graphs.

Question/Comments

- N/A

Flow Shaping (Planning)

- Rafting companies are appreciative of the weekend pulse flows. Flows will be reduced for at least a few weeks in the fall for the project at Stanley Wakefield Wilderness Area.
- Plans are in place to accommodate the weir installation following Labor Day weekend by providing a few days at ~400 cfs.

Restoration Project Updates

- Funding is now in place for the Mohler and Tortuga Projects and pre-project monitoring is now being conducted. Implementation of the construction phase is anticipated to begin in 2025.
- The Stanley Wakefield Wildlife Area restoration project is expected to begin construction soon, and plan to do most of the dirt-moving work on the floodplain without connecting to the river. Plans are to complete the project and open the new floodplain to the river once flows have dropped to 400 cfs (likely late September).
- Still ahead of schedule in meeting our goals for spawning habitat restoration targets from the Proposed Action
- No gravel injection projects are planned for this summer or fall
- The Proposed Action rearing habitat goals are behind schedule

Progress Update on Proposed Action Elements

- Spawning and Rearing Habitat Restoration
 - Only 25% of the gravel augmentation targets from the 2009 BiOp were completed prior to the 2019 Proposed Action which replaced these targets
 - The document can be used to track restoration progress and timeline; it will be included in every packet going forward
 - The intent of including this monthly is to keep us focused on achieving these goals

Other Discussion Items

Curtailments

- All curtailments have ended.

Salmon Festival, 11/11/23

- Currently accepting names of exhibitors or planning committee members
- Contact JD Wikert if interested

Annual Reporting

- No update.

Items to elevate to WOMT

- No items for WOMT.

Next Meeting

Wednesday, August 16, 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, July 19, 2023

Agenda

1. Introductions
2. Ground Rules¹
3. Announcements
 - a. Meeting will be recorded for notetaking purposes
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. Other Discussion Items

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

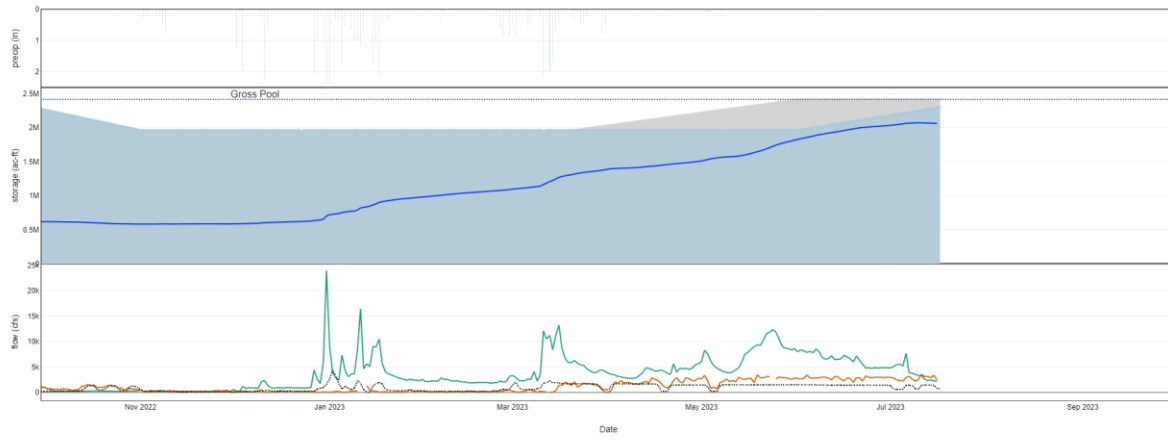
1. Seek to understand and respect opposing views and suggestions for change (w/in the parameters of the Guidance Document).
2. Seek to leverage collective expertise (including from agencies' & stakeholders' consultants).
3. Hold questions/discussion at the discretion of the presenter.
4. Honor time limits - 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. Items to elevate to WOMT

11. Review Action Items

12. Next Meeting: Wednesday, August 16, 2023 (10am-12pm)

New Melones Dam & Lake - Stanislaus River Basin
WY 2023 | Generated: 2023-07-17T07:06:33-0700



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



— BUREAU OF —
RECLAMATION

Tables for BDO

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

July 16, 2023

Run Date: July 17, 2023

Table 1: Reservoir Releases in Cubic Feet/Second

Reservoir	Dam	WY 2022	WY 2023	15 Yr Median
Trinity	Lewiston	471	451	462
Sacramento	Keswick	4,528	10,988	10,988
Feather	Oroville(SWP)	4,000	0	4,500
American	Nimbus	4,448	4,081	3,974
Stanislaus	Goodwin	302	940	353
San Joaquin	Friant	231	2,396	444

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

Reservoir	Capacity	15 Yr Avg	WY 2022	WY 2023	% of 15 Yr Avg
Trinity	2,448	1,545	690	1,422	92
Shasta	4,552	3,106	1,730	4,091	132
Folsom	977	684	688	902	132
New Melones	2,420	1,427	748	2,066	145
Fed. San Luis	966	331	201	0	0
Total North CVP	11,363	7,092	4,057	8,481	120
Millerton	521	396	316	526	133
Oroville (SWP)	3,538	2,194	1,569	0	0

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

Reservoir	Current WY 2023	WY 1977	WY 1983	15 Yr Avg	% of 15 Yr Avg
Trinity	1,495	658	1,952	1,029	145
Shasta	5,121	3,036	8,411	4,317	119
Folsom	4,351	968	5,721	2,418	180
New Melones	2,151	---	2,037	963	223
Millerton	3,712	622	2,589	1,431	259

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

Reservoir	Current WY 2023	WY 1977	WY 1983	Average (N Years)	% of Average	Last 24 Hours
Trinity at Fish Hatchery	36.99	21.82	40.07	29.89 (63)	124	0.00
Sacramento at Shasta Dam	72.74	32.94	86.50	58.51 (68)	124	0.00
American at Blue Canyon	77.92	N/A	113.32	63.95 (49)	122	0.00
Stanislaus at New Melones	46.91	N/A	36.75	26.67 (46)	176	0.00
San Joaquin at Huntington Lk	65.94	11.50	67.00	39.87 (50)	165	0.00

United States Department of the Interior
 Bureau of Reclamation, Central Valley Project-California

Table 5: New Melones Lake Daily Operations, July 2023, Run Date: 7/17/2023

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	Evapor ation C. F. S.	Evapo ration Inche s	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	3,513	2,207	0	0	110	0.30	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
Totals	N/A	N/A	28.1	60,837	44,310	0	0	2,307	6.32	0.00
Acre- Feet	N/A	N/A	28,100	120,670	87,889	0	0	4,576	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, 2022 to Date N/A
 October 01, 2022 To date 46.91

Summary: Release (acre-feet)

Release (acre-feet) N/A
 Power 87,889
 Spill 0
 Outlet 0
 Total Releases 87,889

United States Department of the Interior
 Bureau of Reclamation, Central Valley Project-California

