



— BUREAU OF —  
RECLAMATION

## Stanislaus Watershed Team

10:00 AM – 12:00 PM

Conference Line: 1 (773) 231-9226; Meeting ID: 148 869 4090

WebEx: <https://meetings.ringcentral.com/j/1488694090>

Wednesday, August 19, 2020

### Notes

#### 1. Actions

- Barbara Byrne
  - Share considerations for flow planning/schedule accounting with group;
  - Increase maximum temperature above 70 °F on SacPAS heat maps for September 2020 handouts, and
  - Coordinate with Gretchen Murphey and Elissa Buttermore on adding spawning data to SacPAS (low priority – no specific deadline).
- Elissa Buttermore
  - Provide updated anticipated gravel completion data/optimal flow specifications to J.D. Wikert.
- J.D. Wikert
  - Share Honolulu Bar presentation upon request, and
  - Circulate a draft operations schedule within the next few weeks.
- Levi Johnson
  - Follow up on approval for Annual Report outline
- Andrea Fuller
  - Look for (and share, if found) the summary spreadsheet of Stanislaus data that was located on Reclamation's website, and
  - Provide links to FISHBIO monitoring reports, including for the *O. mykiss* snorkel surveys.
- K&W
  - Remove reference to Eric Bradbury from handout
  - Add agenda item for:
    - September's meeting to review the Stanislaus data spreadsheet.
    - October or November to discuss additional information/data needed for flow shaping of the winter instability flows or spring pulse flow

- Gretchen Murphey
  - Follow up on the status of requests for confidence intervals for carcass survey estimates and the release of backlogged Sport Fish Reports, and
  - Report back on plans to resume carcass surveys, including whether they may be limited due to COVID-19 restrictions.

## 2. Introductions

- USBR: Elissa Buttermore, Luke Davis, Matt DiLoreto, Zarela Guerrero, Levi Johnson, Liz Kiteck, Spencer Marshall, Sarah Perrin & Thuy Washburn, Suzanne Manugian
- NMFS: Barb Byrne & Monica Gutierrez
- USFWS: J.D. Wikert
- CDFW: Ryan Kok, Gretchen Murphey
- SWRCB: Chris Carr, Yongxuan Gao & Lindsay Kammeier
- DWR: Krissy Atkinson
- OID: Steve Knell
- SSJID: Peter Rietkerk
- FISHBIO: Andrea Fuller
- Kearns & West: Rafael Silberblatt & Kai Walcott

## 3. Ground Rules

- The facilitator reviewed the ground rules. There were no objections from participants.

## 4. Announcements

- The Stanislaus Salmon Festival will be held virtually. J.D. Wikert is continuing to work through the logistics and will send a message to the group for feedback on approach and requesting ideas.

## 5. Operations Update and Forecasts/Hydrology

- The Daily CVP Water Supply Report was included in this month's meeting handouts (see page 2), providing a snapshot of the CVP including:
  - Flows
    - Sacramento—Releases are ramping down. Releases are at 10,000 cfs but will ramp down to 9,000 cfs on Saturday.
    - Feather— Releases are at 2,300 cfs and are expected to increase slightly.
    - American— Releases are at 2,500 cfs and are expected to remain there for some time.
    - Stanislaus— Goodwin releases are at 200 cfs.
  - Storage
    - Most reservoirs are high for the 15-year average; New Melones is one of the higher ones.

- New Melones
  - There was no plot of New Melones storage in this month's meeting packet because the webpage was down.
  - Reservoir Conditions: New Melones is at 1.6 MAF storage.
- Flows
  - Inflows are increasing due to hot air temperatures.
- Goodwin
  - Flows
    - Currently releasing 200 cfs.
    - Water quality is still suitable—dissolved oxygen levels are decreasing but remain above 7.0; the minimum on August 18 was 7.3.
    - Reclamation will continue to monitor the level of dissolved oxygen and make an increase in flows if necessary, though this is not anticipated.
    - Diversions from Goodwin Reservoir are as expected.
- The year type is still Dry; this is not expected to change until mid-January.

