— BUREAU OF —
RECLAMATION

Stanislaus Watershed Team

10:00 AM – 12:00 PM
MS Teams: Join Microsoft Teams Meeting
Stanislaus Watershed Team Notes: https://www.usbr.gov/mp/bdo/stanislaus-watershed-team.html

Wednesday, December 16, 2020

Notes

1. **Actions**
   - All
     - Reach out to Elissa Buttermore if they'd like to participate in the discussion regarding habitat restoration, specifically approaches to gravel augmentation.
   - J.D. Wikert
     - Revise February's winter instability flow proposal for January's SWT meeting.
     - Coordinate with interested SWT members to review and modify the proposed January's winter instability flow to accommodate the RST installation.
     - Share language for the Annual Report with Reclamation. **(DONE)**
   - Reclamation
     - Review comments, incorporate edits and recirculate the draft Annual Report to SWT members.
   - K&W
     - Troubleshoot chat feature on MS Teams.
     - Add the following action item to January's meeting agenda: Review Guidance Document.

2. **Introductions**
   - USBR: Elissa Buttermore, Luke Davis, Zarela Guerrero, Peggy Manza, Spencer Marshall, Suzanne Manugian & Sarah Perrin
   - NMFS: Barbara Byrne & Monica Gutierrez
   - USFW: Craig Anderson & J.D. Wikert
   - CDFW: Duane Linander, Steve Tsao & Ryan Kok

- SWRCB: Chris Carr, Erin Foresman, Michael George & Yongxuan Gao
- SSJID: Peter Rietkerk & Brandon Nakagawa
- DWR: Vinh Giang
- SEWD: Karna Harrigfeld
- OID: Steve Knell & Tim Wasiewski
- WAPA: Michael Prowatzke

3. Ground Rules

- The facilitator referred to the ground rules, located in the footnotes of the agenda, and received no objection from participants.

4. Announcements

- There were no announcements.
- Guidance Document Review
    - Reclamation provided an overview of the most recent updates to the guidance document. Key takeaways included:
        - The document was updated to reflect formatting changes to ensure consistency across Central Valley technical teams' guidance documents, to change the exceedance forecast from 90% to 75%, and to highlight the inclusion of the irrigation districts in the SWT.
        - The document will be circulated to allow SWT to provide feedback.
        - The initial feedback from SWT members was reviewed and the decision was made to keep some of the original language pertaining to the main activities the SWT undertakes annually.
        - The guidance document is a living document which Reclamation hopes to improve every year.
        - A member stated that they'd prefer a generic timeline, which highlights activity completion rather than commencement, be used, if a timeline is required.
    - **[Action]** Reclamation will review comments, incorporate edits and recirculate the draft Annual Report to SWT members.
    - **[Action]** J.D. Wikert will share language for the Annual Report with Reclamation.
    - **[Action]** Kearns & West should add the following action item to January's meeting agenda: Review Guidance Document.

5. Operations Update and Forecasts/Hydrology

- Reservoir condition: New Melones is at 1.529 MAF storage and is slowly increasing.
    - The recent storm event resulted in 400 cfs of additional inflow on one day, but base conditions have returned since.
- Goodwin releases to the Stanislaus River are steady at 200 cfs.
- Dissolved oxygen at Ripon is good at 9%.

- Vernalis EC is good at 700 units and no action is needed to meet Vernalis salinity standards.
- Goodwin releases are expected to stay at baseflow (200 cfs) through winter.
- The Tulloch drawdown is scheduled to be complete in January to facilitate Tri-Dam's maintenance and Tulloch will be refilled to the standard level once maintenance is complete.
- Two winter instability flows are being planned for January and February. January's instability flow will not be augmented by shifting water from the spring pulse flow volume in the Stepped Release Plan.
- A discussion was had regarding the year type under the San Joaquin Index 60-20-20 and key takeaways are as follows:
    - The year type changed from Dry to Critical based on the data from the December Bulletin 120 provided by the Department of Water Resources.
    - The year type is Critical at both 75% and 90% forecast and will remain as such for the foreseeable future as there are currently no significant storms in the forecast.
    - The proposed flow schedule for January's winter instability flow, shared in November's SWT meeting, included scenarios for Critical, Dry and Below Normal, and thus no changes will need to be made.
    - February's instability flow will need to consider the expected year type in effect in February and in the spring, especially if flow from the spring pulse flow volume is used to augment the February instability flow.

6. Temperature Updates

- Key takeaways from the discussion are as follows:
    - Water temperatures decreased in late fall, which is typical.
    - Water temperatures in the Stanislaus River from Goodwin Canyon down to Ripon are generally suitable for juvenile rearing and for salmonid spawning (though spawning is not generally expected downstream of Orange Blossom Bridge).
    - Water temperatures in the Stanislaus River showed a slight increase in temperatures recently after the small storm event, possibly because of relatively warm rain runoff.

7. Flow Planning

- Augmented February Winter Instability Flow Proposal
    - A discussion was had about moving water from the spring pulse flow to February's winter instability flow. Key takeaways are as follows:
    - Moving water from the spring pulse flow to February's pulse flow could cause the Vernalis pulse flow requirements under D1641 for the spring to not be met.
        - Reclamation and the State Water Resources Control Board (SWRCB) have a difference of opinion on whether both the Vernalis base flow and the spring pulse flow requirements should be met under D1641. SWRCB believes

that both should be met. Reclamation believes the commitment is to the base flow and not the pulse flow.
        - There is some flexibility regarding the spring pulse flow, according to Note 14 in D1641.
        - Caveat language should be included in the preliminary operations plan for February's pulse flow to allow for further discussions regarding the hydrology and risks.
    - Biologically, it is important for fry-sized fish to have an opportunity to go to downstream habitats early.
        - The number of fish that can be produced is influenced by the carrying capacity of the system, which is related to the presence of water on the floodplains.
        - An alternative is to relocate fry-sized fish downstream, though their survival is much lower than those in the Stanislaus River.
    - Some members expressed a desire to only move a small proportion of water from the spring pulse flow to February's pulse flow because the year is dry.
- The irrigation districts have participated in augmenting spring pulse flows before. If water is available, they would be interested in augmenting the flow to help meet the D1641 requirement.
- It was proposed that Reclamation move forward with the preliminary plan focused on the January's flows (highlighting this in the title) and continue discussing February's pulse flow in January's SWT meeting.
    - **[Action]** J.D. Wikert will revise February's winter instability flow proposal for January's SWT meeting.
- Caswell Rotary Screw Trap (RST) Installation
    - Pacific Sates Marine Fisheries Commission (Pacific States) would like flows of 350 cfs or higher for 2 days in January (either the 5th and 6th or 7th and 8th) to install their RST.
    - SWT members considered changing the timing of January's winter instability flow to accommodate the RST installation. Key takeaways from that discussion are as follows:
        - It would be difficult for Pacific States to transport the RST in shallow water and it would require multiple people working within close proximity, against COVID-19 health and safety recommendations.
        - While January is too early to put water down for fish, a pulse in that timeframe could provide an influx of nutrients and create short-term shallow water habitat, both of which can result in faster growing opportunities for juvenile fish. Shallow water habitat can also provide refuge from predators.
        - Though the installation could potentially be postponed to later in the month, such a change would result in a loss of juvenile outmigration data from the early outmigration season.

        - No other means of moving water to the RST installation site (e.g., via the districts' canal system) are feasible.
    - **[Action]** J.D. Wikert will coordinate with interested SWT members to review and January's winter instability flow to accommodate the RST installation.