Table 5: New Melones Lake Daily Operations, June 2023, Run Date: 7/10/2023

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	Evapor ation C. F. S.	Evapora tion Inches	Precip Inches
N/A	N/A	1,829.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	1,037.53	1,840.9	11.2	8,387	2,630	0	0	89	0.26	0.00
2	1,038.53	1,851.5	10.5	8,189	2,770	0	0	103	0.30	0.00
3	1,039.34	1,860.0	8.6	7,868	3,439	0	0	110	0.32	0.00
4	1,040.30	1,870.2	10.2	8,078	2,831	0	0	113	0.33	0.00
5	1,041.22	1,880.0	9.8	7,807	2,819	0	0	52	0.15	0.00
6	1,042.26	1,891.1	11.1	8,563	2,866	0	0	97	0.28	0.00
7	1,043.19	1,901.1	10.0	7,954	2,862	0	0	69	0.20	0.00
8	1,043.88	1,908.5	7.4	6,836	3,047	0	0	52	0.15	0.02
9	1,044.52	1,915.4	6.9	6,548	2,985	0	0	87	0.25	0.00
10	1,045.21	1,922.8	7.4	6,664	2,799	0	0	112	0.32	0.00
11	1,046.07	1,932.1	9.3	7,223	2,462	0	0	70	0.20	0.00
12	1,046.67	1,938.6	6.5	6,470	3,127	0	0	60	0.17	0.00
13	1,047.28	1,945.3	6.6	6,506	3,079	0	0	84	0.24	0.00
14	1,048.00	1,953.1	7.8	6,611	2,552	0	0	106	0.30	0.00
15	1,048.90	1,962.9	9.8	7,347	2,280	0	0	110	0.31	0.00
16	1,049.63	1,970.9	8.0	6,997	2,850	0	0	114	0.32	0.00
17	1,050.31	1,978.4	7.5	6,604	2,719	0	0	121	0.34	0.00
18	1,051.02	1,986.2	7.8	6,011	1,970	0	0	103	0.29	0.00
19	1,051.77	1,994.5	8.3	7,193	2,895	0	0	125	0.35	0.00
20	1,052.37	2,001.1	6.6	6,338	2,886	0	0	107	0.30	0.00
21	1,052.93	2,007.3	6.2	5,502	2,261	0	0	115	0.32	0.00
22	1,053.18	2,010.1	2.8	4,788	3,271	0	0	118	0.33	0.00
23	1,053.50	2,013.7	3.6	4,861	2,968	0	0	101	0.28	0.00
24	1,053.81	2,017.1	3.4	4,715	2,885	0	0	94	0.26	0.00
25	1,054.13	2,020.7	3.6	4,873	2,974	0	0	104	0.29	0.00
26	1,054.43	2,024.0	3.3	4,781	2,983	0	0	112	0.31	0.00
27	1,054.75	2,027.6	3.6	4,866	2,956	0	0	112	0.31	0.00
28	1,055.07	2,031.1	3.6	4,843	2,927	0	0	116	0.32	0.00
29	1,055.38	2,034.6	3.5	4,861	2,986	0	0	127	0.35	0.00
30	1,055.68	2,038.0	3.4	4,783	2,954	0	0	138	0.38	0.00
Totals	N/A	N/A	208.3	193,067	85,033	0	0	3,021	8.53	0.02
Acre- Feet	N/A	N/A	208,300	382,948	168,663	0	0	5,992	N/A	N/A

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

Summary Precipitation

This Month	0.02
October 01, 2022 to Date	46.91

Summary: Release (acre-feet)

Release (acre-feet)	N/A
Power	168,663
Spill	0
Outlet	0
Total	168,663

United States Department of the Interior
 Bureau of Reclamation, Central Valley Project-California

Table 6: Tulloch Reservoir Daily Operations, July 2023, Run Date: 7/17/2023

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	64,563	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	2,178	2,207	2,320	0	0	12
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
Total	N/A	N/A	1,294	44,227	44,310	38,444	2,811	2,066	252
Acre-Feet	N/A	N/A	1,294	87,724	87,889	76,254	5,576	4,098	500

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

¹ Evaporation records taken from New Melones Pan.

Summary: Release (acre-feet)

Power 76,254
 Spill 5,576
 Outlet 4,098
 Total 85,927

United States Department of the Interior
Bureau of Reclamation, Central Valley Project-California

Table 7: Tulloch Reservoir Daily Operations, June 2023, Run Date: 7/6/2023

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	65,178	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	508.24	64,784	-394	2,612	2,630	2,478	0	323	10
2	507.87	64,331	-453	2,727	2,770	2,476	147	320	12
3	508.65	65,289	958	3,429	3,439	2,480	200	253	13
4	508.45	65,043	-246	2,783	2,831	2,477	199	218	13
5	508.26	64,809	-234	2,788	2,819	2,476	199	218	13
6	508.33	64,895	86	2,980	2,866	2,478	199	249	11
7	508.29	64,846	-49	2,892	2,862	2,478	199	232	8
8	508.29	64,846	0	2,946	3,047	2,480	267	192	7
9	508.29	64,846	0	2,949	2,985	2,480	267	192	10
10	508.41	64,994	148	2,834	2,799	2,458	259	29	13
11	508.08	64,587	-407	2,495	2,462	2,475	118	99	8
12	508.81	65,486	899	3,159	3,127	2,478	100	121	7
13	509.14	65,895	409	3,083	3,079	2,482	244	141	10
14	508.89	65,585	-310	2,766	2,552	2,479	140	303	0
15	508.22	64,760	-825	2,566	2,280	2,482	301	199	0
16	508.40	64,981	221	3,143	2,850	2,479	301	252	0
17	508.59	65,215	234	3,033	2,719	2,479	301	121	14
18	508.21	64,748	-467	2,541	1,970	2,465	300	0	11
19	508.48	65,080	332	3,009	2,895	2,479	229	120	14
20	508.41	64,994	-86	2,899	2,886	2,479	200	249	14
21	507.36	63,713	-1,281	2,280	2,261	2,483	199	231	13
22	508.02	64,514	801	3,267	3,271	2,475	198	177	13
23	508.17	64,698	184	3,008	2,968	2,477	199	226	13
24	508.08	64,587	-111	2,696	2,885	2,480	199	63	10
25	508.33	64,895	308	2,955	2,974	2,477	199	112	12
26	508.59	65,215	320	3,023	2,983	2,480	200	170	12
27	508.56	65,178	-37	2,971	2,956	1,732	1,009	237	12
28	508.14	64,661	-517	2,799	2,927	2,480	352	215	13
29	507.96	64,441	-220	2,930	2,986	2,475	396	156	14
30	508.06	64,563	122	2,891	2,954	2,463	166	185	15
Totals	N/A	N/A	-615	86,454	85,033	73,560	7,287	5,603	315
Acre-Feet	N/A	N/A	-615	171,482	168,663	145,906	14,454	11,114	625

*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	145,906
Spill	14,454
Outlet	11,114
Total	171,474

United States Department of the Interior
 Bureau of Reclamation, Central Valley Project-California

Table 8: Goodwin Reservoir Daily Operations, July 2023, Run Date: 7/17/2023

Day	Elev.	Storage (1000 Acre- Feet) Reservoir	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	360.18	550	-26	2,840	0	1,272	959	380
15	360.15	548	-2	2,368	0	750	934	434
16	360.55	576	28	2,552	0	940	929	422
Total	N/A	N/A	26	43,321	0	18,162	14,693	6,423
Acre- Feet	N/A	N/A	26	85,927	0	36,024	29,144	12,740

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	29,144
South Main Canal	12,740
Outlet	0
Spill	36,024
Total	77,907.913

United States Department of the Interior
 Bureau of Reclamation, Central Valley Project-California