## 6. Temperature Updates

- This summer is one of the warmer summers but not the warmest.
- Since last month, the SacPAS heat map at Ripon now includes historical data back to 2001, which is a larger range than what was available in previous months.
- Barbara Byrne will extend the maximum temperature on the color scale to above 70 °F on the SacPAS heat maps for next month's handouts.
- Goodwin Canyon
  - Daily maximum temperatures spiked during the heat wave, but temperatures are still below ~60 °F, which is suitable.
  - This is the best thermal refuge for fish in the river during the summer.
- Orange Blossom Bridge
  - Mean daily temperatures are around ~64 – 65 °F.
  - In recent days, temperatures at Orange Blossom Bridge also increased in response to an increase in air temperature.
  - The abrupt shift in water temperatures in late-June/early-July was due to a decrease in Goodwin flows to 200 cfs.
- Ripon
  - Similar pattern as the first two locations—the recent increase air temperatures have caused the highest increase in water temperatures yet.
  - Conditions have exceeded the suitability threshold for steelhead juveniles (68 °F).
- Vernalis
  - Temperatures exceeded the ~68 °F threshold for steelhead juveniles in the Spring.

- In mid-July, temperatures dipped for a period before increasing. This dip was the result of a release for transfer on the Merced. This release increased flows which helped buffer temperatures during that 2-week period.
- 2020 Stanislaus River Flow and Temperature Graph (page 12):
  - This new graph provides an overview of average daily temperatures at three locations, Goodwin Canyon, Orange Blossom Bridge and Ripon, and includes reference thresholds of 54 °F (steelhead eggs/alevins) and 68 °F (steelhead juveniles).
  - Takeaways from the graph:
    - There is a ~10 °F shift in water temperature between each location. During warm seasons of the year, water warms as it moves downstream.
    - As was discussed in May's meeting, there was a spike in temperature around May 9<sup>th</sup> or 10<sup>th</sup>. This plot shows that spike at all locations, though, it is still unclear the origins of the spike (flows were increasing, there was no big air temperature signal nor spikes in precipitation).
    - The graph also shows the change in downstream (Orange Blossom Bridge and Ripon) temperatures at the end of June when flows fell from 1,500 cfs to 200 cfs.

## 7. Flow Planning

- Flow planning will begin in September.
  - J.D. Wikert will circulate a draft operations schedule within the next few weeks.
- The San Joaquin Fish Agencies Technical Team (SJFATT) meeting is scheduled for early-September. J.D. Wikert will be in attendance and will report back to the larger group.

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

- Stanislaus River Forum was held via conference call on August 18, 2020. Barbara Byrne (NMFS), Ryan Kok (CDFW), Gretchen Murphey (CDFW), Sarah Perrin (USBR), Levi Johnson (USBR), Thuy Washburn (USBR), JD Wikert (USFWS), and Michelle Workman (EBMUD) were in attendance. Operations, temperature and fish monitoring data were reviewed. Barb Byrne highlighted the great effort that Elissa Buttermore (USBR) had done with the University of Washington on updating the SacPAS website tool.

## 9. Fish Monitoring and Studies

- The rotary screw traps have been pulled and the weirs have yet to be installed.
- The week of August 17<sup>th</sup>, FISHBIO initiated their snorkel surveys to determine *O. mykiss* abundance and distribution. The surveys are scheduled to end the week of August 24<sup>th</sup>.

