

# Stanislaus Watershed Team

October 18, 2023

## Members Attending

- USBR: Zarela Guerrero, Peggy Manza, Amanda Snow, Spencer Marshall, Melissa Vignau
- USFWS: Craig Anderson
- CDFW: Gretchen Murphey, Crystal Rigby
- NMFS: Barb Byrne
- DWR: N/A
- SWRCB: Chris Carr, Yongxuan Gao
- PSMFC: Logan Day, Hunter Morris
- SSJID: Brandon Nakagawa
- Fishbio: N/A
- Stockton East Water District (SEWD): N/A
- WAPA: N/A
- Kearns & West: Karis Johnston, Bethany Taylor

## Action Items

- Barb Byrne, NMFS, to share 2015 Google Earth images with Peggy Manza, USBR [COMPLETE]
- Logan Day, PSMFC; Amanda Snow, USBR; and Yongxuan Gao, SWRCB, to email dam field trip photos to Karis Johnston, Kearns & West
- Gretchen Murphey, CDFW, and Barb Byrne, NMFS, to provide and estimated timeline for submitting WY 2023 annual report sections to Amanda Snow, USBR
- Kearns & West to provide an updated meeting packet along with 10/18/23 draft meeting notes
- SWT members wishing to attend Stanislaus River Restoration Tour - Stanley Wakefield Wilderness Area trip to contact J.D. Wikert, USFWS
- SWT members wishing to exhibit at the 11/11/23 Salmon Festival to contact J.D. Wikert, USFWS

## Announcements

- Planning is underway for quarterly in-person meetings
- The 10/4/2023 dam tour
  - Tulloch, Goodwin, and New Melones dams
  - Attendees with tour photos to send photo files to Karis Johnston, Kearns & West
- SacPAS is conducting a workshop on 12/6/2023. A registration link will be distributed in the next few days. Contact Cat Pien, USBR ([cpien@usbr.gov](mailto:cpien@usbr.gov)), with questions.
- The facilitation team is currently working through agency and project team staff changes and communication practices. Please copy both Karis Johnston and Bethany Taylor, Kearns & West, on all communications.
- The Stanislaus River Salmon Festival will be held on 11/11/2023 at Knights Ferry, from 10 a.m. – 3 p.m. Kids and dogs are welcome. SWT members wishing to exhibit should alert J.D. Wikert, USFWS. Handmade vendor spots are still available; no large commercial or resale vendors, please.
- Registration is available for walking tours of the restoration construction at the Stanley Wakefield Wilderness Area (aka Kerr Park). SWT members should contact J.D. Wikert, USFWS, if they wish to attend, and are welcome to share this invitation with colleagues.
  - Tour dates are:
    - 11/3/2023 (Construction still in progress; limited to 15 attendees)
    - 11/13/2023 (Construction still in progress; limited to 15 attendees)
    - 12/1/2023 (Anticipated to be at post-project status; no attendance limit)
  - All tours will start at 11:30 am and finish within 2 hours.
  - Visitors will require a hardhat and safety vest (or brightly colored shirt).
- The State Water Board sent [a letter to Reclamation](#) about compliance with Vernalis flows for October 2023. Reclamation is currently drafting a response.

## Operations Update and Forecasts/ Hydrology

### Stanislaus Flow Update

- Water Year 2024 started off well with a few measurable precipitation events
  - Flood control volume has been ramping down as we progress into the fall
  - Storage is dropping gradually
  - Outflow is just slightly higher than inflow
  - Agricultural demands have significantly dropped off, therefore decreasing drawdown

- Water Year 2023
  - Storage peak was over 2 MAF on 7/9/2023; storage has gradually decreased since. Drier years tend to result in steeper decreases of storage water.
  - As the Flood Control Rule increased so did storage so there was no exceedance.
  - Water Year 2023 was viewed as a good year overall. Much of the precipitation was able to be captured in storage, especially at New Melones Dam.
- Daily CVP Water Supply
  - Releases averaged 340 cfs from Goodwin Dam on 10/16/2023
  - Storage measured 1.892 MAF as of 10/16/2023
  - Inflow measures 33 TAF since 10/1/2023. This is on target to reach 60+ TAF for October 2023, which would measure higher than average for the month of October.
  - Accumulated inflow measures 0.29 inches since 10/1/2023.

#### New Melones

- Overall, drawdown is gradual at approximately 500 AF per day. A few days have seen zero change or slightly positive numbers.
- The drawdown in September was slow and steady. Operations were normal.
- Questions:
  - Please clarify the value for the Outlet measurement since water is currently being released exclusively through the power plant.
    - This number reflects the 9/10/2023 power outage in Stanislaus County. Due to a loss of power, the water was released through the outlet rather than the powerhouse.
    - Where would that outlet be located on the dam?
      - It's a low-level outlet from the dam to a spillway and is visible on the lower face of the dam.
    - A visit to the New Melones Dam during the 2015 drought showed usage of the lower-level outlet while the main outlet was inoperable due to very low water levels.

#### Tulloch

- Not using the Spill or Outlet in October; all water is going through the powerhouse.
- There were 1-2 small releases through the outlet in September. Most figures in the September report reflect downstream release needs as being low enough for all water to flow through the powerhouse.

#### Goodwin

- Daily average release from Goodwin was 340 cfs on 10/16/2023.
- Reminder that the report shows daily average releases. Peak releases are not listed but note that releases reached 1,500 cfs with the pulse flow schedule.
- Releases will continue to decrease through October 2023 until releases through the tunnels reach zero.
- In September, releases decreased to 400 cfs before Labor Day, then again to 350 cfs on 9/11/2023, then down to 300 cfs.
- Acknowledgement of the data error of 1,265 cfs on 9/25/2023. This will be corrected by Reclamation.

#### Other Operations

- Reclamation is in the middle of the third pulse flow during the week of 10/16/2023. Flows will reach 1,500 cfs on 10/19/2023, and then decrease to 300 cfs on 10/20/2023.
- The last pulse flow begins the week of 10/23/2023. Please alert Peggy Manza, USBR, to any concerns about the pulse flow.
- Reclamation will develop a forecast based on historic data collection and statistical analysis. This will include: a historic 90% exceedance, a historic 50% exceedance, and a historic 25% exceedance to represent a wetter year, a moderate year, and a drier year. It will be used to forecast operations, but not to formulate a final plan. An initial/partial forecast will be created in December 2023.

## Water Temperature Updates

- Water temperatures for the Stanislaus River are currently optimal.
- The current fall pulse flows are helping to slow the warming of the water temperature.
- As of 10/17/2023, widespread temperatures are below 60°F, which is ideal for fish spawning and salmonid adult holding.
- An updated Water Year 2024 flow and temperature graph can be found [here](#).

## Flow Shaping (Planning)

- The fall pulse flows are currently happening and will wrap up near the end of October.
- The Tuolumne River fall pulse is complete; it included two peak flows.
- Merced has requested that more water be added to the pulse in order to meet flood control objectives by moving water out of the reservoir. The pulse flow schedule started at approximately 25 TAF and was increased to 35 TAF. Merced is now seeing higher flow peaks than the Stanislaus.

## Stanislaus River Forum (SRF) Call Review

- The October SRF meeting went smoothly overall. There were no comments received from members of the public.

## Fish Monitoring

### Weir Update

- The weir was installed on 9/6/2023.
- As of the current week, 295 have passed over the weir.
- Flow and passage graph shows increases in fish passage after the first peak of the pulse flow.

### Rotary Screw Trap Updates

- There are no rotary screw traps currently in operation.
- FishBio is awaiting funding updates to allow for winter-time rotary screw trap operations. They expect a decision to be made in December 2023.
- PSFMC is on track to start rotary screw traps in December 2023 or early January 2024.

### CDFW Fish Monitoring

- Tuolumne River escapement surveys began on 9/18/2023.
  - A few redds were observed.
- Started escapement surveys in Merced at the beginning of October 2023.
  - Five fish were observed at the Merced.
- Starting *O.mykiss*, redds, and Steelhead surveys in February.
- Mossdale Trawl
  - There have been no salmonids caught in the trawl since 8/18/2023.

## Restoration Project Updates

- Construction at the Stanley Wakefield Wilderness Area is underway and is expected to conclude approximately 11/15/2023.

## Progress Update on Proposed Action Elements

- N/A

## Other Discussion Items

### Curtailments

- N/A

#### Annual Reporting

- USBR is working to assemble the report sections; the deadline is 10/19/2023 for submittal to Amanda Snow.

#### The Sacramento/Delta Water Quality Group

- [Flow Plan Update & Staff Report](#) was recently released. The Group is accepting comments on the report through mid-December.
- A workshop will be held on 10/19/2023 that includes a report overview.

#### Items to elevate to WOMT

- No items for WOMT.

