Stanislaus Watershed Team

May 15, 2024

Members Attending

- USBR: Amanda Snow, Cat Pien, Peggy Manza, Zarela Guerrero
- USFWS: Craig Anderson, J.D. Wikert
- CDFW: Gretchen Murphey, Ryan Kok, Steve Tsao, Travis Apgar
- NMFS: Sam Pyros
- DWR: Bryant Georgi, William McLaughlin
- SWRCB: Chris Carr, Yongxuan Gao
- PSMFC: Hunter Morris, Logan Day
- SSJID: N/A
- Fishbio: N/A
- Stockton East Water District (SEWD): Justin Hopkins
- WAPA: N/A
- Herum/Crabtree/Suntag Attorneys: N/A
- Kearns & West: Karis Johnston, Bethany Taylor

Action Items

- Kearns & West will reschedule the June meeting to 6/12/2024 at 10:00 a.m. to avoid conflicting with the Juneteenth holiday on 6/19/2024 [Complete].
- Zarela Guerrero, USBR, to reserve the conference room for the 6/12/2024 meeting, 9:30 a.m. – 12:00 p.m.

Announcements

- Hybrid meeting planning for June
    - Kearns & West will coordinate with Reclamation about meeting space and logistics.
- June Meeting Planning
    - An impromptu poll showed a preference for 6/12/2024 from 10am – 12pm over 6/26/2024.

Operations Update and Forecasts/ Hydrology

New Melones Reservoir Update

- As of 5/15/2024, storage at New Melones is 2.068 MAF, or approximately 138% of total capacity.
- The reservoir received steady precipitation over Water Year 2024 which helped accumulate storage gradually and safely.
- New Melones releases are 2,500 cfs as of 5/15/2024, peaking up from a base release of 1,000 cfs.
- Accumulated inflow at New Melones was 629 TAF as of 5/11/2024.
    - This inflow level and water year type allows allocations to water rights holders to be at 100%.
- Accumulated precipitation at New Melones is 29.52 inches as of 5/14/2024, which is 114% of average.

Daily CVP Water Supply

- Storage has been gaining steadily during the first two weeks of May.
- A small amount of spill was released through the outlets on 5/8/2024 in order to avoid releasing through the power plant and any resulting increased financial rates for water power. A similar action occurred in late April on negative-pricing days.

Tulloch Dam

- Due to high demand on certain days in May, the power plant was maxed out of releases, resulting in spill through the outlet. This also occurred on a few days in late April.
- From 5/01 – 5/13/24, power plant releases from Tulloch have ranged from approximately 1,600 cfs to over 2,400 cfs.

Goodwin Dam

- There was a data entry error on 5/08/2024 that incorrectly listed releases at 3,280 cfs. The corrected figure should read 2,700 cfs; this has since been corrected in the system.
- There have been a few high-demand days in early May for the Joint Main and South canals. These days typically occur for irrigation purposes as the air temperatures rise and the land dries out.
- Reclamation noted the meeting materials reflected the pulse flows conducted in April. Peak flows during the pulse are not necessarily shown in the table because they occur for only a partial day; the daily release figures represent a daily average.

Current Conditions

- A preliminary forecast shows that at both the 50% and 90% exceedance levels, the end of September/water year storage in New Melones is just under 1.97 MAF. This is a good amount to have when entering the next water year. Flood control releases will not have to be made by the end of October before the start of the rainy season.

- The B120 for May came out, and at both the 75% exceedance level and the 90% exceedance level, the May forecasts are classified as Above Normal. This water year type change did not affect the spring pulse flow.

Questions

- CDFW asked about flow forecasting for the summer months.

    - Reclamation responded that base flow is scheduled for summer, at 250 cfs, ranging up to 300 cfs. However, dissolved oxygen requires releases to be above 250 cfs. The release level also depends on other factors such as air temperatures, possible wildfires and resulting smoke.

Water Temperature Updates

- NMFS noted that water temperatures are still below 60°F and remain suitable for rearing and migration.

Flow Planning

- N/A

Stanislaus River Forum (SRF) Call Review

- There were no comments received from members of the public at the SRF May meeting.

Fish Monitoring

CDFW Fish Monitoring

- Chinook salmon carcass surveys

    - CDFW plans to begin the 2024 Escapement Survey in October.

- Steelhead *O. mykiss* redd surveys

    - During the last two weeks of April, 9 larger *O. mykiss* and 295 smaller *O. mykiss* were observed.

    - Two redds and zero carcasses were observed during the last two weeks of April.

    - Sacramento Sucker were observed in high numbers for a total of 1,327 fish during the last two weeks of April.

Mossdale Trawl

- Mossdale Trawl has been operating year-round. CDFW took over operations in early April, increasing the trawl's frequency from 3 days per week to 5 days.
- Salmon catch has been increasing since mid-April.
- Several tagged (adipose-clipped) Chinook that were caught are assumed to be from the San Joaquin Restoration Program.
- Unmarked and adipose-clipped O. mykiss have been caught and some with stitches suggesting the presence of an acoustic tag.
- Next month, only *O. mykiss* catch numbers will be shared unless requested.
- Questions / Comments
    - USFWS asked if smolts are still being seen at the Mossdale Trawl.
        - CDFW responded that they have recently been seeing a mix of silver parrs and smolts. Many have been on the larger side, spring-run, and some on the smolt side. They are also seeing some smaller fish coming through.

FISHBIO Monitoring

- Stanislaus Weir Update
    - The weir was removed on 4/16 – 4/17/24.
    - There will be no additional updates for this water year.
- *O. mykiss*
    - N/A
- Chinook salmon
    - N/A

PSMFC Monitoring

- Rotary Screw Trap (RST) Updates
    - As of 5/12/2024, PSMFC has captured 5,871 unmarked Chinook salmon. All about 80 mm.
    - PSMFC completed the last of their RST efficiency trials that began in April. The last two trials used fish measuring between 70-90 mm. Efficiency ratings resulted in 1-2% efficiency.
    - Continuing sampling 7 days a week through the remainder of the spring pulse flows, likely lasting through May.
    - Sampling will be reduced to 5 days a week starting in June due to river recreation.

Restoration Project Updates

- N/A

Progress Update on Proposed Action Elements

- N/A

Other Discussion Items

Curtailments

- N/A

Annual Reporting

- USBR will be sending the finalized report for review in the next few days.
- The report will not include the missing section from NMFS.

Items to elevate to WOMT

- N/A

Next Meeting

Wednesday, June 12, 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, May 15, 2024

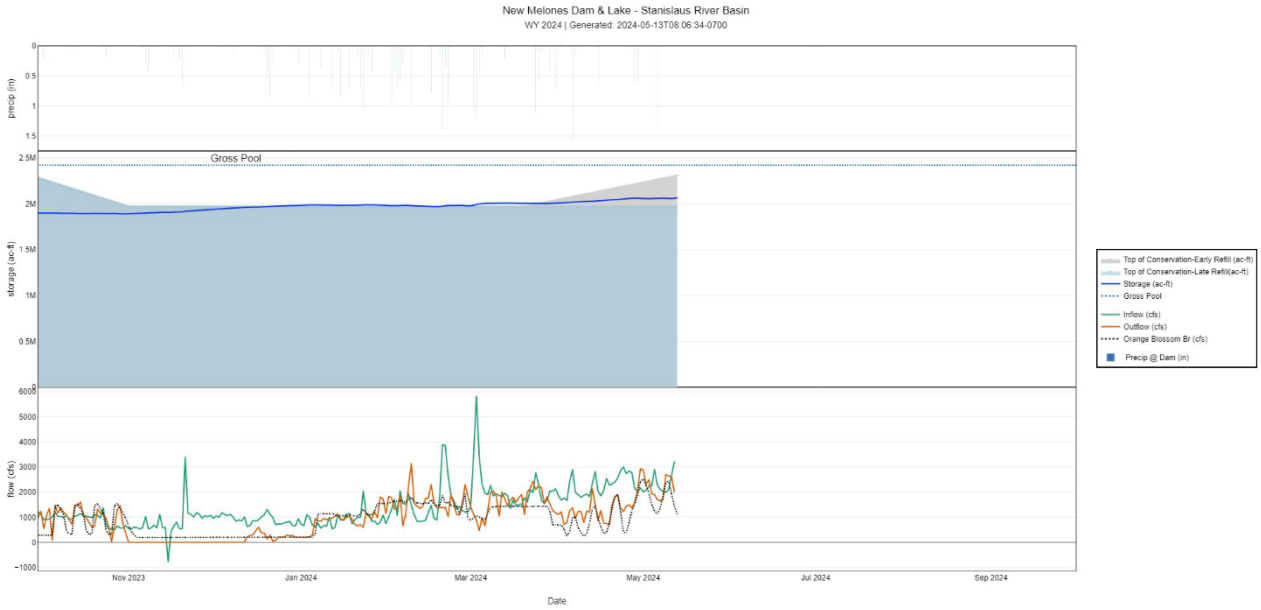
Agenda

1. Introductions
2. Ground Rules[1]
3. Announcements
    a. Meeting will be recorded for notetaking purposes – Karis Johnson, Kearns & West
    b. Potential June hybrid meeting at Central Valley Operations Office
    c. Our June meeting falls on a holiday, so we'll need to choose an alternate meeting date
4. Operations Update and Forecasts/Hydrology - Peggy Manza, USBR
5. Temperature Updates – Barbara Byrne, NMFS
6. Flow Planning – JD (John) Wikert, USFWS
7. Stanislaus River Forum (SRF) Call Review - Amanda Snow, USBR

[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

8. Fish Monitoring and Studies - CDFW, FISHBIO, NMFS, PSMFC
9. Restoration Project Updates
    a. Presentation on the Stanley Wakefield Wilderness Area, – JD (John) Wikert, USFWS
    b. Restoration Tracker – JD (John) Wikert, USFWS
    c. Caterina Pien, USBR
10. Other Discussion Items
    a. WY23 Summary of Activities Report Update - Amanda Snow, USBR
    b. SWRCB Updates
    c. Items to elevate to WOMT
11. Review Action Items - Karis Johnston, Kearns & West
12. Next Meeting: TBD



Flow (csf), storage (ac-ft) and precipitation (in) for New Melones Dam and Lake at Stanislaus River Basin from November 2023 to September 2024.

The Figure is a line graph showing the flow, storage, and precipitation for New Melones Dam and Lake from November 2023 to September 2024. The graph shows storage around 2M ac-ft from November to May, with flow staying at 1000 cfs, except for peaks in early December at approximately 3000 cfs and in March at approximately 6000 cfs.

