



## Stanislaus Watershed Team

February 15, 2023

### Members Attending

- USBR: Liz Kiteck, Zarela Guerrero, Peggy Manza, Melissa Vignau, Catrina Pien
- USFWS: JD Wikert, Craig Anderson
- CDFW: Gretchen Murphey, Crystal Rigby, Steve Tsao
- NMFS: Barb Byrne
- DWR: Mike Ford, Matthew Meyers
- SWRCB: Chris Carr, Yongxuan Gao, Erin Foresman
- Stockton East: Justin Hopkins
- WAP: Michael Prowatzke
- Other: Lilliana Selke
- Kearns & West: Karis Johnston, Mia Schiappi

### Action Items

- JD Wikert – Reach out to contact from Cramer Fish Science regarding coordination for egg baskets.
- K&W- Coordinate the possibility of an in-person SWT meeting.

### Announcements

- NA.

### SacPass Update

- Cat Pien, Reclamation, presented on the new Stanislaus Watershed Team page on SacPAS.
- The goal of creating this page was to create a single place where flow and temperature information can be obtained. The format of the SWT page is based on the current monthly meeting packet and will likely replace the current meeting packet materials.

## Questions/Comments

- CDFW asked if it was possible to get data from previous water years?
  - Cat responded that currently that function is not built into the SWT page, but that data can be retrieved by navigating through the SacPAS.

## Operations Update and Forecasts/ Hydrology

### New Melones

- Storage at New Melones is continuing to increase and is now over 1.04 feet (MAF).
- Precipitation to date is 30.3 inches at 189% of average to date.
- Snowpack above New Melones has increased.
- Accumulated inflow for WY 2023 is 519 TAF.
- Releases from New Melones are just enough to keep Tulloch at its operating range.

### Tulloch

- The average daily release is consistent with a peak of 2,300 cfs.

### Goodwin

- Releases from Goodwin Dam are at base flow at 200 cfs. Currently, it is unnecessary to release flows to meet Vernalis flow objectives.
- There was some local runoff from small precipitation events for a peak flow of 210 cfs.

### Forecast

- The February 75% exceedance shows a “wet” water year type. This applies to the San Joaquin River at Vernalis flow objectives and salinity. As Vernalis flows begin to drop, the flow objectives for a “wet” water year will need to be maintained sooner rather than later.
  - The flow requirements for a “wet” water year are 3,420 cfs.
  - There is a 7-day running average minimum requirement that can be no less than 20% less than the 3,420 cfs. These requirements are the same for either the 75% or 90% exceedance.
  - End of September (EOS) storage would be 1.1 MAF.
  - Step release plan (SRP) releases range from 200 cfs to 1,537 cfs throughout the water year with a base flow of 250 cfs during the summer. There will be a winter instability flow in January.
- The current rate of inflow shows a situation closer to a 50% exceedance.
  - This estimates a “wet” water year.
  - Peak storage in June is estimated to be 1.38 MAF.
  - EOS would be 1.3 MAF and would hold through fall and winter.

- The February 90% exceedance shows “above normal” although it is close to “wet”.
  - The new Bulletin 120 (B-120) will be carried out to two decimal places moving forward to accurately determine water year.
  - The forecast will not be released until March 3 and SRP releases will change based on the water year determination.

Comments/Questions:

- NMFS asked whether the operation range at Tulloch shifts for a summertime range?
  - Reclamation responded that Tulloch has a seasonal flood control reservation. In the fall they ramp down from their operating range of 509 elevation to 501 elevation. This leaves approximately 10 TAF for side flow. After March, they begin to ramp up to 509 elevation. If a storm occurs during this ramp up, it is possible that they will have to do flood control early.
  - CDFW commented that there has been an effort for consultants to build water temperature models that should be used for operations and they believe Reclamation was looped into the conversations.
    - Reclamation responded they have been looped in; however, it is hard to model because local run off is up and down.
- USFWS commented that it would be worthwhile to think about how flows would be shaped if it was necessary to increase releases to meet Vernalis flow objectives for optimal fish benefits. It would be useful to decrease flows to allow the floodplains to dry out. Further, the Tuolumne is shaping their flows in order to meet Vernalis flow objectives which will affect what is.
- SWRCB asked why Reclamation is using the 90% exceedance forecast?
  - Reclamation responded that in-river, they always use the 90 % exceedance to determine allocations to contractors and instream-flow obligations. Although they operate at the 75% exceedance to meet D-1641, instream will always be operated to 90%.
- CDFW asked in what circumstances would the B-120 be rounded up and why they had not gone out to 2 decimals in the past?
  - Reclamation responded that this had been DWRs practice for a long time, but Reclamation had wanted it to be changed previously. After further discussion they have decided that this is the new standard and there will not be any rounding moving forward. The state board standard is 3.80, anything below is “above normal” and anything above is “wet”.
- CDFW asked whether allocations to the state water contractors have been finalized for this water year?
  - Reclamation responded that allocations are not finalized until the May forecast. However, they have been initially advised that their initial allocation is going to be 49 TAF, but that will be based on hydrology.

- SWRCB asked if the SRP release schedule is based on the assumption that there would be no water contributed from the Merced and Tuolumne Rivers.
  - Reclamation responded that the assumption is not zero, but they do not know what it will be. They have some values and approximations based on historical values.
- SWRCB asked how far in advance Reclamation would know if the Merced and Tuolumne releases are low, leading to higher releases from Goodwin?
  - Reclamation responded that it is not a daily release, it is a monthly average standard with a requirement of “no less than” 80% of the monthly standard for 7-day. They will have time to adjust if needed.
- USFWS asked whether the “above normal” and “wet” SRPs are the same?
  - NMFS responded that the “below normal” and “above normal” criteria are the same. The current “wet” criteria are what was previously the “above normal” criteria in the 2009 Biological Opinion.
  - NMFS commented that given the current rate of inflow, the districts will get up to 600 AF. However, the usual take is closer to 570 AF.
    - Reclamation responded that there is still a cap of 600 AF for the districts. However, the amount for the contractors would increase if it was a “wet” water year.

## Water Temperature Updates

- Temperatures are in the low 50s throughout the river with no concerns for fish conditions at the moment.

## Flow Planning

- NMFS shared that the current winter instability flow (WIF) schedules are based on conversations from last year when the group was planning for a “dry” or “below normal” year. Considering the “below normal” and “above normal” are the same requirements the group has already considered that option.
  - NMFS drafted a WIF for a “wet” water year. A wet year would include a 5th day of 400 cfs during a pulse flow.
  - CDFW requested, if possible, to not have flows over 400 cfs on Tuesday, Wednesday, or Thursday to allow for the canyon to be hikeable for the redd surveys.
  - USFWS commented that it is important, if possible, to align with a storm event during this planning.
  - There is a storm happening at the end of the month that would be ideal to schedule the WIF around. It may work to start on Thursday with the storm if the forecast remains steady.

- Reclamation will look at the WIF schedule, coordinate with CDFW, and likely begin on 2/24/23.

#### Questions/Comments

- USFWS commented that if Vernalis flow requirements need to be met, it would be good for the fisheries people to have the ability to help shape the flows. Although shifting flows may violate the SWRCBs 7-day running average requirement, it would be useful for fish to have three weeks at higher flows and one week of lower flows so the floodplains can dry out.
- CDFW commented that they are supportive of shifting flows for the benefit of fish, however, they have O. mykiss redd surveys and the change in flows could hinder the ability for their team to accomplish those surveys.
- USFWS is looking to schedule a San Joaquin Technical Team meeting to discuss spring pulse flows.

### Stanislaus River Forum (SRF) Call Review

- No updates.