## 10. Restoration Project Updates

- The gravel project in Goodwin Canyon has been delayed.
  - Reclamation is awaiting the 404-Clean Water Permits and continues to coordinate with landowners (Corps and irrigation districts) and NMFS.
  - The 106-permit was sent to the Army Corps on August 19<sup>th</sup>.
  - A discussion was had around the methodology that will be used for gravel placement and the type of flows required.
    - The plan is to use a front loader at the cable crossing and place a smaller portion of gravel at the downstream end of the float tube pool with the “Habitat Builder”. The Habitat Builder allows a slurry of gravel to be sent down to the river through a flexible pipe from the road along the South Main canal. Reclamation is coordinating with OID to use water from the canal.
    - It was stated that higher flows (1000 cfs) may be better suited for placement to help move gravel, however, that flow may not be suitable for the gravel placement using a front loader.
    - Elissa Buttermore will provide updated anticipated gravel completion data and optimal flow specifications to J.D. Wikert.
- Still awaiting CVPIA to finalize their obligation plan for 2020 projects to begin. It is not expected that new projects will begin this fiscal year.
- Planning continues for the migratory corridor rehabilitation project, though, plans for the site have yet to be finalized.
- J.D. Wikert created and shared a presentation on dewatering of the side-channel at Honolulu Bar.
  - In 2017 and 2019, large volumes of water moved channel gravel downstream, which lowered the water elevation and dewatered the Honolulu Bar.
  - SWT members discussed potential solutions to prevent the movement of gravel including:
    - Placing boulders along the channel.
    - Adding signage along the river to raise awareness of the impacts of recreationist building weirs at the head of the Bar.
    - Stockpiling additional gravel upstream to feed the riffle.
  - J.D. Wikert will circulate the presentation on the Honolulu Bar upon request.

## 11. Progress Toward BiOp Requirements (Proposed Action Elements)

- Annual Report outline—Lessons Learned
  - The group discussed the recommendations provided for the “Lessons Learned” section of the Annual Report (see page 14 in Handout). Discussion centered on the following:
    - Better communication:
      - A recommendation was made for SWT to predict Chinook fry emergence timing, as is done for other watersheds. While there is

currently no estimation of fry emergence, the team could consider using redd count data from the carcass surveys to predict expected emergence timing.

- One option for predicting emergence timing would be to upload a file on spawning timing, provided by CDFW, to the Egg Growth Model page on SacPAS.
  - i. Link here:  
<http://www.cbr.washington.edu/sacramento/grow/index.html>
- Currently, this information is not of a high priority because of the relatively consistent spawning timing between years, which likely leads to consistent emergence timing as well.
- Pulse shaping considerations and Flow Schedule Accounting:
  - A representative from OID noted that when in a Dry and Critically Dry year, the districts typically do cross-valley water sales. During these times, the district's water should be coordinated/scheduled in conjunction with pulse flow water to provide maximum benefit to fisheries. While this opportunity was lost this water year, the district would like to coordinate around similar events in the future.
  - It was recommended that “check in with irrigation districts regarding potential water transfers” be added to the list of considerations for shaping the spring pulse flow.
- Communications around Change Orders
  - Members stated that current communication is reasonable, though often doesn't give much advance notice of flow changes.
  - SWT could choose to make available our proposed reshaped flow schedules.
- Further discussion will be had on what to include in “Lessons Learned” once the LTO team has provided their guidance on the Annual Report.
- The first draft of the Annual Report is due on October 9.
  - Barbara Byrne will share considerations for flow planning/schedule accounting with group for potential updates.
  - Zarela Guerrero will share the Annual Report schedule.
  - Levi Johnson to follow up on the Annual Report outline.

## 12. Other Discussion Items

- Data sharing
  - Per July's discussion, the team was asked to provide data requests to FISHBIO. These requests are compiled on page 13-14 on the handout.

- A representative from FISHBIO provided an overview of their research and monitoring efforts on the Stanislaus River, covering:
  - Lifecycle Monitoring Program: Started in 1993 with rotary screw traps. Currently, the main components of their work include:
    - Weir operations: intended to monitor upstream migration of adult salmon and steelhead
      - Fish counting weir is used to count upstream migrating adult salmonids.
      - Updates are emailed on Monday, Wednesday and Friday.
      - FISHBIO has published papers on the effects of flows and temperatures on migration timing. This includes data analysis through 2014.
    - Redd surveys
      - Purpose is to identify redds
      - Surveys are usually conducted on a biweekly basis, but the frequency of surveys is dependent on the number of fish.
    - Oakdale Rotary Screw Trap (1993-onward)
      - Operates from January – June
      - Updates are provided on a weekly basis
      - FISHBIO recently published methodology on estimating salmon passage
      - One of the data requests provided by the SWT was a request for release and recapture data from the rotary screw trap. However, FISHBIO is taking a step back in this regard, and suggests leveraging available data by a method that has been published.
    - *O. mykiss* snorkel surveys (2009-onward)
      - Conducted each summer to determine abundance and distribution.
      - FISHBIO has published reports that include data from 2009-2015 and another with 2015 - 2016 data.
      - Andrea will share the snorkel survey reports with SWT.
  - Detailed project description, objectives and methods can be found on the NOAA APPS website: <https://apps.nmfs.noaa.gov/search/search.cfm>.
- Native Fish Plan (Late Spring 2016)
  - Born out of the Water Infrastructure Improvements for Nation Act (WIIN) Act to look at the abundance, distribution and diet of non-native fish, and their impact to salmonids.
  - FISHBIO conducted pilot removals of predatory fish to see if it would improve salmon survival. However, studies were conducted on a limited