BUREAU OF RECLAMATION

Tables for BDO

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

May 12, 2024
Run Date: May 13, 2024

Table 4. Reservoir Releases in Cubic Feet Per Second

Reservoir	Dam	WY 2023	WY 2024	15-Year Median
Trinity	Lewiston	1,781	3,691	2,773
Sacramento	Keswick	13,034	8,351	8,351
Feather	Oroville (SWP)	10,000	8,500	2,500
American	Nimbus	8,001	3,916	3,916
Stanislaus	Goodwin	1,502	1,002	1,513
San Joaquin	Friant	3,092	0	581

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

Reservoir	Capacity	15-Yr Avg	WY 2023	WY 2024	% O 15 Yr Avg
Trinity	2,448	1,702	968	2,081	122
Shasta	4,552	3,687	4,450	4,371	119
Folsom	977	769	837	894	116
New Melones	2,420	1,498	1,586	2,063	138
Fed. San Luis	966	662	952	825	125
Total North CVP	11,363	8,318	8,793	10,234	123
Millerton	521	313	153	0	0
Oroville (SWP)	3,538	2,690	3,381	3,513	131

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

Reservoir	Current WY 2024	WY 1977	WY 1983	15-Yr Avg	% O 15 Yr Avg
Trinity	1,221	510	1,575	832	147
Shasta	4,568	2,541	7,521	3,773	121
Folsom	1,707	851	4,753	1,938	88
New Melones	629	---	1,469	675	93
Millerton	1,026	502	1,551	840	122

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

Reservoir	Current WY 2024	WY 1977	WY 1983	Avg (N Yrs)	% of Avg	Last 24 Hours
Trinity at Fish Hatchery	35.72	21.75	37.91	28.50 (64)	125	0.00
Sacramento at Shasta Dam	64.77	32.91	83.60	55.96 (69)	116	0.00
American at Blue Canyon	50.55		112.31	60.93 (50)	83	0.00
Stanislaus at New Melones	29.52	---	36.55	25.81 (47)	114	0.00
San Joaquin at Huntington LK	31.93	11.50	65.30	38.10 (51)	84	0.00

United States Department of the Interior
Bureau of Reclamation-Central Valley Project- California
New Melones Lake Daily Operations, May 2024, Run Date: 05/14/2024

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	2,056.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	1,057.23	2,055.4	-0.7	2,076	2,318	0	0	98	0.27	0.00
2	1,057.17	2,054.7	-0.7	2,239	2,493	0	0	87	0.24	0.00
3	1,057.21	2,055.1	0.4	2,262	1,944	0	0	91	0.25	0.00
4	1,057.37	2,056.9	1.8	2,891	1,907	0	0	76	0.21	0.00
5	1,057.47	2,058.1	1.1	2,287	1,694	0	0	25	0.07	1.32
6	1,057.54	2,058.8	0.8	2,100	1,667	0	0	36	0.10	0.00
7	1,057.59	2,059.4	0.6	2,042	1,692	0	0	66	0.18	0.00
8	1,057.45	2,057.8	-1.6	1,996	2,250	0	450	91	0.25	0.00
9	1,057.34	2,056.6	-1.2	2,109	2,639	0	0	95	0.26	0.00
10	1,057.33	2,056.5	-0.1	2,649	2,633	0	0	73	0.20	0.00
11	1,057.52	2,058.6	2.1	3,211	2,012	0	0	120	0.33	0.00
12	1,057.87	2,062.6	3.9	3,572	1,473	0	0	113	0.31	0.00
13	1,058.20	2,066.3	3.7	3,898	1,911	0	0	110	0.30	0.00
Totals	N/A	N/A	10.1	33,332	26,633	0	450	1,081	2.97	1.32
Acre-Feet	N/A	N/A	10,100	66,114	52,827	0	893	2,144	N/A	N/A

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

Summary Precipitation

This Month	1.32
October 1, 2023 to Date	29.52

Summary: Release (acre- feet)

Power	52,827
Spill	0
Outlet	893
Total	**53,719**

United States Department of the Interior
Bureau of Reclamation-Central Valley Project- California
New Melones Lake Daily Operations, April 2024, Run Date: 05/10/2024

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	2,007.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	1,053.06	2,008.8	0.9	1,682	1,212	0	0	22	0.06	0.02
2	1,053.24	2,010.8	2.0	1,769	718	0	0	43	0.12	0.00
3	1,053.39	2,012.4	1.7	1,671	784	0	0	47	0.13	0.00
4	1,053.58	2,014.5	2.1	2,425	1,268	0	0	93	0.26	0.00
5	1,053.85	2,017.5	3.0	2,895	1,379	0	0	4	0.01	1.66
6	1,054.03	2,019.5	2.0	1,987	972	0	0	7	0.02	0.12
7	1,054.14	2,020.8	1.2	1,905	1,236	0	0	50	0.14	0.00
8	1,054.23	2,021.8	1.0	1,786	1,230	0	0	50	0.14	0.00
9	1,054.41	2,023.8	2.0	1,877	790	0	0	76	0.21	0.00
10	1,054.52	2,025.0	1.2	1,924	1,245	0	0	61	0.17	0.00
11	1,054.62	2,026.1	1.1	1,821	1,201	0	0	58	0.16	0.00
12	1,054.64	2,026.3	0.2	2,338	2,132	0	0	94	0.26	0.00
13	1,054.86	2,028.8	2.5	2,812	1,500	0	0	76	0.21	0.00
14	1,055.07	2,031.1	2.3	2,041	855	0	0	4	0.01	0.68
15	1,055.17	2,032.3	1.1	1,854	1,272	0	0	18	0.05	0.00
16	1,055.39	2,034.7	2.5	2,053	761	0	0	51	0.14	0.00
17	1,055.70	2,038.2	3.5	2,540	756	0	0	36	0.10	0.00
18	1,055.97	2,041.2	3.0	2,283	703	0	0	58	0.16	0.00
19	1,056.10	2,042.7	1.5	2,328	1,517	0	0	76	0.21	0.00
20	1,056.19	2,043.7	1.0	2,409	1,820	0	0	80	0.22	0.00
21	1,056.30	2,044.9	1.2	2,567	1,872	0	0	73	0.20	0.00
22	1,056.55	2,047.7	2.8	2,857	1,355	0	0	87	0.24	0.00
23	1,056.85	2,051.1	3.4	3,004	1,227	0	0	80	0.22	0.00
24	1,057.07	2,053.5	2.5	2,737	1,440	0	0	51	0.14	0.00
25	1,057.30	2,056.1	2.6	2,842	1,500	0	0	36	0.10	0.00
26	1,057.54	2,058.8	2.7	2,771	1,373	0	0	36	0.10	0.02
27	1,057.63	2,059.9	1.0	2,138	1,591	0	0	36	0.10	0.60
28	1,057.61	2,059.6	-0.2	2,028	2,090	0	0	51	0.14	0.60
29	1,057.46	2,057.9	-1.7	2,165	2,394	0	536	87	0.24	0.00
30	1,057.29	2,056.0	-1.9	2,011	2,722	0	156	98	0.27	0.00
Totals	N/A	N/A	48.2	67,520	40,915	0	692	1,639	4.53	3.70
Acre-Feet	N/A	N/A	48,200	133,926	81,155	0	1,373	3,251	N/A	N/A

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

Summary Precipitation

This Month	3.70
October 1, 2023 to Date	28.20

Summary: Release (acre-feet)

Power	81,155
Spill	0
Outlet	1,373
Total	**82,527**

United States Department of the Interior
Bureau of Reclamation-Central Valley Project- California
Tulloch Reservoir Daily Operations, May 2024, Run Date: 05/14/2024

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	59,831	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	503.91	59,647	-184	2,775	2,318	2,447	276	135	10
2	505.04	60,954	1,307	3,128	2,493	2,363	46	51	9
3	505.29	61,248	294	2,328	1,944	2,171	0	0	9
4	506.19	62,310	1,062	2,303	1,907	1,760	0	0	8
5	506.79	63,026	716	1,975	1,694	1,611	0	0	3
6	506.70	62,919	-107	1,944	1,667	1,994	0	0	4
7	505.71	61,742	-1,177	1,940	1,692	2,392	0	134	7
8	505.78	61,824	82	3,135	2,700	2,465	428	191	10
9	505.76	61,801	-23	3,026	2,639	2,466	286	276	10
10	506.31	62,453	652	3,037	2,633	2,468	48	184	8
11	506.46	62,632	179	2,312	2,012	2,198	0	11	13
12	506.20	62,322	-310	1,720	1,473	1,864	0	0	12
13	506.11	62,214	-108	2,190	1,911	2,232	0	0	12
Totals	N/A	N/A	2,383	31,813	27,083	28,431	1,084	982	115
Acre-Feet	N/A	N/A	2,383	63,101	53,719	56,393	2,150	1,948	228

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)

Power	59,393
Spill	2,150
Outlet	1,948
Total	60,491

United States Department of the Interior
Bureau of Reclamation-Central Valley Project- California
Tulloch Reservoir Daily Operations, April 2024, Run Date: 05/10/2024

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	57,792	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	502.62	58,184	392	1,449	1,212	1,249	0	0	2
2	502.39	57,927	-257	900	718	1,026	0	0	4
3	502.16	57,669	-258	944	784	1,069	0	0	5
4	502.27	57,792	123	1,522	1,268	1,451	0	0	9
5	502.78	58,364	572	2,105	1,379	1,817	0	0	0
6	502.15	57,658	-706	1,294	972	1,649	0	0	1
7	502.35	57,882	224	1,524	1,236	1,406	0	0	5
8	502.77	58,352	470	1,506	1,230	1,264	0	0	5
9	502.44	57,983	-369	1,006	790	1,184	0	0	8
10	502.65	58,218	235	1,462	1,245	1,338	0	0	6
11	502.46	58,005	-213	1,481	1,201	1,582	0	0	6
12	503.46	59,134	1,129	2,506	2,132	1,927	0	0	10
13	503.76	59,476	342	1,835	1,500	1,655	0	0	8
14	503.52	59,203	-273	1,093	855	1,231	0	0	0
15	504.49	60,317	1,114	1,509	1,272	945	0	0	2
16	504.78	60,652	335	958	761	784	0	0	5
17	504.76	60,629	-23	906	756	914	0	0	4
18	503.91	59,647	-982	856	703	1,345	0	0	6
19	503.68	59,385	-262	1,729	1,517	1,853	0	0	8
20	503.23	58,872	-513	2,128	1,820	2,336	0	43	8
21	503.23	58,872	0	2,178	1,872	2,155	0	16	7
22	503.38	59,043	171	1,596	1,355	1,501	0	0	9
23	503.86	59,590	547	1,413	1,227	1,129	0	0	8
24	504.70	60,560	970	1,697	1,440	1,203	0	0	5
25	504.90	60,791	231	1,757	1,500	1,637	0	0	4
26	504.14	59,912	-879	1,603	1,373	2,042	0	0	4
27	503.31	58,963	-949	1,823	1,591	2,297	0	0	4
28	503.03	58,644	-319	2,427	2,090	2,394	0	189	5
29	503.33	58,986	342	3,345	2,930	2,445	406	313	9
30	504.07	59,831	845	3,623	2,878	2,454	548	185	10
Totals	NA	NA	2,039	50,175	41,607	47,282	954	746	167

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)
Acre-Feet	NA	NA	2,039	99,522	82,527	93,784	1,892	1,480	331

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)

Power	93,784
Spill	1,892
Outlet	1,480
Total	97,156

Oakdale Irrigation District
South San Joaquin Irrigation
District Tri Dams Project-California
Goodwin Reservoir Daily Operations, May 2024, Run Date: 05/14/2024

