



— BUREAU OF —  
RECLAMATION

## Stanislaus Watershed Team

2:00 PM – 4:00 PM

Stanislaus Watershed Team Notes: <https://www.usbr.gov/mp/bdo/stanislaus-watershed-team.html>

Wednesday, March 17, 2021

### Notes

#### 1. Actions

- All
  - Provide feedback on the most recent draft Spring Pulse Flow schedule.
- Peggy Manza
  - In addition to providing the current water year type in the handouts, also include the value of the current 75% exceedance 60-20-20 Index and the index ranges for each water year type.
  - Share snow plots at the April SWT meeting.
  - Prepare a handout on the Vernalis flows, showing the D1641 objective with a high and low bracket.
- Erin Foresman
  - Follow up with Liz Kiteck regarding the Spring pulse flow period shifting notification via email.
  - Identify a presenter for the Functional Flows presentation.
- JD Wikert, Levi Johnson and Elissa Buttermore
  - Finalize the template for the progress update on proposed action elements.
- Peter Rietkirk
  - Provide JD Wikert with a rough water volume and timing estimate to incorporate into a straw proposal.
- K&W
  - Send instructions on how to log into MS Teams to participate via the chat.
  - Send a reminder email regarding action items the week following SWT meetings.
  - Remind Peggy Manza about her action items the Monday before the meeting.
  - Add an agenda item regarding potential presentations to the April SWT meeting

- Add an agenda item regarding the ramping rate proposal to the April SWT meeting

## **2. Introductions**

- USBR: Levi Johnson, Zarela Guerrero, Peggy Manza, Liz Kiteck & Sarah Perrin
- NMFS: Monica Gutierrez
- USFWS: J.D. Wikert & Craig Anderson
- CDFW: Steve Tsao, Gretchen Murphey & Kenneth Kundargi
- SWRCB: Chris Carr, Erin Foresman, Yongxuan Gao & Michael George
- SSJID: Peter Rietkerk & Brandon Nakagawa
- DWR: Vinh Giang & Mike Ford
- Kearns & West: Rafael Silberblatt & Kai Walcott

## **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.

## **5. Operations Update and Forecasts/Hydrology**

- See handout for more details.
- New Melones:
  - Current storage is at 1.542 MAF. It appears storage has peaked for the season and is starting to trend down (though this is not yet visible on the graph) as demand increases.
- Goodwin Reservoir:
  - Releases were raised from 200 cfs to 400 cfs to meet salinity standards at Vernalis. Releases are currently back down to 200 cfs but it may be necessary to increase releases again if salinity issues return.
    - Note: the meeting handout shows a release of 400 cfs, but it is actually 200 cfs (the document was printed before the release cut took place).
- Daily CVP Water Supply Report
  - Currently in the Critically Dry year type.
  - New Melones is in relatively good shape in terms of storage (as compared to other reservoirs) though there is still cause for concern:
    - Annual inflow for New Melones is 178,000.
    - Precipitation is at 14.53 inches at New Melones which is 43% of average. The snow plots are equally low.

- **[Action]** Peggy Manza will share the snow plots at the April SWT meeting.
  - The storage forecast for the end of the water year is 1.1 MAF.
- **[Action]** Peggy Manza will prepare a handout on the Vernalis flows, showing the D1641 objective with a high and low bracket.

Questions/Comments

- Oakdale and South San Joaquin Irrigation Districts are taking deliveries.
- Might this week's precipitation be enough to push us from the 90% projection to 75%?
  - No, 90% or below is more likely.

**6. Temperature Updates**

- See handout for details.

**7. Flow Planning**

- Spring Pulse Flow
  - No changes of note from the last version of the proposal that was shared.
  - **[Action]** SWT members should provide feedback on the most recent draft Spring Pulse Flow schedule within the next two weeks.

Questions/Comments

- The Water Districts are interested in pursuing a release (pending hydrological conditions) that could potentially augment the spring pulse flow. They have reached an agreement with the State Water Contractors that Reclamation is currently reviewing.
  - Reclamation cautioned not counting on any additional flows for fish studies or fish pulses as the proposal may not be approved.
  - USFWS offered to develop a straw proposal based on a rough estimate of the water volume and timing being proposed by the Water Districts so as to be prepared to discuss how best to maximize benefits to fish and fish studies if Reclamation does approve the agreement.
  - **[Action]** Peter Rietkirk will provide JD Wikert with a rough water volume and timing estimate to incorporate into a straw proposal.
- The State Water Resource Control Board requested clarification regarding the notification process in the event that the I to E window (Footnote 18) is shifted outside of the D-1641 April 15-May 15 pulse flow in an attempt to help fish avoid higher temperatures.
  - **[Action]** Erin Foresman will follow up with Liz Kiteck regarding the Spring pulse flow period shifting notification via email.
- CDFW asked whether the needs of FISHBIO Predation Study were considered in developing the pulse flow proposal.

- Yes, flows will be kept above 400 cfs for the pulse period as per their request.

## 8. Stanislaus River Forum (SRF) Call Review

- The Stanislaus River Forum was held via Teams on March 16, 2021. Denise Barnard (CSWRCB), Barbara Byrne (NMFS), Zarela Guerrero (USBR), Peggy Manza (USBR), Spencer Marshall (USBR), Gretchen Murphy (CDFW), Sarah Perrin (USBR), Chrissy Sonke (FISHBIO), Cory Starr (PSMFC), Steve Tsao (CDFW), J.D. Wikert (USFWS) and Jeanne Zolezzi (SEWD) were in attendance. Updates on operations, temperature and fish monitoring were provided. There was a question on the Spring Pulse Flow, and Reclamation committed to sending the Final Spring Pulse Flow Operations Plan to the group once it has been finalized.

### Questions/Comments

- FISHBIO provided the USFWS with fish for trap efficiency studies at Caswell.

## 9. Fish Monitoring and Studies

- See handout for details.

## 10. Restoration Project Updates

- There were no updates.

## 11. Progress Update on Proposed Action Elements

- **[Action]** JD Wikert, Levi Johnson and Elissa Buttermore will finalize the template for the progress update on proposed action elements.

## 12. Other Discussion Items

- Items to Elevate to WOMT
  - No items to elevate to WOMT.
- Ramping Rates Proposal
  - The LTO was relatively supportive of a ramping rate proposal restricted to winter instability flows in drier water year types.
  - **[Action]** K&W will add an agenda item regarding the ramping rate proposal to the April SWT meeting
- Future Presentations
  - The SWT reviewed a list of potential presentation topics (which can be found on the MS Teams site).
  - **[Action]** Erin Foresman will identify a presenter for the Functional Flows presentation.
  - **[Action]** K&W will add an agenda item regarding potential presentations to the April SWT meeting

- Meeting Notes
  - Kearns & West noted that the meeting summary has been reformatted to be more concise. Going forward the meeting notes will seek to summarize clarifying questions, concerns, action items and any agreements reached.
  - **[Action]** K&W will send a reminder email regarding action items the week following SWT meetings.
  - **[Action]** K&W will remind Peggy Manza about her action items the Monday before the meeting.