basis, and COVID-19 restrictions has prevented further work during the 2020 field season.

- Data is posted on NMFS website for 2018 and 2019.
  - Link here: <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/california-central-valley-water-operations-stanislaus-nonnative-predator-research>
- Andrea Fuller will provide links to information, outline and reports.
- Other takeaways:
  - Summary reports from Oakdale RST can be found in the trap efficiency estimation methods publication.
  - Information desired for flow shaping include immediate data for shaping, data to help understand the system at large and to provide context, and a multi-year synthesis.
  - Contact J.D. Wikert directly if experiencing issues getting information from the PSMFC regarding the Caswell RST.
  - Discussion was had around synthesizing data collected on the Stanislaus River, providing a list of available data, and its location.
    - Andrea Fuller will look for (and share, if found) the summary spreadsheet of Stanislaus data that was located on Reclamation's website.
    - Kearns & West will add an agenda item to September's meeting to review the spreadsheet. Also add an agenda item regarding information and data for flow shaping to October/November's agenda.
    - Kearns & West will also update data request sub-bullet: daily catch at the lower Stan to remove Eric Bradbury and email.
    - Gretchen Murphey will follow up on the status of requests for confidence intervals for carcass survey estimates and the release of backlogged Sport Fish Reports.
- **COVID-19 impacts on SWT's functions**
  - This item was created recognizing the potential impact of COVID-on SWT activities. Discussion centered on:
    - Meeting format— Typically, SWT monthly meetings are in person. Given COVID-19, this may not be the case for the foreseeable future.
    - The collection of data—
      - Monitoring that has been suspended due to COVID-19 includes Mossdale Trawl data, though, this may not be of concern for SWT until late January, when we'd expect to start seeing juvenile salmonids migrating past that location. It is still unclear when sampling will resume.



- It is also unclear when CDFW will resume carcass surveys and collecting heads for coded wire tag retrieval, though they have continued planning for these activities. The biggest challenge is transporting staff to sites.
  - Gretchen Murphey to provide feedback on plans to resume carcass surveys and collecting heads.
  - FISHBIO still plans to install their weir.
- Items to elevate to WOMT
  - There are currently no items to elevate to WOMT.
- SFRG
  - The Stanislaus River Fish Group is being reconvened.
  - Meetings will be held quarterly, the first of which is coming up.
  - The purpose of this group is to discuss topics that are not covered by the SWT. It is an opportunity to plan and coordinate future restoration and research projects, and to look into funding opportunities.
  - The group is expected to be comprised of SWT members and others.
- LTO
  - Agencies are meeting weekly to develop Statements of Interest to facilitate creation of charters for non-flow actions, several of which might be of interest to the SWT (San Joaquin Scour Hole, Steelhead Lifecycle Monitoring, San Joaquin Habitat Restoration, and Stanislaus DO).



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RECLAMATION

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**Wednesday, August 19, 2020**

### Agenda

1. Introductions
2. Ground Rules<sup>1</sup>
3. Announcements
4. Operations Update and Forecasts/Hydrology
5. Temperature Updates
6. Flow Planning
7. Stanislaus River Forum (SRF) Call Review
8. Fish Monitoring and Studies
9. Restoration Project Updates
10. Progress Toward BiOp Requirements (Proposed Action Elements)
  - a. Annual Report outline—Lessons Learned
11. Other Discussion Items
  - a. Data sharing
  - b. COVID-19 impacts on SWT's functions
  - c. Preparation for September's SacPAS walkthrough
  - d. Items to elevate to WOMT
12. Review Action Items
13. Next Meeting
  - a. Wednesday, September 16, 2020 (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