### Next Meeting

Wednesday, November 15, 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, October 18, 2023

### Agenda

1. Introductions
2. Ground Rules<sup>1</sup>
3. Announcements
  - a. Meeting will be recorded for notetaking purposes
  - b. In Person Meetings Update
  - c. Tulloch and New Melones Dam Tour Recap
  - d. SacPAS workshop on December 6, 2023
  - e. Communication Reminders
    - Copy Bethany Taylor and Karis Johnston on all SWT related items.
4. Operations Update and Forecasts/Hydrology
5. Temperature Updates
6. Stanislaus River Forum (SRF) Call Review

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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

7. Flow Planning
8. Fish Monitoring and Studies
9. Restoration Project Updates
  - a. Restoration Tracker
10. Other Discussion Items
  - a. WY23 Summary of Activities Report Update
  - b. SWRCB Updates
  - c. Items to elevate to WOMT
11. Review Action Items
12. Next Meeting: Wednesday, November 15, 2023 (10am-12pm)





## Tables for BDO

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

October 16, 2023

Run Date: October 17, 2023

Table 4. Reservoir Releases in Cubic Feet Per Second

| Reservoir   | Dam            | WY 2020 | WY 2021 | 15-Year Median |
|-------------|----------------|---------|---------|----------------|
| Trinity     | Lewiston       | 382     | 375     | 347            |
| Sacramento  | Keswick        | 3,492   | 6,099   | 6,191          |
| Feather     | Oroville (SWP) | 2,400   | 2,450   | 2,400          |
| American    | Nimbus         | 1,410   | 2,436   | 1,509          |
| Stanislaus  | Goodwin        | 949     | 340     | 730            |
| San Joaquin | Friant         | 450     | 0       | 384            |

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

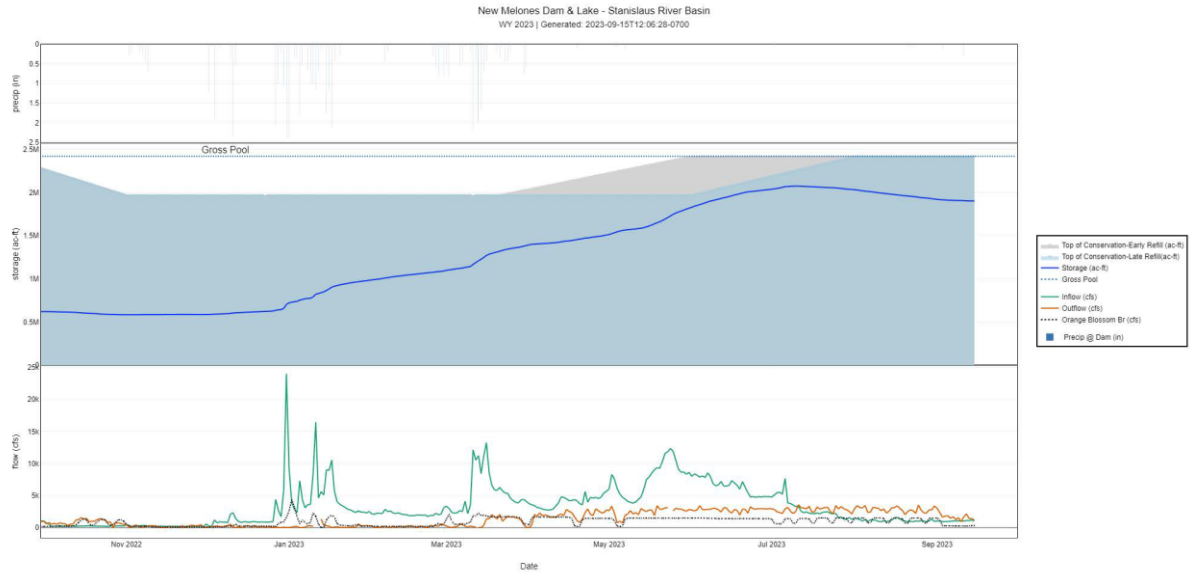
| Reservoir       | Capacity | 15-Yr Avg | WY 2023 | WY 2024 | % O 15 Yr Avg |
|-----------------|----------|-----------|---------|---------|---------------|
| Trinity         | 2,448    | 1,239     | 542     | 1,246   | 101           |
| Shasta          | 4,552    | 2,312     | 1,458   | 3,238   | 140           |
| Folsom          | 977      | 427       | 320     | 607     | 142           |
| New Melones     | 2,420    | 1,262     | 604     | 1,892   | 150           |
| Fed. San Luis   | 966      | 344       | 214     | 755     | 219           |
| Total North CVP | 11,363   | 5,584     | 3,138   | 7,738   | 139           |
| Millerton       | 521      | 274       | 332     | 0       | 0             |
| Oroville (SWP)  | 3,538    | 1,580     | 1,174   | 2,492   | 158           |

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

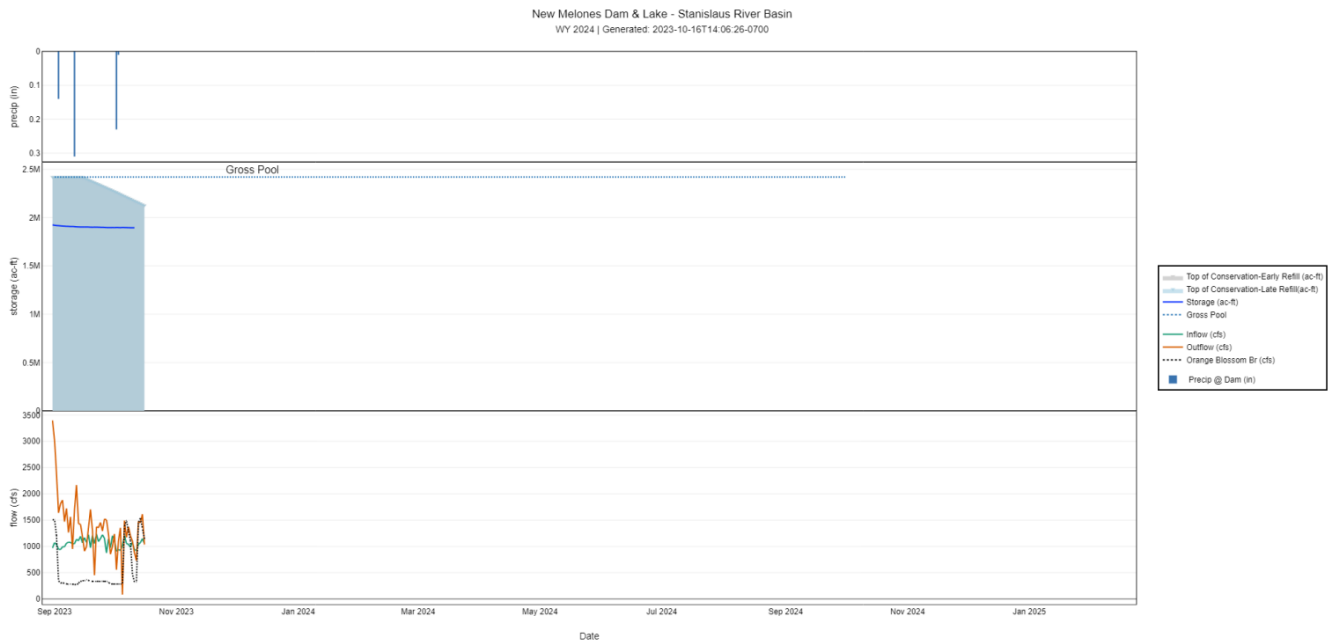
| <b>Reservoir</b> | <b>Current WY 2024</b> | <b>WY 1977</b> | <b>WY 1983</b> | <b>15-Yr Avg</b> | <b>% O 15 Yr Avg</b> |
|------------------|------------------------|----------------|----------------|------------------|----------------------|
| Trinity          | 7                      | 4              | 5              | 4                | 176                  |
| Shasta           | 91                     | 121            | 126            | 84               | 97                   |
| Folsom           | 34                     | 34             | 55             | 31               | 110                  |
| New Melones      | 33                     | N/A            | 26             | 22               | 149                  |
| Millerton        | 61                     | 19             | 94             | 34               | 176                  |

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

| <b>Reservoir</b>             | <b>Current WY 2024</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     | 0.20                   | 0.13           | 0.39           | 0.56 (63)          | 35              | 0.00                 |
| Sacramento at Shasta Dam     | 0.40                   | 0.07           | 0.24           | 1.06 (68)          | 38              | 0.00                 |
| American at Blue Canyon      | 0.00                   | 0.87           | 0.73           | 1.08 (49)          | 0               | 0.00                 |
| Stanislaus at New Melones    | 0.29                   | N/A            | 0.30           | 0.41 (46)          | 71              | 0.00                 |
| San Joaquin at Huntington LK | 0.11                   | 1.20           | 0.00           | 0.76 (50)          | 15              | 0.00                 |



New Melones Dam & Lake – Stanislaus River Basin 2023-10-05T1644:13-0700



New Melones Dam & Lake – Stanislaus River Basin 2023-10-T1614:06-26-0700

United States Department of the Interior  
 Bureau of Reclamation-Central Valley Project- California  
 New Melones Lake Daily Operations, October 2023, Run Date: 10/19/2023