### Fish Monitoring

- Adult Chinook escapement survey is complete, but numbers are not available yet.
- O. mykiss and steelhead surveys began in January and are ongoing.
- They have seen one O. mykiss redd, as well as larger individuals.
- Cramer Fish Science is installing egg baskets on the river with funding from Reclamation.
  - USFWS will reach out to make sure they are coordinating with CDFW to ensure that flows are discussed and if artificial redds are being placed in the river.
- The FishBio weir has caught large ad-clipped O. mykiss.
- The Mossdale trawl has been sampling and has been catching fry and sac-fry.

### Restoration Project Updates

- Stanislaus Restoration Status Update 15 Feb 2023
- Stanley Wakefield (Kerr Park) – construction planned for summer 2023
  - Tortuga Project – (near 120 bridge) – Funding is imminent
  - Mohler Project – (near Jack Tone Road) – Funding is imminent
  - Caswell Project – (at Caswell Memorial State Park) – Applied for CVPIA funding
  - Buffington Project (near confluence) – designs and permitting in progress

## Progress Update on Proposed Action Elements

- No update.

## Other Discussion Items

### Curtailments

- No update.

### Annual Reporting

- No update.

### Items to elevate to WOMT

- No items for WOMT.

## Next Meeting

Wednesday, March 15, 10:00 am –12:00 pm.



## 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, February 15, 2023

### Agenda

1. Introductions
2. Ground Rules<sup>1</sup>
3. Announcements
4. Operations Update and Forecasts/Hydrology
  - a. Bulletin 120: NMFS
5. Temperature Updates
6. Flow Planning
7. Stanislaus River Forum (SRF) Call Review
8. Fish Monitoring and Studies
9. Restoration Project Updates
10. Progress Update on Proposed Action Elements
  - a. Spawning and rearing habitat restoration

---

<sup>1</sup> 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

- b. Temperature management study
- c. Yellow-bellied cuckoo survey

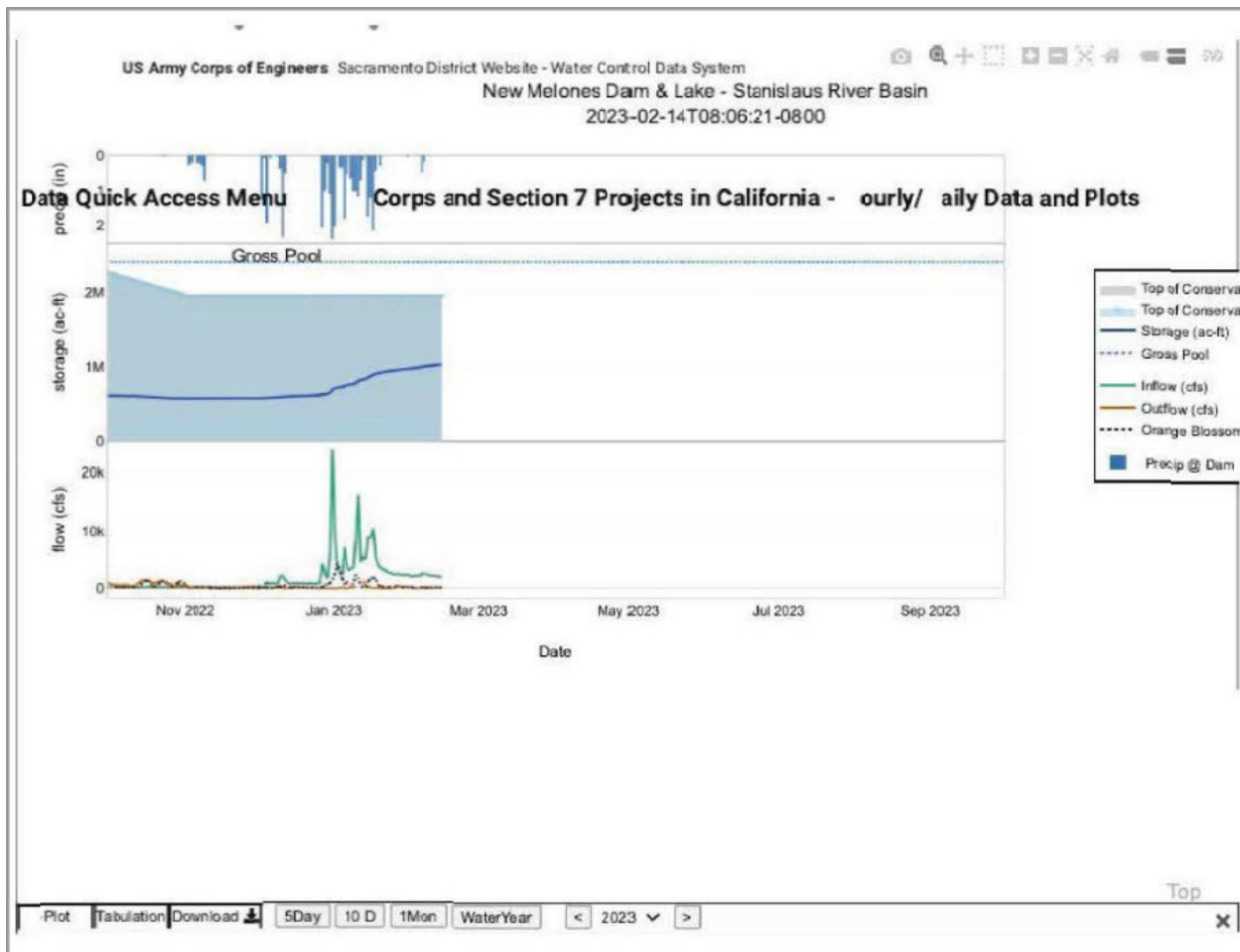
11. Other Discussion Items

- a. Curtailments
- b. Launch of "Current Conditions for the Stanislaus Watershed Team"  
Dashboard on SacPAS (still in development) --  
[https://www.cbr.washington.edu/sacramento/workgroups/stanislaus\\_watershed.h\\_tml](https://www.cbr.washington.edu/sacramento/workgroups/stanislaus_watershed.h_tml)
- c. Items to elevate to WOMT

12. Review Action Items

13. Next Meeting: Wednesday, March 15, 2022 (10am-12pm)





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



## Tables for BDO

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

February 13, 2023

Run Date: February 14, 2023

Table 4. Reservoir Releases in Cubic Feet Per Second

Reservoir	Dam	WY 2020	WY 2021	15-Year Median
Trinity	Lewiston	317	294	305
Sacramento	Keswick	3,284	3,297	3,297
Feather	Oroville (SWP)	3,500	950	1,750
American	Nimbus	2,008	4,017	2,008
Stanislaus	Goodwin	901	203	357
San Joaquin	Friant	387	499	387

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	1,393	776	786	56
Shasta	4,552	2,821	1,660	2,654	94
Folsom	977	474	531	518	109
New Melones	2,420	1,366	984	1,042	76
Fed. San Luis	966	604	332	591	98
Total North CVP	11,363	6,659	4,283	5,591	84
Millerton	521	289	269	286	99
Oroville (SWP)	3,538	1,930	1,648	2,434	126

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

Reservoir	Current WY 2021	WY 1977	WY 1983	15-Yr Avg	% O 15 Yr Avg
Trinity	314	169	771	300	105
Shasta	1,863	1,290	3,576	1,768	105
Folsom	1,397	488	1,918	826	169

<b>Reservoir</b>	<b>Current WY 2021</b>	<b>WY 1977</b>	<b>WY 1983</b>	<b>15-Yr Avg</b>	<b>% O 15 Yr Avg</b>
New Melones	519	N/A	433	290	179
Millerton	544	311	440	297	183