**DAILY CVP WATER SUPPLY REPORT**

**AUGUST 16, 2020**

RUN DATE: August 17, 2020

**RESERVOIR RELEASES IN CUBIC FEET/SECOND**

RESERVOIR	DAM	WY 2019	WY 2020	15 YR MEDIAN
TRINITY	LEWISTON	445	453	453
SACRAMENTO	KESWICK	11,005	10,036	10,038
FEATHER	OROVILLE SWP	7,500	2,300	4,000
AMERICAN	NIMBUS	3,377	2,536	2,817
STANISLAUS	GOODWIN	1,342	201	252
SAN JOAQUIN	FRIANT	419	433	350

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

RESERVOIR	CAPACITY	15 YR AVG	WY 2019	WY 2020	% OF 15 YR AVG
TRINITY	2,448	1,570	2,161	1,562	99
SHASTA	4,552	2,797	3,826	2,483	89
FOLSOM	977	552	795	504	91
NEW MELONES	2,420	1,426	2,076	1,599	112
FED. SAN LUIS	966	264	508	210	79
TOTAL NORTH CVP	11,363	6,610	9,366	6,358	96
MILLERTON	520	316	446	228	72
OROVILLE SWP	3,538	2,021	2,859	1,757	87

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

RESERVOIR	CURRENT WY 2020	WY 1977	WY 1983	15 YR AVG	% OF 15 YR AVG
TRINITY	456	201	2,831	1,151	40
SHASTA	3,031	2,293	10,366	4,906	62
FOLSOM	1,396	318	6,307	2,580	54
NEW MELONES	594	----	2,666	1,012	59
MILLERTON	850	300	4,384	1,530	56

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

RESERVOIR	CURRENT WY 2020	WY 1977	WY 1983	AVG N YRS	% OF AVG	LAST 24 HRS
TRINITY AT FISH HATCHERY	20.40	13.75	55.19	31.43 58	65	0.00
SACRAMENTO AT SHASTA DAM	34.51	17.28	112.58	61.21 63	56	0.00
AMERICAN AT BLUE CANYON	39.50	15.70	103.88	65.98 45	60	0.00
STANISLAUS AT NEW MELONES	22.35	----	45.33	27.33 42	82	0.00
SAN JOAQUIN AT HUNTINGTON LK	28.25	17.20	82.00	41.42 45	68	0.00

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

**AUGUST 2020**

**NEW MELONES LAKE DAILY OPERATIONS**

RUN DATE: August 17, 2020

DAY	ELEV	STORAGE 1000		COMPUTED INFLOW C.F.S.	RELEASE - C.F.S.			EVAPORATION		PRECIP INCHES
		ACRE-FEET IN LAKE	CHANGE		POWER	SPILL	OUTLET	C.F.S.	INCHES	
		1,637.9								
1	1,017.28	1,635.2	-2.7	733	1,978	0	0	139	.44	.00
2	1,017.07	1,633.1	-2.1	838	1,737	0	0	139	.44	.00
3	1,016.86	1,631.0	-2.1	867	1,761	0	0	142	.45	.00
4	1,016.65	1,629.0	-2.1	788	1,689	0	0	133	.42	.00
5	1,016.43	1,626.8	-2.1	591	1,541	0	0	133	.42	.00
6	1,016.19	1,624.5	-2.3	729	1,804	0	0	107	.34	.00
7	1,015.95	1,622.2	-2.3	763	1,840	0	0	104	.33	.00
8	1,015.67	1,619.4	-2.7	727	1,981	0	0	120	.38	.00
9	1,015.44	1,617.2	-2.2	761	1,774	0	0	116	.37	.00
10	1,015.24	1,615.2	-1.9	800	1,653	0	0	129	.41	.00
11	1,015.02	1,613.1	-2.1	821	1,765	0	0	135	.43	.00
12	1,014.83	1,611.3	-1.8	868	1,669	0	0	129	.41	.00
13	1,014.17	1,604.9	-6.4	-1,135	1,957	0	0	135	.43	.00
14	1,013.93	1,602.5	-2.3	815	1,871	0	0	116	.37	.00
15	1,013.73	1,600.6	-1.9	1,149	1,977	0	0	147	.47	.00
16	1,013.60	1,599.3	-1.3	1,250	1,736	0	0	147	.47	.00
<b>TOTALS</b>			<b>-38.3</b>	<b>11,365</b>	<b>28,733</b>	<b>0</b>	<b>0</b>	<b>2,071</b>	<b>6.58</b>	<b>.00</b>
<b>ACRE-FEET</b>			<b>-38,300</b>	<b>22,542</b>	<b>56,992</b>	<b>0</b>	<b>0</b>	<b>4,108</b>		