| Day           | Elev     | Storage<br>1000-<br>Acre-<br>Feet in<br>Lake | Storage<br>1000-<br>Acre-<br>Feet<br>Change | Computed<br>Inflow<br>C.F.S. | Release<br>C.F.S.<br>Power | Release<br>C.F.S.<br>Spill | Release<br>C.F.S.<br>Outlet | Evap.<br>C.F.S. | Evap.<br>Inches | Precip<br>Inches |
|---------------|----------|--|---|------------------------------|----------------------------|----------------------------|-----------------------------|-----------------|-----------------|------------------|
| N/A           | N/A      | 1,896.5                                      | N/A   | N/A                          | N/A                        | N/A                        | N/A                         | N/A             | N/A             | N/A              |
| 1             | 1,042.82 | 1,897.1                                      | 0.6   | 908                          | 556                        | 0                          | 0                           | 28              | 0.08            | 0.23             |
| 2             | 1,042.78 | 1,896.7                                      | -0.4  | 937                          | 1,104                      | 0                          | 0                           | 49              | 0.14            | 0.01             |
| 3             | 1,042.69 | 1,895.7                                      | -1.0  | 926                          | 1,353                      | 0                          | 0                           | 59              | 0.17            | 0.00             |
| 4             | 1,042.85 | 1,897.4                                      | 1.7   | 1008                         | 82                         | 0                          | 0                           | 62              | 0.18            | 0.00             |
| 5             | 1,042.78 | 1,896.7                                      | -0.8  | 1,215                        | 1,492                      | 0                          | 0                           | 101             | 0.29            | 0.00             |
| 6             | 1,042.74 | 1,896.2                                      | -0.4  | 1,057                        | 1,172                      | 0                          | 0                           | 101             | 0.29            | 0.00             |
| 7             | 1,042.66 | 1,895.4                                      | -0.9  | 1,040                        | 1,375                      | 0                          | 0                           | 97              | 0.28            | 0.00             |
| 8             | 1,042.60 | 1,894.7                                      | -0.6  | 984                          | 1,201                      | 0                          | 0                           | 107             | 0.31            | 0.00             |
| 9             | 1,042.58 | 1,894.5                                      | -0.2  | 1,084                        | 1,102                      | 0                          | 0                           | 90              | 0.26            | 0.00             |
| 10            | 1,042.58 | 1,894.5                                      | 0.0   | 933                          | 884                        | 0                          | 0                           | 49              | 0.14            | 0.00             |
| 11            | 1,042.61 | 1,894.8                                      | 0.3   | 929                          | 729                        | 0                          | 0                           | 38              | 0.11            | 0.05             |
| 12            | 1,042.52 | 1,893.9                                      | -1.0  | 1,041                        | 1,479                      | 0                          | 0                           | 48              | 0.14            | 0.00             |
| 13            | 1,042.44 | 1,893.0                                      | -0.9  | 1,072                        | 1,449                      | 0                          | 0                           | 55              | 0.16            | 0.00             |
| 14            | 1,042.34 | 1,892.0                                      | -1.1  | 1,146                        | 1,613                      | 0                          | 0                           | 73              | 0.21            | 0.00             |
| 15            | 1,042.33 | 1,891.8                                      | -0.1  | 1,057                        | 1,035                      | 0                          | 0                           | 76              | 0.22            | 0.00             |
| 16            | 1,042.33 | 1,891.8                                      | 0.0   | 1,058                        | 989                        | 0                          | 0                           | 69              | 0.20            | 0.00             |
| 17            | 1,042.36 | 1,892.2                                      | 0.3   | 1,015                        | 794                        | 0                          | 0                           | 59              | 0.17            | 0.00             |
| 18            | 1,042.42 | 1,892.8                                      | 0.6   | 994                          | 608                        | 0                          | 0                           | 62              | 0.18            | 0.00             |
| Totals        | N/A      | N/A  | -3.9  | 18,404                       | 19,017                     | 0                          | 0                           | 1,223           | 3.53            | 0.29             |
| Acre-<br>Feet | N/A      | N/A  | -3,900                                      | 36,504                       | 37,720                     | 0                          | 0                           | 2,426           | N/A             | N/A              |

Comments:

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

### Summary Precipitation

This Month 0.29

October 1, 2023 to Date 0.29

**Summary: Release  
(acre- feet)**

|              |               |
|--------------|---------------|
| Power        | 37,720        |
| Spill        | 0             |
| Outlet       | 0             |
| <b>Total</b> | <b>37,720</b> |

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

| Day           | Elev     | Storage<br>1000-<br>Acre-<br>Feet in<br>Lake | Storage<br>1000-<br>Acre-<br>Feet<br>Change | Computed<br>Inflow<br>C.F.S. | Release<br>C.F.S.<br>Power | Release<br>C.F.S.<br>Spill | Release<br>C.F.S.<br>Outlet | Evap.<br>C.F.S. | Evap.<br>Inches | Precip.<br>Inches |
|---------------|----------|--|---|------------------------------|----------------------------|----------------------------|-----------------------------|-----------------|-----------------|-------------------|
| N/A           | N/A      | 1,920.0                                      | N/A   | N/A                          | N/A                        | N/A                        | N/A                         | N/A             | N/A             | N/A               |
| 1             | 1,044.68 | 1,917.1                                      | -2.9  | 1,039                        | 2,384                      | 0                          | 0                           | 122             | 0.35            | 0.00              |
| 2             | 1,044.55 | 1,915.7                                      | -1.4  | 946                          | 1,639                      | 0                          | 0                           | 14              | 0.04            | 0.14              |
| 3             | 1,044.38 | 1,913.9                                      | -1.8  | 941                          | 1,813                      | 0                          | 0                           | 52              | 0.15            | 0.00              |
| 4             | 1,044.21 | 1,912.0                                      | -1.8  | 992                          | 1,881                      | 0                          | 0                           | 35              | 0.10            | 0.00              |
| 5             | 1,044.11 | 1,911.0                                      | -1.1  | 994                          | 1,471                      | 0                          | 0                           | 66              | 0.19            | 0.00              |
| 6             | 1,043.97 | 1,909.4                                      | -1.5  | 1,060                        | 1,723                      | 0                          | 0                           | 97              | 0.28            | 0.00              |
| 7             | 1,043.92 | 1,908.9                                      | -0.5  | 1,081                        | 1,265                      | 0                          | 0                           | 87              | 0.25            | 0.00              |
| 8             | 1,043.81 | 1,907.7                                      | -1.2  | 1,075                        | 1,563                      | 0                          | 0                           | 108             | 0.31            | 0.00              |
| 9             | 1,043.81 | 1,907.7                                      | 0.0   | 1,052                        | 951                        | 0                          | 0                           | 101             | 0.29            | 0.00              |
| 10            | 1,043.68 | 1,906.3                                      | -1.4  | 1,051                        | 1,414                      | 0                          | 282                         | 59              | 0.17            | 0.31              |
| 11            | 1,043.47 | 1,904.1                                      | -2.3  | 1,135                        | 2,168                      | 0                          | 0                           | 104             | 0.30            | 0.00              |
| 12            | 1,043.39 | 1,903.2                                      | -0.9  | 1,108                        | 1,433                      | 0                          | 0                           | 108             | 0.31            | 0.00              |
| 13            | 1,043.33 | 1,902.6                                      | -0.6  | 1,192                        | 1,420                      | 0                          | 0                           | 97              | 0.28            | 0.00              |
| 14            | 1,043.29 | 1,902.1                                      | -0.4  | 1,067                        | 1,187                      | 0                          | 0                           | 97              | 0.28            | 0.00              |
| 15            | 1,043.32 | 1,902.5                                      | 0.3   | 1,167                        | 910                        | 0                          | 0                           | 94              | 0.27            | 0.00              |
| 16            | 1,043.32 | 1,902.5                                      | 0.0   | 1,077                        | 994                        | 0                          | 0                           | 83              | 0.24            | 0.00              |
| 17            | 1,043.28 | 1,902.0                                      | -0.4  | 1,217                        | 1,351                      | 0                          | 0                           | 83              | 0.24            | 0.00              |
| 18            | 1,043.13 | 1,900.4                                      | -1.6  | 975                          | 1,704                      | 0                          | 0                           | 83              | 0.24            | 0.00              |
| 19            | 1,043.10 | 1,900.1                                      | -0.3  | 1,210                        | 1,300                      | 0                          | 0                           | 73              | 0.21            | 0.00              |
| 20            | 1,043.20 | 1,901.2                                      | 1.1   | 1,056                        | 452                        | 0                          | 0                           | 62              | 0.18            | 0.00              |
| 21            | 1,043.16 | 1,900.7                                      | -0.4  | 1,236                        | 1,373                      | 0                          | 0                           | 80              | 0.23            | 0.00              |
| 22            | 1,043.10 | 1,900.1                                      | -0.6  | 1,092                        | 1,355                      | 0                          | 0                           | 62              | 0.18            | 0.00              |
| 23            | 1,043.03 | 1,899.3                                      | -0.8  | 1,150                        | 1,456                      | 0                          | 0                           | 73              | 0.21            | 0.00              |
| 24            | 1,043.00 | 1,899.0                                      | -0.3  | 1,221                        | 1,293                      | 0                          | 0                           | 90              | 0.26            | 0.00              |
| 25            | 1,042.92 | 1,898.2                                      | -0.9  | 1,179                        | 1,521                      | 0                          | 0                           | 90              | 0.26            | 0.00              |
| 26            | 1,042.79 | 1,896.8                                      | -1.4  | 876                          | 1,504                      | 0                          | 0                           | 73              | 0.21            | 0.00              |
| 27            | 1,042.76 | 1,896.5                                      | -0.3  | 1,141                        | 1,241                      | 0                          | 0                           | 62              | 0.18            | 0.00              |
| 28            | 1,042.77 | 1,896.6                                      | 0.1   | 975                          | 852                        | 0                          | 0                           | 69              | 0.20            | 0.00              |
| 29            | 1,042.79 | 1,896.8                                      | 0.2   | 1,202                        | 1,000                      | 0                          | 0                           | 94              | 0.27            | 0.00              |
| 30            | 1,042.76 | 1,896.5                                      | -0.3  | 1,120                        | 1,237                      | 0                          | 0                           | 45              | 0.13            | 0.00              |
| Totals        | N/A      | N/A  | -23.4                                       | 32,627                       | 41,855                     | 0                          | 282                         | 2,363           | 6.81            | 0.45              |
| Acre-<br>Feet | N/A      | N/A  | -23,400                                     | 64,716                       | 83,019                     | 0                          | 559                         | 4,687           | N/A             | N/A               |

Comments:

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

### **Summary Precipitation**

|                         |       |
|-------------------------|-------|
| This Month              | 0.45  |
| October 1, 2021 to Date | 47.16 |

### **Summary: Release (acre-feet)**

|              |               |
|--------------|---------------|
| Power        | 83,019        |
| Spill        | 0             |
| Outlet       | 559           |
| <b>Total</b> | <b>83,579</b> |