8. **Stanislaus River Forum (SRF) Call Review**
    - Stanislaus River Forum was held via Teams on December 15, 2020. Barbara Byrne (NMFS), Logan Day (PSMFC), Zarela Guerrero (USBR), Levi Johnson (USBR), Peggy Manza (USBR), Spencer Marshall (USBR), Chrissy Sonke (FISHBIO), Cory Starr (PSMFC), Steve Tsao (CDFW), J.D. Wikert (USFWS), Michelle Workman (EBMUD) and Thuy Washburn (USBR) were in attendance. Updates on operations, temperature and fish monitoring were provided. The group also engaged in extensive discussions on the low numbers of returning fish. Because the Merced River Hatchery will be unable to meet their production goal, they are unable this year to provide fish for studies. Pacific States informed the group of their intent to install the weir January 5-8 and requested flows higher than 350 cfs for two days.

9. **Fish Monitoring and Studies**
    - CDFW has postponed carcass surveys due COVID-19 health and safety protocols. This is expected to affect steelhead redd monitoring in January 2021.

10. **Restoration Project Updates**
    - Gravel Presentation
        - Elissa Buttermore, Reclamation's Bay-Delta Office, presented on Stanislaus River Spawning Habitat Restoration.
        - A question was asked about the metrics of success used to determine the impacts of gravel placement.
            - The response was given that more comprehensive steelhead monitoring, and carcass survey data could be used to assess success.
            - Another metric proposed was assessing other benefits aside from spawning (e.g., macro invertebrate production, temperature refugia, the bedrock canyon returning to an alluvial river, with flood plain benches and other types of habitats).
        - A question was posed about whether there was a comparison of this year's redds to that of previous years.
            - The response was given that 80 redds were observed, which is similar to previous years, though fall run returns weren't as high as normal. Few redds were observed downstream of the cable crossing, possibly because the gravel may not be stable enough for spawning.
            - A comment was made that it will take some time for the gravel to stay in place. At 200 cfs the smallest fragments of gravel are moved, and as flows

increase, larger ones will move. A mix of gravel sizes will be needed to form a riffle.

- A comment was made that since lower numbers of adult Chinook returned this year, it is expected that lower redd numbers would be observed compared to years prior.
- **[Action]** SWT members should reach out to Elissa Buttermore if they'd like to participate in the discussion regarding habitat restoration.

- In January 2021, progress will continue toward the Migratory Corridor, Kerr Park, and Honolulu Bar Phase 2 and/or Lovers-Leap projects as FY2020 funds have been received.

11. Progress Update on Proposed Action Elements

- Annual Report update
    - Reclamation has drafted the Annual Report and is coordinating with the Bay-Delta Office to ensure the report is consistent with their requirements. As such, the SWT Annual Report will not be prepared by the deadline (which was self-imposed) but will be finalized in January 2021 instead.

12. Other Discussion Items

- Items to elevate to WOMT
    - There were no items to elevate to WOMT.

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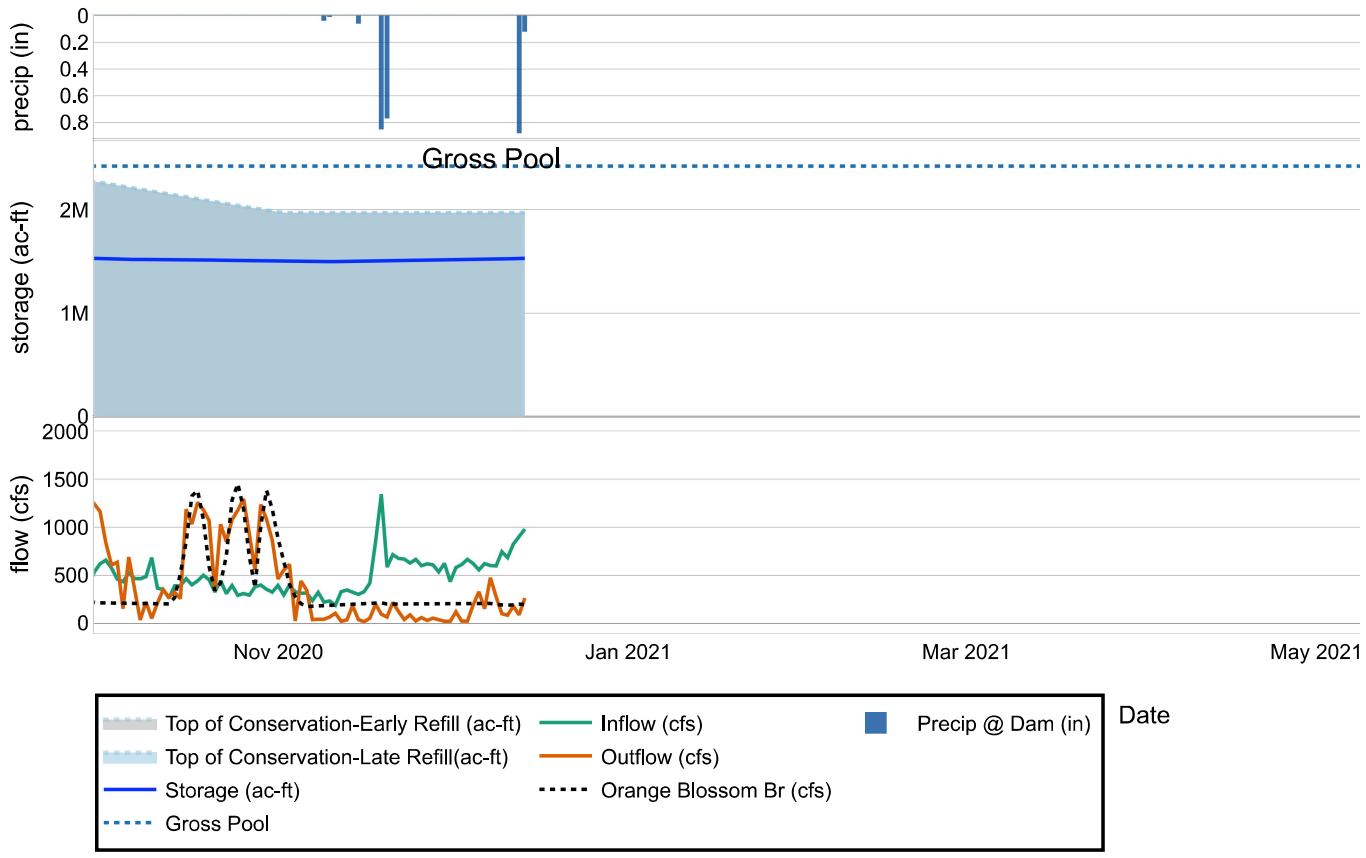
Wednesday, December 16, 2020

Agenda

1. Introductions
2. Ground Rules[1]
3. Announcements
    a. Guidance Document Review
4. Operations Update and Forecasts/Hydrology
5. Temperature Updates
6. Flow Planning
    a. Augmented February WIF Proposal
    b. Caswell RST Installation
7. Stanislaus River Forum (SRF) Call Review
8. Fish Monitoring and Studies
9. Restoration Project Updates
    a. Gravel Presentation
10. Progress Update on Proposed Action Elements
    a. Annual Report update
11. Other Discussion Items
    a. Items to elevate to WOMT
12. Review Action Items
13. Next Meeting
    a. Wednesday, January 20, 2020 (10am-12pm)

[1] The Stanislaus Watershed Team's Ground Rules are as follows:
1. Seek to understand and respect opposing views and suggestions for change (w/in the parameters of the Guidance Document)
2. Seek to leverage collective expertise (including from agencies' & stakeholders' consultants)
3. Hold questions/discussion at the discretion of the presenter
4. Honor time limits - keep comments and discussion succinct and focused on meeting objectives as needed
5. Make constructive proposals and suggestions to seek mutually agreeable solutions for all parties.
6. Keep a record of discussion and dialogue
7. One speaker at a time
8. Take space/make space