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

<b>Reservoir</b>	<b>Current WY 2021</b>	<b>WY 1977</b>	<b>WY 1983</b>	<b>Avg (N Yrs)</b>	<b>% of Avg</b>	<b>Last 24 Hours</b>
Trinity at Fish Hatchery	23.88	11.85	27.60	19.44 (63)	123	0.00
Sacramento at Shasta Dam	35.73	14.91	52.51	36.10 (68)	99	0.00
American at Blue Canyon	52.33	NA	67.94	38.31 (49)	137	0.00
Stanislaus at New Melones	30.30	N/A	20.00	16.07 (46)	189	0.00
San Joaquin at Huntington LK	34.08	11.50	32.10	22.93 (50)	149	0.00

United States Department of The Interior

U.S. Bureau Of Reclamation-Central Valley Project-California

February 2023 New Melones Lake Daily Operations Run Date: 02/14/2023

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	NA	986.5	NA	NA	NA	NA	NA	NA	NA	NA
1	941.12	990.6	4.1	2,103	32	0	0	16	0.07	0.00
2	941.73	995.0	4.4	2,271	48	0	0	16	0.07	0.00
3	942.32	999.2	4.2	2,240	86	0	0	14	0.06	0.01
4	942.89	1,003.3	4.1	2,220	136	0	0	12	0.05	0.01
5	943.61	1,008.6	5.2	2,881	240	0	0	14	0.06	0.47
6	944.28	1,013.4	4.9	2,532	74	0	0	7	0.03	0.18
7	944.98	1,018.5	5.1	2,603	26	0	0	9	0.04	0.00
8	945.53	1,022.5	4.0	2,309	269	0	0	14	0.06	0.01
9	946.12	1,026.8	4.3	2,212	22	0	0	14	0.06	0.00
10	946.68	1,031.0	4.1	2,317	227	0	0	17	0.07	0.00
11	947.19	1,034.7	3.8	2,139	227	0	0	21	0.09	0.00
12	947.72	1,038.6	3.9	2,051	68	0	0	12	0.05	0.00
13	948.20	1,042.2	3.5	2,042	237	0	0	17	0.07	0.00
TOTALS	NA	NA	55.6	29,920	1,692	0	0	183	0.78	0.68
ACRE- FEET	NA	NA	55,600	59,346	3,356	0	0	363	NA	NA

Comments:

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

Summary Precipitation

Time	Precipitation
This month	0.68
Oct 1, 2022 to date	30.30

Summary: Release (Acre-Feet)

Category	Release Acre-Feet
Power	3,356
Spill	0
Outlet	0
Total	3,356

United States Department of The Interior

U.S. Bureau Of Reclamation- Central Valley Project- California

February 2023 Tulloch Reservoir Daily Operations Run Date: 02/14/2023

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	56,398	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	500.75	56,116	-282	82	32	222	0	0	2
2	500.49	55,834	-282	83	48	223	0	0	2
3	500.33	55,661	-173	138	86	223	0	0	2
4	500.26	55,585	-76	185	136	221	0	0	2
5	500.51	55,856	271	359	240	220	0	0	2
6	500.39	55,726	-130	156	74	221	0	0	1
7	500.15	55,466	-260	90	26	220	0	0	1
8	500.33	55,661	195	319	269	219	0	0	2
9	500.05	55,357	-304	68	22	219	0	0	2
10	500.14	55,455	98	270	227	219	0	0	2
11	500.22	55,541	86	265	227	219	0	0	3
12	500.00	55,303	-238	101	68	219	0	0	2
13	500.09	55,401	98	272	237	221	0	0	2
TOTALS	N/A	N/A	-997	2,388	1,692	2,866	0	0	25
ACRE- FEET	N/A	N/A	997	4,737	3,356	5,685	0	0	50

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

\* Evaporation records taken from New Melones pan.

Summary: Release (Acre Feet)

Category	Release (Acre- Feet)
Power	5,685
Spill	0
Outlet	0
Total	5,685

Oakdale Irrigation District South San Joaquin Irrigation District

Tri-Dams Project-California

February 2023 Goodwin Reservoir Daily Operations Run Date: 02/14/2022

Day	Elev	Storage (1000 Acre-Feet) In Lake	Storage (1000 Acre-Feet) Change	Tulloch Release	Release C.F.S. -River Outlet	Release - C.F.S. Spill	Canals-Joint Main	Canals-South Main
N/A	N/A	521	N/A	N/A	N/A	N/A	N/A	N/A
1	359.77	521	0	222	0	203	0	0
2	359.77	521	0	223	0	206	0	0
3	359.77	521	0	223	0	207	0	0
4	359.77	521	0	221	0	205	0	0
5	359.77	521	0	220	0	210	0	0
6	359.77	521	0	221	0	208	0	0
7	359.76	520	-1	220	0	205	0	0
8	359.77	521	1	219	0	205	0	0
9	359.77	521	0	219	0	205	0	0
10	359.77	521	0	219	0	205	0	0
11	359.77	521	0	219	0	203	0	0
12	359.77	521	0	219	0	203	0	0
13	359.79	522	1	221	0	203	0	0
TOTALS	N/A	N/A	1	2,866	0	2,668	0	0
ACRE-FEET	N/A	N/A	1	5,685	0	5,292	0	0

Joint main operated by SSJID and OID.

Summary: release (acre feet)

Category	Acre-Feet
Joint main canal	0
South main canal	0
Outlet	0
Spill	5,292
Total	5291.78

# February 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.

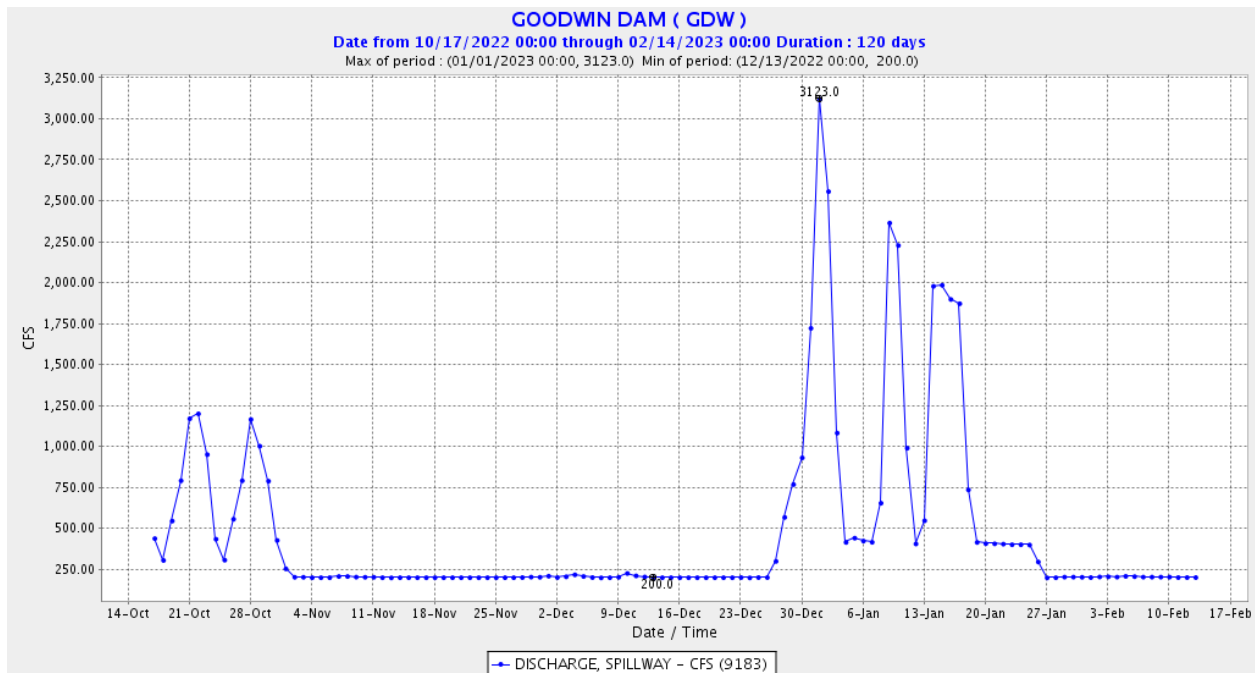


Figure 1. Goodwin (daily) releases to the Stanislaus River since October 1, 2022. Data from GDW station on CDEC.