— BUREAU OF —  
RECLAMATION

## Stanislaus Watershed Team

10:00 AM – 12:00 PM

Conference Line: 1 (321) 209-6143; Meeting ID: 297 240 723#

MS Teams [webinar](#)

Stanislaus Watershed Team Notes: <https://www.usbr.gov/mp/bdo/stanislaus-watershed-team.html>

**Wednesday, March 17, 2021**

### Agenda

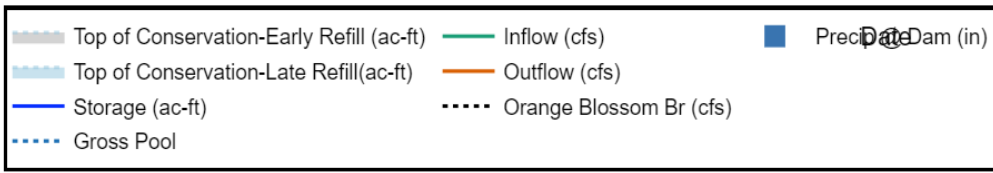
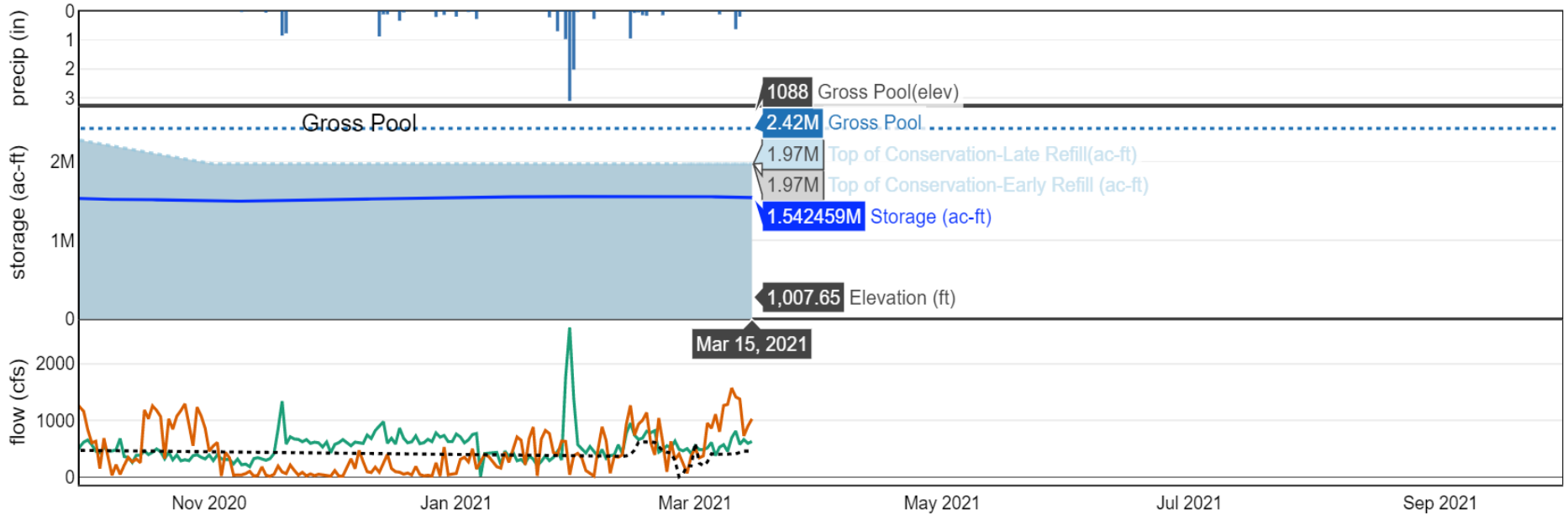
1. Introductions
2. Ground Rules<sup>1</sup>
3. Announcements
4. Operations Update and Forecasts/Hydrology
5. Temperature Updates
6. Flow Planning
  - a. Spring Pulse Flow
7. Stanislaus River Forum (SRF) Call Review
8. Fish Monitoring and Studies
9. Restoration Project Updates
10. Progress Update on Proposed Action Elements
11. Other Discussion Items
  - a. Items to elevate to WOMT
  - b. Ramping rates proposal
  - c. Future presentations
12. Review Action Items
13. Next Meeting
  - a. Wednesday, April 21, 2021 (10am-12pm)

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<sup>1</sup> The Stanislaus Watershed Team's Ground Rules are as follows:

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

New Melones Dam & Lake - Stanislaus River Basin  
 2021-03-15T14:20:34-0700



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

**MARCH 2021**

**NEW MELONES LAKE DAILY OPERATIONS**

RUN DATE: March 15, 2021

DAY	ELEV	STORAGE		COMPUTED* INFLOW C.F.S.	RELEASE - C.F.S.			EVAPORATION		PRECIP INCHES
		1000 ACRE-Feet IN LAKE	CHANGE		POWER	SPILL	OUTLET	C.F.S.	INCHES	
		1,555.3								
1	1,009.02	1,555.4	+0.2	489	344	0	0	49	.16	.00
2	1,009.03	1,555.5	+0.1	487	378	0	0	61	.20	.00
3	1,008.93	1,554.6	-1.0	519	955	0	0	43	.14	.00
4	1,008.87	1,554.0	-0.6	614	864	0	0	37	.12	.00
5	1,008.71	1,552.5	-1.5	384	1,109	0	0	40	.13	.00
6	1,008.65	1,551.9	-0.6	531	803	0	0	15	.05	.12
7	1,008.50	1,550.5	-1.4	575	1,264	0	0	28	.09	.00
8	1,008.32	1,548.8	-1.7	458	1,285	0	0	34	.11	.00
9	1,008.13	1,547.0	-1.8	698	1,572	0	0	34	.11	.00
10	1,008.00	1,545.8	-1.2	815	1,416	0	0	21	.07	.63
11	1,007.83	1,544.2	-1.6	581	1,379	0	0	12	.04	.20
12	1,007.81	1,544.0	-0.2	666	730	0	0	31	.10	.02
13	1,007.74	1,543.3	-0.7	599	902	0	0	31	.10	.00
14	1,007.65	1,542.5	-0.9	631	1,029	0	0	31	.10	.00
<b>TOTALS</b>			<b>-12.9</b>	<b>8,047</b>	<b>14,030</b>	<b>0</b>	<b>0</b>	<b>467</b>	<b>1.52</b>	<b>.97</b>
<b>ACRE-Feet</b>			<b>-12,900</b>	<b>15,961</b>	<b>27,829</b>	<b>0</b>	<b>0</b>	<b>926</b>		

COMMENTS:

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

**SUMMARY**

	RELEASE (ACRE-Feet)			PRECIPITATION	
POWER	27,829	OUTLET	0	THIS MONTH =	.97
SPILL	0	TOTAL	27,829	JULY 1, 2020 TO DATE =	14.56
				OCT 1, 2020 TO DATE =	14.53