Table 9: Goodwin Reservoir Daily Operations, June 2023, Run Date: 7/6/2023

Day	Elev.	Storage (1000 Acre-Feet) Res.	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	360.55	576	0	2,801	0	1,504	700	394
2	360.55	576	0	2,943	0	1,513	828	394
3	360.55	576	0	2,933	0	1,504	844	382
4	360.55	576	0	2,894	0	1,504	818	341
5	360.54	575	-1	2,893	0	1,501	814	340
6	360.55	576	1	2,926	0	1,503	795	381
7	360.55	576	0	2,909	0	1,504	792	396
8	360.54	575	-1	2,939	0	1,503	753	396
9	360.54	575	0	2,939	0	1,500	783	388
10	360.54	575	0	2,746	0	1,513	736	283
11	360.54	575	0	2,692	0	1,501	675	291
12	360.55	576	1	2,699	0	1,505	710	279
13	360.55	576	0	2,867	0	1,507	771	390
14	360.55	576	0	2,922	0	1,504	797	431
15	360.55	576	0	2,982	0	1,500	840	441
16	360.55	576	0	3,032	0	1,502	870	440
17	360.55	576	0	2,901	0	1,504	814	381
18	360.55	576	0	2,765	0	1,500	723	350
19	360.55	576	0	2,828	0	1,502	761	363
20	360.55	576	0	2,928	0	1,503	809	393
21	360.55	576	0	2,913	0	1,501	764	426
22	360.55	576	0	2,850	0	1,502	772	363
23	360.55	576	0	2,902	0	1,501	779	397
24	360.55	576	0	2,742	0	1,502	788	425
25	360.55	576	0	2,788	0	1,501	764	294
26	360.55	576	0	2,850	0	1,507	770	355
27	360.55	576	0	2,978	0	1,505	840	412
28	360.55	576	0	3,047	0	1,502	897	488
29	360.55	576	0	3,027	0	1,503	917	442
30	360.18	550	-26	2,814	0	1,286	907	450
Totals	N/A	N/A	-26	86,450	0	44,887	23,831	11,506
Acre-Feet	N/A	N/A	-26	171,474	0	89,033	47,269	22,822

Joint Main Operated by SSJID and OID.

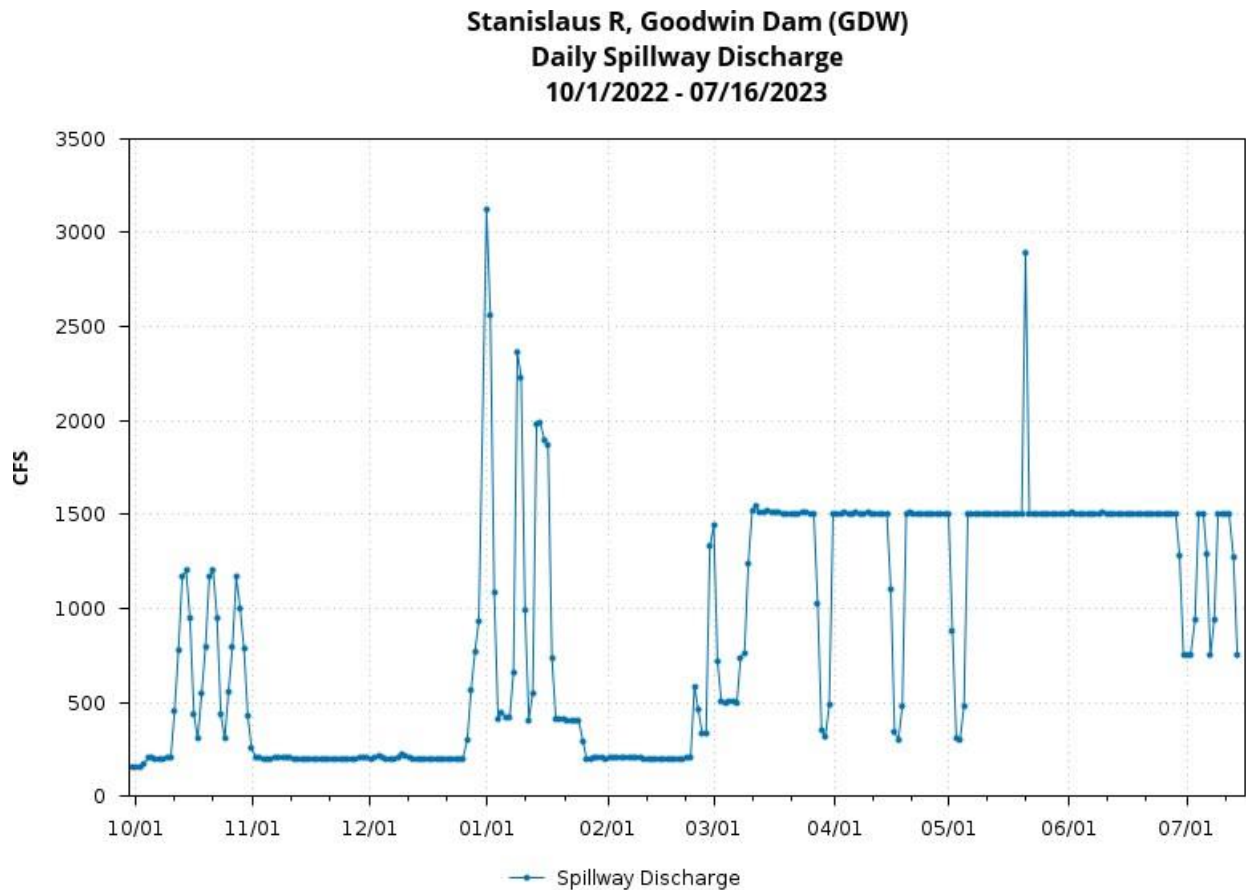
Summary Release (Acre-Feet)

Joint Main Canal	47,269
South Main Canal	22,822
Outlet	0
Spill	89,033
Total	159,124.304