## Water Temperature

The temperature thresholds included in Figures 2-9, below, are the thresholds used in the 2019 NMFS LTO BiOp<sup>2</sup> (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 July 1, 2022 are shown below at Goodwin Canyon (Figure 2), Orange Blossom Bridge (Figure 3), and at Ripon (Figure 4). Water

<sup>2</sup> 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>

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

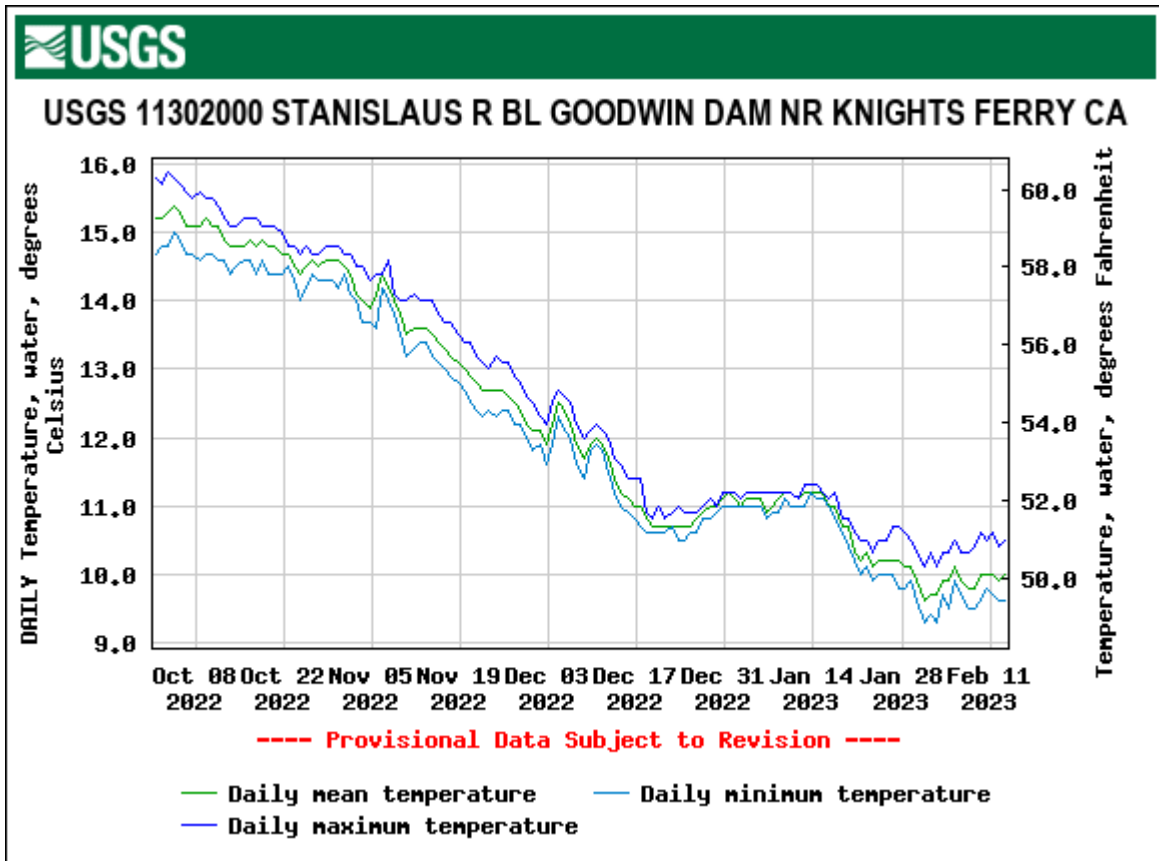


Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since October 1, 2022. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.



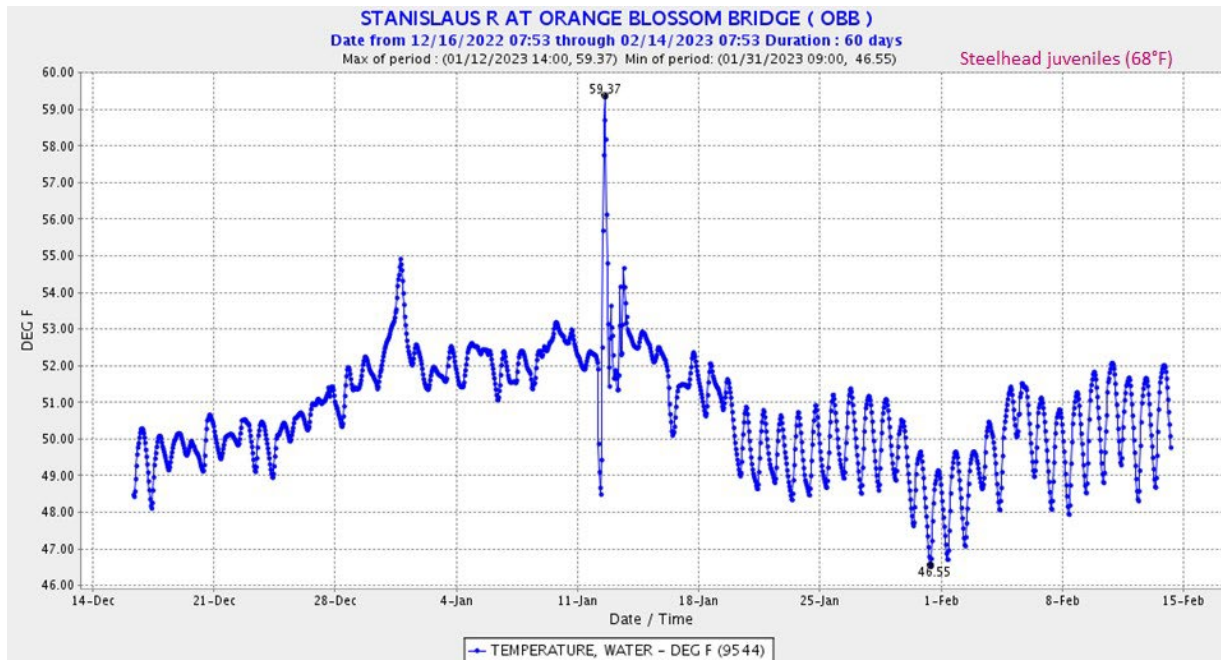


Chart: Vertical axis shows hourly water temperature (in Fahrenheit degrees) at Orange Blossom Bridge on the Stanislaus River. The horizontal axis shows date from 12-16-2022 through 2-14-23. Hourly water temperatures since 12-16-22 have ranged between approximately 48 and 59.4 degrees Fahrenheit. For more information, please call (916) 414-2400.

Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since November 17, 2022. Data from OBB station on CDEC.