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

Table 13

FEBRUARY 2021

NEW MELONES LAKE DAILY OPERATIONS

RUN DATE: March 2, 2021

DAY	ELEV	STORAGE		COMPUTED* INFLOW C.F.S.	RELEASE - C.F.S.			EVAPORATION		PRECIP INCHES
		1000 ACRE-FEET IN LAKE	CHANGE		POWER	SPILL	OUTLET	C.F.S.	INCHES	
		1,554.9								
1	1,009.02	1,555.4	+0.6	429	120	0	0	22	.07	.00
2	1,009.11	1,556.3	+0.9	543	74	0	0	37	.12	.00
3	1,009.20	1,557.2	+0.9	458	23	0	0	3	.01	.28
4	1,009.17	1,556.9	-0.3	368	494	0	0	18	.06	.00
5	1,009.08	1,556.0	-0.9	489	890	0	0	31	.10	.00
6	1,009.01	1,555.3	-0.7	332	646	0	0	22	.07	.00
7	1,009.07	1,555.9	+0.6	382	72	0	0	22	.07	.00
8	1,009.07	1,555.9	+0.0	396	368	0	0	28	.09	.00
9	1,009.11	1,556.3	+0.4	573	356	0	0	25	.08	.00
10	1,009.11	1,556.3	+0.0	417	395	0	0	22	.07	.00
11	1,009.07	1,555.9	-0.4	779	940	0	0	31	.10	.00
12	1,009.00	1,555.3	-0.7	953	1,267	0	0	22	.07	.95
13	1,009.00	1,555.3	+0.0	743	740	0	0	3	.01	.07
14	1,008.94	1,554.7	-0.6	666	938	0	0	15	.05	.05
15	1,008.87	1,554.0	-0.7	693	1,006	0	0	22	.07	.15
16	1,008.80	1,553.4	-0.7	811	1,140	0	0	6	.02	.17
17	1,008.83	1,553.6	+0.3	786	614	0	0	28	.09	.00
18	1,008.91	1,554.4	+0.8	821	396	0	0	43	.14	.00
19	1,008.78	1,553.2	-1.2	444	1,043	0	0	22	.07	.00
20	1,008.75	1,552.9	-0.3	488	607	0	0	25	.08	.15
21	1,008.84	1,553.7	+0.9	556	97	0	0	28	.09	.01
22	1,008.81	1,553.4	-0.3	521	634	0	0	31	.10	.00
23	1,008.87	1,554.0	+0.6	639	315	0	0	37	.12	.00
24	1,008.88	1,554.1	+0.1	494	412	0	0	34	.11	.00
25	1,008.92	1,554.5	+0.4	467	224	0	0	52	.17	.00
26	1,009.00	1,555.3	+0.8	505	73	0	0	49	.16	.00
27	1,009.00	1,555.3	+0.0	420	377	0	0	43	.14	.00
28	1,009.00	1,555.3	+0.0	555	509	0	0	46	.15	.00
<b>TOTALS</b>			<b>+5</b>	<b>15,728</b>	<b>14,770</b>	<b>0</b>	<b>0</b>	<b>767</b>	<b>2.48</b>	<b>1.83</b>
<b>ACRE-FEET</b>			<b>+500</b>	<b>31,196</b>	<b>29,296</b>	<b>0</b>	<b>0</b>	<b>1,521</b>		

COMMENTS:

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

SUMMARY

	RELEASE (ACRE-FEET)				PRECIPITATION
POWER	29,296	OUTLET	0	THIS MONTH =	1.83
SPILL	0	TOTAL	29,296	JULY 1, 2020 TO DATE =	13.59
				OCT 1, 2020 TO DATE =	13.56

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

MARCH 2021

**GOODWIN RESERVOIR DAILY OPERATIONS**

RUN DATE: March 15, 2021

DAY	ELEV	STORAGE		TULLOCH	RIVER		RELEASE - C.F.S.	
		ACRE-FEET	CHANGE		RELEASE	OUTLET	SPILL	JOINT MAIN
		522						
1	359.73	518	-4	511	0	210	229	72
2	359.73	518	+0	670	0	201	383	72
3	359.90	530	+12	790	0	326	383	60
4	359.89	529	-1	1,006	0	409	502	72
5	359.90	530	+1	1,136	0	402	604	96
6	359.92	531	+1	1,138	0	404	604	98
7	359.90	530	-1	1,165	0	402	614	121
8	359.92	531	+1	1,200	0	400	618	156
9	359.92	531	+0	1,181	0	398	628	111
10	359.92	531	+0	1,144	0	403	609	103
11	359.92	531	+0	1,145	0	402	591	121
12	359.92	531	+0	1,147	0	404	581	136
13	359.92	531	+0	1,146	0	402	581	136
14	359.92	531	+0	1,135	0	403	589	115
<b>TOTALS</b>			<b>+9</b>	<b>14,514</b>	<b>0</b>	<b>5,166</b>	<b>7,516</b>	<b>1,469</b>
<b>ACRE-FEET</b>			<b>+9</b>	<b>28,789</b>	<b>0</b>	<b>10,247</b>	<b>14,908</b>	<b>2,914</b>

JOINT MAIN OPERATED BY SSJID AND OID.

**SUMMARY**  
 RELEASE (ACRE-FEET)

JOINT MAIN CANAL	14,908	OUTLET	0
SOUTH MAIN CANAL	2,914	SPILL	10,247
		TOTAL	28,069

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

FEBRUARY 2021

**GOODWIN RESERVOIR DAILY OPERATIONS**

RUN DATE: March 1, 2021

DAY	ELEV	STORAGE		TULLOCH	RIVER		RELEASE - C.F.S.	
		ACRE-FEET RES.	CHANGE		RELEASE	OUTLET	SPILL	JOINT MAIN
		518						
1	359.71	517	-1	255	0	204	0	0
2	359.73	518	+1	268	0	202	0	0
3	359.73	518	+0	266	0	203	0	0
4	359.73	518	+0	262	0	203	0	0
5	359.73	518	+0	258	0	235	0	0
6	359.73	518	+0	251	0	235	0	0
7	359.73	518	+0	251	0	203	0	0
8	359.73	518	+0	251	0	203	0	0
9	359.89	529	+11	370	0	328	0	0
10	359.89	529	+0	432	0	402	0	0
11	359.89	529	+0	433	0	404	0	0
12	359.89	529	+0	433	0	408	0	0
13	360.02	538	+9	567	0	528	0	0
14	360.04	540	+2	635	0	601	0	0
15	360.04	540	+0	637	0	602	0	0
16	360.12	545	+5	636	0	601	0	0
17	360.04	540	-5	636	0	601	0	0
18	360.04	540	+0	632	0	601	0	0
19	359.89	529	-11	503	0	477	0	0
20	359.89	529	+0	436	0	403	0	0
21	359.89	529	+0	436	0	401	0	0
22	359.90	530	+1	432	0	416	0	0
23	359.90	530	+0	431	0	406	0	0
24	359.76	520	-10	297	0	289	0	0
25	359.74	519	-1	213	0	202	0	0
26	359.74	519	+0	212	0	202	0	0
27	359.95	534	+15	256	0	235	0	0
28	359.79	522	-12	566	0	570	0	0
<b>TOTALS</b>			<b>+4</b>	<b>11,255</b>	<b>0</b>	<b>10,365</b>	<b>0</b>	<b>0</b>
<b>ACRE-FEET</b>			<b>+4</b>	<b>22,324</b>	<b>0</b>	<b>20,559</b>	<b>0</b>	<b>0</b>

JOINT MAIN OPERATED BY SSJID AND OID.

**SUMMARY**  
 RELEASE (ACRE-FEET)

JOINT MAIN CANAL	0	OUTLET	0
SOUTH MAIN CANAL	0	SPILL	20,559
		TOTAL	20,559

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

**DAILY CVP WATER SUPPLY REPORT**

**MARCH 14, 2021**

RUN DATE: March 15, 2021

**RESERVOIR RELEASES IN CUBIC FEET/SECOND**

RESERVOIR	DAM	WY 2020	WY 2021	15 YR MEDIAN
TRINITY	LEWISTON	303	310	303
SACRAMENTO	KESWICK	4,549	3,479	3,810
FEATHER	OROVILLE (SWP)	1,750	1,050	1,550
AMERICAN	NIMBUS	1,752	3,088	1,756
STANISLAUS	GOODWIN	203	403	317
SAN JOAQUIN	FRIANT	253	252	252

**STORAGE IN MAJOR RESERVOIRS IN THOUSANDS OF ACRE-FEET**

RESERVOIR	CAPACITY	15 YR AVG	WY 2020	WY 2021	% O 15 YR AVG
TRINITY	2,448	1,616	2,025	1,280	79
SHASTA	4,552	3,271	3,526	2,312	71
FOLSOM	977	524	425	337	64
NEW MELONES	2,420	1,512	1,883	1,542	102
FED. SAN LUIS	966	676	467	452	67
TOTAL NORTH CVP	11,363	7,599	8,326	5,923	78
MILLERTON	520	298	278	170	57
OROVILLE (SWP)	3,538	2,194	2,253	1,376	63