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	597	N/A	N/A	N/A	N/A	N/A	N/A
1	360.76	590	-7	2,858	0	2,067	488	221
2	360.52	573	-17	2,460	0	1,704	461	222
3	360.39	564	-9	2,171	0	1,302	494	281
4	360.29	557	-7	1,760	0	1,058	463	173
5	360.29	557	0	1,611	0	1,003	425	140
6	360.54	575	18	1,994	0	1,352	445	162
7	360.74	589	14	2,526	0	1,856	476	171
8	360.95	604	15	3,084	0	3,280	494	172
9	360.74	589	-15	3,028	0	2,199	503	246
10	360.54	575	-14	2,700	0	1,689	538	306
11	360.29	557	-18	2,209	0	1,198	519	304
12	360.30	558	1	1,864	0	1,002	479	194
13	360.54	575	17	2,232	0	1,351	447	257
Totals	N/A	N/A	-22	30,497	0	21,061	6,232	2,849
Acre-Feet	N/A	N/A	-22	60,491	0	41,774	12,361	5,651

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	12,361
South Main Canal	5,651
Outlet	0
Spill	41,774
Total	**59786.657**

Oakdale Irrigation District
South San Joaquin Irrigation
District Tri Dams Project-California
Goodwin Reservoir Daily Operations, April 2024, Run Date: 05/10/2024

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	551	N/A	N/A	N/A	N/A	N/A	N/A
1	360.20	551	0	1,249	0	180	396	22
2	359.93	532	-19	1,026	0	564	403	51
3	359.93	532	0	1,069	0	405	564	51
4	360.17	549	17	1,451	0	671	664	74
5	360.39	564	15	1,817	0	1,092	659	50
6	360.17	549	-15	1,649	0	942	643	50
7	360.05	541	-8	1,406	0	655	664	61
8	359.92	531	-10	1,264	0	477	663	100
9	359.85	527	-4	1,184	0	330	700	126
10	359.99	536	9	1,338	0	441	740	121
11	360.29	557	21	1,582	0	846	569	146
12	360.52	573	16	1,927	0	1,347	466	119
13	360.27	556	-17	1,655	0	1,491	421	65
14	360.11	545	-11	1,231	0	795	404	39
15	359.92	531	-14	945	0	500	414	22
16	359.85	527	-4	784	0	332	410	18
17	359.99	536	9	914	0	444	411	37
18	360.29	557	21	1,345	0	851	424	63
19	360.54	575	18	1,853	0	1,356	402	121
20	360.73	588	13	2,379	0	1,842	420	149
21	360.42	566	-22	2,171	0	1,647	420	150
22	359.96	534	-32	1,501	0	915	434	180
23	359.86	527	-7	1,129	0	339	505	259
24	360.01	538	11	1,203	0	438	488	223
25	360.30	558	20	1,637	0	845	469	276
26	360.42	566	8	2,042	0	2,170	631	181
27	360.55	576	10	2,297	0	1,443	633	186
28	360.77	591	15	2,583	0	1,853	585	113
29	360.95	604	13	3,164	0	2,378	584	167
30	360.86	597	-7	3,187	0	2,320	603	173
Totals	N/A	N/A	46	48,982	0	29,909	15,789	3,393

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
Acre-Feet	N/A	N/A	46	97,156	0	59,325	31,317	6,730

Joint Main Operated by SSJID and OID.

Summary: Release (acre-feet)

Joint Main Canal	31,317
South Main Canal	6,730
Outlet	0
Spill	59,325
Total	**97371.9985**

May 2024 Water Temperature and Fish Monitoring Update

Year-to-Date Flows

Goodwin releases since October 1, 2023, are shown in Figure 1.

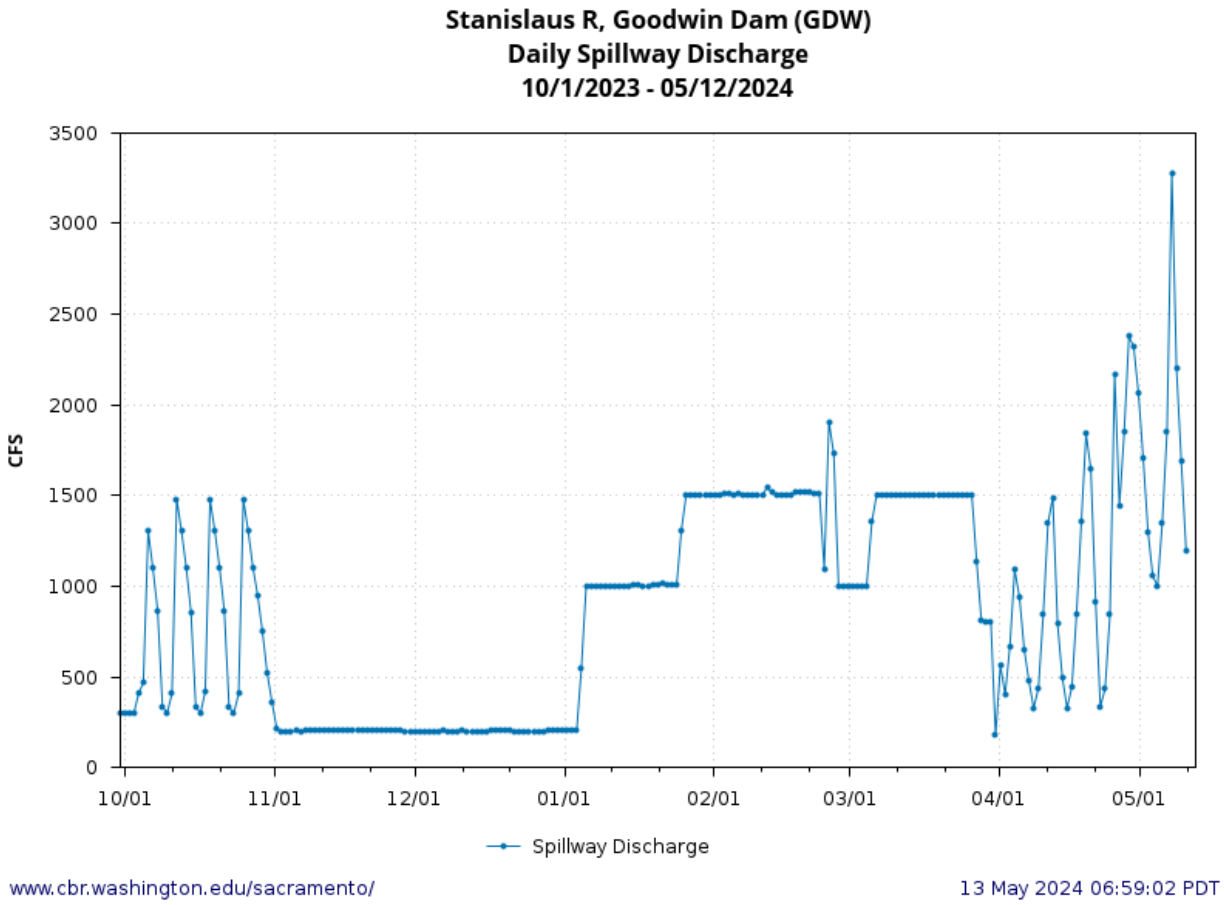


Figure 1. Goodwin (daily) releases to the Stanislaus River since October 1, 2023. Data from GDW station on CDEC.

Figure 1 is a line graph showing Goodwin Dam daily spillway discharge. The graph shows weekly peaks of releases 1,300 – 1,500 cfs starting October 6th with discharges staying at 200 cfs November 1st – January 2nd. Irregular increases occur between January 2nd and April 1st with a peak over 3,000 cfs happening on May 11th.

Water Temperature

The temperature thresholds included in Figures 2-10, 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 March 2024 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 2024 are shown below at Vernalis (Figure 5). Current-year water temperatures are plotted along with historical temperatures for upstream of Orange Blossom Bridge (Figure 6), Ripon (Figure 7), and Vernalis (Figure 8). A compilation of Stanislaus River water temperatures and Goodwin releases for water year 2024 is provided in Figure 9.

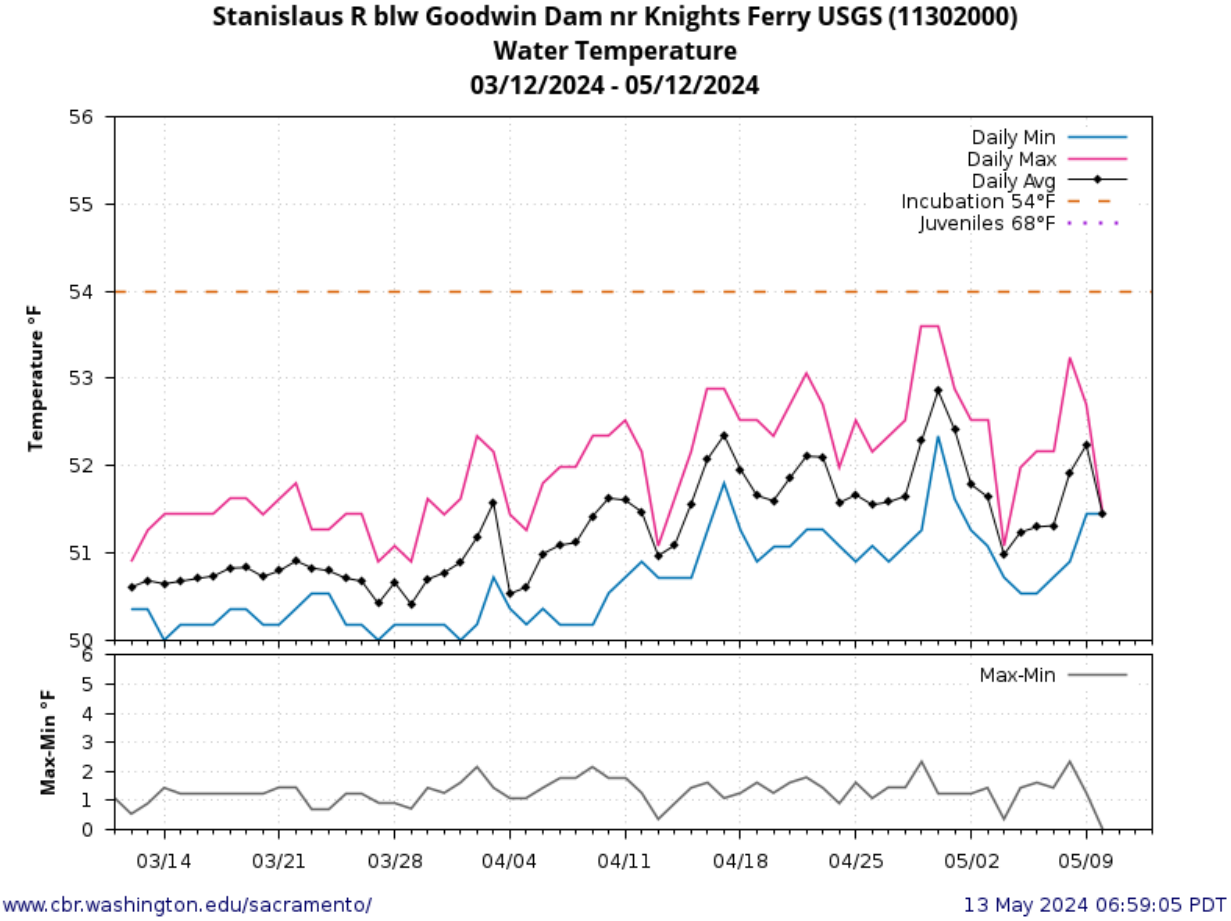


Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since March 12, 2024. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

Figure 2 is a line graph showing Goodwin Dam daily minimum, maximum and average water temperature. The graph shows an average between 50° and 53° Fahrenheit with a steady increase over 53° Fahrenheit on April 28th and May 7th.