Plot | Tabulation | Download | 5Day | 10d | 1Month | WaterYear



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF RECLAMATION-CENTRAL VALLEY PROJECT-CALIFORNIA

DECEMBER 2020

NEW MELONES LAKE DAILY OPERATIONS

RUN DATE: December 14, 2020

DAY	ELEV	STORAGE 1000 ACRE-FEET IN LAKE	CHANGE	COMPUTED* INFLOW C.F.S.	RELEASE - C.F.S. POWER	SPILL	OUTLET	EVAPORATION C.F.S.	INCHES	PRECIP INCHES
		1,516.3								
1	1,004.96	1,517.2	+0.8	580	120	0	0	36	.12	.00
2	1,005.08	1,518.3	+1.1	611	23	0	0	21	.07	.00
3	1,005.21	1,519.5	+1.2	665	23	0	0	27	.09	.00
4	1,005.29	1,520.2	+0.8	622	191	0	0	52	.17	.00
5	1,005.33	1,520.6	+0.4	556	328	0	0	39	.13	.00
6	1,005.42	1,521.5	+0.8	621	153	0	0	42	.14	.00
7	1,005.44	1,521.7	+0.2	601	474	0	0	33	.11	.00
8	1,005.50	1,522.2	+0.6	597	277	0	0	36	.12	.00
9	1,005.63	1,523.4	+1.2	745	100	0	0	30	.10	.00
10	1,005.75	1,524.6	+1.1	683	85	0	0	30	.10	.00
11	1,005.88	1,525.8	+1.2	824	179	0	0	30	.10	.00
12	1,006.04	1,527.3	+1.5	907	89	0	0	61	.20	.88
13	1,006.19	1,528.7	+1.4	980	263	0	0	6	.02	.12
TOTALS			**+12.3**	**8,992**	**2,305**	**0**	**0**	**443**	**1.47**	**1.00**
ACRE-FEET			**+12,300**	**17,836**	**4,572**	**0**	**0**	**879**		

COMMENTS:
* COMPUTED INFLOW IS THE SUM OF CHANGE IN STORAGE, RELEASES AND EVAPORATION.

SUMMARY

RELEASE (ACRE-FEET)

POWER	4,572	OUTLET	0
SPILL	0	TOTAL	4,572

PRECIPITATION

THIS MONTH =	1.00
JULY 1, 2020 TO DATE =	2.76
OCT 1, 2020 TO DATE =	2.73

OAKDALE IRRIGATION DISTRICT
SOUTH SAN JOAQUIN IRRIGATION DISTRICT
TRI DAMS PROJECT-CALIFORNIA

DECEMBER 2020 **GOODWIN RESERVOIR DAILY OPERATIONS** RUN DATE: December 14, 2020

DAY	ELEV	STORAGE ACRE-FEET RES.	CHANGE	TULLOCH RELEASE	RELEASE - C.F.S. RIVER OUTLET	RIVER SPILL	CANALS JOINT MAIN	CANALS SOUTH MAIN
		518						
1	359.73	518	+0	278	0	203	0	0
2	359.73	518	+0	274	0	203	0	0
3	359.73	518	+0	267	0	205	0	0
4	359.73	518	+0	260	0	203	0	0
5	359.73	518	+0	261	0	202	0	0
6	359.73	518	+0	262	0	204	0	0
7	359.73	518	+0	264	0	205	0	0
8	359.73	518	+0	258	0	202	0	0
9	359.73	518	+0	258	0	202	0	0
10	359.73	518	+0	264	0	202	0	0
11	359.73	518	+0	268	0	205	0	0
12	359.73	518	+0	258	0	205	0	0
13	359.73	518	+0	257	0	205	0	0
TOTALS			**+0**	**3,429**	**0**	**2,646**	**0**	**0**
ACRE-FEET			**+0**	**6,801**	**0**	**5,248**	**0**	**0**

JOINT MAIN OPERATED BY SSJID AND OID.

SUMMARY

RELEASE (ACRE-FEET)

JOINT MAIN CANAL	0	OUTLET	0
SOUTH MAIN CANAL	0	SPILL	5,248
		TOTAL	5,248

December 2020 Stanislaus River Update

Water Year Type

San Joaquin Basin "60-20-20" water year type (based on the May 75% exceedance forecast): **Dry**

Flows

The Dry year type SRP flow schedule requires minimum instream base flows of 200 cfs before and after the fall pulse flow. Goodwin releases since October 1, 2020 are shown in Figure 1.

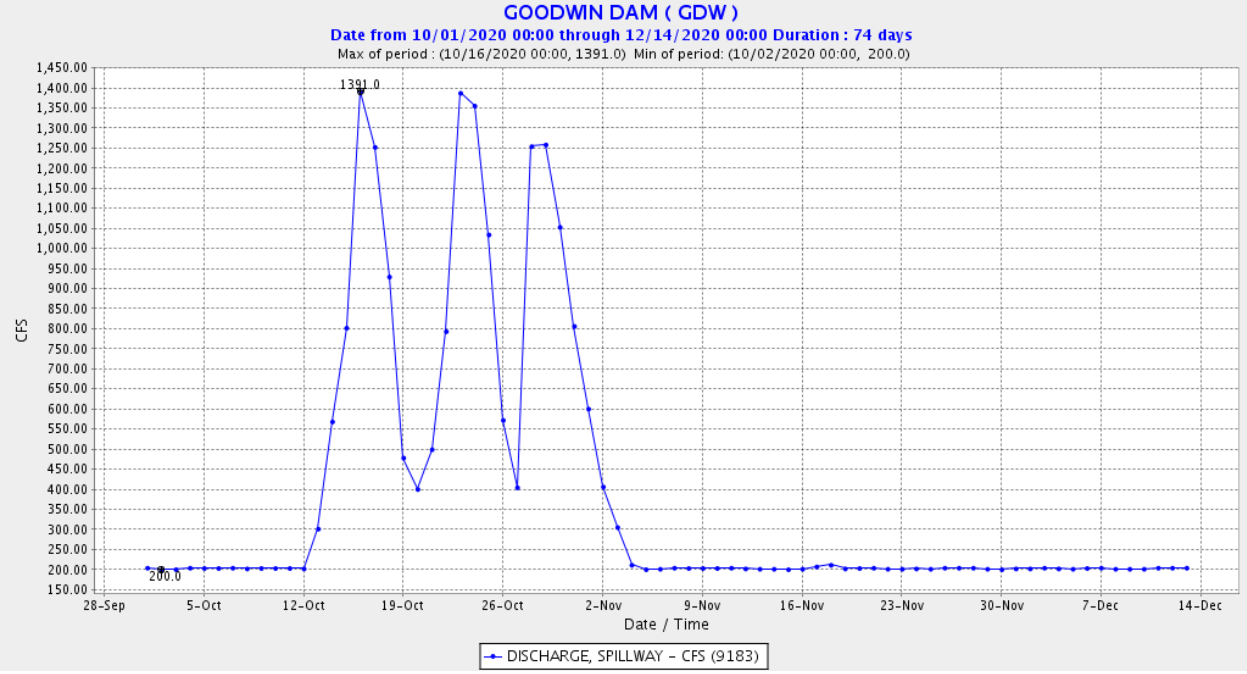


Figure 1. Goodwin (daily) releases to the Stanislaus River since October 1, 2020. Data from GDW station on CDEC.

Water Temperature

The temperature thresholds included in Figures 2-9, below, are the thresholds used in the 2019 NMFS LTO BiOp[1] (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.

[1] The 2019 NMFS LTO BiOp is available online at: https://www.fisheries.noaa.gov/resource/document/biological-opinion-reinitiation-consultation-long-term-operation-central-valley

Water temperatures in the Stanislaus River since October 1, 2020 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 October 1, 2020 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 is provided in Figure 9.