**ACCUMULATED INFLOW FOR WATER YEAR TO DATE IN THOUSANDS OF ACRE-FEET**

RESERVOIR	CURRENT WY 2021	WY 1977	WY 1983	15 YR AVG	% O 15 YR AVG
TRINITY	124	64	1,064	426	29
SHASTA	1,279	1,260	5,860	2,474	52
FOLSOM	381	179	2,986	1,048	36
NEW MELONES	178	---	976	360	49
MILLERTON	206	103	1,368	372	55

**ACCUMULATED PRECIPITATION FOR WATER YEAR TO DATE IN INCHES**

RESERVOIR	CURRENT WY 2021	WY 1977	WY1983	AVG (N YRS)	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	14.77	7.15	44.80	24.72 (59)	60	0.00
SACRAMENTO AT SHASTA DAM	20.47	8.18	89.31	47.54 (64)	43	0.00
AMERICAN AT BLUE CANYON	28.05	13.73	84.48	50.66 (46)	55	0.38
STANISLAUS AT NEW MELONES	14.53	---	36.67	20.97 (43)	69	0.00
SAN JOAQUIN AT HUNTINGTON LK	15.39	9.10	66.00	30.97 (46)	50	0.00

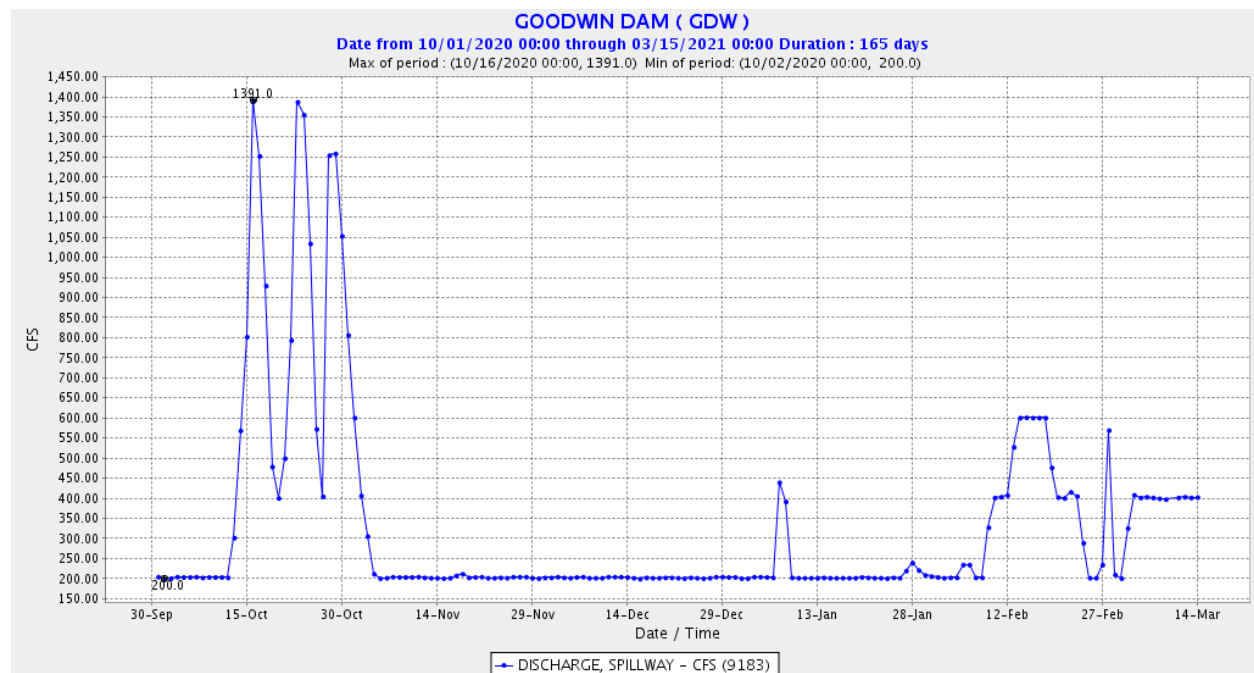
## March 2021 Stanislaus River Update

### Water Year Type

San Joaquin Basin “60-20-20” water year type (based on the March 75% exceedance forecast):  
**Critical**

### Flows

The SRP flow schedule for March requires minimum instream base flows of 200 cfs in all year types. Goodwin releases since October 1, 2020 are shown in Figure 1. The recent flows of greater than 200 cfs have been released to address the D-1641 salinity requirement at Vernalis.



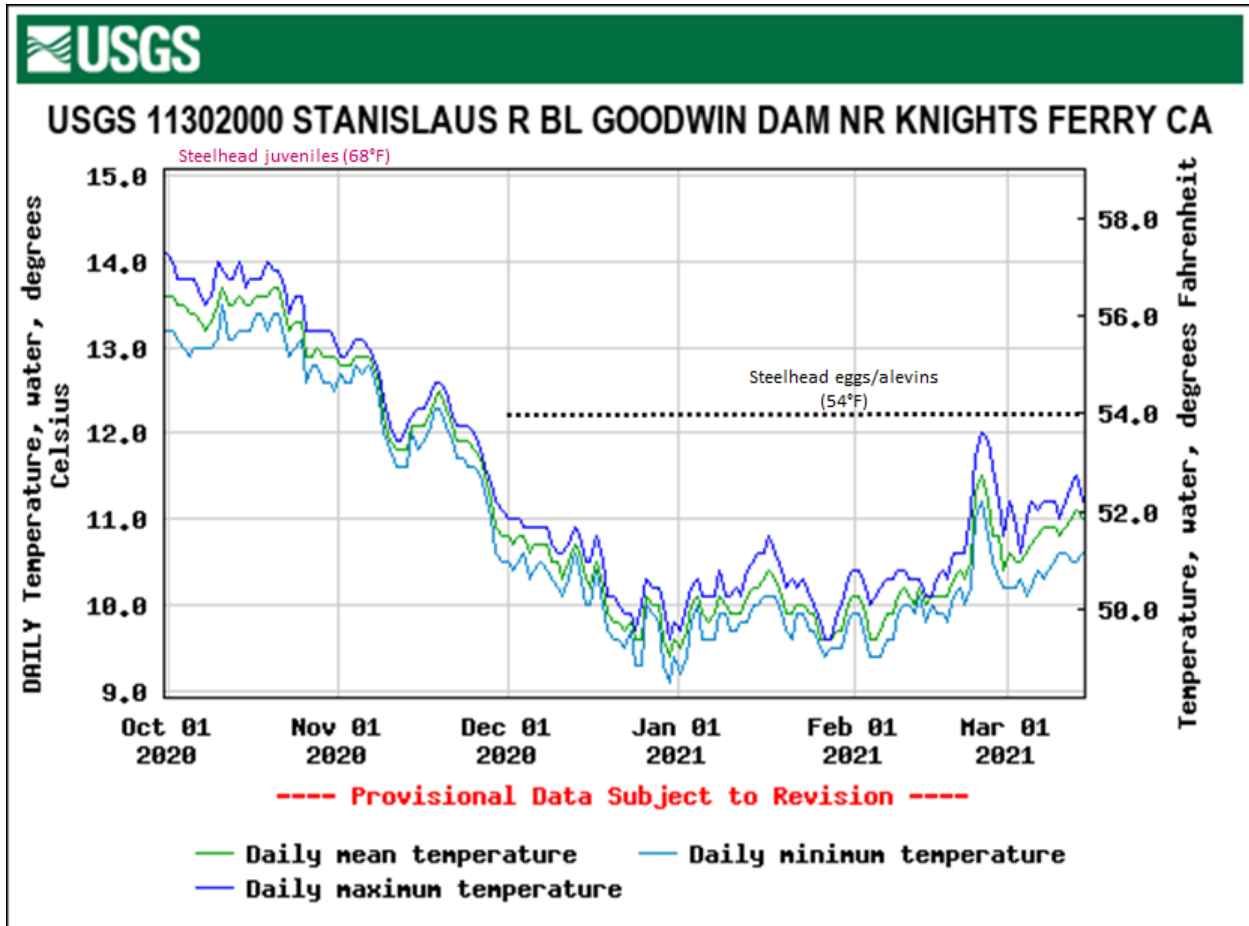
**Figure 1.** Goodwin (daily) releases to the Stanislaus River since October 1, 2020. Data from GDW station on CDEC.