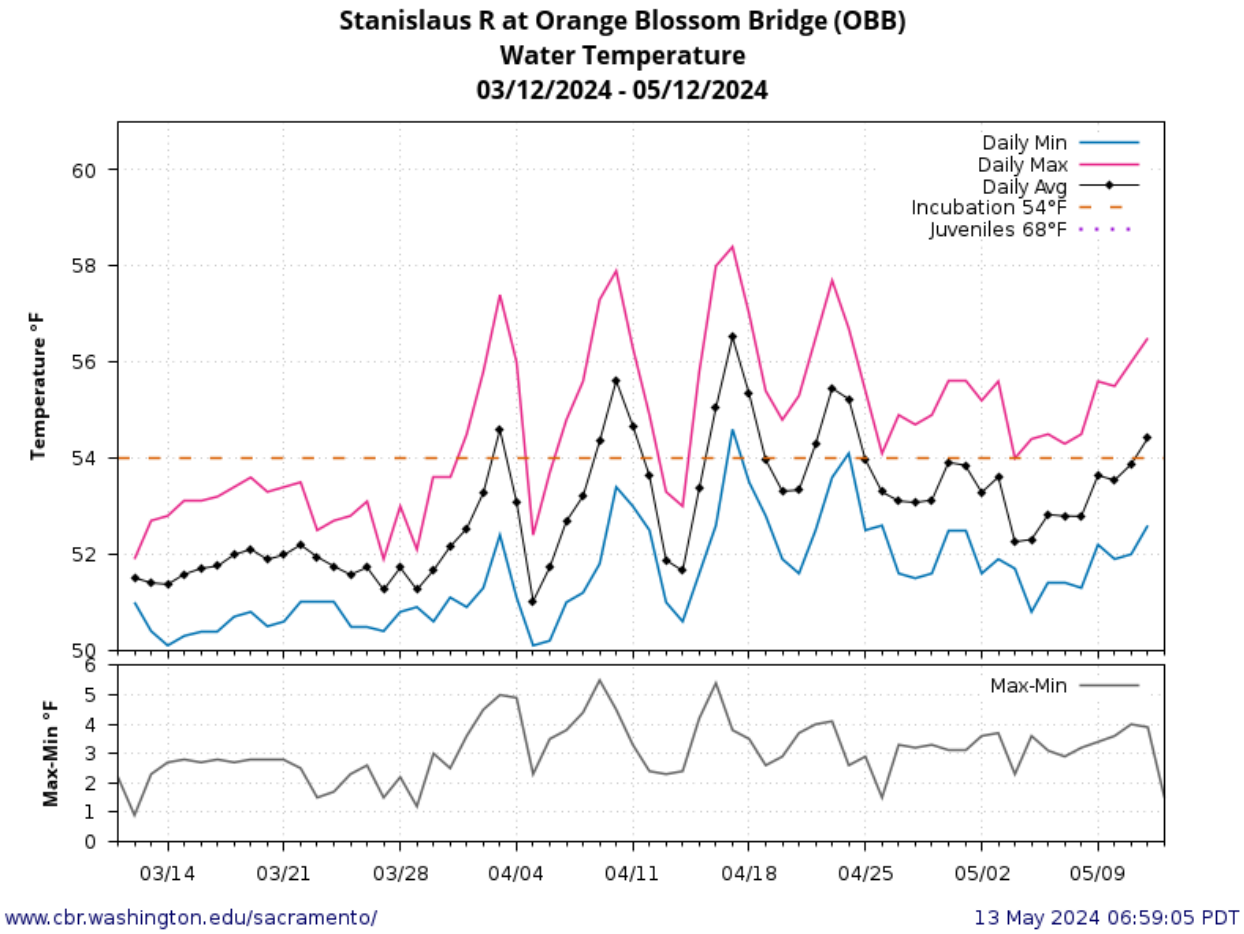


Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since March 12, 2024. Data from OBB station on CDEC.

Figure 3 is a line graph showing Orange Blossom Bridge daily minimum, maximum and average water temperature. The graph shows average temperatures below 54° Fahrenheit with a peaks over 55° Fahrenheit on April 3rd and to April 23rd.

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.

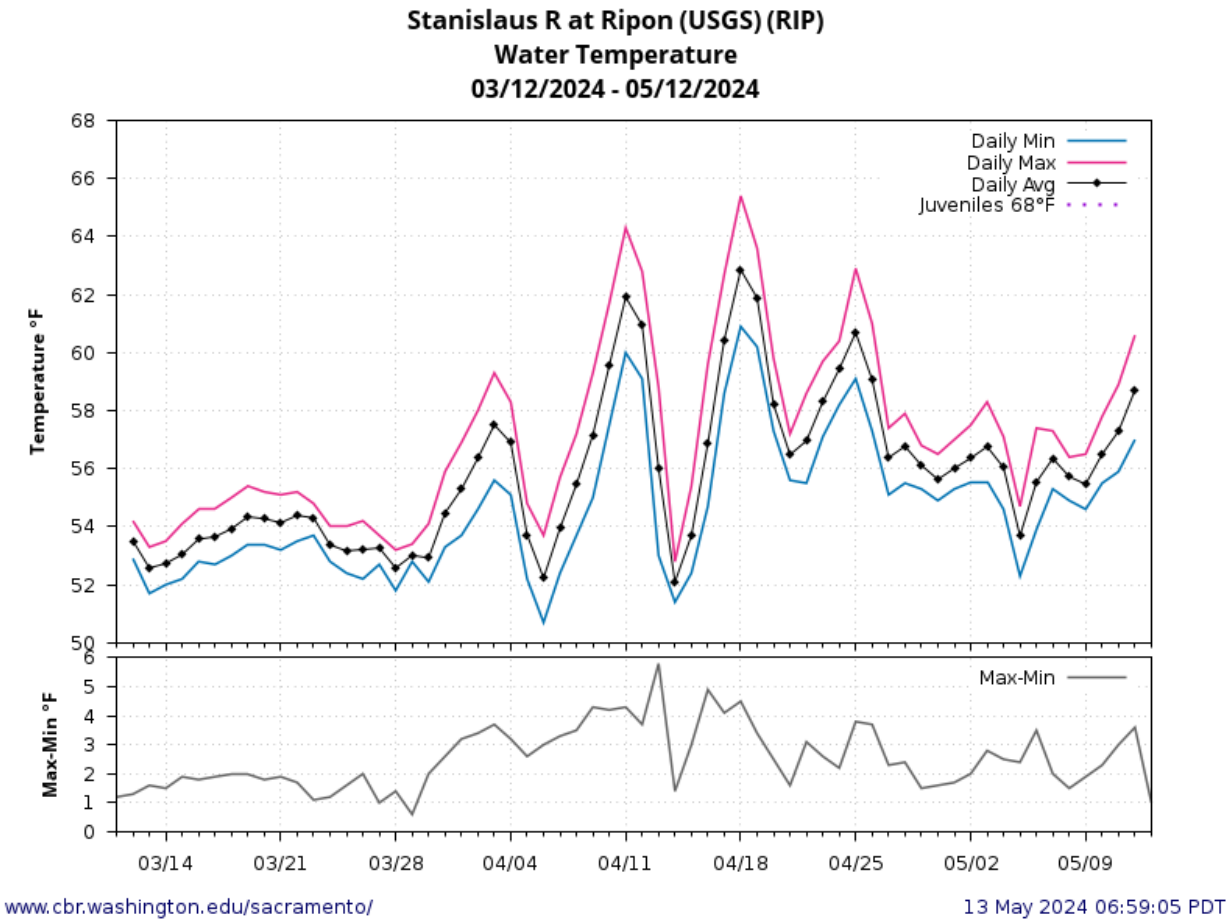


Figure 4. Stanislaus water temperatures at Ripon since March 12, 2024. Data from RIP station on CDEC.

Figure 4 is a line graph showing Ripton daily minimum, maximum and average water temperature. The graph shows average temperature below 56° Fahrenheit with peaks over 59° Fahrenheit on April 2nd through April 25th.

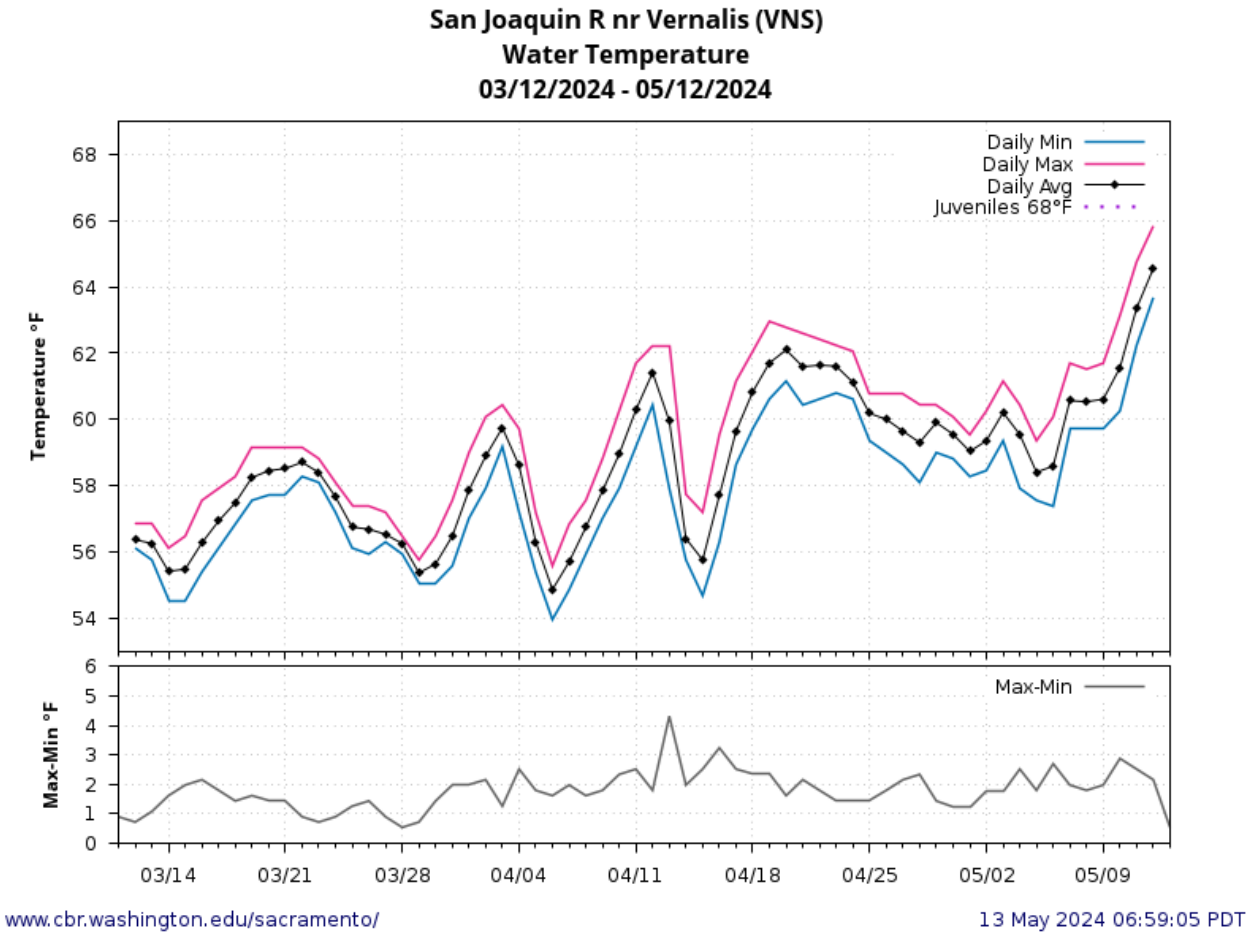


Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since March 12, 2024. Data from VNS station on CDEC. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 8°C=46.4°F; 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 16°C=60.8°F; 18°C=64.4°F; 20°C=68.0°F; 22°C=71.6°F; 24°C=75.2°F; 26°C=78.8°F; 28°C=82.4°F.