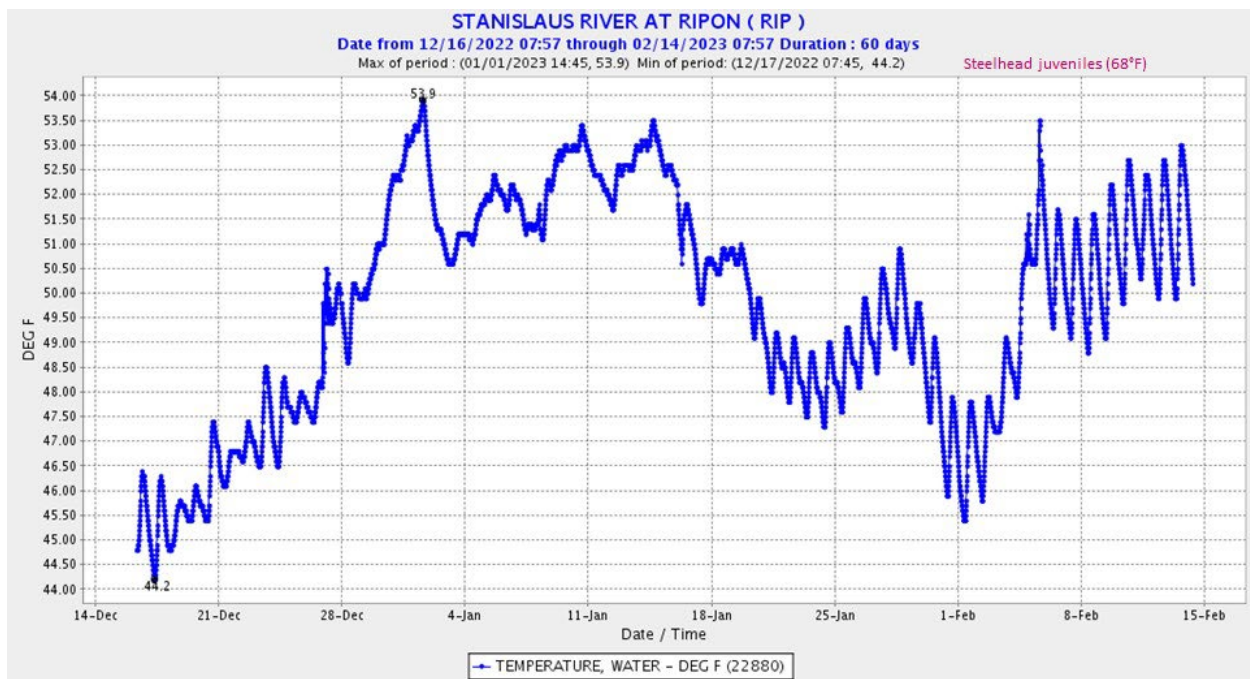


Figure 4. Stanislaus (15-minute) water temperatures at Ripon since December 16, 2022. Data from RIP station on CDEC.

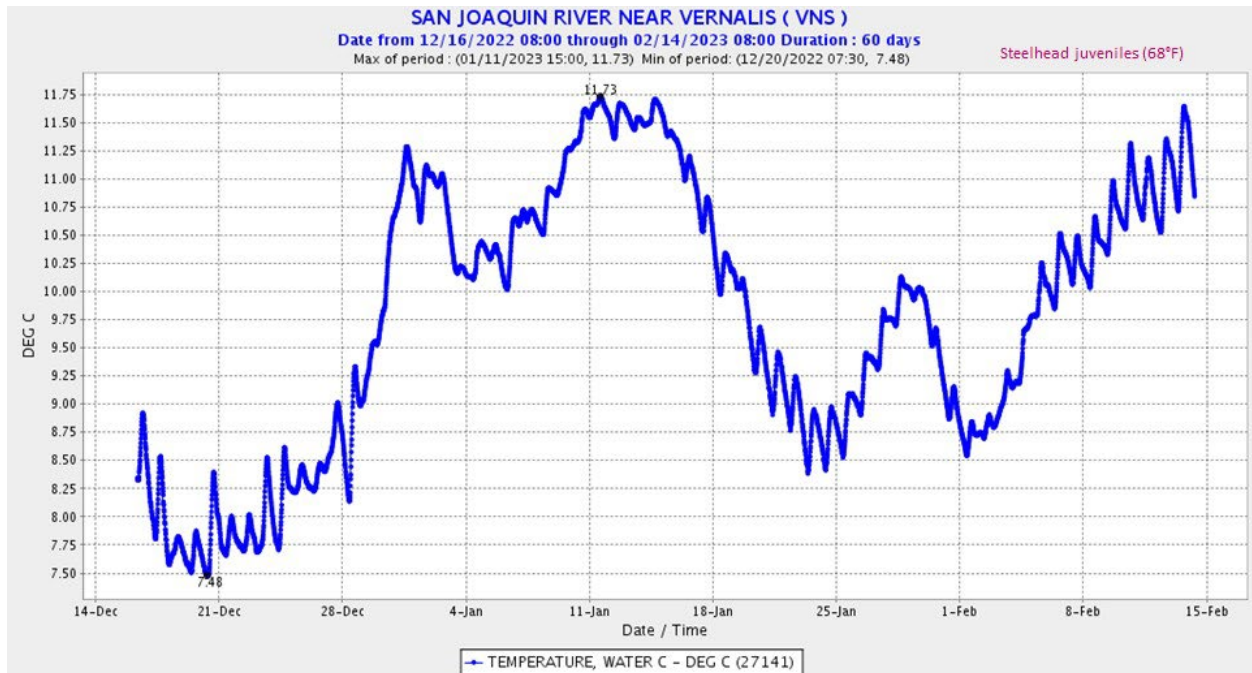


Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since December 16, 2022. Data from VNS station on CDEC. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 8°C=46.4°F; 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 16°C=60.8°F; 18°C=64.4°F; 20°C=68.0°F;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

**WY 2001-2023 OBB Stanislaus R at Orange Blossom Bridge**  
**Daily Average Water Temperature (F)**  
**Observed Range 36.30 : 73.07**