### Water Temperature

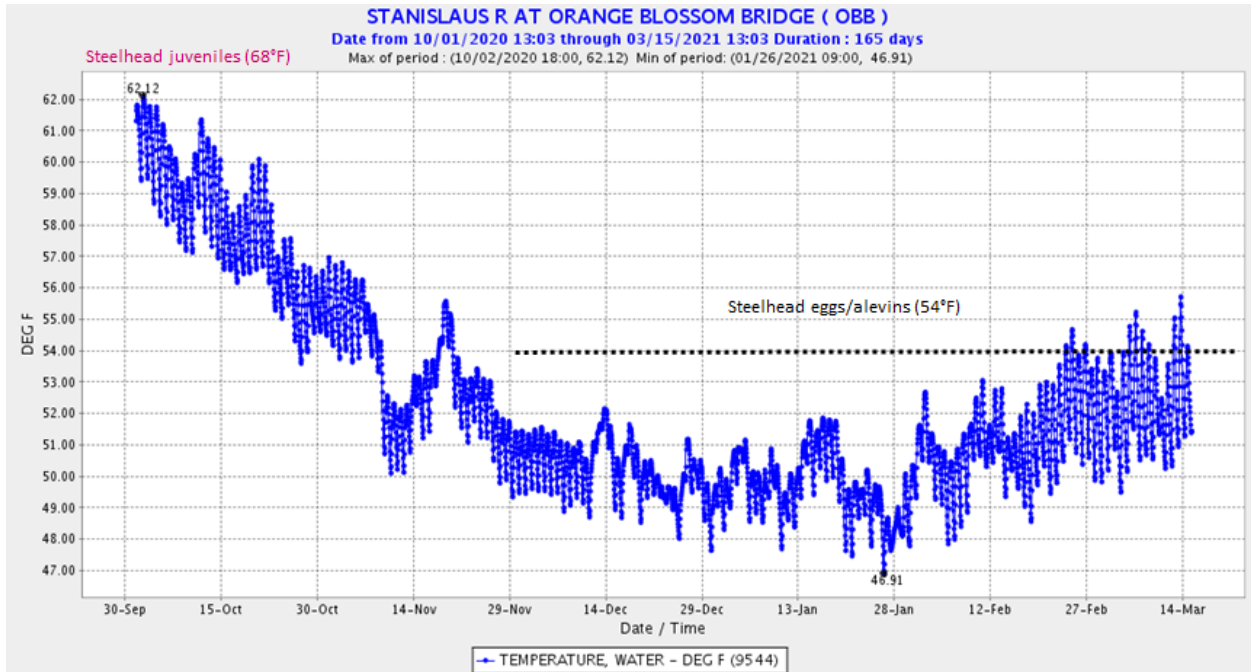
The temperature thresholds included in Figures 2-9, below, are the thresholds used in the 2019 NMFS LTO BiOp<sup>1</sup> (see Incidental Take Statement on p. 807) to define the extent of take anticipated from water temperature effects in the Stanislaus River. *It is important to note that many of the temperature figures provide subdaily information or information at locations other than Orange Blossom Bridge and thus don't reflect the specific metrics for take in the 2019 NMFS LTO BiOp.* Temperature thresholds have been added to these figures at the request of Stanislaus Watershed Team members to provide a general reference of water temperature suitability.

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

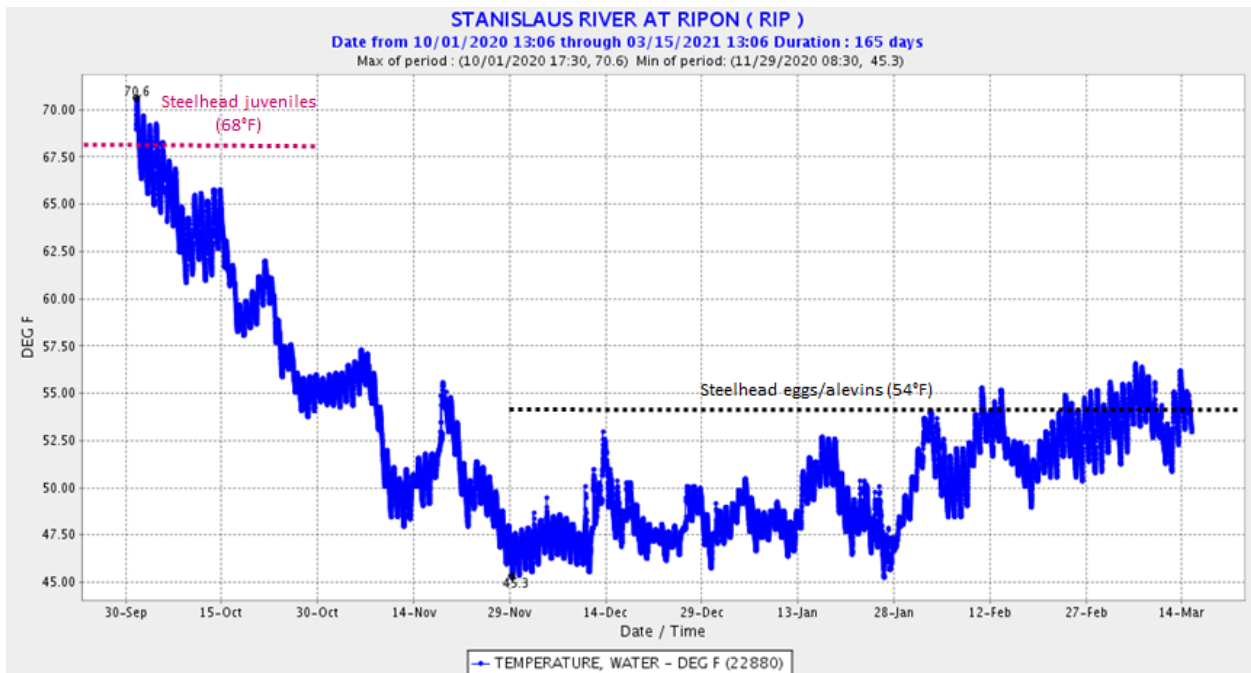
Water temperatures in the Stanislaus River since October 1, 2020 are shown below at Goodwin Canyon (Figure 2), Orange Blossom Bridge (Figure 3), and at Ripon (Figure 4). Water temperatures in the San Joaquin River since October 1, 2020 are shown below at Vernalis (Figure 5). Current-year water temperatures 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.