COMMENTS:

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

**SUMMARY**

POWER	RELEASE	ACRE-FEET		PRECIPITATION	
		56,992	0	THIS MONTH	.00
SPILL	OUTLET	0	56,992	JULY 1, 2020 TO DATE	.00
	TOTAL			OCT 1, 2019 TO DATE	22.35

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

**AUGUST 2020**

**GOODWIN RESERVOIR DAILY OPERATIONS**

RUN DATE: August 17, 2020

DAY	ELEV	STORAGE		TULLOCH	RIVER		RELEASE - C.F.S.	
		ACRE-FEET RES.	CHANGE		RELEASE	OUTLET	SPILL	JOINT MAIN
		521						
1	359.77	521	+0	1,854	0	203	1,055	410
2	359.77	521	+0	1,781	0	203	1,021	412
3	359.79	522	+1	1,702	0	204	995	384
4	359.79	522	+0	1,680	0	200	976	375
5	359.77	521	-1	1,674	0	201	947	401
6	359.77	521	+0	1,757	0	202	968	445
7	359.80	523	+2	1,860	0	202	1,017	492
8	359.79	522	-1	1,852	0	204	1,021	471
9	359.77	521	-1	1,777	0	205	1,020	401
10	359.80	523	+2	1,756	0	201	1,005	403
11	359.80	523	+0	1,844	0	201	1,057	431
12	359.79	522	-1	1,842	0	202	1,046	421
13	359.80	523	+1	1,845	0	202	1,043	421
14	359.79	522	-1	1,822	0	202	1,023	411
15	359.79	522	+0	1,784	0	202	983	411
16	359.80	523	+1	1,733	0	201	957	388
<b>TOTALS</b>			<b>+2</b>	<b>28,563</b>	<b>0</b>	<b>3,235</b>	<b>16,134</b>	<b>6,677</b>
<b>ACRE-FEET</b>			<b>+2</b>	<b>56,655</b>	<b>0</b>	<b>6,417</b>	<b>32,002</b>	<b>13,244</b>

JOINT MAIN OPERATED BY SSJID AND OID.