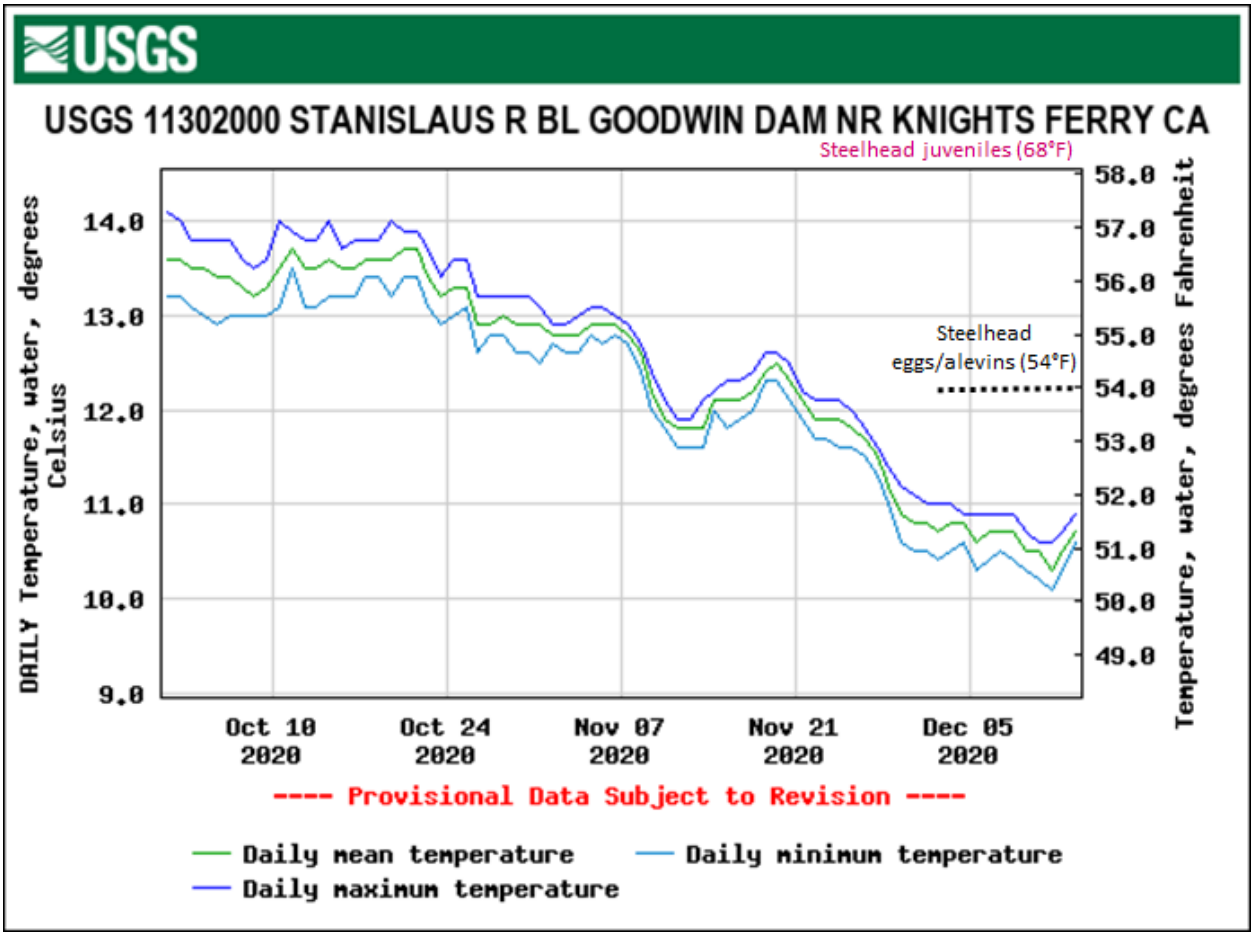


Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since October 1, 2020. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

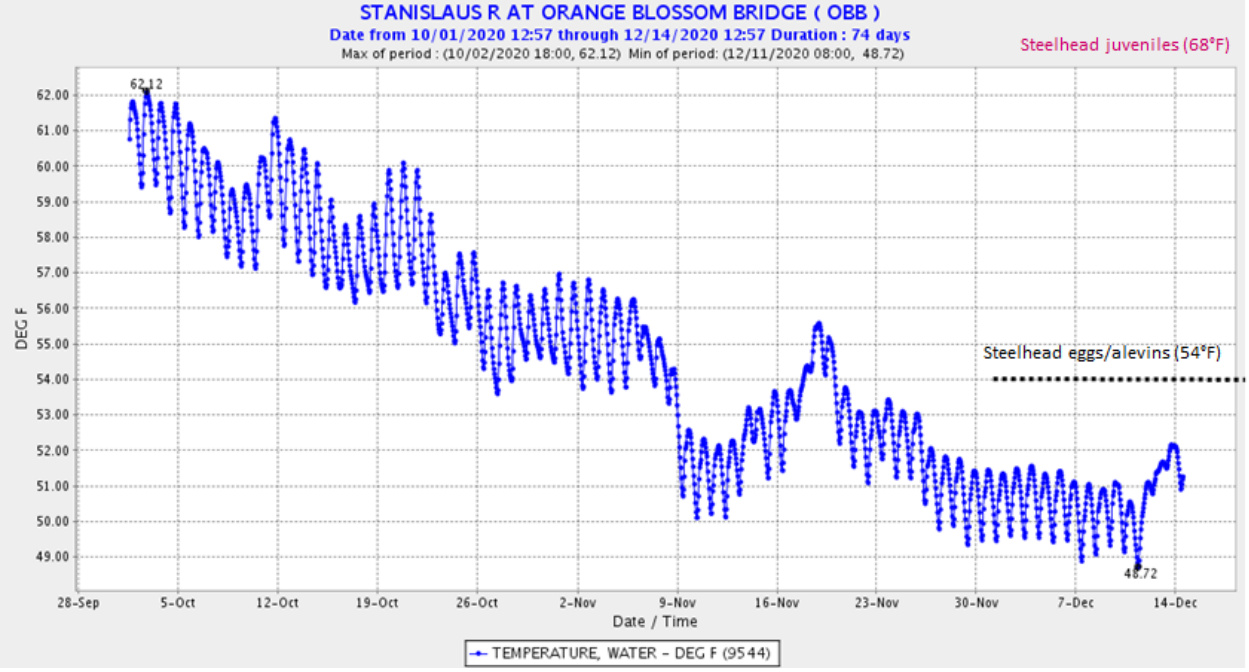


Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since October 1, 2020. Data from OBB station on CDEC; temperature threshold reference line added by SWT.