July 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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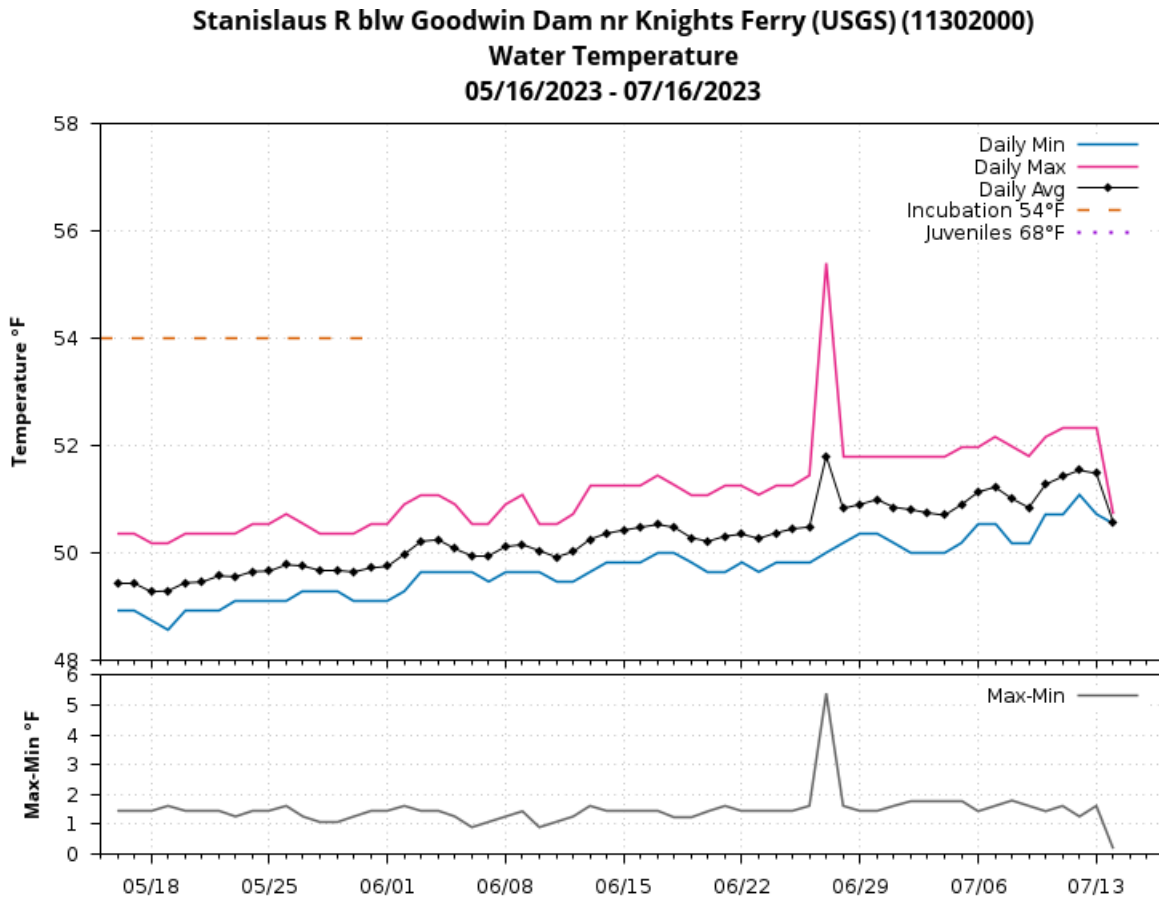
Figure 1. Goodwin (daily) releases to the Stanislaus River since October 1, 2022. Data from GDW station on CDEC.

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 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 April 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 March 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 2023 is provided in Figure 9.



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Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since May 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
05/16/2023 - 07/16/2023**



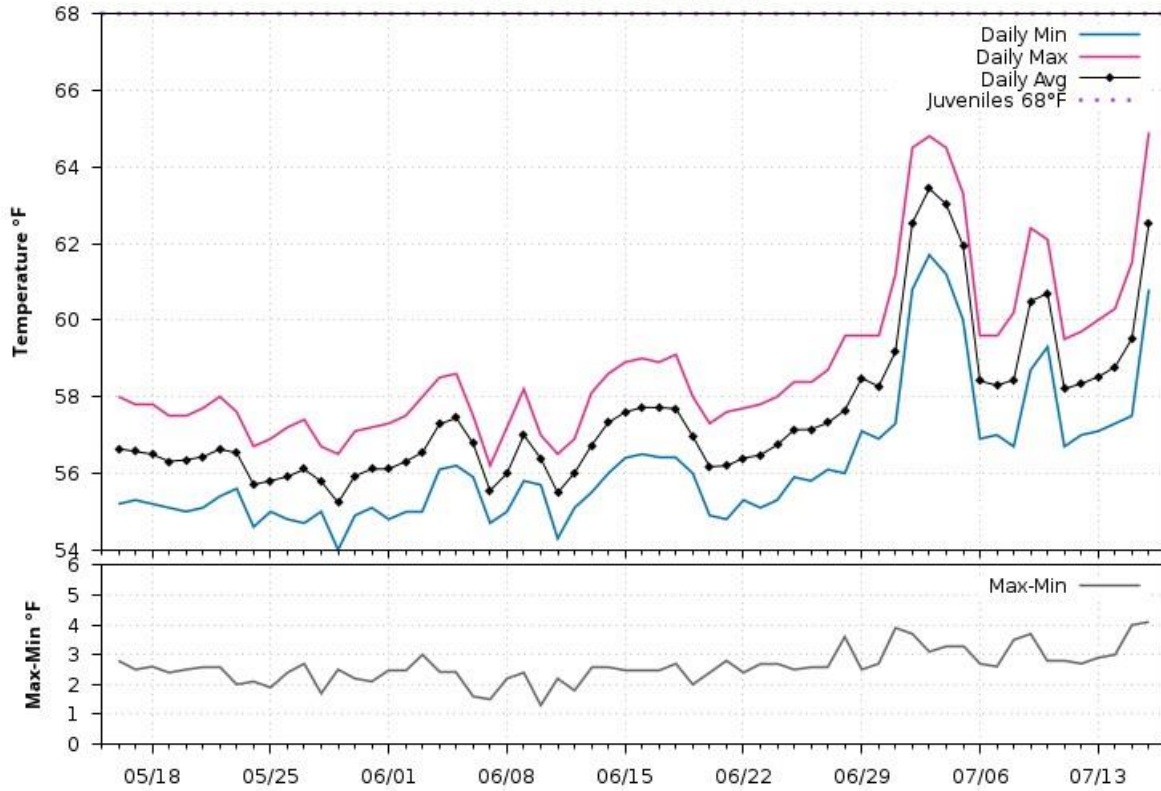
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Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since May 16, 2023. Data from OBB station on CDEC.