**SUMMARY**  
RELEASE ACRE-FEET

JOINT MAIN CANAL	32,002	OUTLE	0
SOUTH MAIN CANAL	13,244	T SPILL	6,417
		TOTAL	51,663

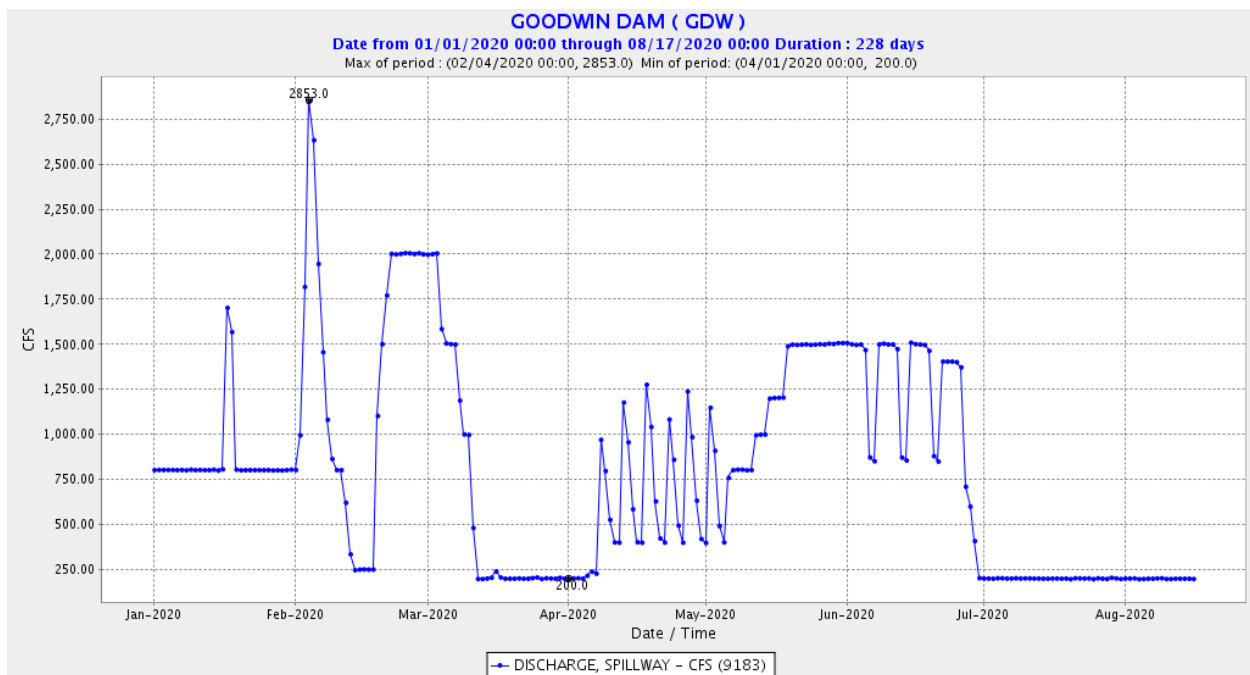
# August 2020 Stanislaus River Update

## Water Year Type

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

## Flows

After the spring pulse flow, through the summer until the fall pulse flow begins, the Dry year type SRP flow schedule requires minimum instream base flows of 200 cfs. Goodwin releases since January 2020 are shown in Figure 1.



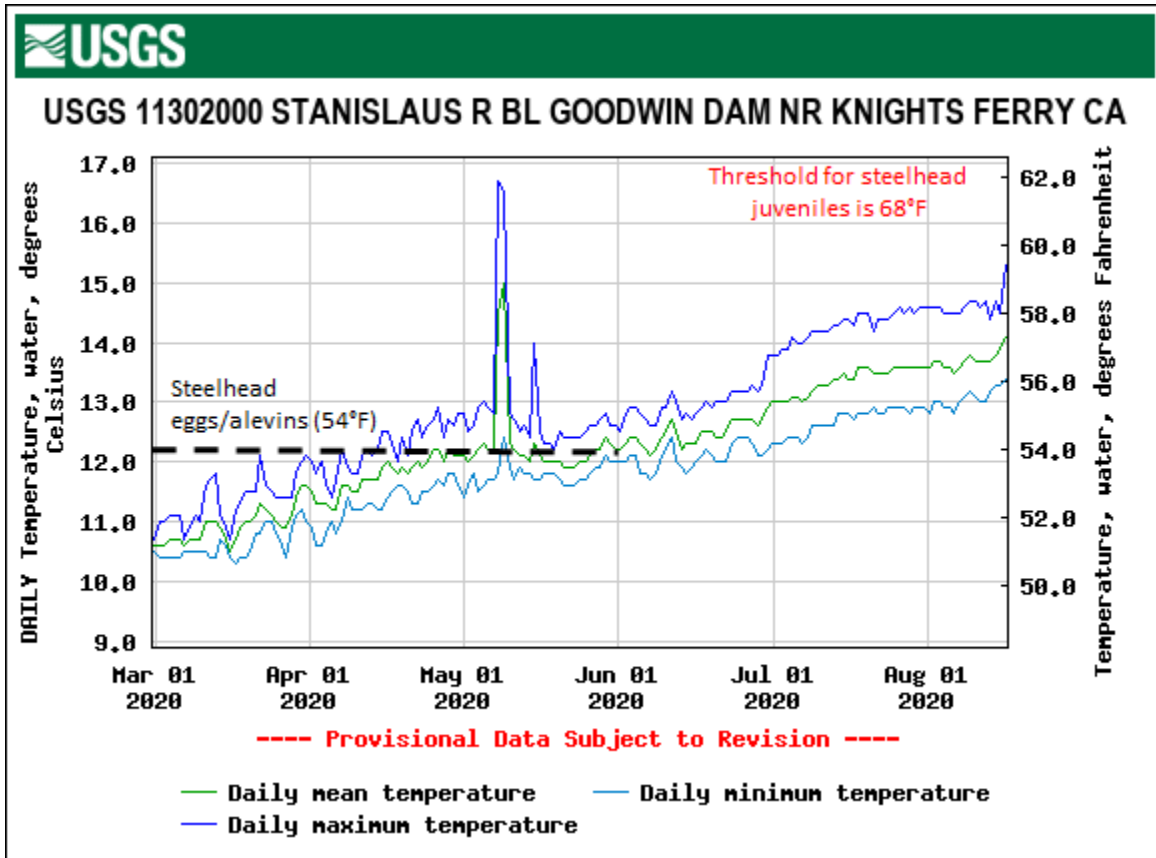
**Figure 1.** Goodwin (daily) releases to the Stanislaus River since January 1, 2020. Data from GDW station on CDEC.