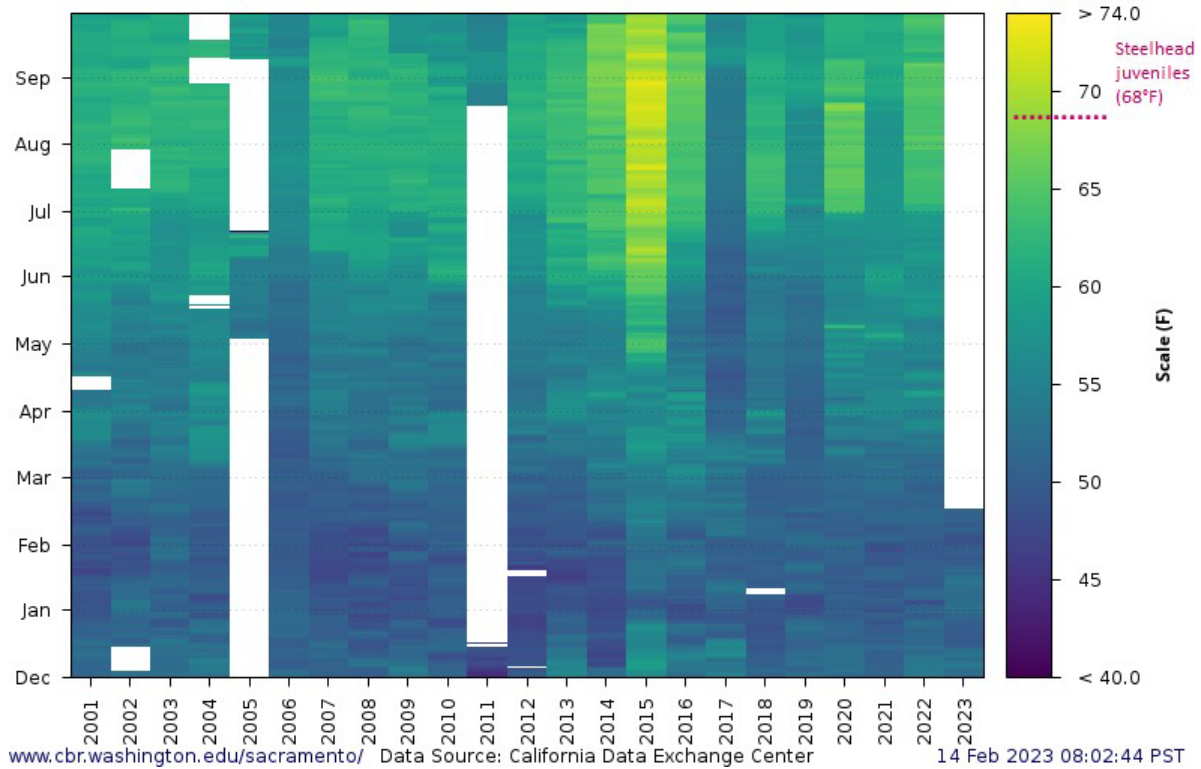


Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for December through December from WY 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT.

[http://www.cbr.washington.edu/sacramento/data/query\\_river\\_allyears.html](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

WY 1999-2023 RPN Stanislaus R at Ripon  
Daily Average Water Temperature (F)  
Observed Range 42.99 : 84.36

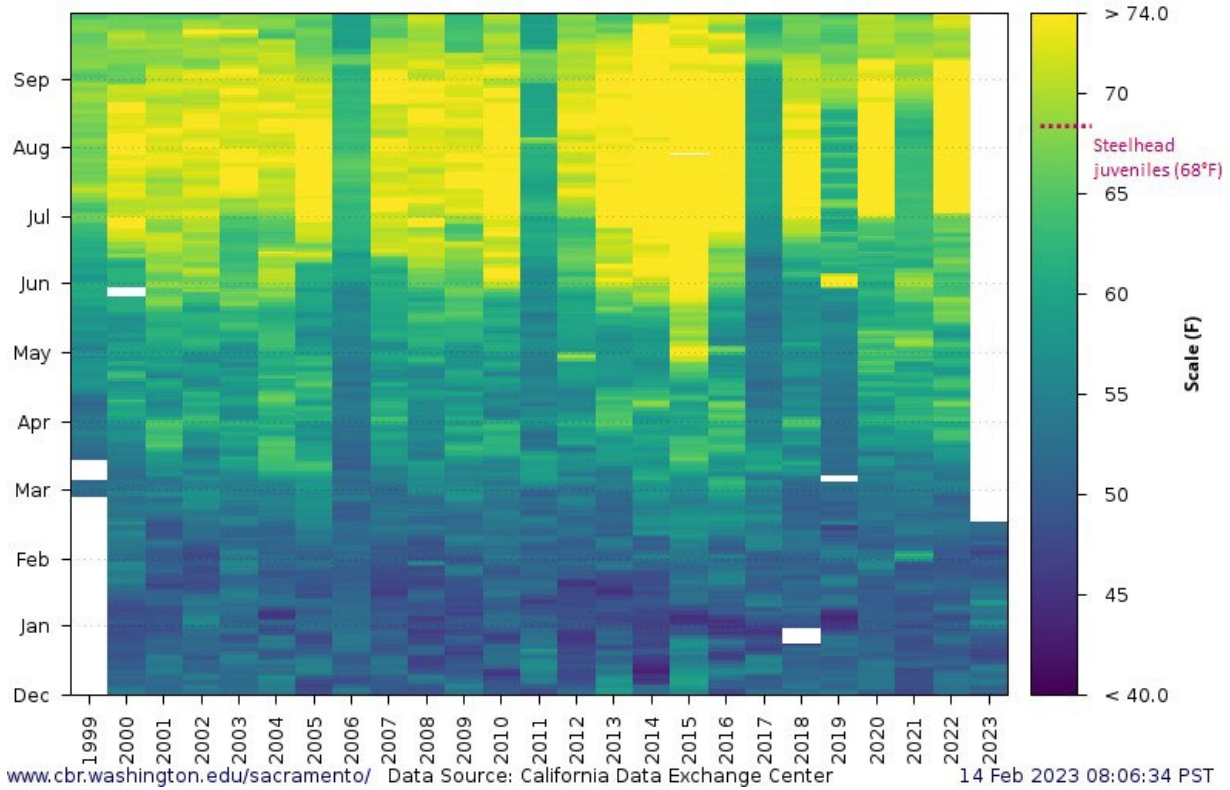


Figure 7. Stanislaus River water temperatures at Ripon for December through January from Water Year 2012 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference line added by SWT. [http://www.cbr.washington.edu/sacramento/data/query\\_river\\_allyears.html](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

WY 1999-2023 VER San Joaquin R, Vernalis USBR  
Daily Average Water Temperature (F)  
Observed Range 42.79 : 84.53

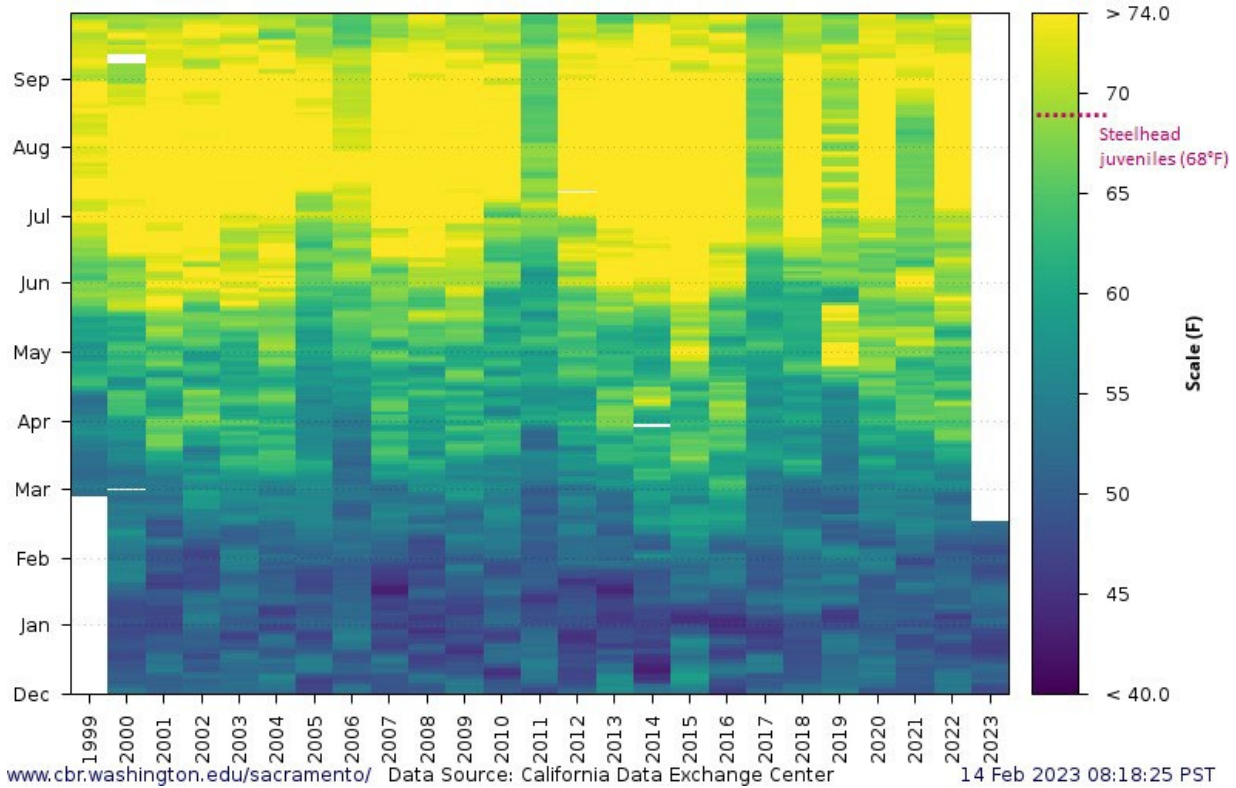


Figure 8. San Joaquin River water temperatures at Vernalis for December through January from Water Year 2015 to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT.  
[http://www.cbr.washington.edu/sacramento/data/query\\_river\\_allyears.html](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