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
05/16/2023 - 07/16/2023

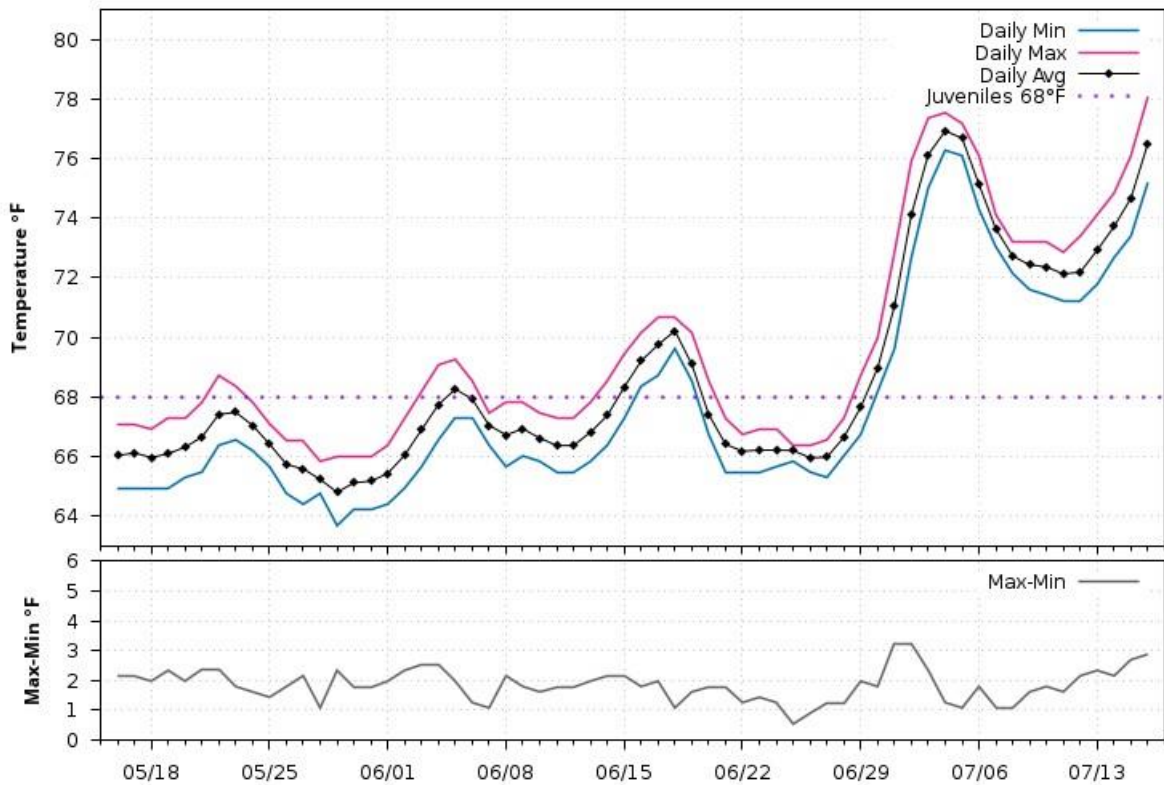


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Figure 4. Stanislaus water temperatures at Ripon since May 16, 2023. Data from RIP station on CDEC.

**San Joaquin R nr Vernalis (VNS)
Water Temperature
05/16/2023 - 07/16/2023**



www.cbr.washington.edu/sacramento/

17 Jul 2023 06:59:03 PDT

Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since May 16, 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
05/18 - 09/15**

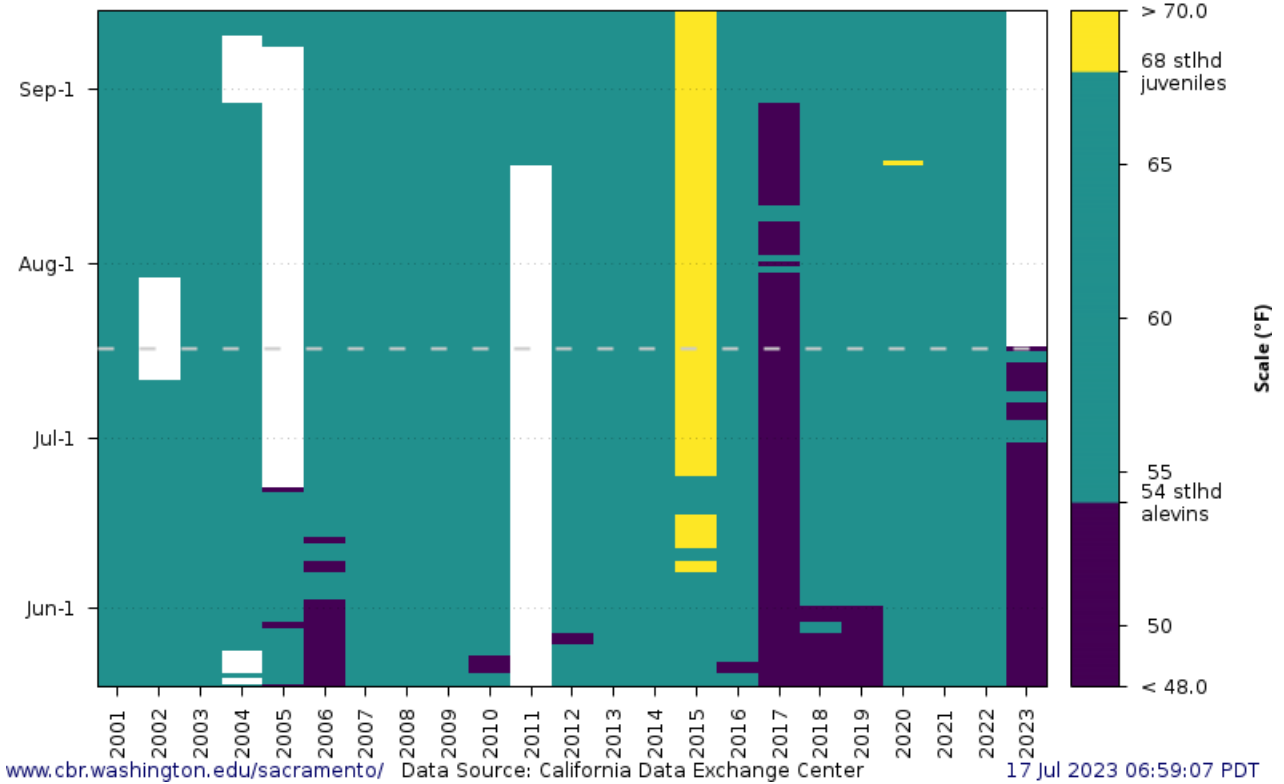


Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for WY 2000 to present. Data from SacPAS; temperature threshold reference lines added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

Stanislaus R at Ripon (USGS) (RIP)
2012-2023 Daily Average Water Temperature
Observed Range 51.5-82.4
05/18 - 09/15

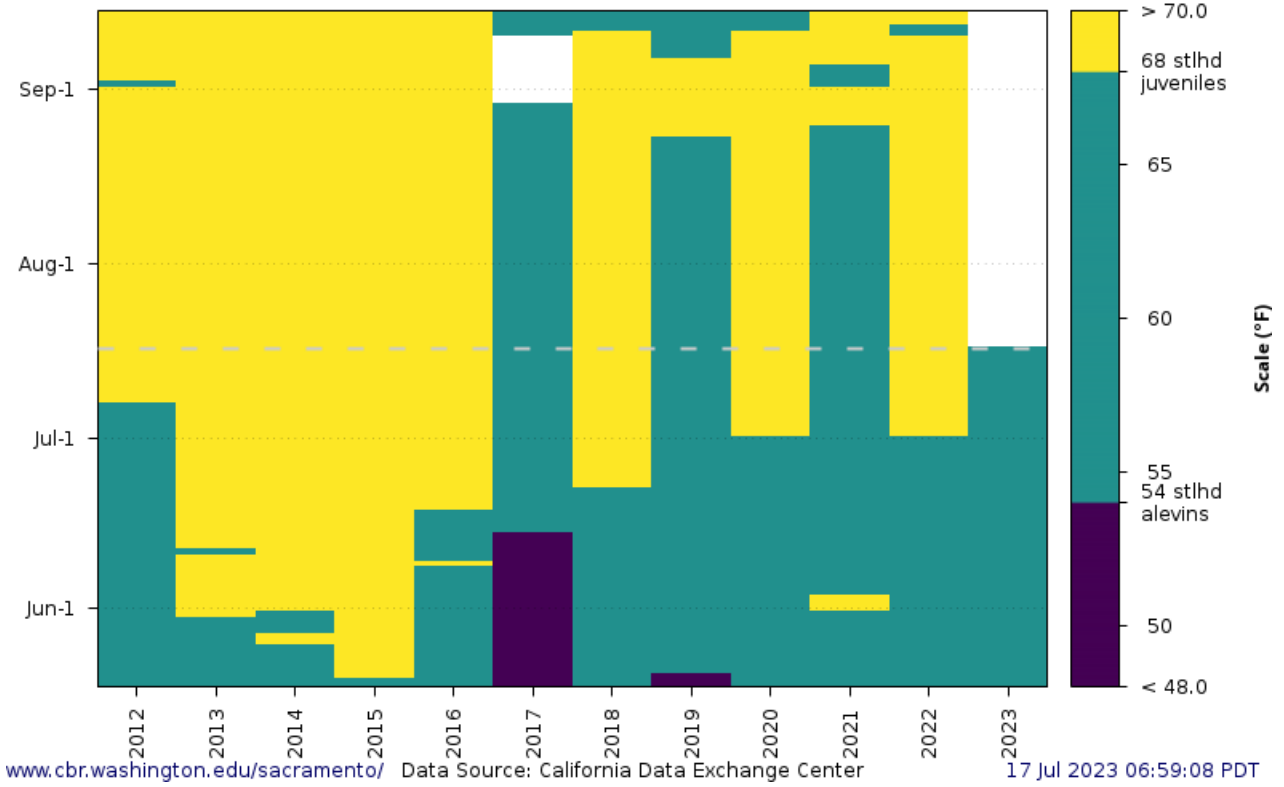


Figure 7. Stanislaus River water temperatures at Ripon for WY 2011 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