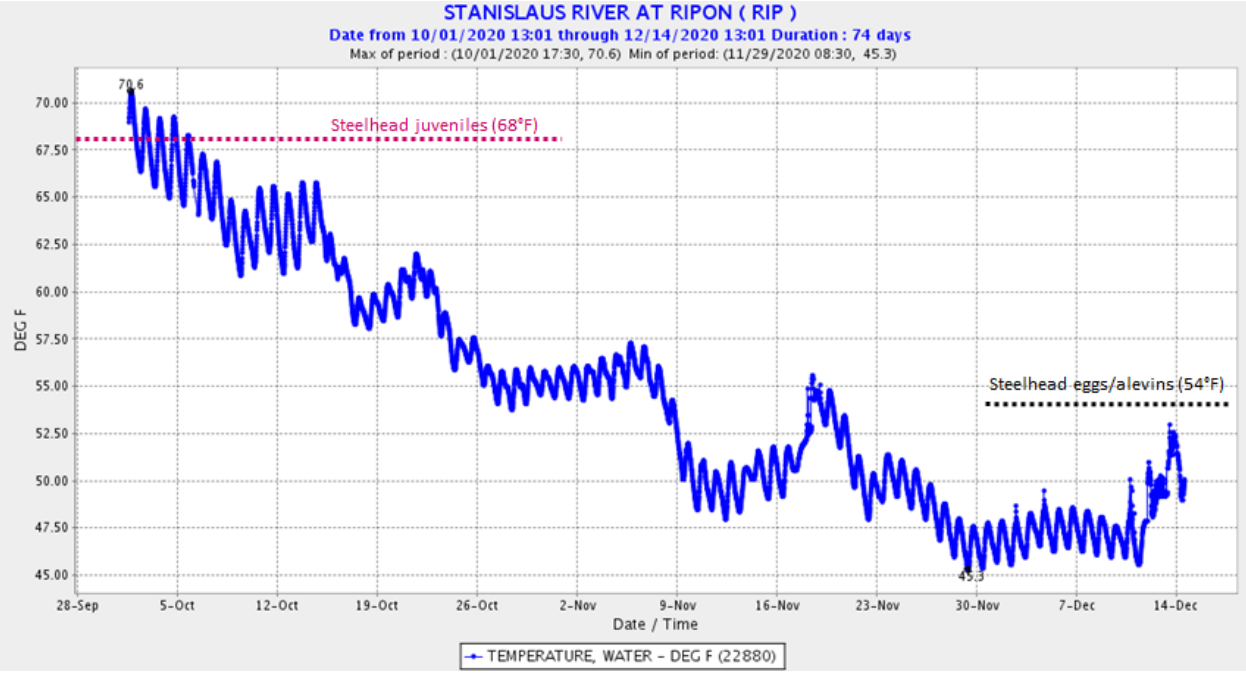


Figure 4. Stanislaus (15-minute) water temperatures at Ripon since October 1, 2020. Data from RIP station on CDEC; temperature threshold reference line added by SWT.

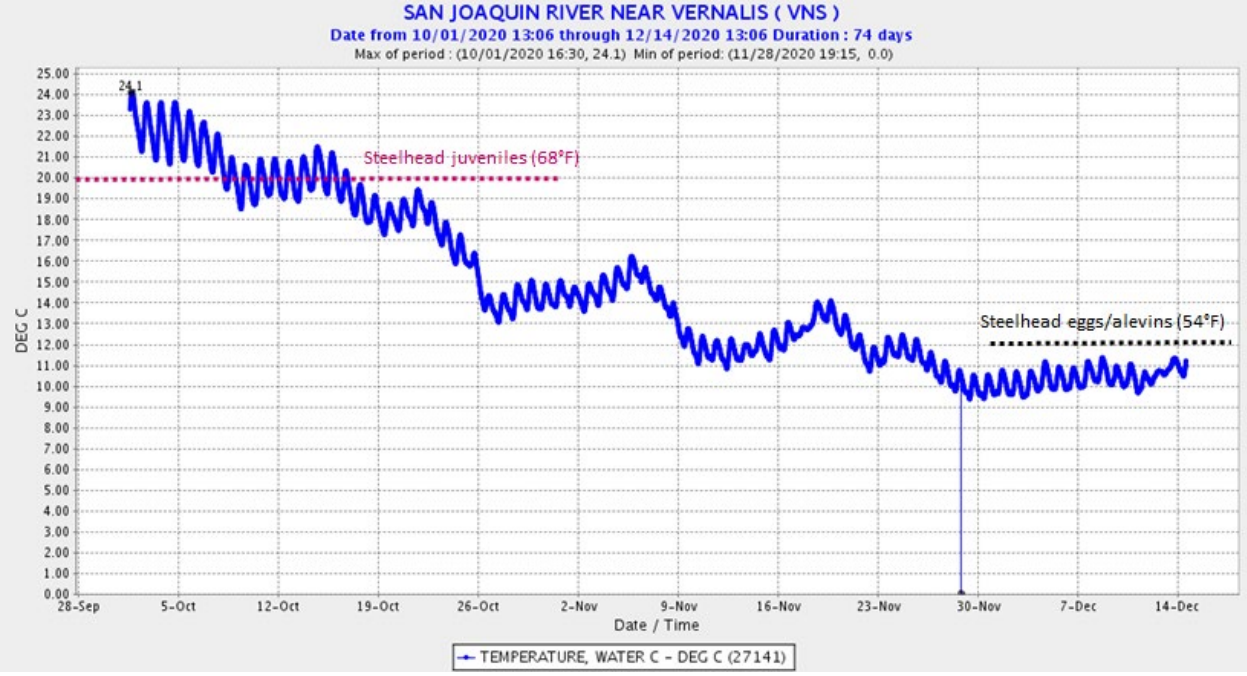


Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since October 1, 2020. Data from VNS station on CDEC; temperature threshold reference line added by SWT. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 16°C=60.8°F; 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; 30°C=86.0°F.

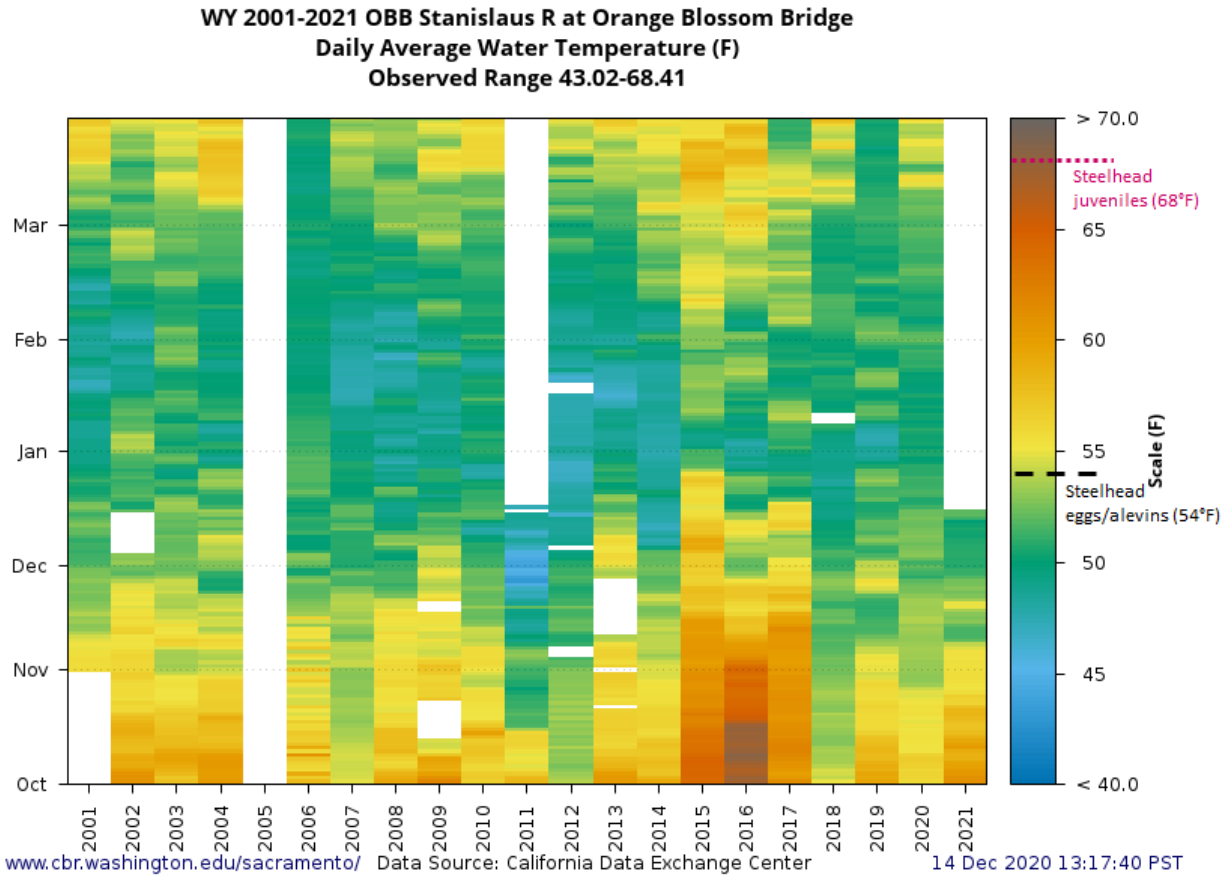


Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for October through March from 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT. http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