United States Department of the Interior  
 Bureau of Reclamation-Central Valley Project- California  
 Tulloch Reservoir Daily Operations, September 2023, Run Date: 10/17/2023

| 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    | 63,241                        | N/A                        | N/A                    | N/A                 | N/A                  | N/A                  | N/A                   | N/A              |
| 1         | 506.20 | 62,322                        | -919                       | 569                    | 556                 | 1,029                | 0                    | 0                     | 3                |
| 2         | 506.35 | 62,501                        | 179                        | 1,074                  | 1,104               | 979                  | 0                    | 0                     | 5                |
| 3         | 506.92 | 63,181                        | 680                        | 1,339                  | 1,353               | 989                  | 0                    | 0                     | 7                |
| 4         | 505.13 | 61,060                        | -2,121                     | 57                     | 82                  | 1,119                | 0                    | 0                     | 7                |
| 5         | 504.19 | 59,970                        | -1,090                     | 1,450                  | 1,492               | 1,989                | 0                    | 0                     | 11               |
| 6         | 503.08 | 58,701                        | -1,269                     | 1,145                  | 1,172               | 1,774                | 0                    | 0                     | 11               |
| 7         | 502.65 | 58,218                        | -483                       | 1,353                  | 1,375               | 1,587                | 0                    | 0                     | 10               |
| 8         | 502.34 | 57,871                        | -347                       | 1,197                  | 1,201               | 1,361                | 0                    | 0                     | 11               |
| 9         | 502.52 | 58,072                        | 201                        | 1,088                  | 1,102               | 978                  | 0                    | 0                     | 9                |
| 10        | 502.42 | 57,960                        | -112                       | 873                    | 884                 | 924                  | 0                    | 0                     | 5                |
| 11        | 501.92 | 57,402                        | -558                       | 712                    | 729                 | 989                  | 0                    | 0                     | 4                |
| 12        | 501.10 | 56,497                        | -905                       | 1,459                  | 1,479               | 1,910                | 0                    | 0                     | 5                |
| 13        | 500.68 | 56,040                        | -457                       | 1,423                  | 1,449               | 1,647                | 0                    | 0                     | 6                |
| 14        | 500.92 | 56,300                        | 260                        | 1,576                  | 1,613               | 1,438                | 0                    | 0                     | 7                |
| 15        | 500.75 | 56,116                        | -184                       | 1,050                  | 1,035               | 1,135                | 0                    | 0                     | 8                |
| 16        | 501.49 | 56,927                        | 811                        | 1,009                  | 989                 | 593                  | 0                    | 0                     | 7                |
| Totals    | N/A    | N/A                           | -6,314                     | 17,374                 | 17,615              | 20,441               | 0                    | 0                     | 116              |
| Acre-Feet | N/A    | N/A                           | -6,314                     | 34,461                 | 34,939              | 40,545               | 0                    | 0                     | 230              |

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  | 40,545 |
| Spill  | 0      |
| Outlet | 0      |
| Total  | 40,545 |



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

| Day    | Elev   | Storage (Acre Feet) Res. | Storage (Acre-Feet) Change | Computed Inflow C.F.S. | New Melones Release | Release C.F.S. Power | Release C.F.S. Spill | Release C.F.S. Outlet | Evap. C.F.S. (1) |
|--------|--------|--------------------------|----------------------------|------------------------|---------------------|----------------------|----------------------|-----------------------|------------------|
| N/A    | N/A    | 65,757                   | N/A                        | N/A                    | N/A                 | N/A                  | N/A                  | N/A                   | N/A              |
| 1      | 509.06 | 65,795                   | 38                         | 2,359                  | 2,384               | 2,239                | 0                    | 87                    | 14               |
| 2      | 509.01 | 65,732                   | -63                        | 1,626                  | 1,639               | 1,656                | 0                    | 0                     | 2                |
| 3      | 509.23 | 66,007                   | 275                        | 1,803                  | 1,813               | 1,658                | 0                    | 0                     | 6                |
| 4      | 509.52 | 66,369                   | 362                        | 1,883                  | 1,881               | 1,696                | 0                    | 0                     | 4                |
| 5      | 509.17 | 65,932                   | -437                       | 1,445                  | 1,471               | 1,657                | 0                    | 0                     | 8                |
| 6      | 509.29 | 66,082                   | 150                        | 1,713                  | 1,723               | 1,626                | 0                    | 0                     | 11               |
| 7      | 508.69 | 65,338                   | -744                       | 1,250                  | 1,265               | 1,615                | 0                    | 0                     | 10               |
| 8      | 508.57 | 65,191                   | -147                       | 1,548                  | 1,563               | 1,610                | 0                    | 0                     | 12               |
| 9      | 507.46 | 63,835                   | -1,356                     | 948                    | 951                 | 1,621                | 0                    | 0                     | 11               |
| 10     | 507.76 | 64,198                   | 363                        | 1,740                  | 1,696               | 1,550                | 0                    | 0                     | 7                |
| 11     | 508.91 | 65,609                   | 1,411                      | 2,169                  | 2,168               | 1,446                | 0                    | 0                     | 12               |
| 12     | 509.08 | 65,820                   | 211                        | 1,443                  | 1,433               | 1,325                | 0                    | 0                     | 12               |
| 13     | 509.38 | 66,194                   | 374                        | 1,419                  | 1,420               | 1,219                | 0                    | 0                     | 11               |
| 14     | 509.17 | 65,932                   | -262                       | 1,170                  | 1,187               | 1,291                | 0                    | 0                     | 11               |
| 15     | 508.66 | 65,301                   | -631                       | 883                    | 910                 | 1,190                | 0                    | 0                     | 11               |
| 16     | 508.21 | 64,748                   | -553                       | 984                    | 994                 | 1,253                | 0                    | 0                     | 10               |
| 17     | 508.43 | 65,018                   | 270                        | 1,337                  | 1,351               | 1,191                | 0                    | 0                     | 10               |
| 18     | 509.28 | 66,069                   | 1,051                      | 1,733                  | 1,704               | 1,193                | 0                    | 0                     | 10               |
| 19     | 509.26 | 66,044                   | -25                        | 1,264                  | 1,300               | 1,269                | 0                    | 0                     | 8                |
| 20     | 507.84 | 64,295                   | -1,749                     | 439                    | 452                 | 1,314                | 0                    | 0                     | 7                |
| 21     | 507.70 | 64,125                   | -170                       | 1,338                  | 1,373               | 1,415                | 0                    | 0                     | 9                |
| 22     | 507.56 | 63,956                   | -169                       | 1,344                  | 1,355               | 1,422                | 0                    | 0                     | 7                |
| 23     | 507.69 | 64,113                   | 157                        | 1,443                  | 1,456               | 1,356                | 0                    | 0                     | 8                |
| 24     | 507.65 | 64,065                   | -48                        | 1,290                  | 1,293               | 1,304                | 0                    | 0                     | 10               |
| 25     | 508.03 | 64,526                   | 461                        | 1,507                  | 1,521               | 1,265                | 0                    | 0                     | 10               |
| 26     | 508.22 | 64,760                   | 234                        | 1,486                  | 1,504               | 1,360                | 0                    | 0                     | 8                |
| 27     | 508.12 | 64,637                   | -123                       | 1,256                  | 1,241               | 1,311                | 0                    | 0                     | 7                |
| 28     | 507.36 | 63,713                   | -924                       | 833                    | 852                 | 1,291                | 0                    | 0                     | 8                |
| 29     | 506.89 | 63,146                   | -567                       | 974                    | 1,000               | 1,250                | 0                    | 0                     | 10               |
| 30     | 506.97 | 63,241                   | 95                         | 1,225                  | 1,237               | 1,172                | 0                    | 0                     | 5                |
| Totals | NA     | NA                       | -2,516                     | 41,852                 | 42,137              | 42,765               | 0                    | 87                    | 269              |

| Day       | Elev | Storage<br>(Acre<br>Feet) Res. | Storage<br>(Acre-<br>Feet)<br>Change | Computed<br>Inflow<br>C.F.S. | New<br>Melones<br>Release | Release<br>C.F.S.<br>Power | Release<br>C.F.S.<br>Spill | Release<br>C.F.S.<br>Outlet | Evap.<br>C.F.S.<br>(1) |
|-----------|------|--------------------------------|--------------------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|------------------------|
| Acre-Feet | NA   | NA                             | -2,516                               | 83,013                       | 83,579                    | 84,824                     | 0                          | 173                         | 534                    |

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  | 84,824 |
| Spill  | 0      |
| Outlet | 173    |
| Total  | 84,997 |

Oakdale Irrigation District  
 South San Joaquin Irrigation  
 District Tri Dams Project-California  
 Goodwin Reservoir Daily Operations, October 2023, Run Date: 10/17/2023

| Day              | Elev   | Storage<br>(1000<br>Acre-Feet)<br>in Lake | Storage<br>(1000<br>Acre-Feet)<br>Change | Tulloch<br>Release | Release<br>C.F.S. -<br>River<br>Outlet | Release<br>C.F.S. –<br>Spill | Canals-<br>Joint<br>Main | Canals-<br>South<br>Main |
|------------------|--------|---|--|--------------------|--|------------------------------|--------------------------|--------------------------|
| N/A              | N/A    | 529                                       | N/A                                      | N/A                | N/A                                    | N/A                          | N/A                      | N/A                      |
| 1                | 359.89 | 529                                       | 0  | 1,029              | 0                                      | 303                          | 617                      | 180                      |
| 2                | 359.89 | 529                                       | 0  | 979                | 0                                      | 303                          | 597                      | 143                      |
| 3                | 359.89 | 529                                       | 0  | 989                | 0                                      | 302                          | 597                      | 152                      |
| 4                | 360.32 | 559                                       | 30                                       | 1,119              | 0                                      | 412                          | 598                      | 162                      |
| 5                | 360.58 | 578                                       | 19                                       | 1,989              | 0                                      | 470                          | 473                      | 140                      |
| 6                | 360.45 | 569                                       | -9                                       | 1,774              | 0                                      | 1,305                        | 391                      | 193                      |
| 7                | 360.35 | 562                                       | -7                                       | 1,587              | 0                                      | 1,101                        | 393                      | 201                      |
| 8                | 360.04 | 540                                       | -22                                      | 1,361              | 0                                      | 866                          | 396                      | 215                      |
| 9                | 359.86 | 527                                       | -13                                      | 978                | 0                                      | 339                          | 477                      | 241                      |
| 10               | 359.86 | 527                                       | 0  | 924                | 0                                      | 303                          | 467                      | 227                      |
| 11               | 360.32 | 559                                       | 32                                       | 989                | 0                                      | 409                          | 449                      | 189                      |
| 12               | 360.55 | 576                                       | 17                                       | 1,910              | 0                                      | 1,481                        | 322                      | 212                      |
| 13               | 360.45 | 569                                       | -7                                       | 1,647              | 0                                      | 1,306                        | 250                      | 204                      |
| 14               | 360.36 | 562                                       | -7                                       | 1,438              | 0                                      | 1,106                        | 237                      | 204                      |
| 15               | 360.04 | 540                                       | -22                                      | 1,135              | 0                                      | 860                          | 222                      | 159                      |
| 16               | 359.89 | 529                                       | -11                                      | 593                | 0                                      | 340                          | 213                      | 121                      |
| <b>Totals</b>    | N/A    | N/A                                       | <b>0</b>                                 | <b>20,441</b>      | <b>0</b>                               | <b>11,206</b>                | <b>6,699</b>             | <b>2,943</b>             |
| <b>Acre-Feet</b> | N/A    | N/A                                       | <b>0</b>                                 | <b>40,545</b>      | <b>0</b>                               | <b>22,227</b>                | <b>13,287</b>            | <b>5,837</b>             |

Joint Main Operated by SSJID and OID.