**San Joaquin R nr Vernalis (VNS)
2015-2023 Daily Average Water Temperature
Observed Range 56.2-84.8
05/18 - 09/15**

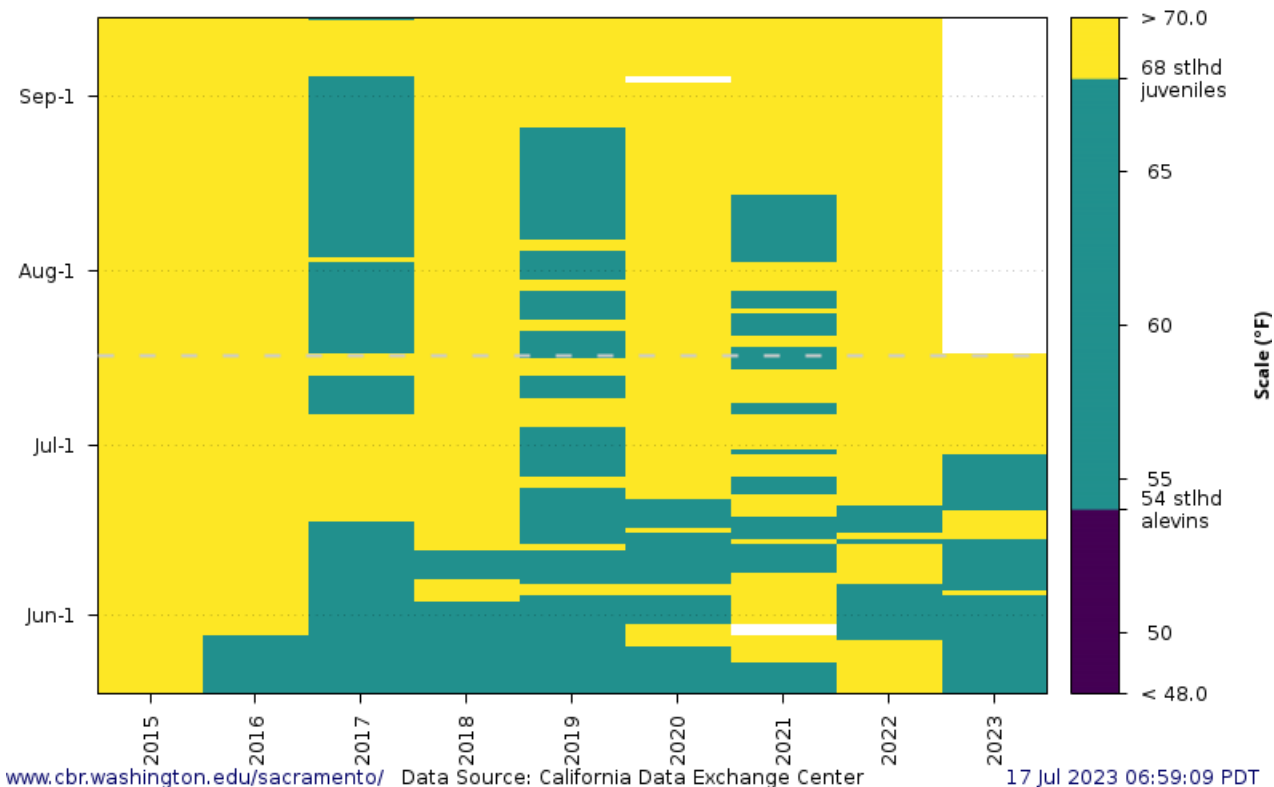


Figure 8. San Joaquin River water temperatures at Vernalis for WY 2014 to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