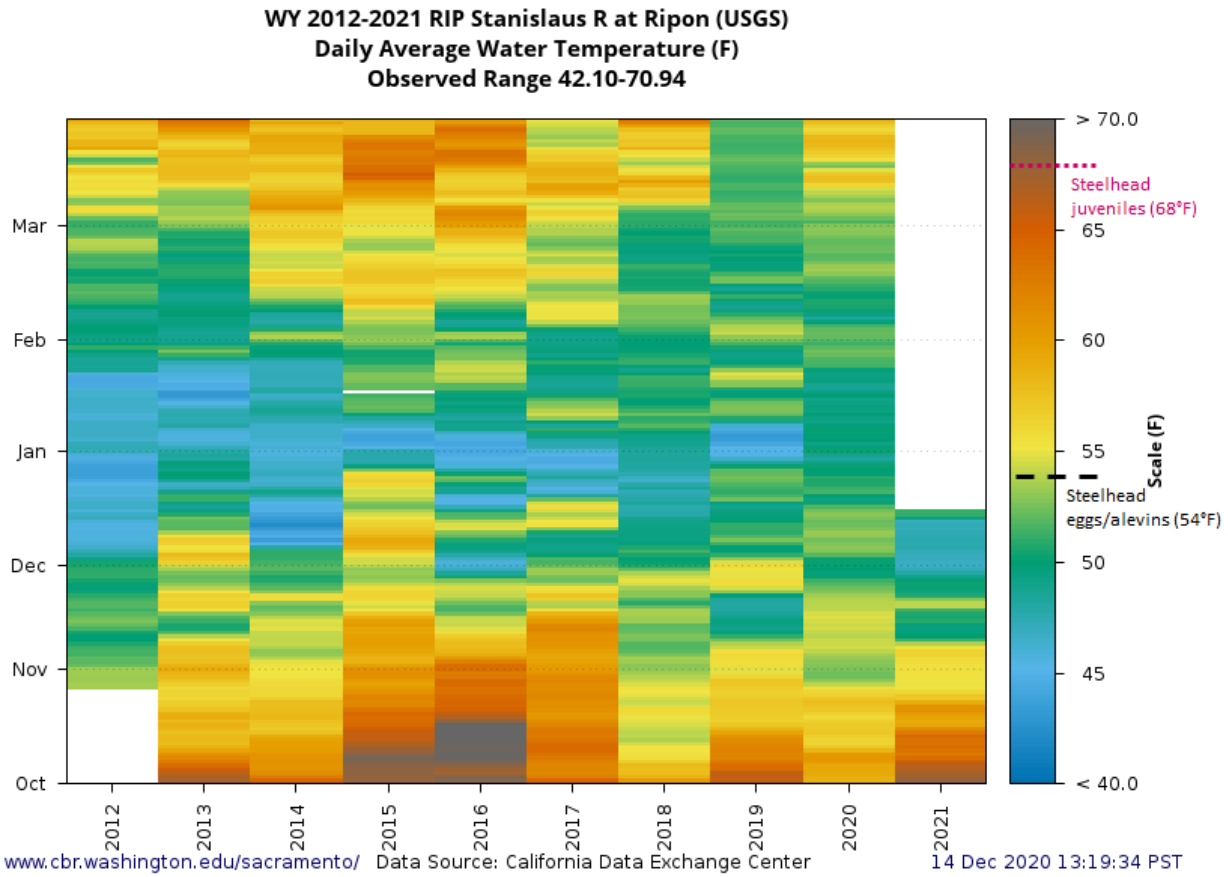


Figure 7. Stanislaus River water temperatures at Ripon for October through March from 2012 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference lines added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

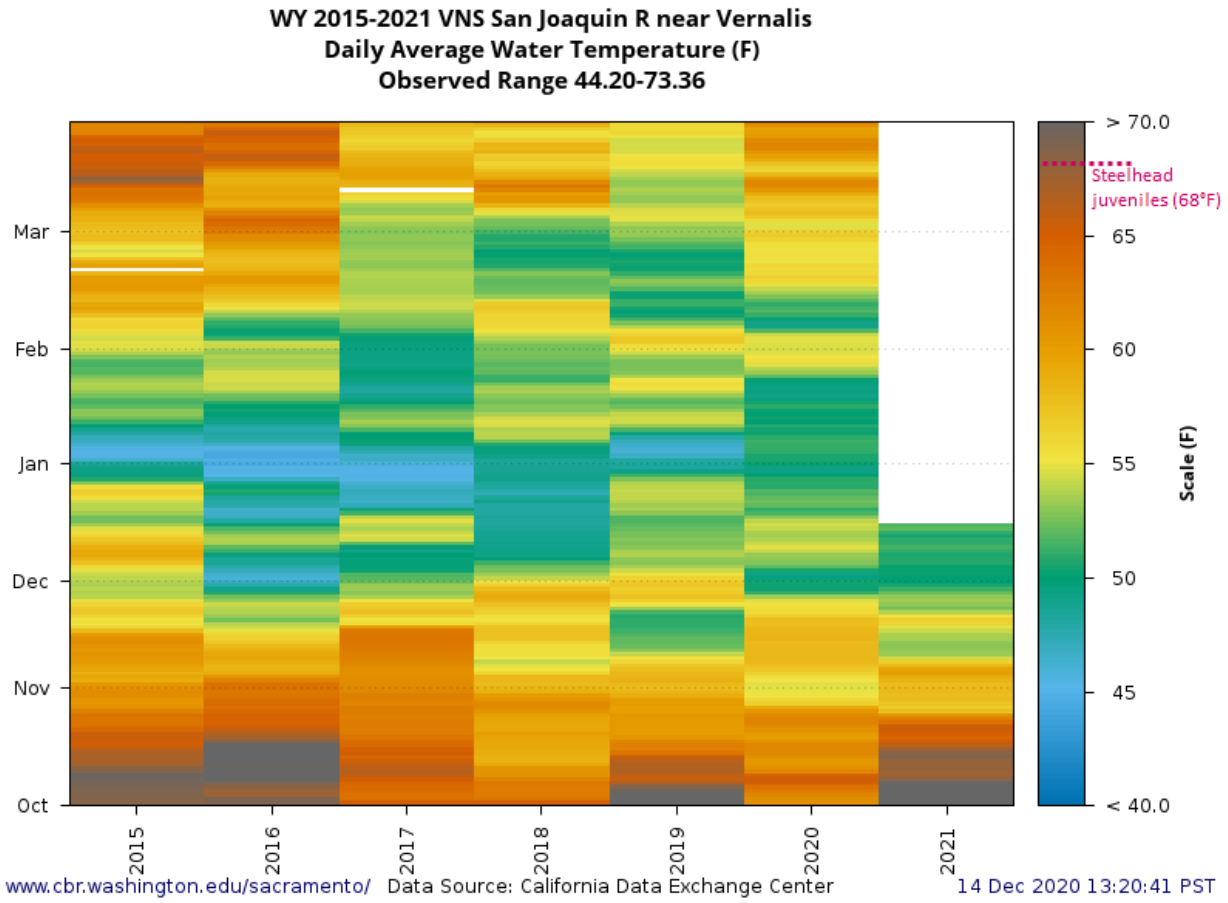


Figure 8. San Joaquin River water temperatures at Vernalis for October through March from 2015 to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