Figure 5 is a line graph showing Vernalis daily minimum, maximum and average water temperature. The graph shows a steady increase with peaks of 60° Fahrenheit on April 2nd and 62° Fahrenheit on April 11th with a maximum of over 64° Fahrenheit on May 12th.

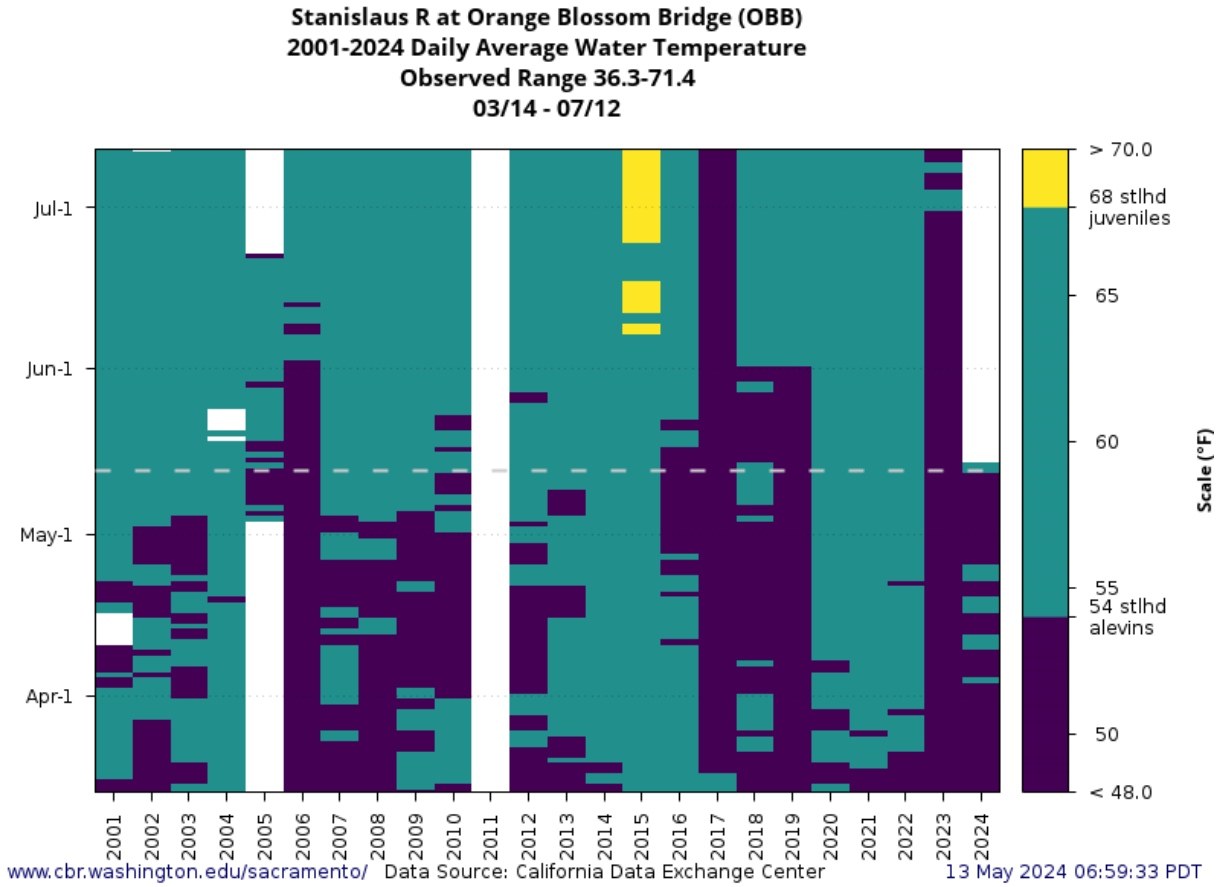


Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for WY 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT. http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

Figure 6 is a bar chart showing water temperatures at Orange Blossom Bridge for WY 2001 to present for February to June. The chart shows during this time, temperature remained above 60° Fahrenheit with temperatures being under 54° Fahrenheit between April and May in 2017 to 2019.

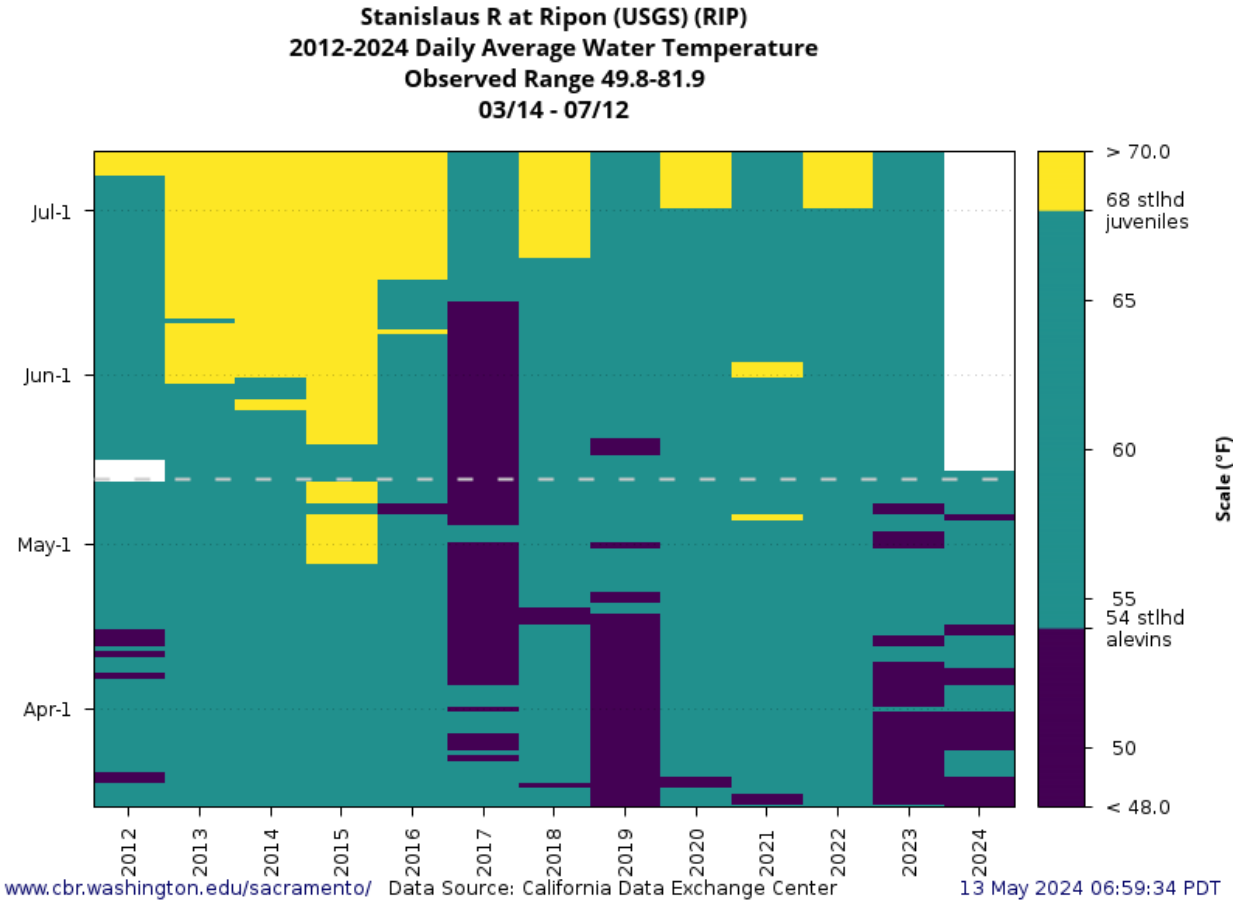


Figure 7. Stanislaus River water temperatures at Ripon for WY 2012 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference line added by SWT. http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

Figure 7 is a bar chart showing water temperatures at Ripon for WY 2012 to present for March to June. The chart shows that during this time, the daily average water temperature was mostly below 68° Fahrenheit except for temperatures in June and July being above 68° Fahrenheit during 2013 to 2016.

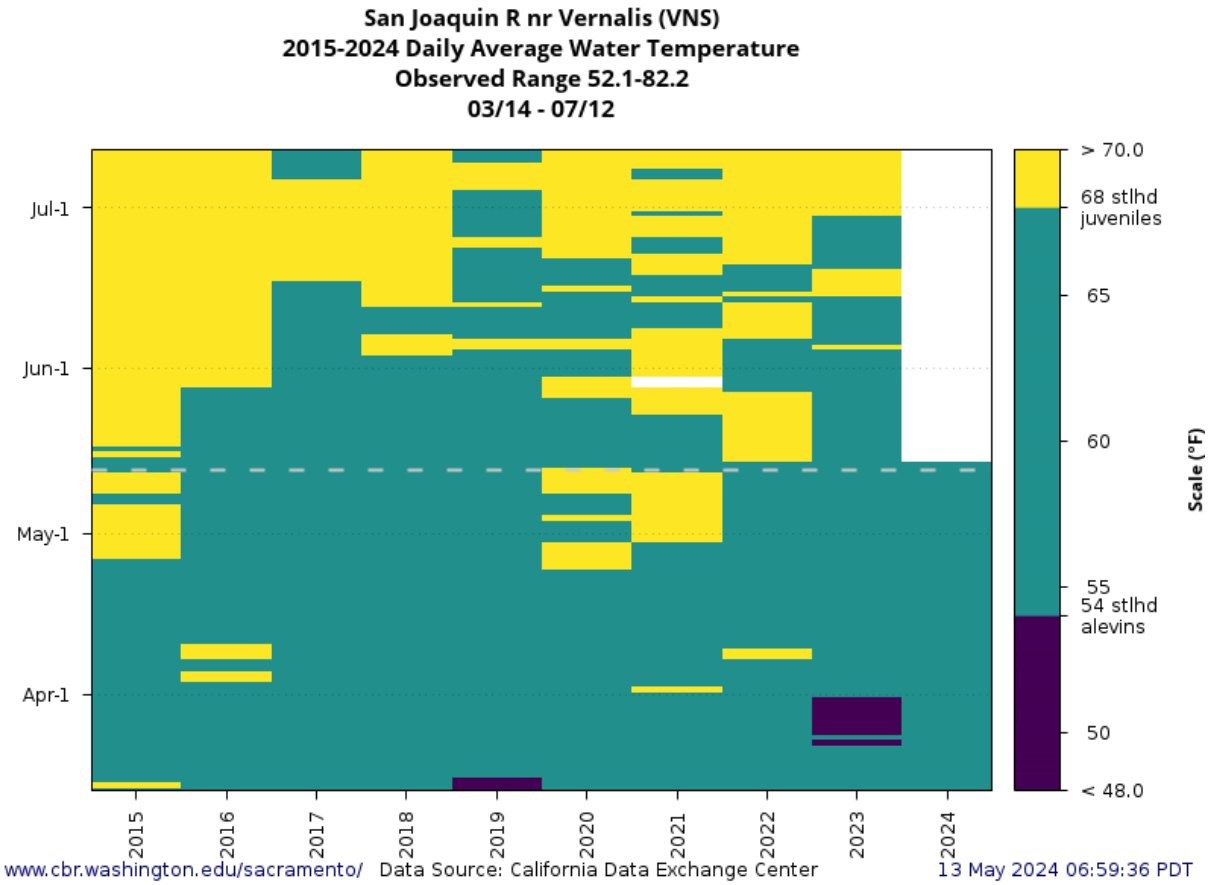


Figure 8. San Joaquin River water temperatures at Vernalis for WY 2015 to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT. http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

Figure 8 is a bar chart showing water temperatures at Vernalis for WY 2015 to present. The chart shows that during this time, the daily average water temperature was mostly below 68° Fahrenheit from early April to May. Temperatures go above 68° Fahrenheit early May to July during 2015, and in early June from 2016-2022.