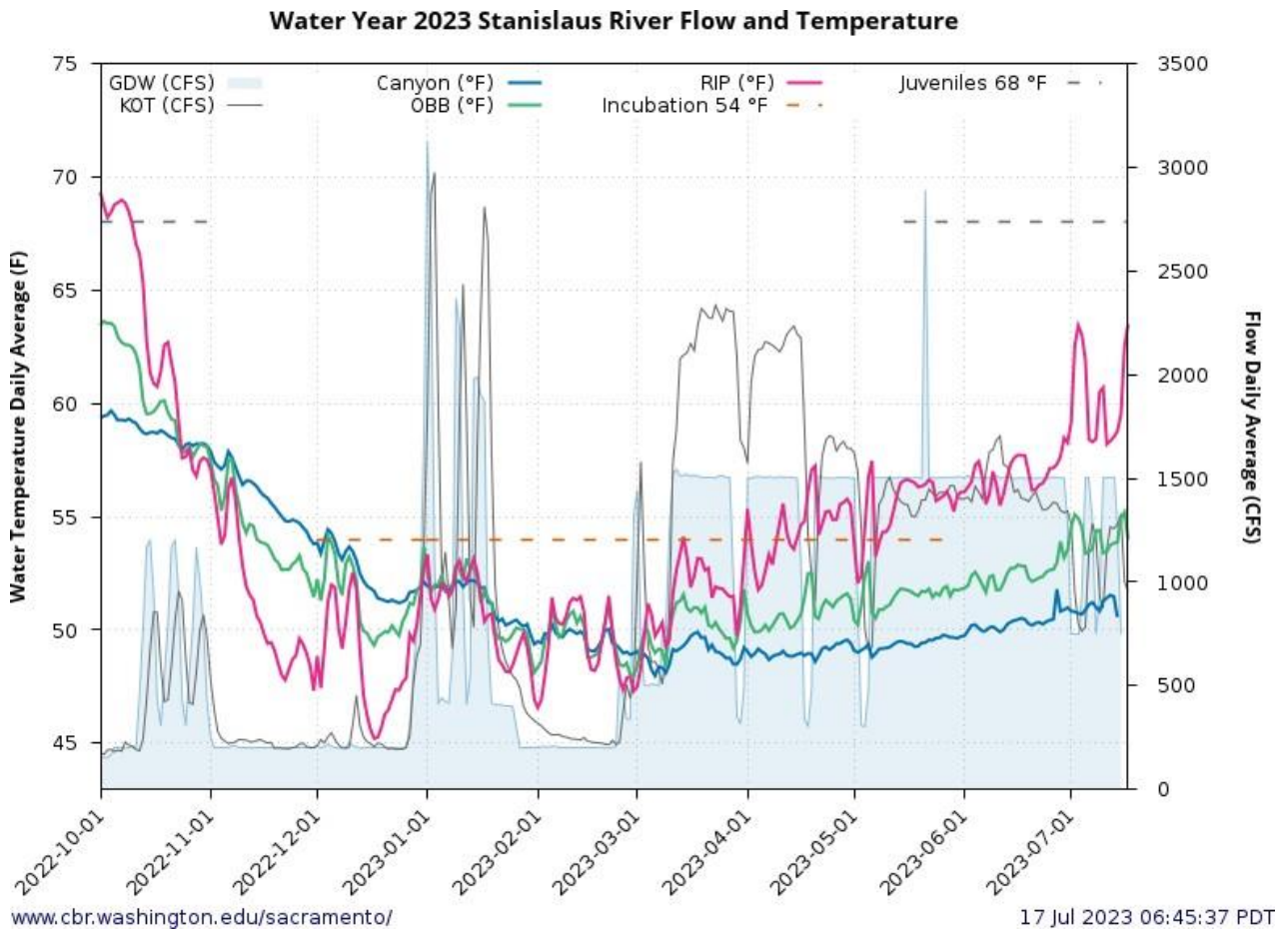


Figure 9. Stanislaus River flow and water temperatures from October 1, 2022 to July 17, 2023. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

NMFS updates:

Weir near Riverbank:

The weir was removed for the season on May 3, 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 at Oakdale began on January 20, 2023 and ended on June 23, 2023; sampling at Caswell began on January 21, 2023 and will end on July 19, 2023.

Chinook catch at each location is summarized in Figure F-1 (Oakdale) and Figure F-2 (Caswell); fish lengths and life stages are provided in Figure F-3 for the Chinook catch at Caswell. Through July 11, 2023, the trap at Caswell has captured a total of 2,292 unmarked Chinook Salmon, 2 unmarked O. mykiss, and 173 lamprey (since the June SWT update, ~50 more salmon, 1 more O. mykiss, and 5 more lamprey). More detailed information can be found at the Caswell RST CalFish webpage, which includes catch spreadsheets, annual reports, and other project information: [CalFish Stanislaus River \(Caswell\) - RST Monitoring](#)

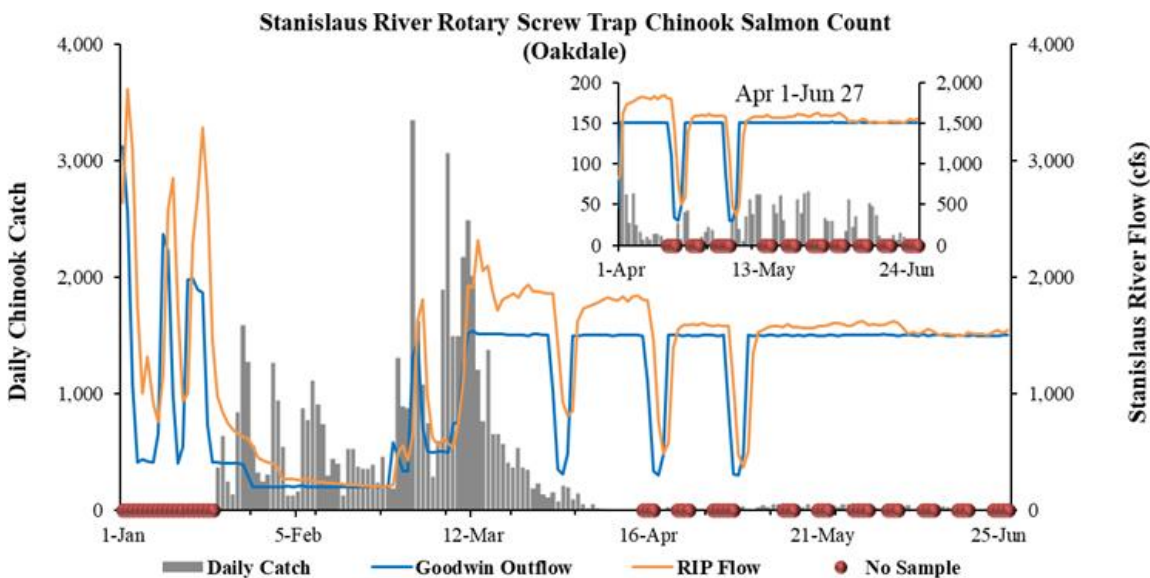


Figure F-1. Daily juvenile Chinook catch through June 23, 2023, at the rotary screw trap near Oakdale. Figure courtesy of Fishbio.

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.

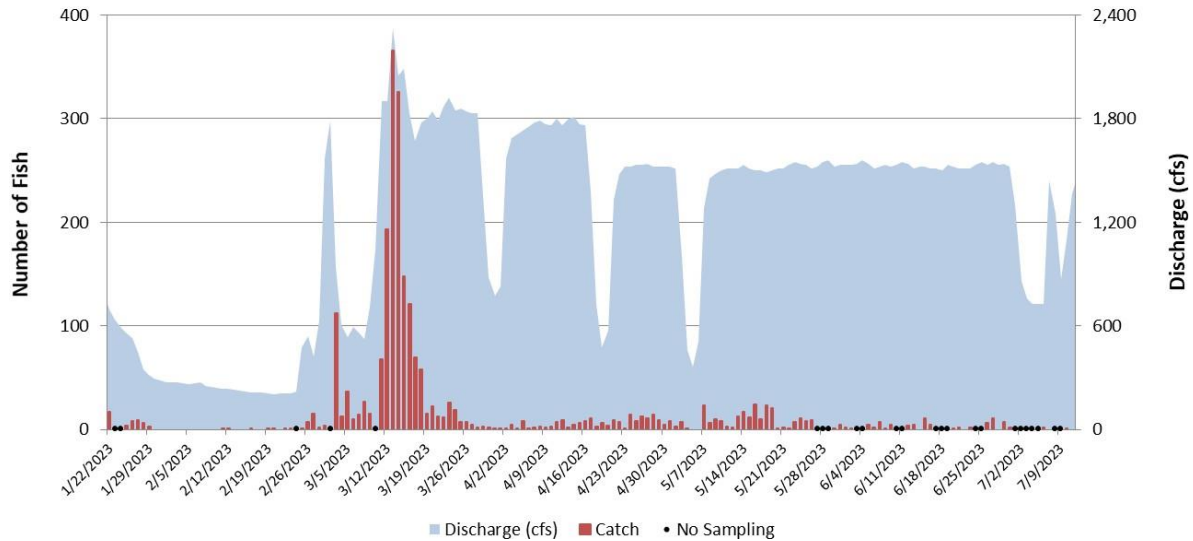


Figure F-2. Daily juvenile Chinook catch through July 11, 2023, at the rotary screw trap near Caswell State Park. Discharge data is at Ripon. Figure courtesy of Pacific States Marine Fisheries Commission.

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.