**Summary: Release (acre-feet)**

|                  |                  |
|------------------|------------------|
| Joint Main Canal | 13,287           |
| South Main Canal | 5,837            |
| Outlet           | 0                |
| Spill            | 22,227           |
| <b>Total</b>     | <b>41352.008</b> |

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

| Day    | Elev   | Storage<br>(1000 Acre-<br>Feet)<br>in Lake | Storage<br>(1000<br>Acre-<br>Feet)<br>Change | Tulloch<br>Release | Release<br>C.F.S. -<br>River<br>Outlet | Release<br>C.F.S. –<br>Spill | Canals<br>- Joint<br>Main | Canals<br>-<br>South<br>Main |
|--------|--------|--|--|--------------------|--|------------------------------|---------------------------|------------------------------|
| N/A    | N/A    | 577  | N/A  | N/A                | N/A                                    | N/A                          | N/A                       | N/A                          |
| 1      | 359.98 | 536  | -41  | 2,326              | 0                                      | 972                          | 865                       | 319                          |
| 2      | 359.95 | 534  | -2   | 1,656              | 0                                      | 401                          | 825                       | 243                          |
| 3      | 359.95 | 534  | 0  | 1,658              | 0                                      | 400                          | 825                       | 265                          |
| 4      | 359.95 | 534  | 0  | 1,696              | 0                                      | 401                          | 853                       | 299                          |
| 5      | 359.99 | 536  | 2  | 1,657              | 0                                      | 404                          | 824                       | 290                          |
| 6      | 359.96 | 534  | -2   | 1,626              | 0                                      | 405                          | 687                       | 405                          |
| 7      | 359.98 | 536  | 2  | 1,615              | 0                                      | 401                          | 629                       | 443                          |
| 8      | 359.98 | 536  | 0  | 1,610              | 0                                      | 405                          | 688                       | 397                          |
| 9      | 359.96 | 534  | -2   | 1,621              | 0                                      | 401                          | 718                       | 379                          |
| 10     | 359.98 | 536  | 2  | 1,550              | 0                                      | 405                          | 689                       | 341                          |
| 11     | 359.95 | 534  | -2   | 1,446              | 0                                      | 366                          | 663                       | 321                          |
| 12     | 359.93 | 532  | -2   | 1,325              | 0                                      | 354                          | 555                       | 335                          |
| 13     | 359.95 | 534  | 2  | 1,219              | 0                                      | 352                          | 506                       | 280                          |
| 14     | 359.95 | 534  | 0  | 1,291              | 0                                      | 372                          | 499                       | 327                          |
| 15     | 359.95 | 534  | 0  | 1,190              | 0                                      | 371                          | 488                       | 170                          |
| 16     | 359.95 | 534  | 0  | 1,253              | 0                                      | 377                          | 443                       | 268                          |
| 17     | 359.95 | 534  | 0  | 1,191              | 0                                      | 365                          | 443                       | 235                          |
| 18     | 359.95 | 534  | 0  | 1,193              | 0                                      | 353                          | 445                       | 261                          |
| 19     | 359.93 | 532  | -2   | 1,268              | 0                                      | 353                          | 474                       | 302                          |
| 20     | 359.93 | 532  | 0  | 1,314              | 0                                      | 351                          | 531                       | 292                          |
| 21     | 359.93 | 532  | 0  | 1,415              | 0                                      | 352                          | 677                       | 322                          |
| 22     | 359.92 | 531  | -1   | 1,422              | 0                                      | 350                          | 642                       | 303                          |
| 23     | 359.93 | 532  | 1  | 1,356              | 0                                      | 352                          | 604                       | 283                          |
| 24     | 359.93 | 532  | 0  | 1,304              | 0                                      | 353                          | 550                       | 283                          |
| 25     | 359.93 | 532  | 0  | 1,265              | 0                                      | 1,265                        | 555                       | 231                          |
| 26     | 359.93 | 532  | 0  | 1,360              | 0                                      | 354                          | 669                       | 232                          |
| 27     | 359.90 | 530  | -2   | 1,311              | 0                                      | 318                          | 689                       | 216                          |
| 28     | 359.90 | 530  | 0  | 1,291              | 0                                      | 302                          | 679                       | 227                          |
| 29     | 359.90 | 530  | 0  | 1,250              | 0                                      | 304                          | 676                       | 203                          |
| 30     | 359.89 | 529  | -1   | 1,172              | 0                                      | 302                          | 648                       | 173                          |
| Totals | N/A    | N/A  | -48  | 42,852             | 0                                      | 12,461                       | 18,973                    | 8,645                        |

| Day       | Elev | Storage<br>(1000 Acre-<br>Feet)<br>in Lake | Storage<br>(1000<br>Acre-<br>Feet)<br>Change | Tulloch<br>Release | Release<br>C.F.S. -<br>River<br>Outlet | Release<br>C.F.S. –<br>Spill | Canals<br>- Joint<br>Main | Canals<br>-<br>South<br>Main |
|-----------|------|--|--|--------------------|--|------------------------------|---------------------------|------------------------------|
| Acre-Feet | N/A  | N/A  | -48  | 84,997             | 0                                      | 24,716                       | 37,633                    | 17,147                       |

Joint Main Operated by SSJID and OID.

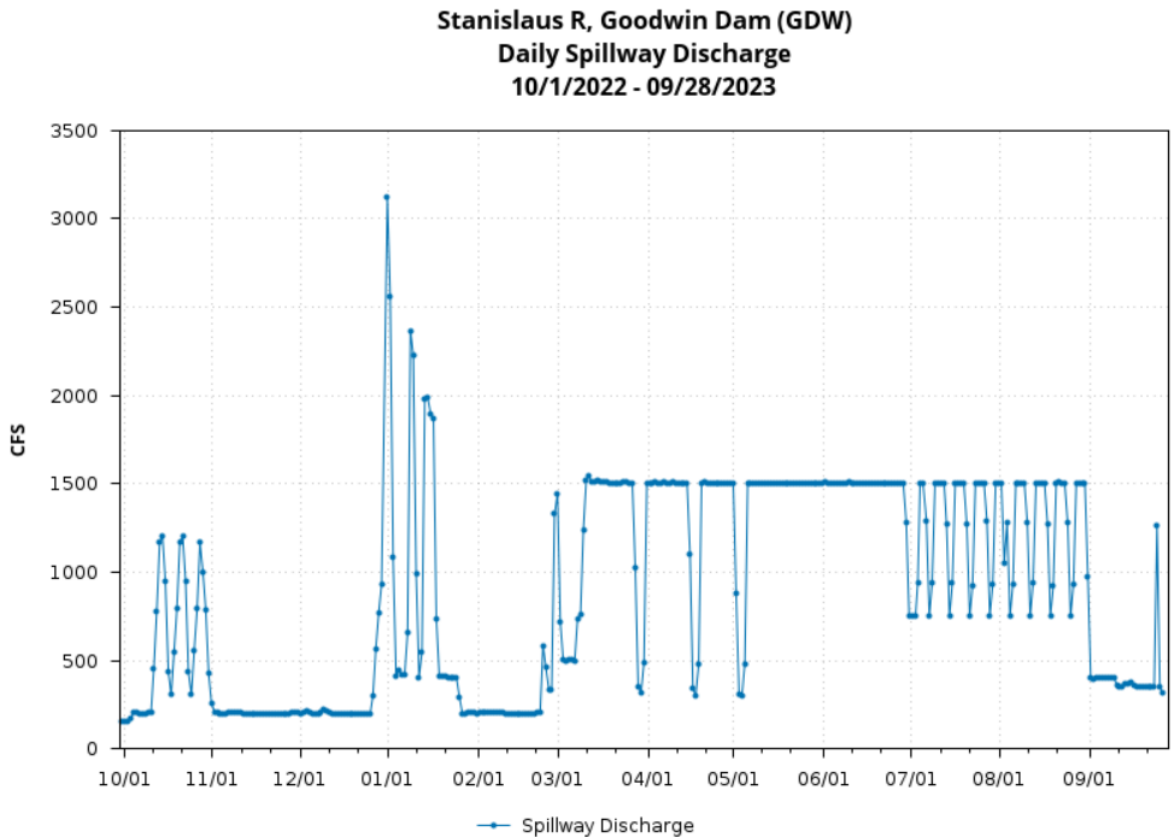
**Summary: Release (acre-feet)**

|                  |                   |
|------------------|-------------------|
| Joint Main Canal | 37,633            |
| South Main Canal | 17,147            |
| Outlet           | 0                 |
| Spill            | 24,716            |
| <b>Total</b>     | <b>79496.6965</b> |

# October 2023 Water Temperature and Fish Monitoring Update

## Year-to-Date Flows

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



[www.cbr.washington.edu/sacramento/](http://www.cbr.washington.edu/sacramento/)

29 Sep 2023 06:59:02 PDT

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

Figure 1 is a line graph showing Goodwin Dam daily spillway discharge. The graph shows a peak of 3,000 cfs on January 1, 2023, and several periods of sustained 1,500 cfs discharge between March and July 2023.

## Water Temperature

The temperature thresholds included in Figures 2-9, below, are the thresholds used in the 2019 NMFS LTO BiOp (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 August 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 July 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 water year 2023 is provided in Figure 9.