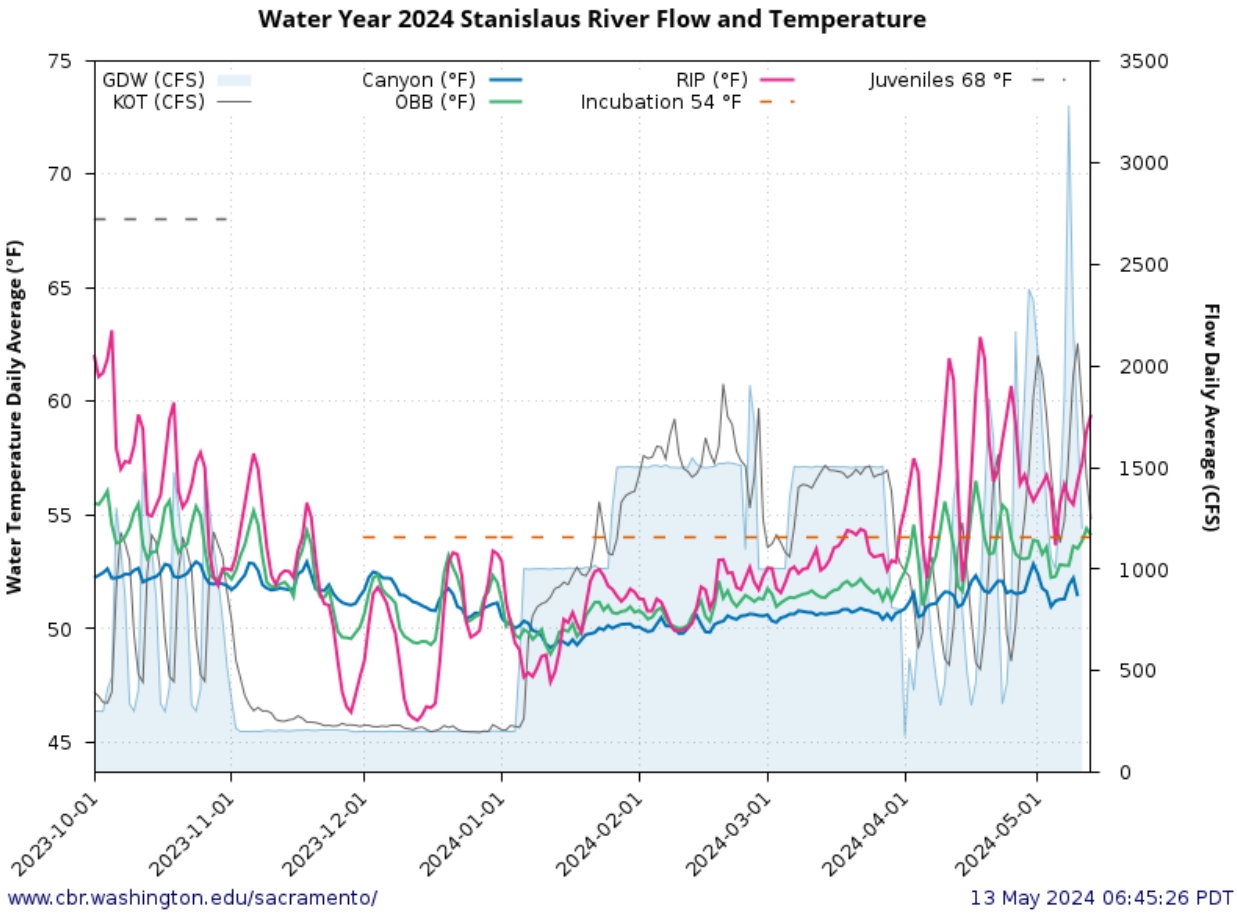


Figure 9. Stanislaus River flow and water temperatures from October 1, 2023 to May 13, 2024. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

Figure 9 is a line chart showing river flow and water temperatures on the Stanislaus River. The graph shows oscillating peaks of daily flow and water temperature.

Flow Planning

USFWS Updates: No advance updates provided for the 5/15/24 meeting.

Forum (SRF) Call Review

USBR Updates: Receive live update from USBR staff on the 5/14/24 call.

Fish Monitoring and Studies

CDFW Update on Fish Monitoring

Adults:

Chinook Carcass and redd surveys: CDFW plans to start the 2024 Escapement Survey in Octobre.

Steelhead reed surveys: CDFW began steelhead reed surveys in January 2024. The surveys conducted up to April 22nd, 2024 are shown in Table 1.

Table 1: Steelhead reed surveys, CDFW began steelhead reed surveys in January 2024.

Week	Date	# RBT Live >40	# RBT Live <40	# RBT Redds	# RBT Carcass	# CHN Live	# CHN Redds	# CHN Car-cass	# PL Live	# PL Redds	# PL Car-cass	# SASU Redds	Avera-ge Flow (cfs)
1	1/1/2024	1	23	0	1	51	149	36	0	0	0	0	200
2*	1/8/2024	0	0	0	0	1	22	2	0	0	0	0	1150
3*	1/15/2024	1	1	0	0	1	3	1	0	0	0	0	1100
4*	1/22/2024	0	1	0	0	1	0	0	0	0	0	0	1100
5*	1/29/2024	0	0	0	0	0	0	0	0	0	0	0	1575
6**	2/5/2024	0	0	0	0	0	0	0	0	0	0	0	1625
7**	2/12/2024	0	0	0	0	0	0	0	0	0	0	0	1550
8*	2/19/2024	0	3	0	0	0	0	0	0	0	0	0	1562.5
9*	2/262024	0	3	0	0	0	0	0	0	0	0	0	1125
10*	3/4/2024	0	8	0	0	0	0	0	0	0	0	0	1250
11*	3/11/2024	1	7	0	0	0	0	0	0	0	0	0	1500
12*	3/18/2024	2	12	0	0	0	0	0	0	0	0	0	1500
13*	3/25/2024	1	9	0	0	0	0	0	0	0	0	17	1500
14	4/1/2024	0	32	1	0	0	0	0	1	0	0	159	567
15	4/8/2024	13	170	0	1	0	0	0	0	1	0	1243	400
16	4/15/2024	5	171	1	0	0	0	0	0	0	0	858	400
17	4/22/2024	4	124	1	0	0	0	0	0	0	0	469	400

** Section 1 not surveyed*

*** Section 1 (flow) and N1-N2 not surveyed (turbidity)*

RBT – O. mykiss CHN – Chinook Salmon PL- Pacific Lamprey SASU – Sacramento Sucker

Juveniles:

Mossdale Trawl: CDFW began independent operations on April 2 and will continue through June.

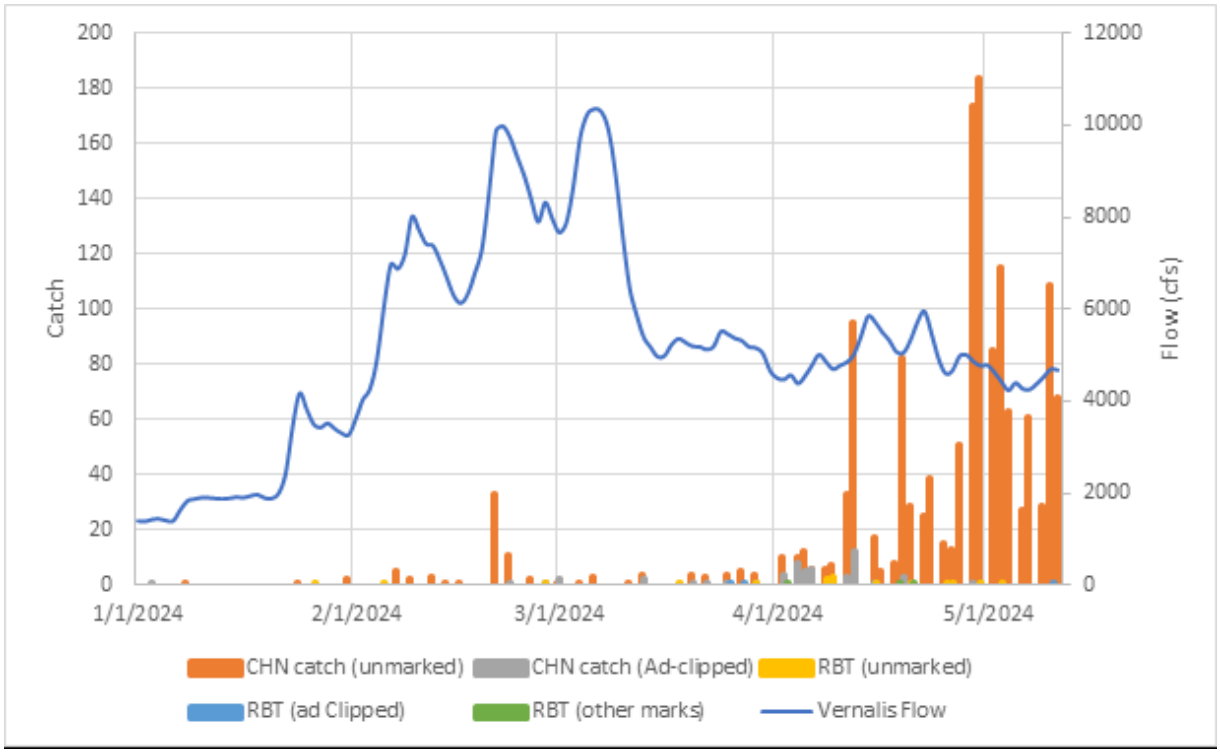


Figure 10. Salmonid catch at Mossdale and flow at Vernalis since January 1, 2024.

Figure 10 is a line chart showing the Vernalis flow with peaks up to 10,000 cfs in February and March and a bar chart showing the Salmonid catch at Mossdale with various peaks of over 90 in mid-April to May, with a maximum of 180 in May.