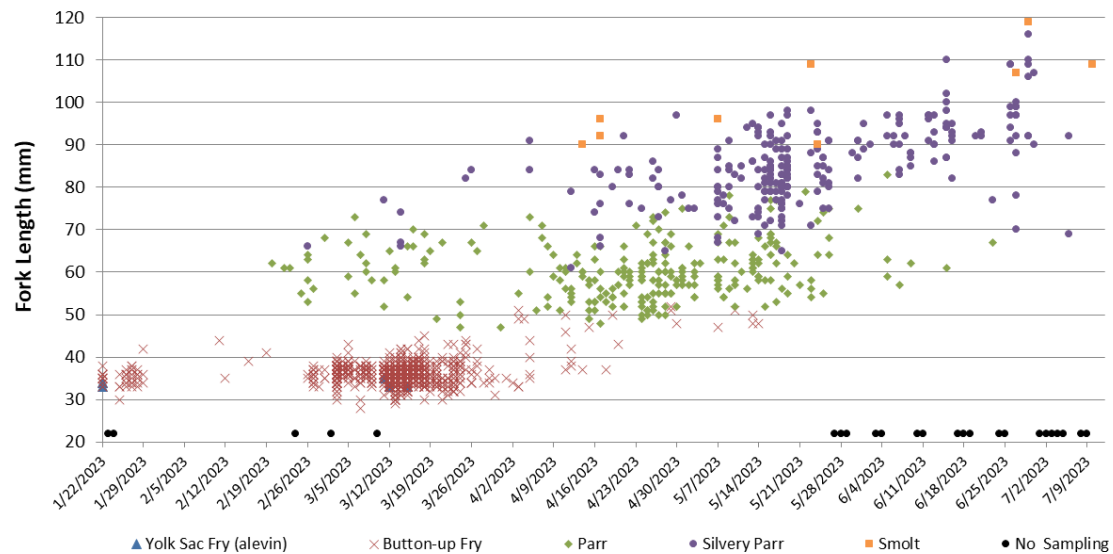


Figure F-3. Daily juvenile Chinook catch (plotted by fork length and life stage) through July 11, 2023, at the rotary screw trap near Caswell State Park. Figure courtesy of Pacific States Marine Fisheries Commission.

Update on Fish Monitoring (Adults)

No current adult monitoring

Update on Fish Monitoring (Juveniles)

Mosssdale Trawl

On July 3rd trawl operation shifted from 5 days/week by CDFW to 3 days/week by CDFW and USFWS The Mosssdale Trawl has caught large numbers (50+) of Splittail from 5/18- 7/1 (range 66- ~13,276).

Table 1. Counts of Chinook catch from the Mosssdale Trawl. (preliminary data)

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	sac fry
2/3/2023	1	fry
2/10/2023	1	parr
3/13/2023	1	parr
4/24/2023	1- ad clipped	retained for CWT decoding
4/25/2023	1	N/A
4/27/2023	1- ad clipped	retained for CWT decoding
5/2/2023	1	N/A
5/4/2023	2 (1 ad clipped)	Ad clip-retained for CWT decoding
5/5/2023	4	N/A
5/6/2023	6	N/A
5/8/2023	4	N/A
5/9/2023	1	N/A
5/11/2023	1	N/A
5/12/2013	2	N/A
5/13/2023	3	N/A
5/15/2023	4	N/A
5/16/2023	2	N/A
5/18/2023	7	N/A
5/19/2023	2	N/A
5/20/2023	11	N/A

Date	Catch	Comments
5/22/2023	14	1 with dye mark- Red line on head
5/23/2023	2 (1 ad clipped)	Ad clip-retained for CWT decoding
5/25/2023	3	N/A
5/26/2023	24	N/A
5/27/2023	1	N/A
5/30/2023	13	N/A
6/1/2023	4	N/A
6/2/2023	6	N/A
6/3/2023	5	N/A
6/5/2023	2	N/A
6/6/2023	6	N/A
6/9/2023	3	N/A
6/10/2023	16	1 O mykiss
6/12/2023	18	N/A
6/13/2023	10	N/A
6/15/2023	15	N/A
6/16/2023	20	N/A
6/17/2023	19 (1 ad-clipped)	Ad clip-retained for CWT decoding
6/19/2023	13	N/A
6/20/2023	9	N/A
6/21/2023	3	N/A
6/23/2023	13	N/A
6/24/2023	6	N/A
6/26/2023	15	N/A
6/27/2023	11	N/A
6/29/2023	9	N/A
6/30/2023	5	N/A
7/1/2023	19	N/A
7/3/2023	13	N/A
7/5/2023	3	N/A
7/7/2023	13	N/A
7/12/2023	2	N/A
7/14/2023	1	N/A

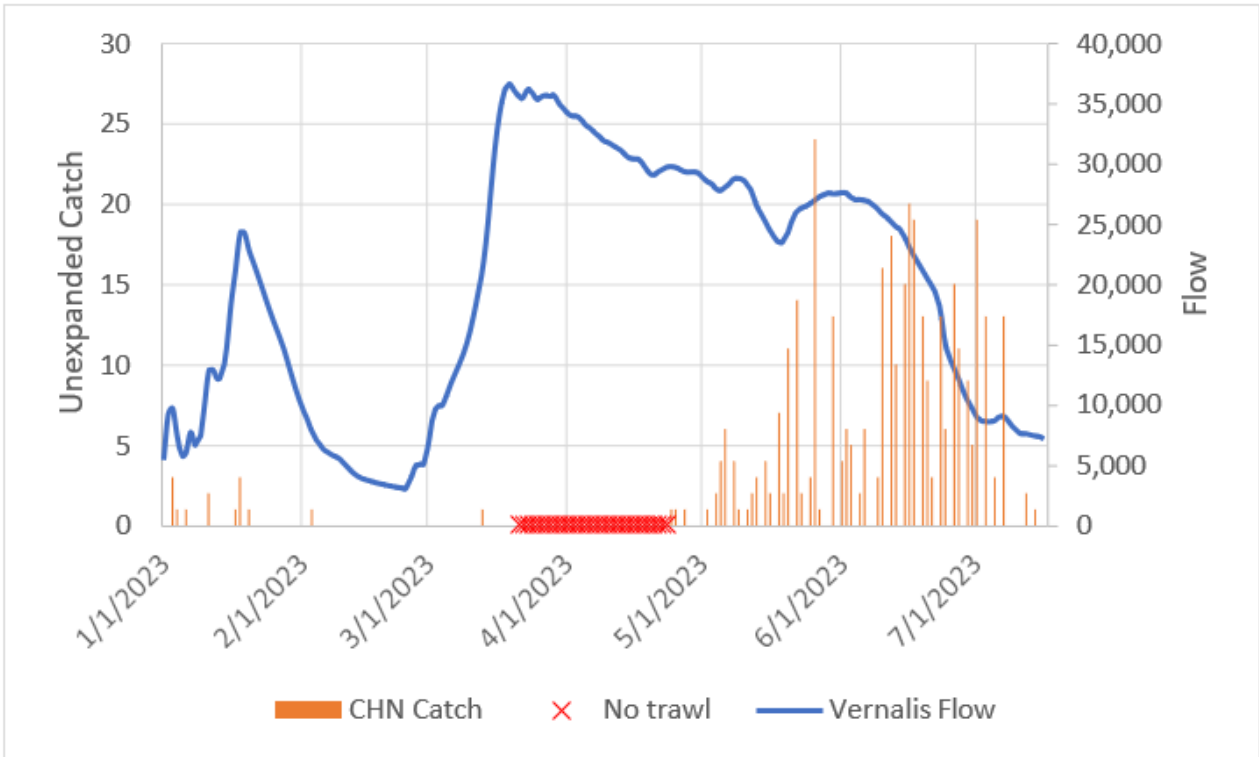


Figure 2. Graph of Chinook catch at Mossdale and flow at Vernalis No trawl identifies days trawl was suspended due to river stage (does not denote scheduled "off" days).