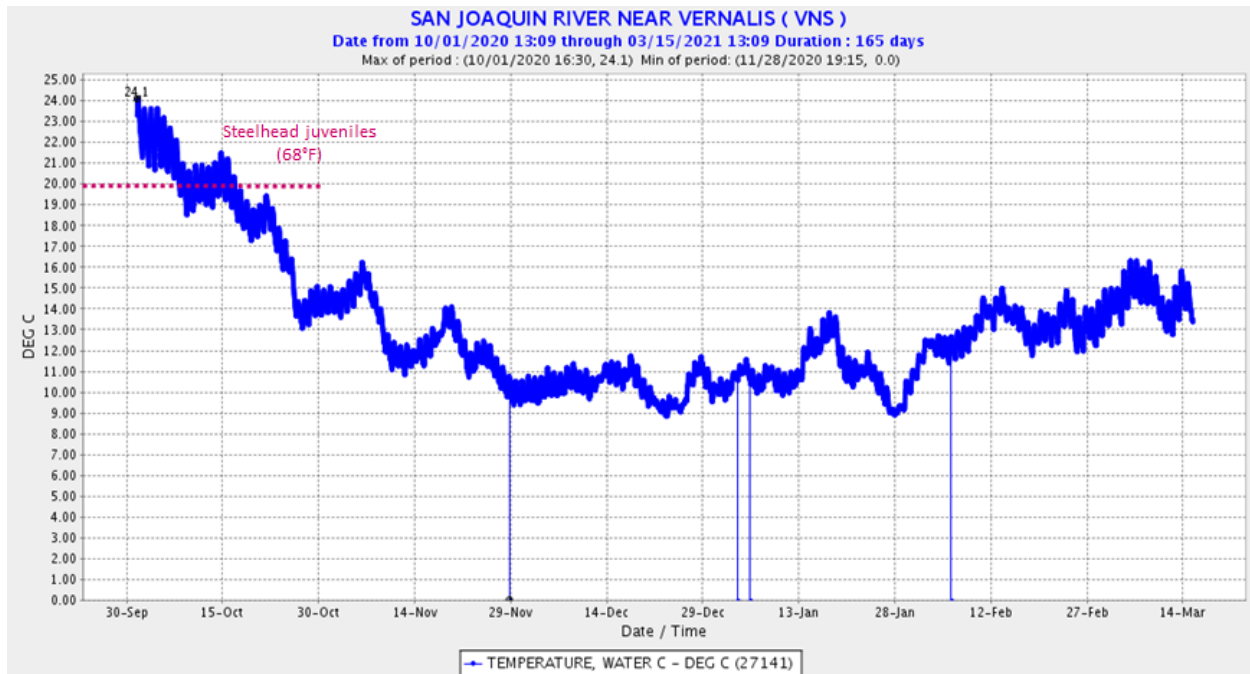
**Figure 2.** Daily water temperatures on the Stanislaus River upstream of Knights Ferry since October 1, 2020. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.



**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.



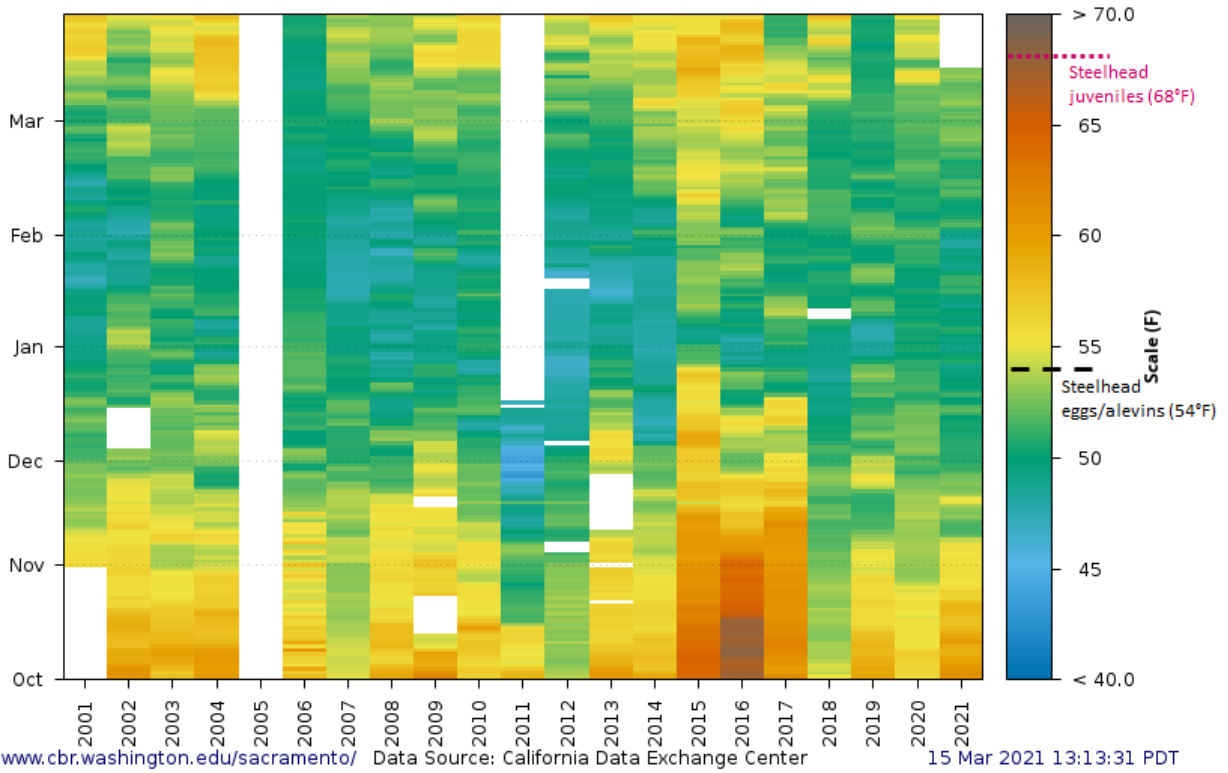
**Figure 4.** Stanislaus (15-minute) water temperatures at Ripon since October 1, 2020. Data from RIP station on CDEC; temperature threshold reference lines added by SWT.