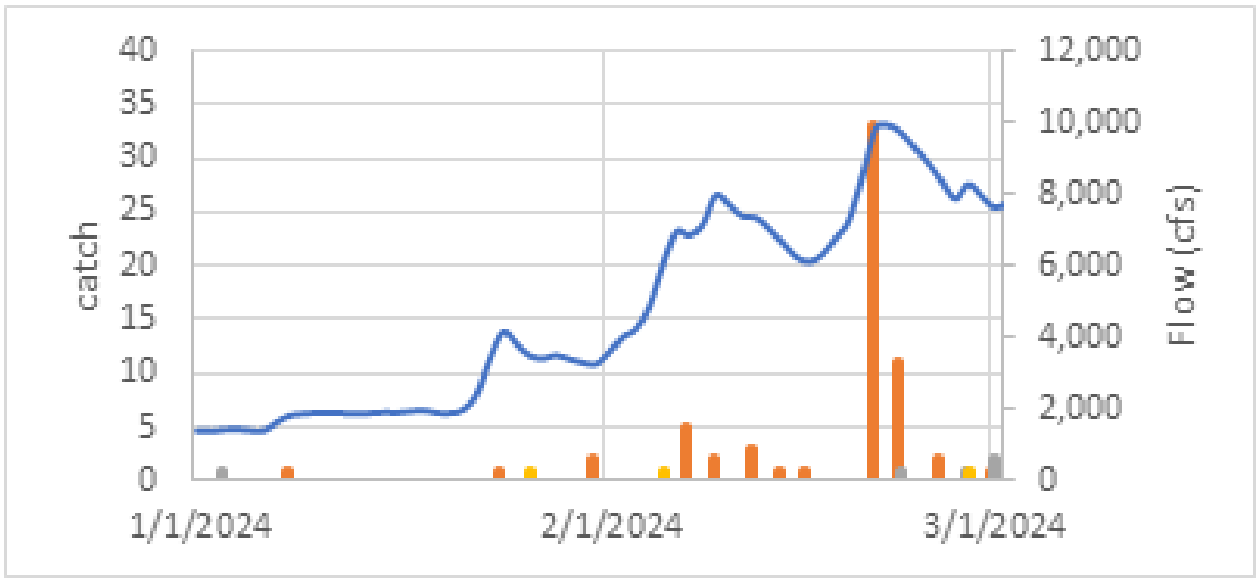


Figure 11. Salmonid catch at Mossdale and flow at Vernalis for January and February 2024.

Figure 11 is a line chart showing the Vernalis flow in January and February with a peak over 10,000 cfs in late February 2024, and a bar chart showing the Salmonid catch in January and February 2024 with a peak over 30 Salmonid happening in late February 2024.

Table 2: Salmonid catch at Mossdale Trawl with length information.

Date	# CHN catch	# Comments
1/3/2024	3	FL 195
1/8/2024	1	FL 158
1/24/2024	1	FL 36
1/26/2024	33	1 RBT FL 200
1/31/2024	11 ad- clipped	FL 34 (both)
2/5/2024	2	1 RBT FL 224
2/7/2024	1	FL 33,35,35,36,133
2/9/2024	-	FL 37,41
2/12/2024	1, 2 ad-clipped	FL 41,34,37
2/14/2024	1	FL 37
2/16/2024	3	FL 37
2/21/2024*	1	FL 36,39,29,34,37, 40,37,38,36,37,43,44, 35,35,35,35,35,38,40 36,38,62,38,26,40,36 37,38,39,36,80.37,36
2/23/2024*	4 2 ad-clipped	FL 37,37,37,33,110, 38,99,37,38,37,34 Ad-clipped FL 74
2/26/2024	-	FL 36,41
2/28/2024	4 1 ad-clipped	Ad-clipped FL 73
2/28/2024	3	1 RBT FL 222
3/1/2024	1	FL 36 Ad- clipped FL 82,82
3/4/2024	1	FL 35
3/6/2024	33	FL 35,53,47
3/11/2024	11 1 ad- clipped	FL 39
3/13/2024	2	FL 37,49,82,89 Ad-clipped FL 90,103

Date	# CHN catch	# Comments
3/18/2024	-	1 RBT Fl 212
3/20/2024	4 1 ad-clipped	FL 47,47,51,47 Ad-Clipped FL 77
3/22/2024*	3 1 ad-clipped	FL 48,59,50 Ad-Clipped FL 79
3/25/2024	4 1 ad-clipped	FL 62,57,48,65 Ad-Clipped FL 81 1RBT ad-clipped 251
3/27/2024	5 1 orange caudal	FL 50,76,64,75,49 FL 80 1RBT ad-clipped 213
3/29/2024	4 1 ad-clipped	FL 49,98,68,60 FL 97 1 RBT FL 97
4/2/2024*	10 4 ad-clipped	Ave FL 59.1 1 RBT sutures
4/4/2024*	10 8 ad-clipped	Ave FL 71.4
4/5/2024*	12 5 ad-clipped	Ave FL 72.8
4/6/2024*	6 3 ad-clipped	Ave FL 81.8
4/8/2024*	6	Ave FL 92 2 RBT FL 220,245
4/9/2024*	7	Ave FL 51 3 RBT FL 245,266,207
4/11/2024*	33 3 ad-clipped	Ave FL 81
4/12/2024*	95 12 ad-clipped	Ave FL 80
4/15/2024*	17 1 ad-clipped	Ave FL88.7 1 RBT FL 215
4/16/2024*	5	Ave FL 91.6 1 RBT FL 248
4/18/2024*	8	Ave FL 85.3 1 RBT sutures
4/19/2024*	82 3 ad-clipped	Ave FL 83.0
4/20/2024*	29	Ave FL 85.1 1 RBT FL 260 1 RBT sutures
4/22/2024*	25	Ave FL 82.5
4/23/2024*	39	Ave FL 82.1
4/25/2024*	15	Ave FL 83.1 1 RBT FL 240

Date	# CHN catch	# Comments
4/26/2024*	13	Ave FL 83.7 1 RBT Fl 220
4/27/2024*	51	Ave FL 86.9
4/29/2024*	174 1 ad-clipped	Ave FL 86.4
4/30/2024*	184	Ave FL 86.4 1 RBT FL 208
5/2/2024*	85	Ave FL 93.2
5/3/2024*	115 -	Ave FL 91.4 1 RBT FL 235
5/4/2024*	63	Ave FL 92.1
5/6/2024*	27	Ave FL 90.5
5/7/2024*	61	Ave Fl 90.8
5/9/2024*	26	Ave FL 93.4
5/10/2024*	109 -	Ave FL 90.3 1 RBT sutures
5/11/2024	6	Ave FL 89.5

FishBio Updates

Weir Updates

Stanislaus River Weir: The VAKI RiverWatcher recorded 2 upstream and 1 downstream adult O. mykiss (net 1) and zero adult Chinook salmon passages at the Stanislaus River weir between 12:00 AM on 4/10/24 and 8:30 AM on 4/16/24. The weir and all its components were removed from the river 4/16 – 4/17/24. This will be the final update for the 2023-24 season.

Table 3. O. mykiss passage at the Stanislaus River Weir as of April 16 of each year and the season totals.

Year	Monitoring Start Date	Net Passage to Date	Season Total
2023	9/6/23	55	**55**
2022	9/15/22	6	6
2021	9/8/21	35	35
2020	9/10/20	8	8
2019	8/29/19	31	31
2018	9/5/18	25	25
2017	9/15/17	11	11

Year	Monitoring Start Date	Net Passage to Date	Season Total
2016	9/8/16	26	26
2015	9/15/15	5	5
2014	9/5/14	8	8
2013	9/3/13	38	39
2012	9/11/12	101	101
2011	11/8/11	79	85
2010	9/7/10	6	6
2009	9/9/09	8	9
2008	9/9/08	15	15
2007	9/22/07	2	2
2006	9/8/06	12	12
2005	9/8/05	1	1
2004	9/10/04	1	1
2003	9/5/03	0	0

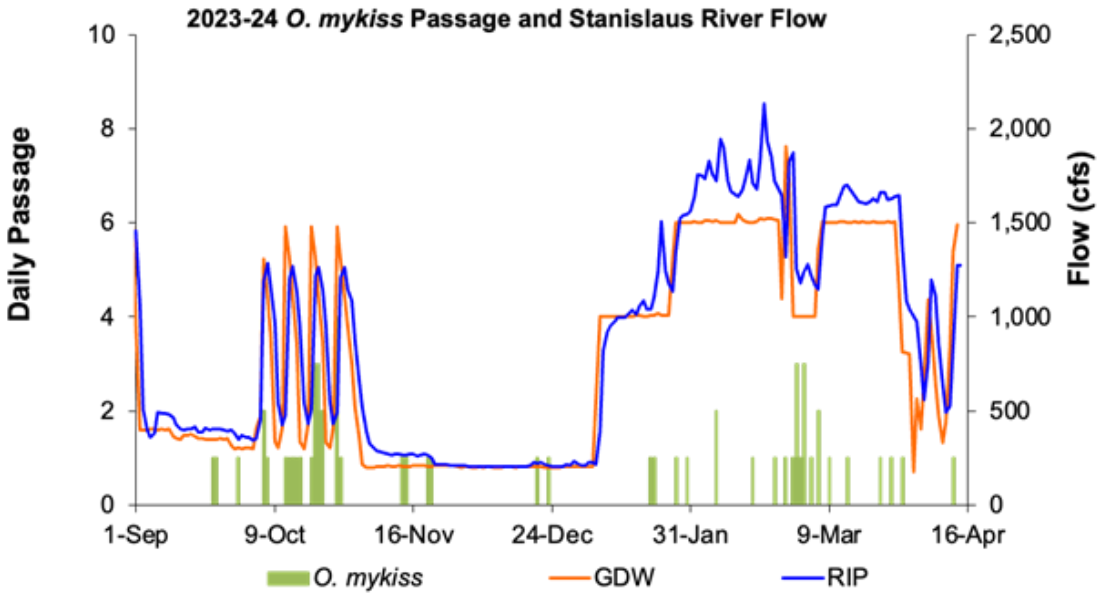


Figure 10. Daily O. mykiss passage at the Stanislaus River weir and river flow at Goodwin (GDW) and Ripon (RIP), 2023-24.

Figure 10 is a line graph depicting daily passage and flow (cfs) on the Stanislaus River at Goodwin and Ripon. The graph shows receding flows in late September, holding near 500 cfs September 5 to October 5. Flow October 5 to October 29 shows 4 peaks over 1,000 cfs. Passage on the graph begins in late September and mimics the peaks of flow in October. The flow increases early January and remains over 1,500cfs until late March. Passage mimics the flow during January to March.