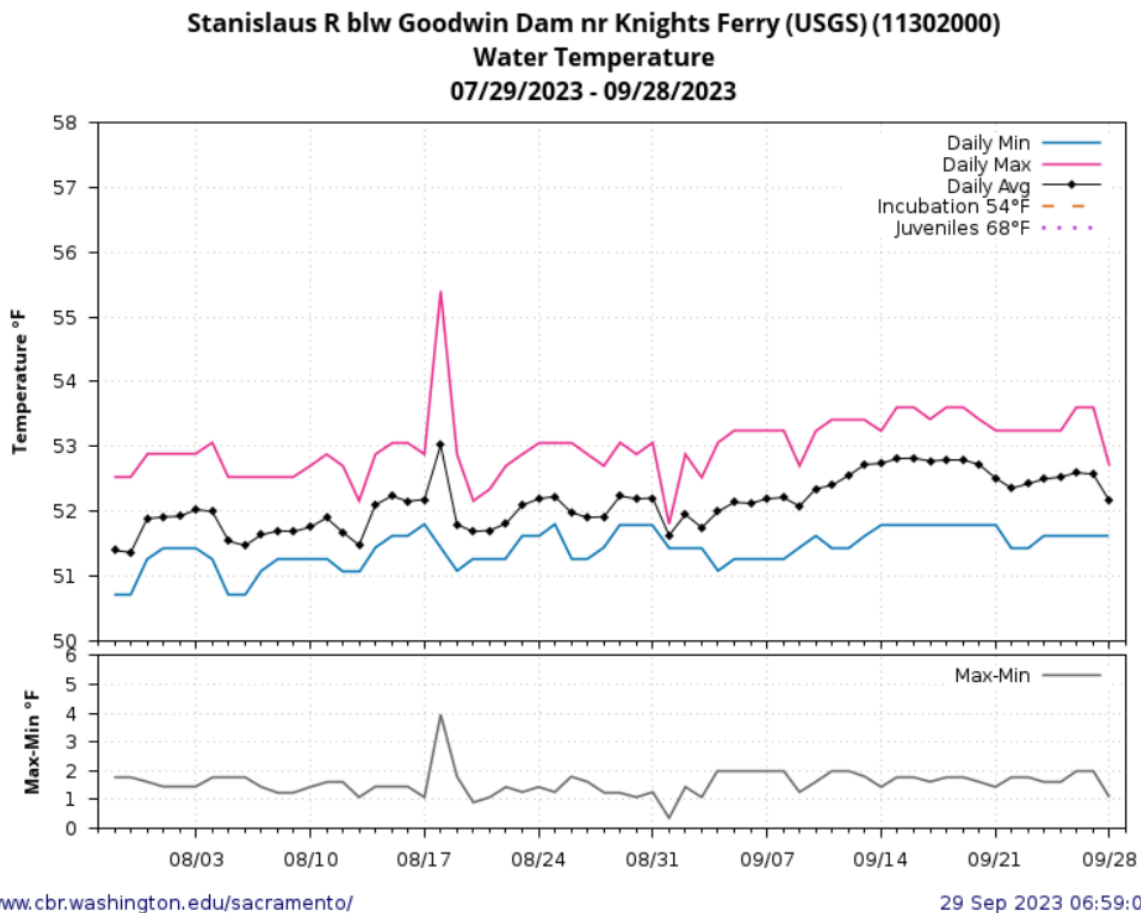
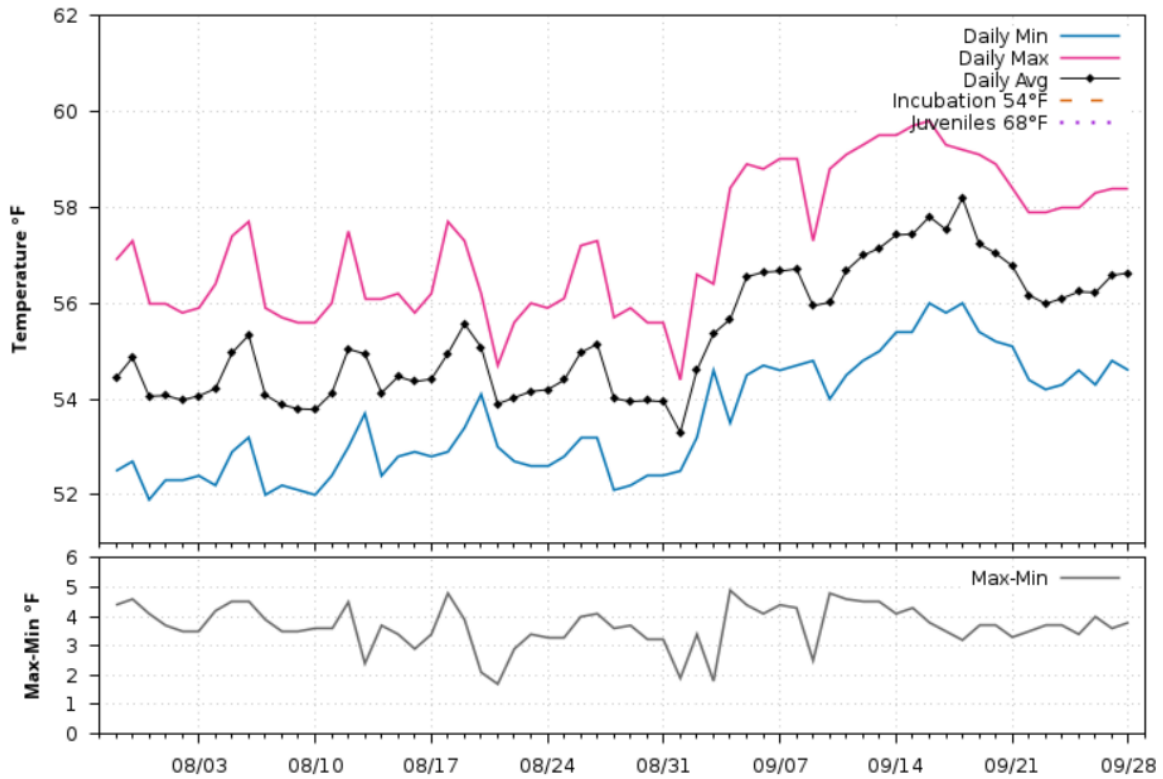


Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since July 29, 2023. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

Chart: Stacked chart for daily water temperatures Stanislaus River upstream of Knights Ferry 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 Orange Blossom Bridge (OBB)  
Water Temperature  
07/29/2023 - 09/28/2023**



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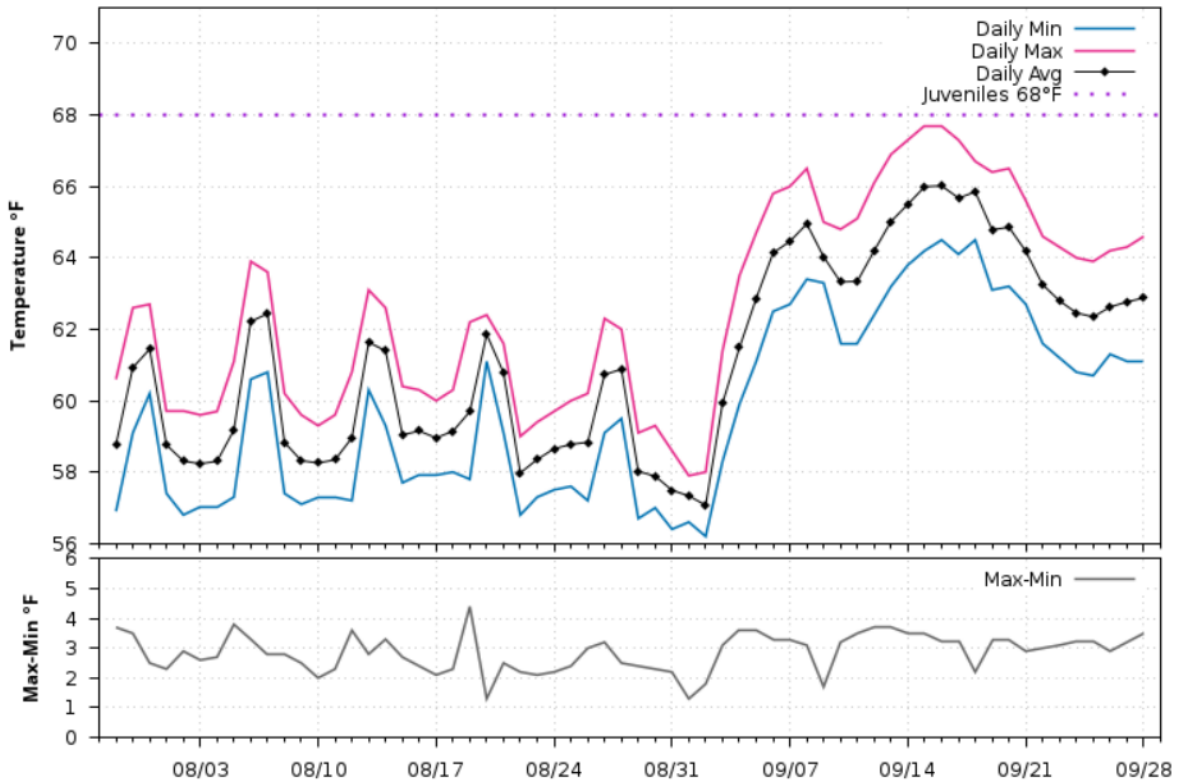
29 Sep 2023 06:59:02 PDT

Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since July 29, 2023.