**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.

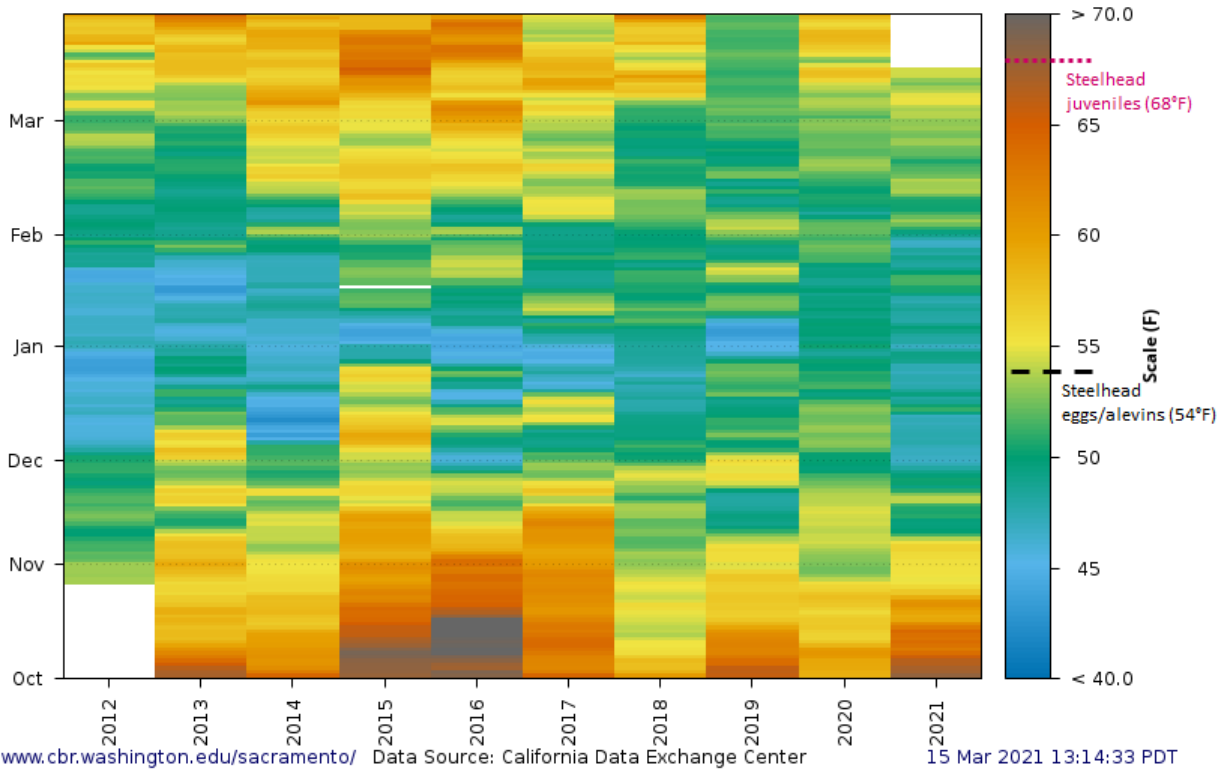


WY 2001-2021 OBB Stanislaus R at Orange Blossom Bridge  
Daily Average Water Temperature (F)  
Observed Range 43.02-68.41



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

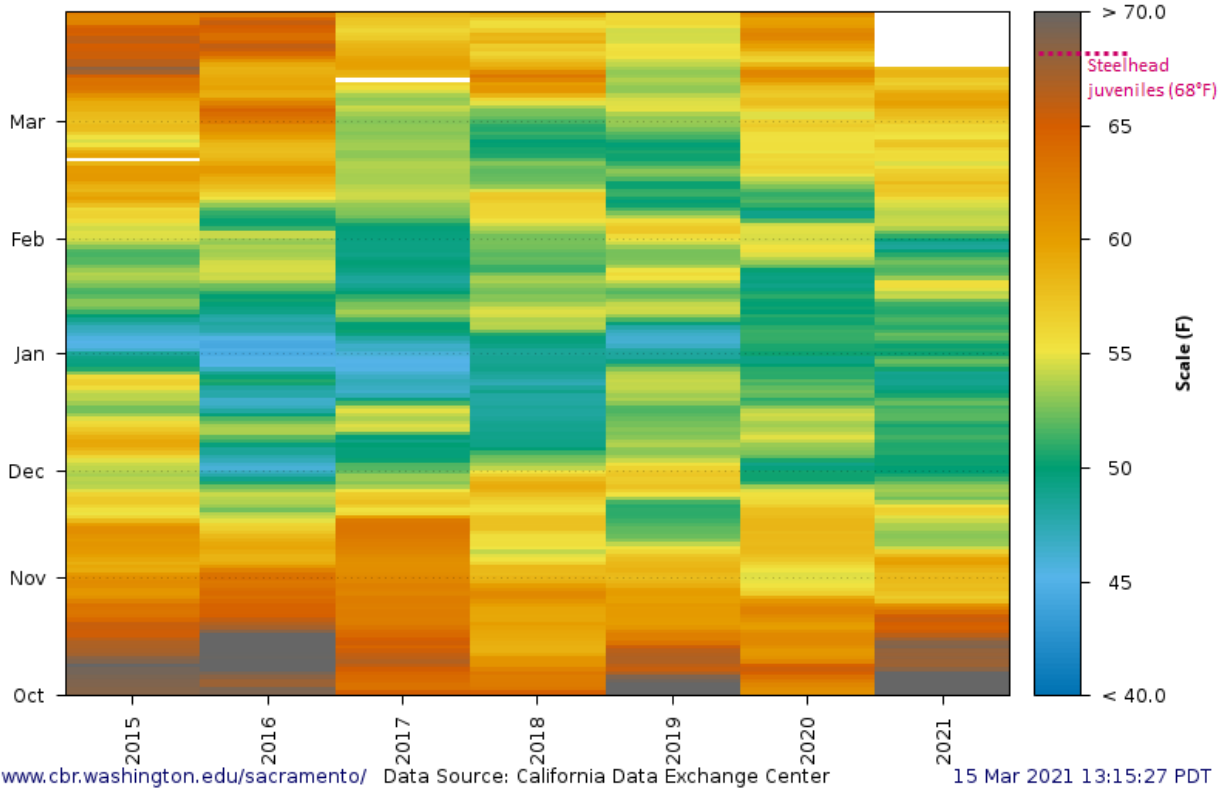
WY 2012-2021 RIP Stanislaus R at Ripon (USGS)  
Daily Average Water Temperature (F)  
Observed Range 42.10-70.94



**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.

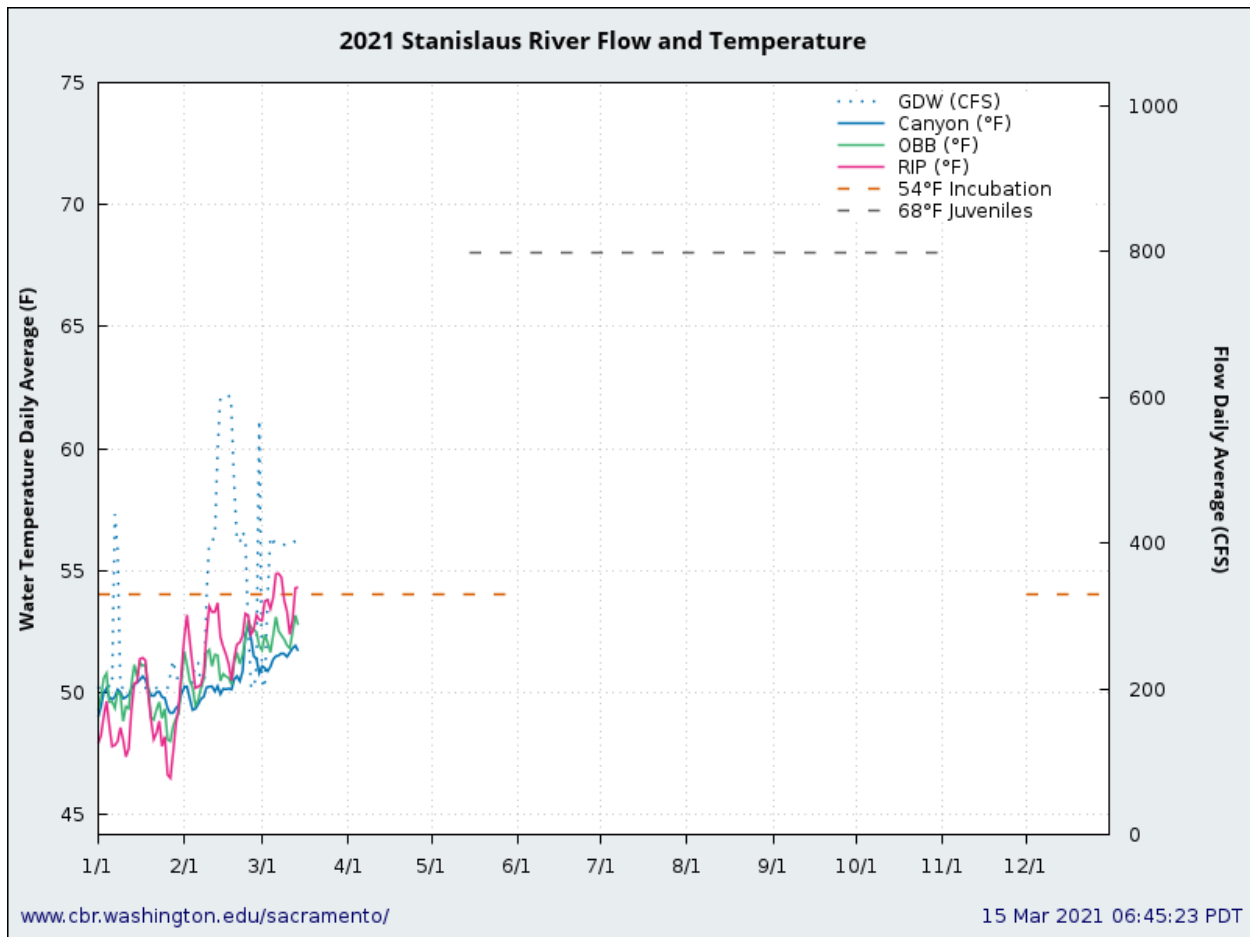
[http://www.cbr.washington.edu/sacramento/data/query\\_river\\_allyears.html](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