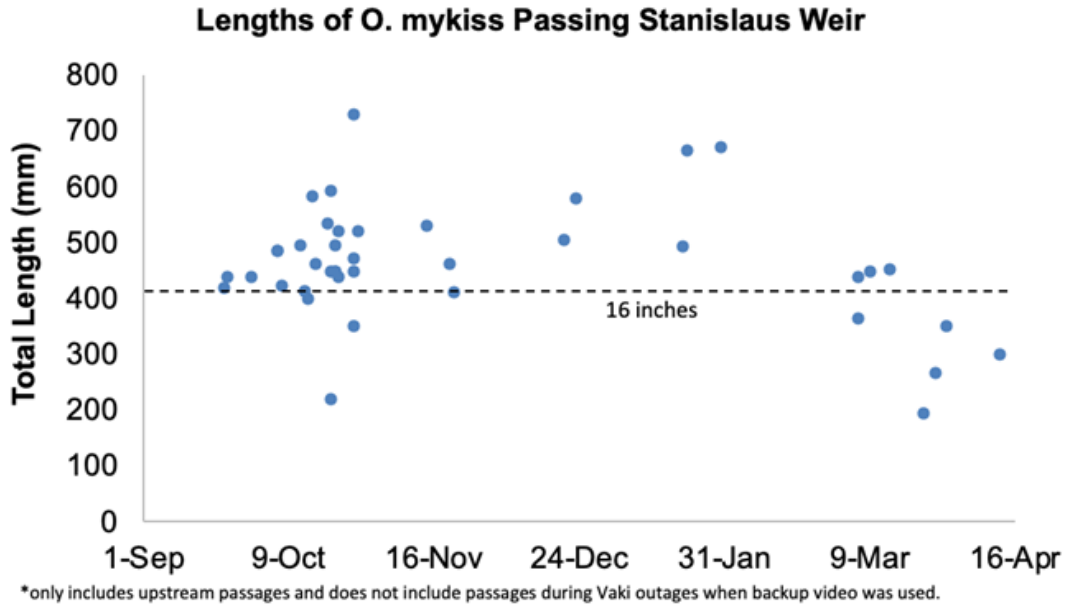


Figure 11. Fork lengths of O. mykiss passing the Stanislaus River weir during 2023-24.

Figure 11 is a dot plot of fork length of O. mykiss passage at the Stanislaus River Weir September – April 2023-

2024. The dot plot shows average length being 16 inches and concentrated during October and March.

Rotary Screw Traps Update:

Caswell Rotary Screw Trap: Rotary screw trapping is conducted at Caswell Memorial State Park by Pacific States Marine Fisheries Commission (PSMFC) for monitoring of outmigrating juvenile salmonids. The Caswell rotary screw traps (RSTs) were installed on January 2 and January 3 with daily sampling beginning on January 5.

As of 5/12/2024, we have captured a total of 5,871 unmarked Chinook salmon. The current peak in daily unmarked Chinook salmon catch occurred on 2/20/2024 with a total of 668 captured. The majority of salmon captured in May are of the parr and silvery parr life stages with fork lengths currently averaging about 80 mm.

Seven RST efficiency trials have been conducted at the Caswell RST site. Two trials/releases occurred on 2/10 and 2/29 using unmarked, natural origin Chinook salmon fry at approximately 35-40 mm resulting in trap efficiencies of approximately 4%. Five trials/releases occurred on 3/20, 4/3, and 4/10, 4/17, and 4/24 using hatchery origin (Merced) Chinook salmon parr at approximately 50-90 mm resulting in trap efficiencies of approximately 2%.

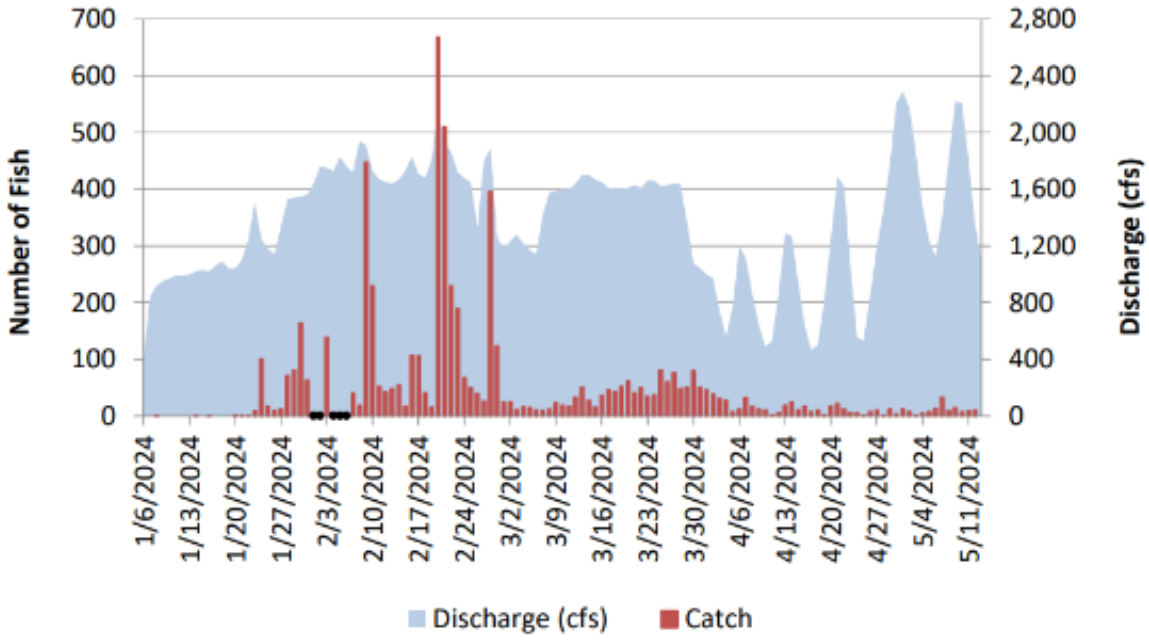


Figure 12. Daily catch of unmarked Chinook salmon and daily average at Ripon during the 2024 Stanislaus River RST sampling season.

Figure 12 is a bar graph of the daily catch of unmarked Chinook salmon and daily average discharge at Ripon during the 2024 sampling season. The graph shows a steady discharge of around 1,600 cfs during mid-January to late March, and peaks of over 2,000 cfs in late April and early May. It also shows catch happening in February 2024, with the highest over 600 number of fish.

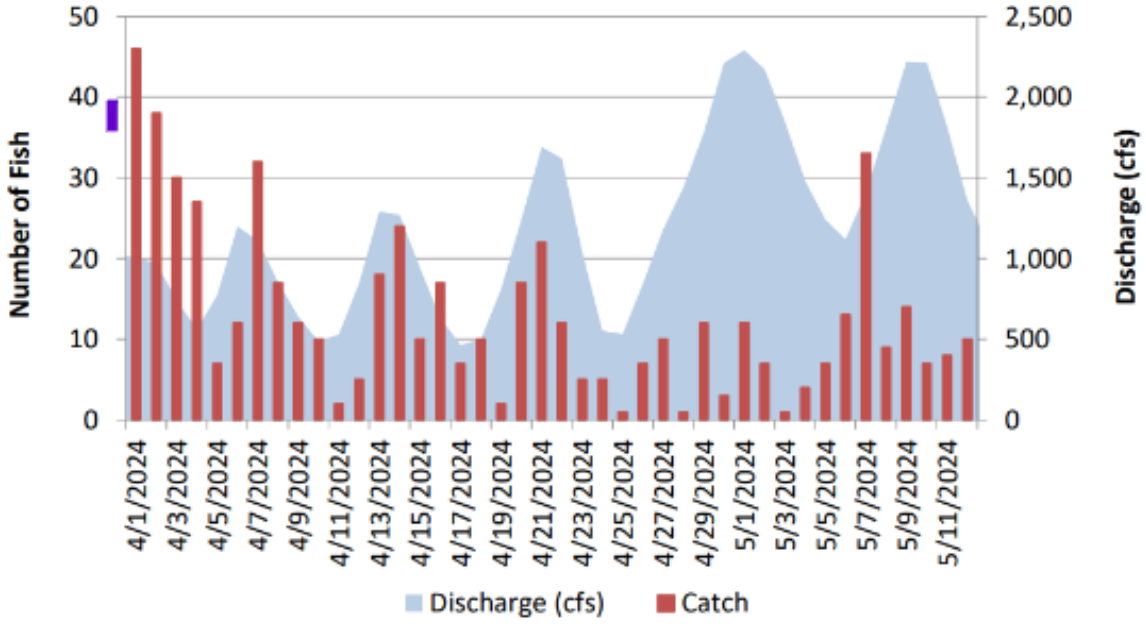


Figure 13. Daily catch of unmarked Chinook salmon and daily average discharge at Ripon from April 1 to May 11 during the 2024 Stanislaus River RST sampling season.

Figure 13 is a graph of the daily catch of unmarked Chinook salmon and daily average discharge at Ripon during the 2024 Stanislaus River RST sampling season. The catch mimics the peak discharge in April and early May.

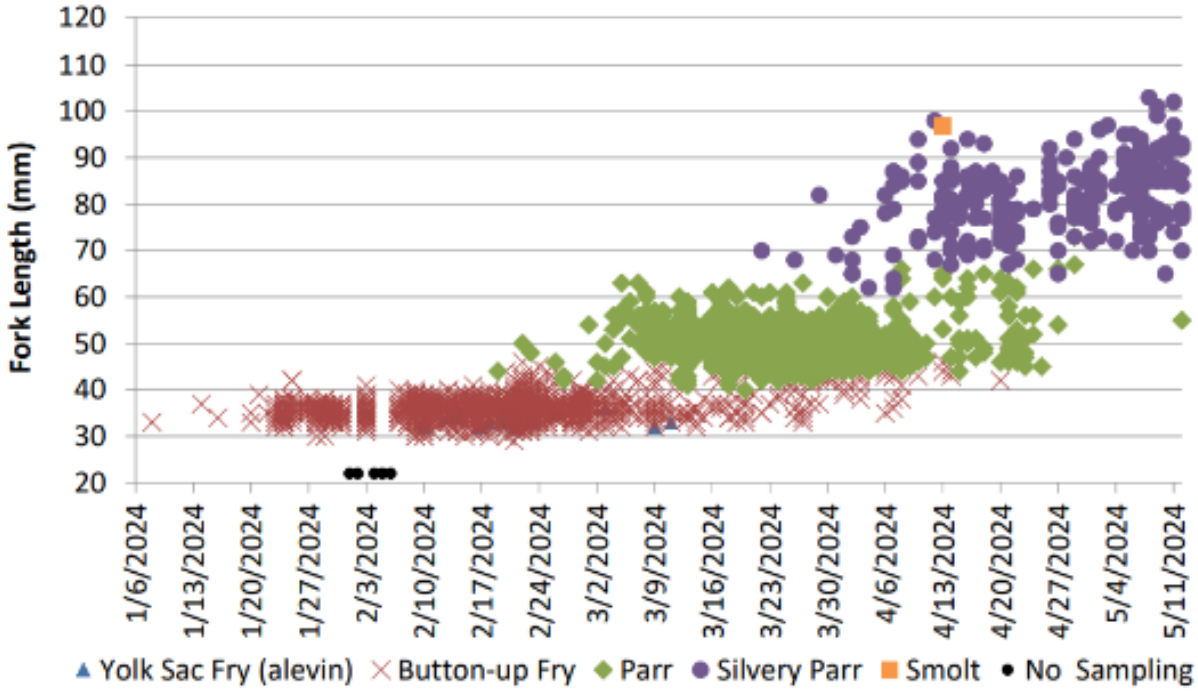


Figure 14. Daily fork length distribution by life stage of unmarked Chinook salmon measured during the 2024 Stanislaus River RST sampling season.

Figure 14 is a graph of the daily fork length distribution by life stage of unmarked Chinook salmon during the 2024 Stanislaus RST sampling season. The graph shows fork length gradually increasing from January to May.

More detailed information can be found at the Caswell RST CalFish webpage, which includes catch spreadsheets, annual reports, and other project information.

Restoration Project Updates

USBR: *(No new updates)*