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  
07/29/2023 - 09/28/2023**



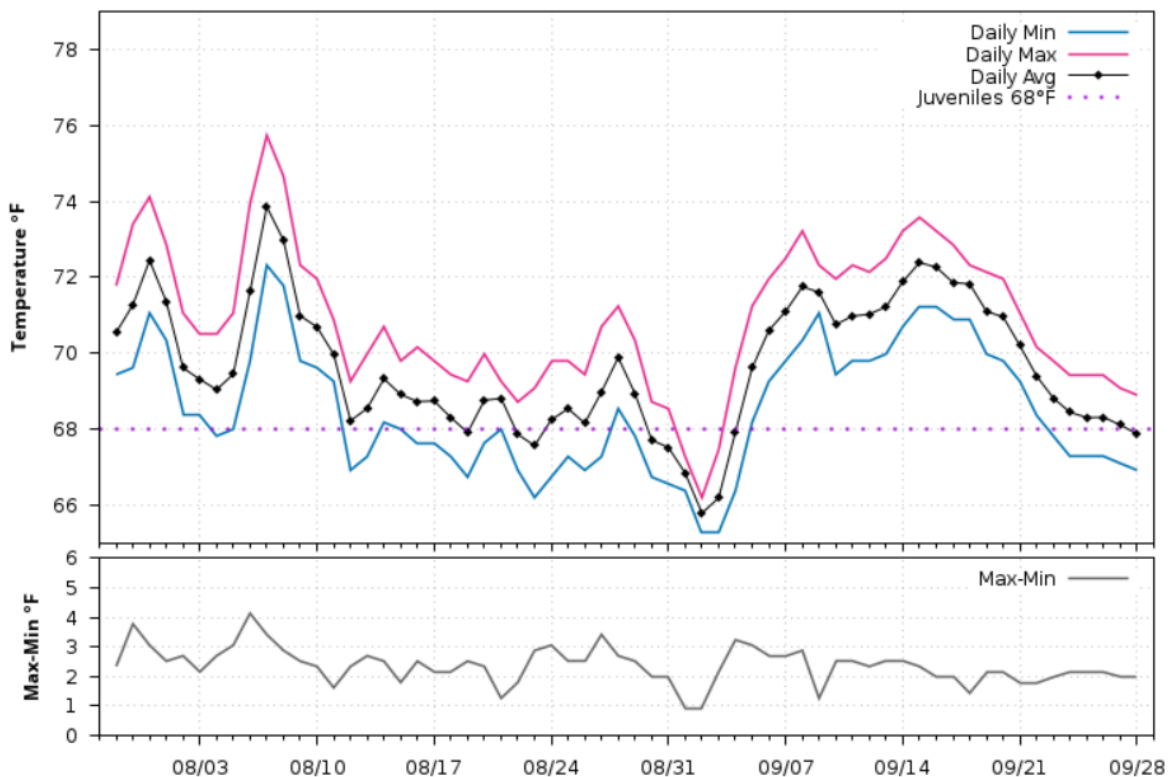
[www.cbr.washington.edu/sacramento/](http://www.cbr.washington.edu/sacramento/)

29 Sep 2023 06:59:02 PDT

Figure 4. Stanislaus water temperatures at Ripon since July 29, 2023. Data from RIP station on CDEC.

Chart: Stacked chart for daily water temperatures Stanislaus River at Ripon 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

**San Joaquin R nr Vernalis (VNS)  
Water Temperature  
07/29/2023 - 09/28/2023**



[www.cbr.washington.edu/sacramento/](http://www.cbr.washington.edu/sacramento/)

29 Sep 2023 06:59:03 PDT

Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since July 29, 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.

Chart: Stacked chart for daily water temperatures Stanislaus River at Vernalis 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 Orange Blossom Bridge (OBB)  
2000-2023 Daily Average Water Temperature  
Observed Range 43.0-73.0  
07/31 - 11/28**



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](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 August to November. The chart shows that during this time, the daily average water temperature was mostly between 54 and 68 degrees Fahrenheit with 2015 being mostly above 68 degrees Fahrenheit.

**Stanislaus R at Ripon (USGS) (RIP)**  
**2011-2023 Daily Average Water Temperature**  
**Observed Range 46.9-80.4**  
**07/31 - 11/28**



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](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

Figure 7 is a bar chart showing water temperatures at Ripon for WY 2011 to present for August to November. The chart shows that during this time, the daily average water temperature was mostly above 68 degrees Fahrenheit with WY2017 being the only year where water temperature remained below 68 degrees Fahrenheit.

**San Joaquin R nr Vernalis (VNS)  
2014-2023 Daily Average Water Temperature  
Observed Range 47.7-84.8  
07/31 - 11/28**



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](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

Figure 8 is a bar chart showing water temperatures at Vernalis for WY 2018 to present for August to November. The chart shows that during this time, the daily average water temperature was mostly above 68 degrees Fahrenheit with WY2017 being the only year where water temperature mostly remained below 68 degrees Fahrenheit.

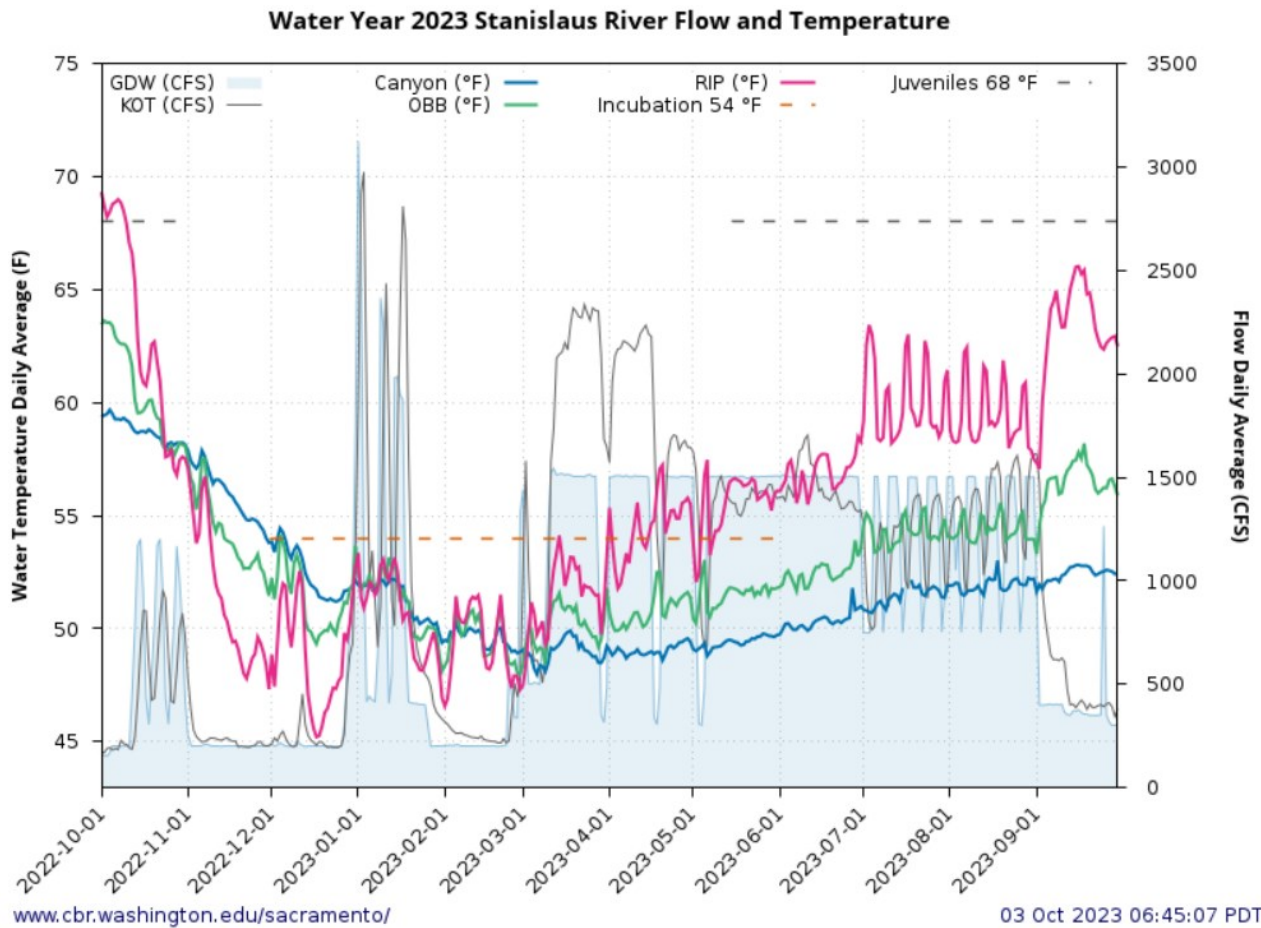


Figure 9. Stanislaus River flow and water temperatures from October 1, 2022 to October 16, 2023. Data (including temperature threshold reference lines) from SacPAS: [http://www.cbr.washington.edu/sacramento/data/tc\\_stanislaus.html](http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html)

Figure 9 is a line chart showing river flow and water temperatures on the Stanislaus River. The graph shows decreasing temperatures and flow October 2022 – March 2023 and increasing temperatures March – September 2023.

## Rotary Screw Traps Update:

### *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). Rotary screw trapping at Caswell for the 2023/2024 outmigration season is expected to begin in December 2023 or January 2024.

## CDFW Update

### *Update on Fish Monitoring (Adults)*

Chinook carcass and redd surveys:

The California Department of Fish & Wildlife (CDFW) began conducting fall-run Chinook salmon carcass and redd surveys the week of October 2, 2023 for the Stanislaus River and Merced River. The Tuolumne carcass survey started on September 18. Carcass survey data for all three San Joaquin River tributaries through the week of October 9, 2023 are reported in Table 1.