WY 2015-2021 VNS San Joaquin R near Vernalis  
Daily Average Water Temperature (F)  
Observed Range 44.20-73.36



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

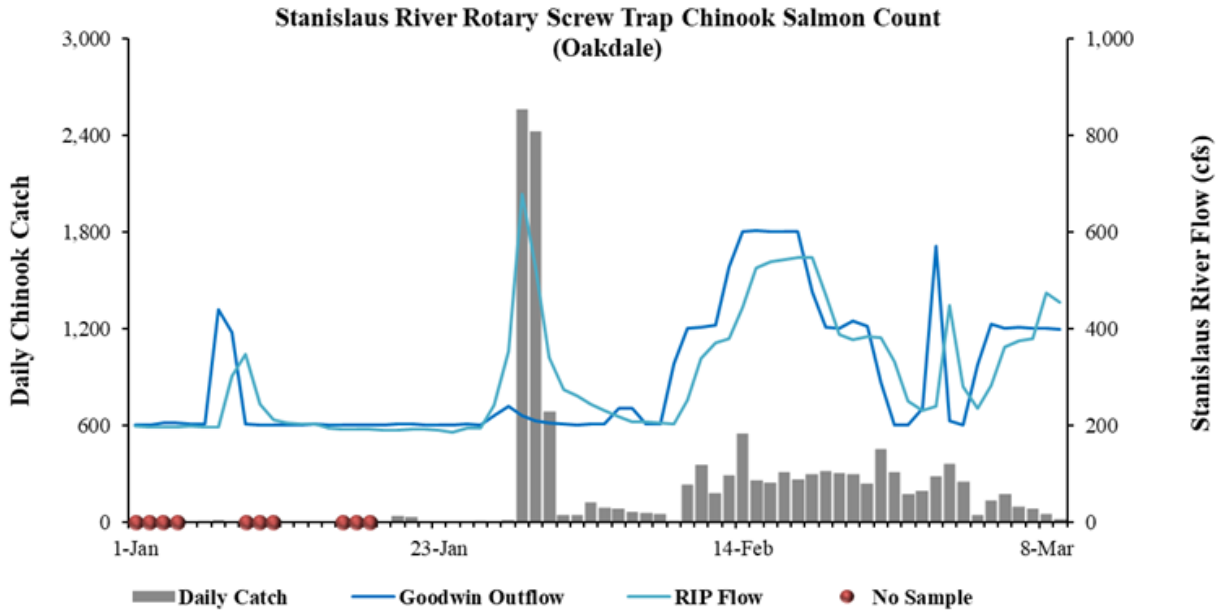


**Figure 9.** 2021 Stanislaus River flow and water temperatures from January 1, 2021 to present. Data (including temperature threshold reference lines) from SacPAS:

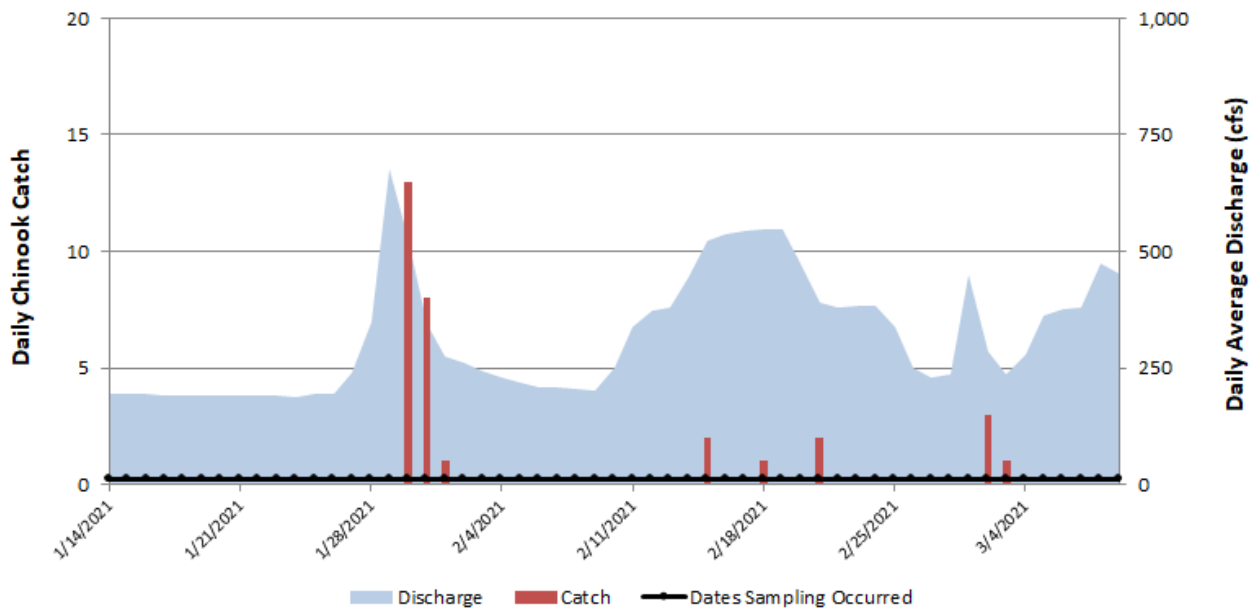
[http://www.cbr.washington.edu/sacramento/data/tc\\_stanislaus.html](http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html)

### Update on Fish Monitoring

Rotary screw trapping at Oakdale (conducted by FISHBIO) and Caswell [conducted by the Pacific States Marine Fisheries Commission (PSMFC)] for the 2020/2021 outmigration season (for monitoring of outmigrating juvenile salmonids) began in early January. Chinook catch at each location is summarized in Figure 10 (Oakdale) and Figure 11 (Caswell). Through March 9, 2021, the trap at Caswell has captured a total of 31 unmarked Chinook salmon (all fry), 0 unmarked steelhead, and 2,775 juvenile lamprey.



**Figure 10.** Daily juvenile Chinook catch through March 9,2021 at the rotary screw trap near Oakdale. Figure courtesy of Fishbio.



**Figure 11.** Daily juvenile Chinook catch through March 9, 2021, at the rotary screw trap near Caswell State Park. Discharge data is at Ripon. Figure courtesy of Pacific States Marine Fisheries Commission.

Sampling at the Mossdale Trawl on the mainstem San Joaquin River resumed on February 17, 2021. Through March 1, 2021, 1 ad-clipped *O. mykiss* (224 mm fork length) has been captured (on February 22, 2021).