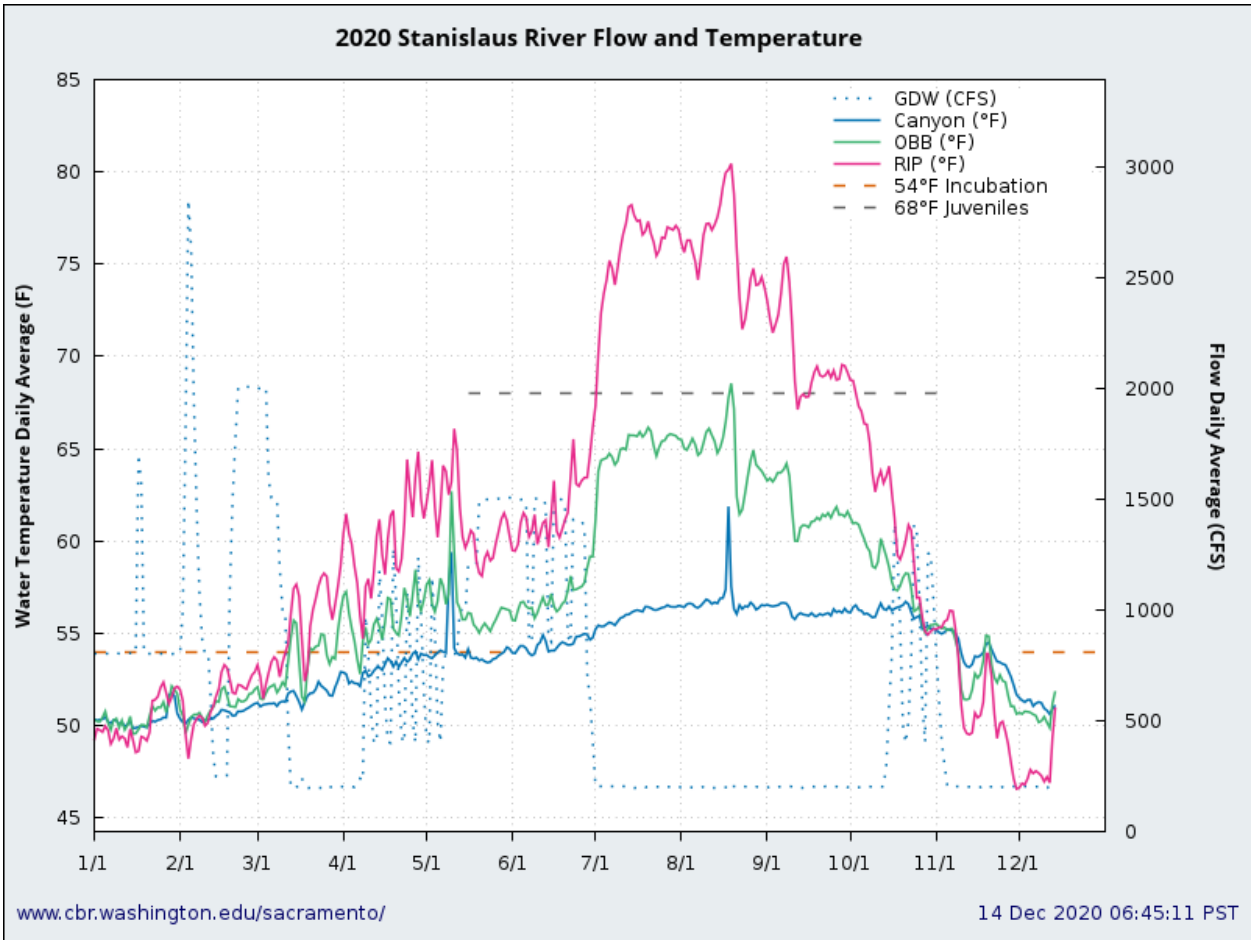


Figure 9. 2020 Stanislaus River flow and water temperatures from January 1, 2020 to present. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

Update on Fish Monitoring

Monitoring for adult salmonid migration into the river has begun.

The California Department of Fish & Wildlife (CDFW) began conducting fall-run Chinook salmon carcass and redd surveys the week of October 5, 2020 for the Stanislaus River, Tuolumne River and Merced River. Through the week of November 23, 2020, CDFW has observed a seasonal total of 844 redds on the Stanislaus River, compared to 623 on the Tuolumne River and 456 on the Merced River (see Stanislaus data in Figure 10).

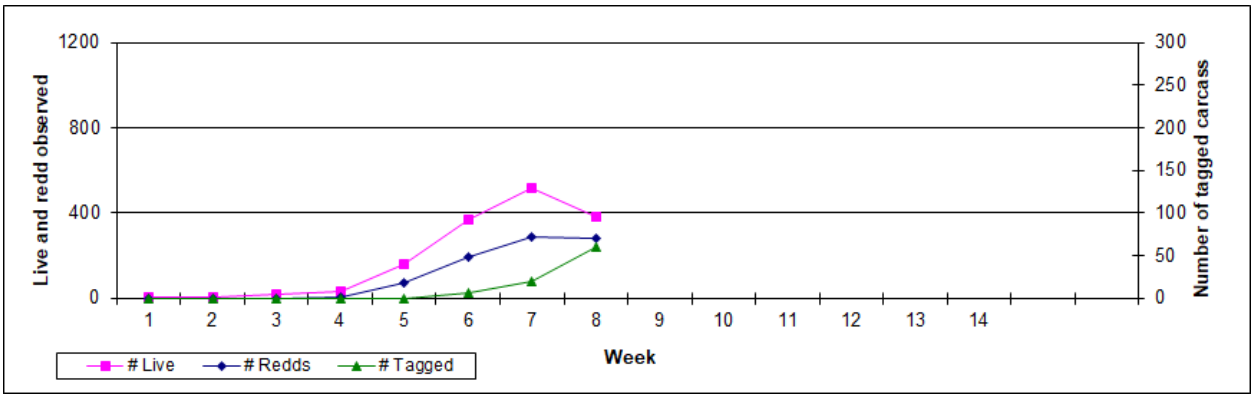


Figure 10. CDFW fall-run Chinook salmon carcass survey data for the Stanislaus River. Week 1 started October 5, 2020 and Week 8 started November 23, 2020.

Fishbio installed the weir near Riverbank and began monitoring for upstream passage of adult salmonids on September 10, 2020. The weir was prepped for high flows and monitoring continued through the fall pulse flow. The cumulative net upstream passage through December 10, 2020 is 1,865 Chinook (20% were ad-clipped, indicating a hatchery origin) and four *Oncorhynchus mykiss.* One *O. mykiss* observed was greater than 16" (indicating possible anadromy) and ad-clipped (indicating a hatchery origin); the other three were less than 16" and unclipped. Data highlights provided by Fishbio on December 11, 2020 in their "Stanislaus River Weir Update through 12/10/20" are provided below in Figure 11 and Figure 12.