### Water Year 2023 Stanislaus River Flow and Temperature

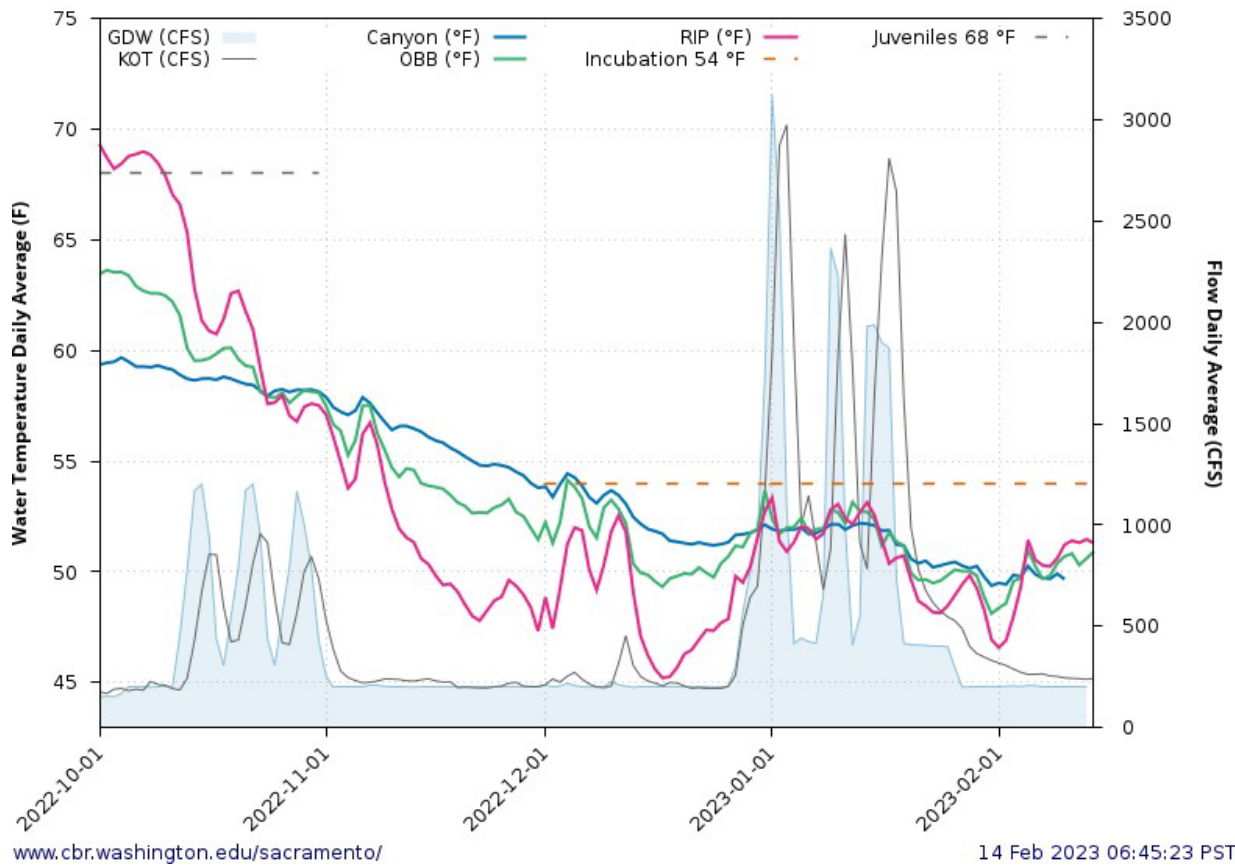


Figure 9. Stanislaus River flow and water temperatures from October 1, 2022 to February 1, 2023. Data (including temperature threshold reference lines) from SacPAS: [http://www.cbr.washington.edu/sacramento/data/tc\\_stanislaus.html](http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html)

## Update on Fish Monitoring (Adults)

Chinook carcass and redd surveys

Annual Escapement Surveys complete, estimates are in progress.

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 Survey – too turbid
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

Weir:

Fishbio installed the weir near Riverbank and began monitoring for upstream passage of adult salmonids on September 15, 2022. The cumulative net upstream passage through January 12, 2023 is 3,625 Chinook salmon (just one additional salmon since the 3,624 Chinook reported in the January handout). Twenty-three percent of the observed Chinook were ad-clipped, indicating a hatchery origin. Four *Oncorhynchus mykiss* have been observed (two additional since the report in the January handout, one each on October 20, December 5; January 22, and February 2). All *O. mykiss* observed were greater than 16' (indicating possible anadromy) and ad-clipped (indicating a hatchery origin).

## Update on Fish Monitoring (Juveniles)

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 at Caswell on January 21, 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 February 7, 2023, the trap at Caswell has captured a total of 47 unmarked fall-run-sized Chinook Salmon (all fry), 0 unmarked *O. mykiss*, and 13 lamprey. More detailed information can be found at the Caswell RST CalFish webpage, which includes catch spreadsheets, annual reports, and other project information:



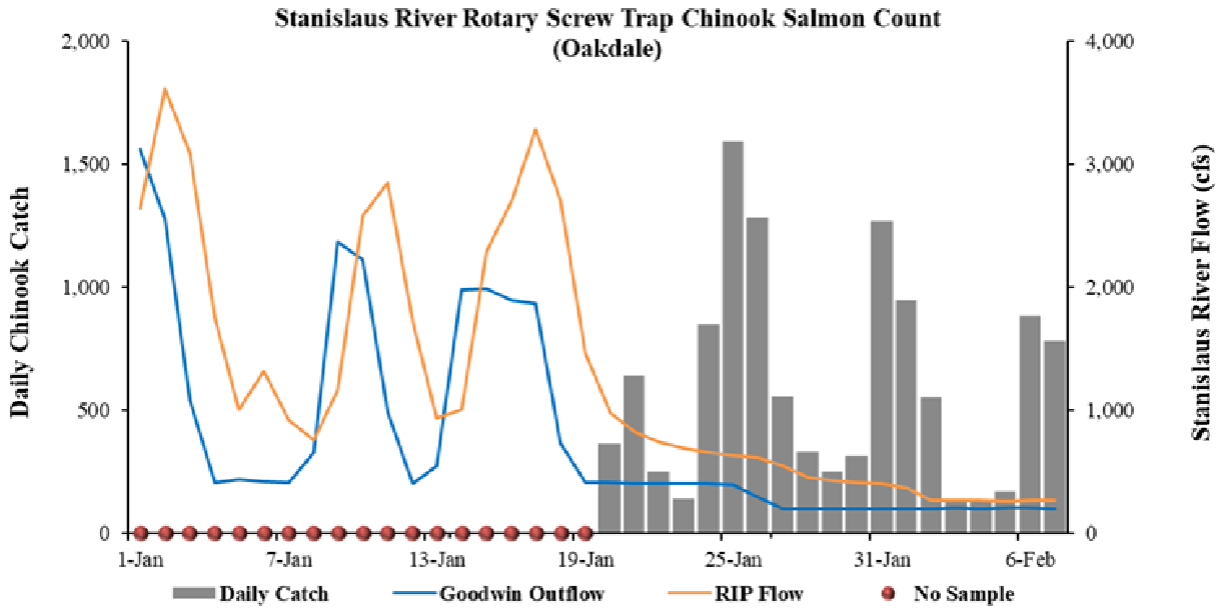


Figure F-1. Daily juvenile Chinook catch through February 7, 2023, at the rotary screw trap near Oakdale. Figure courtesy of Fishbio.