Table 1. Data from the fall 2022 CDFW carcass survey for the San Joaquin tributaries.

| River      | Wk. | Date      | # Live | # Redds | # Skeletons | # Tagged | # Ad-Clipped | # Scale Samples | # Recovered | Avg Flow (cfs) |
|------------|-----|-----------|--------|---------|-------------|----------|--------------|-----------------|-------------|----------------|
| Stanislaus | 1   | 10/2/2023 | 1      | 0       | 0           | 0        | 0            | 0               | 0           | 695            |
| Stanislaus | 2   | 10/9/2023 | 0      | 0       | 0           | 0        | 0            | 0               | 0           | 763            |
| Tuolumne   | 1   | 9/18/2023 | 0      | 0       | 1           | 0        | 0            | 0               | 0           | 550            |
| Tuolumne   | 2   | 9/25/2023 | 0      | 0       | 0           | 0        | 0            | 0               | 0           | 560            |
| Tuolumne   | 3   | 10/2/2023 | 2      | 0       | 0           | 1        | 0            | 0               | 0           | 550            |
| Tuolumne   | 4   | 10/9/2023 | 4      | 2       | 0           | 2        | 1            | 2               | 0           | 350            |
| Merced     | 1   | 10/2/2023 | 3      | 1       | 0           | 0        | 0            | 0               | 0           | 262            |
| Merced     | 2   | 10/9/2023 | 5      | 0       | 0           | 0        | 0            | 0               | 0           | 324            |

Steelhead redd Surveys:

CDFW expects to start the steelhead redd surveys in February 2024.

***Update on Fish Monitoring (Juveniles)***

Mossdale Trawl:

No salmonids have been caught in the Mossdale trawl sampling since August 18, 2023. While Mossdale trawl sampling is ongoing, catch is rare outside of the spring months, therefore reporting on the Mossdale Trawl will not resume until March 2024 or salmonids are caught.

Restoration Update:

- Ahead of schedule for meeting goals for spawning habitat restoration targets.
- Interested in continuing gravel injection projects in Goodwin Canyon.
- Behind schedule for meeting the rearing habitat goals.
- The Mohler and Tortuga rearing habitat restoration projects are conducting pre-project monitoring.
- Implementation of the construction phase anticipated to begin in 2025.

Stanislaus River Weir: As of October 15, 295 adult Chinook salmon have passed upstream of the

Stanislaus River weir (Table 2). Fifty-three (18%) of the adults were adipose fin clipped (indicating hatchery origin). The second of the four pulses hit the weir on October 13. There was a slight increase (peak daily passage = 40 Chinook) in passage following the first pulse and a similar response has been observed so far to the second pulse (peak daily passage = 36 Chinook). A total of nine *O. mykiss* have been observed passing the Stanislaus River weir as of October 15, with all except one being over 16 inches, and that one was just under 16 inches. Seven out of nine (78%) of the *O. mykiss* were adipose fin clipped. No salmonids have been caught in the Mossdale trawl sampling since August 18, 2023. While Mossdale trawl sampling is ongoing, catch is rare outside of the spring months, therefore reporting on the Mossdale Trawl will not resume until March 2024 or salmonids are caught.

Table 2. Chinook passage at the Stanislaus River Weir as of October 15 of each year and the season totals. Updated through October 15, 2023.

| <b>Year</b> | <b>Monitoring Start Date</b> | <b>Net Passage to Date</b> | <b>Season Total</b> |
|-------------|------------------------------|----------------------------|---------------------|
| 2023        | 9/6/23                       | 295                        | 295                 |
| 2022        | 9/15/22                      | 123                        | 3,798               |
| 2021        | 9/8/21                       | 421                        | 6,032               |
| 2020        | 9/10/20                      | 125                        | 1,906               |
| 2019        | 8/29/19                      | 167                        | 2,594               |
| 2018        | 9/5/18                       | 470                        | 4,777               |
| 2017        | 9/15/17                      | 575                        | 8,500               |
| 2016        | 9/8/16                       | 962                        | 14,399              |
| 2015        | 9/15/15                      | 183                        | 12,707              |
| 2014        | 9/5/14                       | 467                        | 5,527               |
| 2013        | 9/3/13                       | 1,160                      | 5,452               |
| 2012        | 9/11/12                      | 1,190                      | 7,248               |
| 2011        | 11/8/11                      | Ns                         | 776                 |
| 2010        | 9/7/10                       | 268                        | 1,364               |
| 2009        | 9/9/09                       | 387                        | 1,303               |
| 2008        | 9/9/08                       | 325                        | 928                 |
| 2007        | 9/22/07                      | 68                         | 439                 |
| 2006        | 9/8/06                       | 358                        | 3,074               |
| 2005        | 9/8/05                       | 437                        | 4,124               |
| 2004        | 9/10/04                      | 666                        | 4,448               |



| Year | Monitoring Start Date | Net Passage to Date | Season Total |
|------|-----------------------|---------------------|--------------|
| 2003 | 9/5/03                | 1,755               | 4,848        |

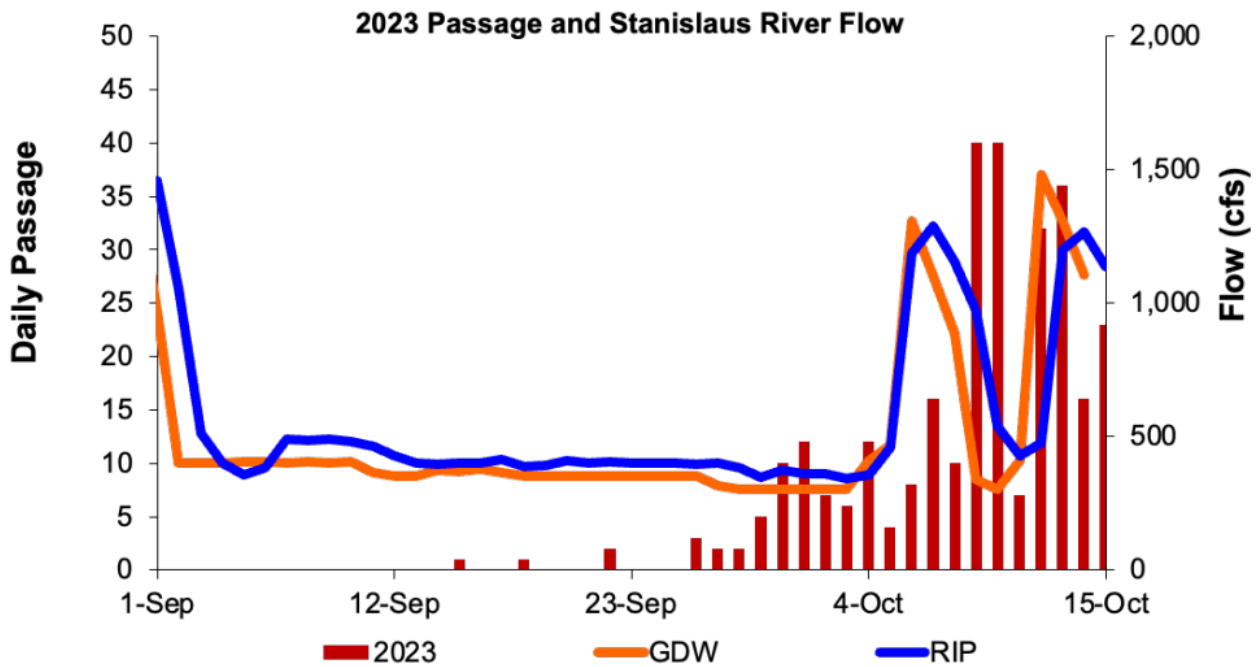


Figure 10. Daily Chinook passage at the Stanislaus River weir and river flow at Goodwin (GDW) and Ripon (RIP), 2023.

Figure 10 is a line and bar chart showing river flow in cfs and daily passage rates in 2023 at Goodwin and Ripon September 1 – October 15, 2023. The graph shows flow decreasing sharply from 1,500 at Ripon and 1,000 cfs at Goodwin to below 500 cfs. Daily passage starts increasing after September 23<sup>rd</sup>. Flow increases

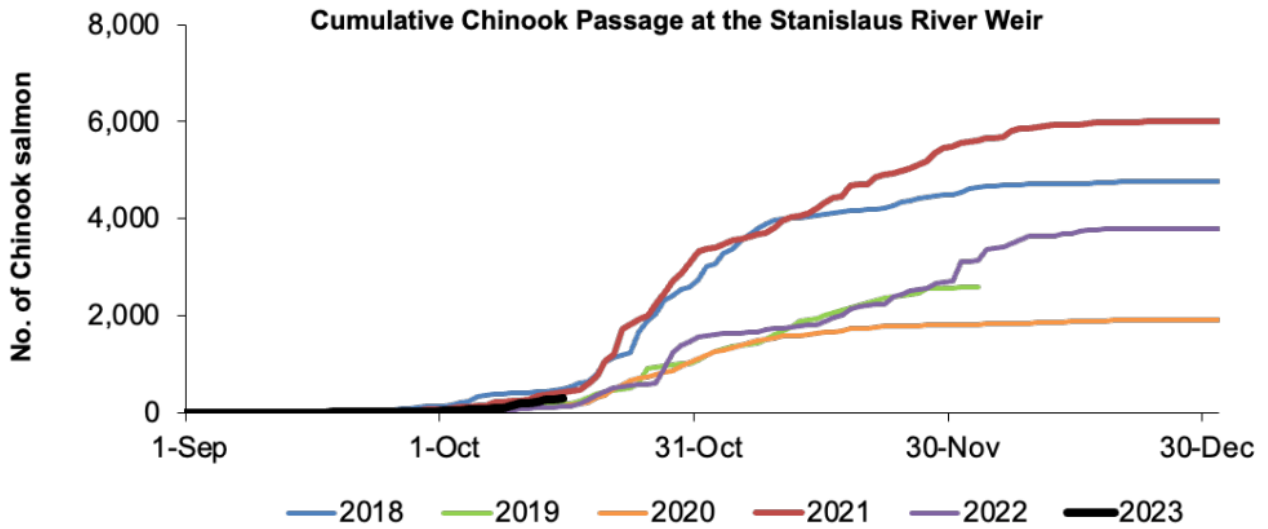


Figure 11. Cumulative Chinook passage at the Stanislaus River weir during 2018-2023.

Figure 11 is a line showing the cumulative Chinook passage at the Stanislaus weir between September 1 to December 30 for the calendar years 2018-2023. The graph shows passage for all years begins in October with large increases through November. The highest passage occurred in 2021 with over 6,000 Chinook passing the Stanislaus River Weir.