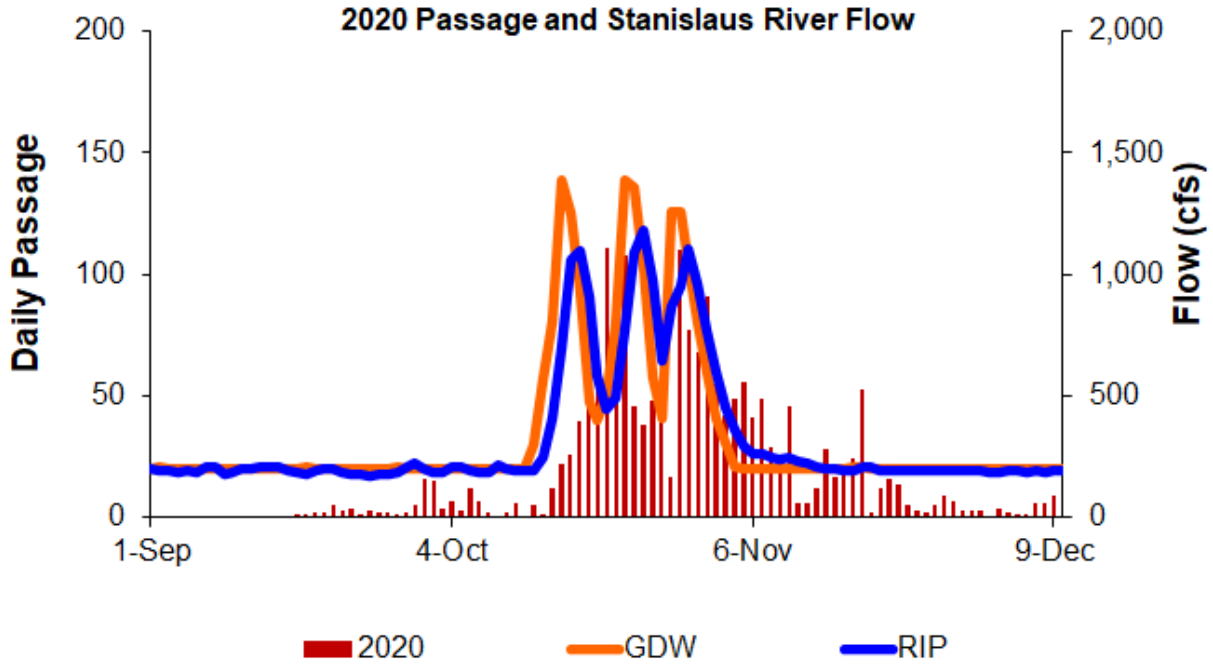


Figure 11: Daily Chinook salmon passage through December 10, 2020, at the Stanislaus River weir near Riverbank. *Data courtesy of Fishbio.*

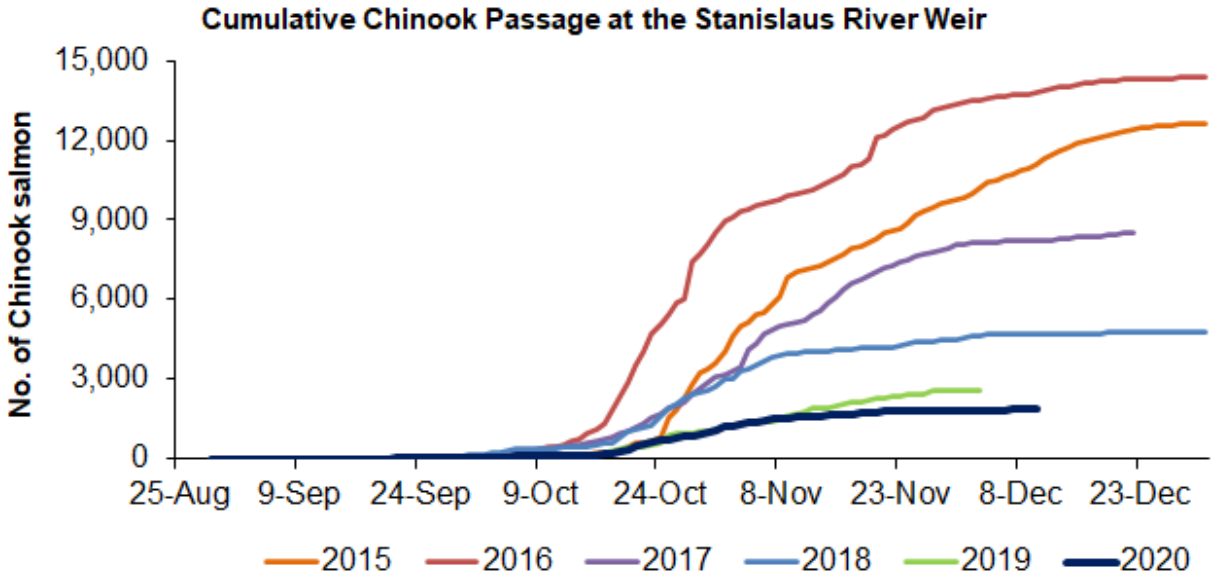
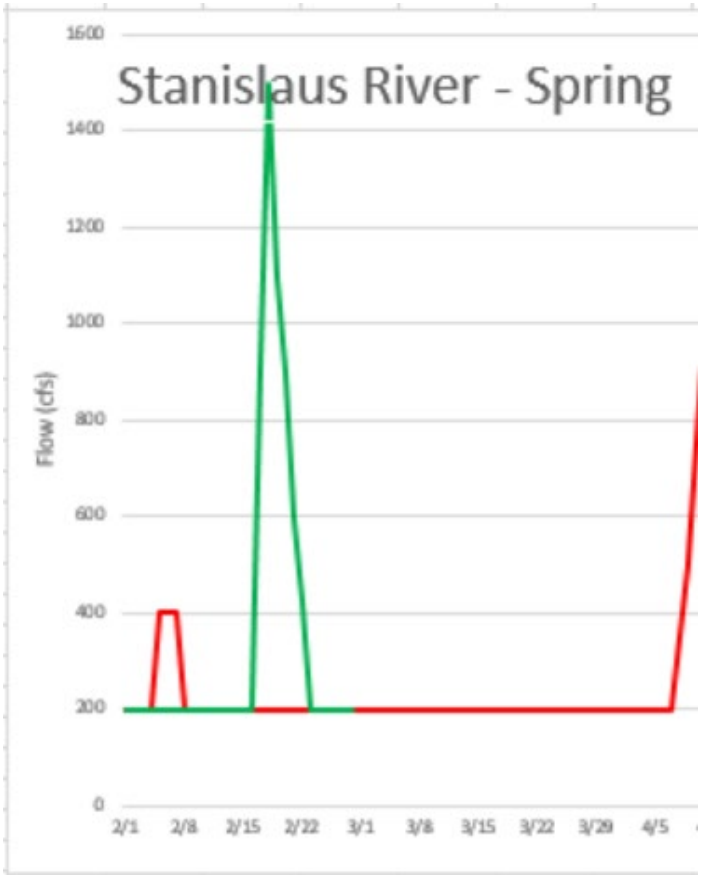


Figure 12: Cumulative Chinook salmon passage in the current year through December 10, 2020, at the Stanislaus River weir near Riverbank, along with cumulative passage for the previous five years. *Data courtesy of Fishbio.*

Reclamation plans to implement steelhead redd surveys on the Stanislaus River this year. Rotary screw trapping at Oakdale and Caswell for the 2020/2021 outmigration season (for monitoring of outmigrating juvenile salmonids) is expected to begin in late December 2020 or early January 2021.

Augmented February WIF Proposal

- Using 10% of "Spring" pulse flow to mobilize fry in February
- 60,198 AF Dry spring pulse on top of 200 cfs base flow
- 6,000 AF ~10% of Dry spring pulse
- 1,190 AF Feb Dry WIF over 200 cfs base flow
- 7,190 AF Target Feb Augmented WIF
- 54,198 AF Remaining for spring pulse



- Green is reshaped WIF plus 10% of spring pulse
- Red is SRP Dry
- No shaping has been done for post-Feb flows
- Targeting last two weeks in February, hopefully tied to a storm event