**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.

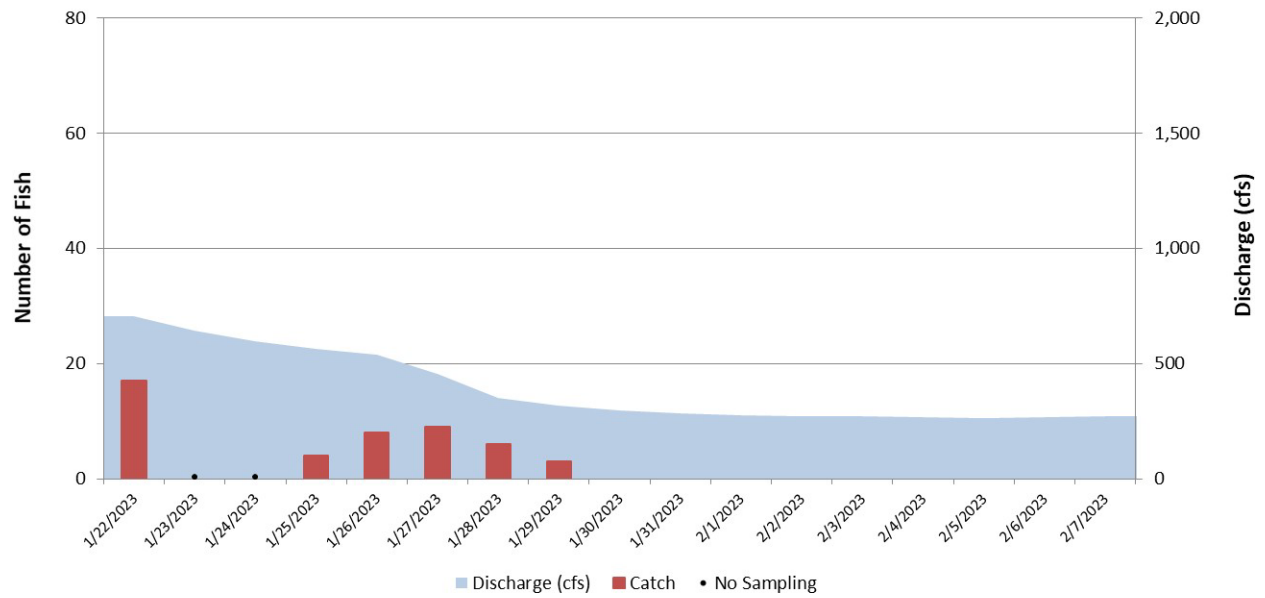


Figure F-2. Daily juvenile Chinook catch through February 7, 2023, at the rotary screw trap near Caswell State Park. Discharge data is at Ripon. Figure courtesy of Pacific States Marine Fisheries Commission.

**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.

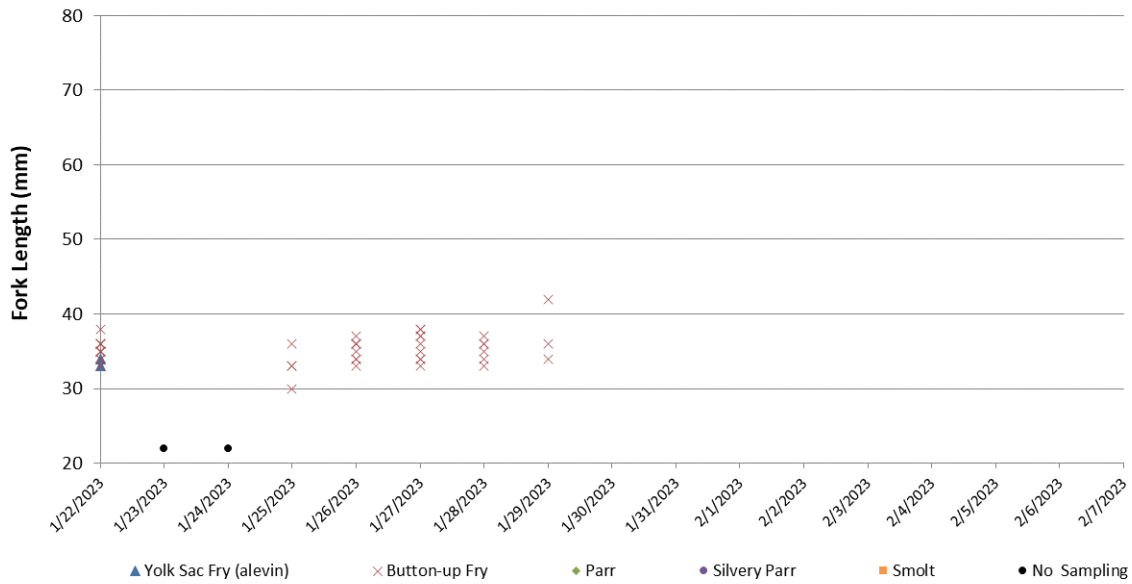


Figure F-3. Daily juvenile Chinook catch (plotted by fork length and life stage) through February 7, 2023, at the rotary screw trap near Caswell State Park. Figure courtesy of Pacific States Marine Fisheries Commission.

**Mossdale Trawl**

Table F-2. Counts of Chinook catch from the 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	sac fry
2/3/2023	1	fry

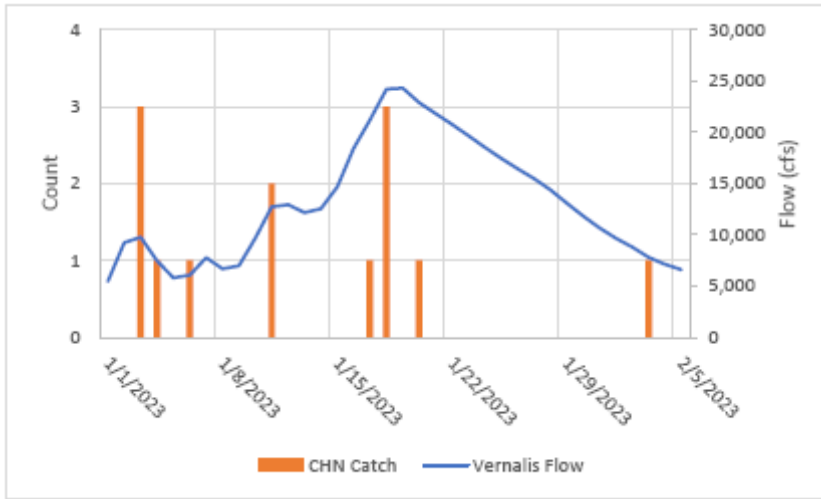


Figure F-4. Graph of Chinook catch at Mossdale and flow at Vernalis.