## Water Temperature

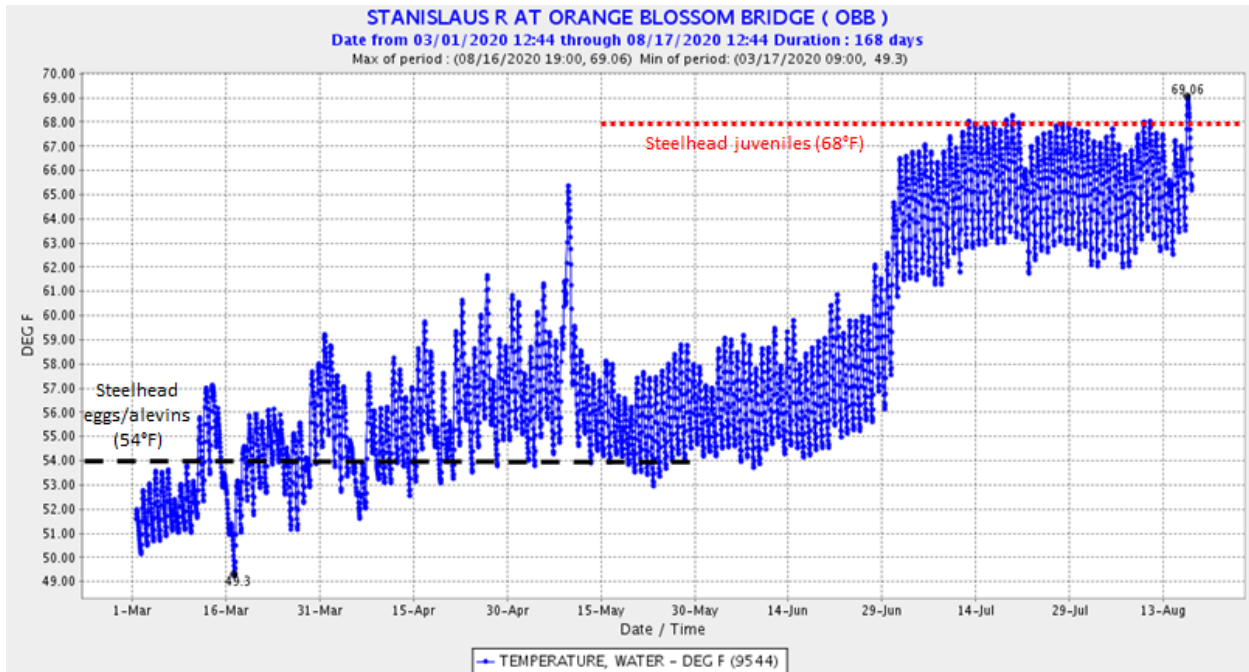
The temperature thresholds included in Figures 2-9, below, are the thresholds used in the 2019 NMFS LTO BiOp<sup>1</sup> (see Incidental Take Statement on p. 807) to define the extent of take anticipated from water temperature effects in the Stanislaus River. *It is important to note that many of the 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>

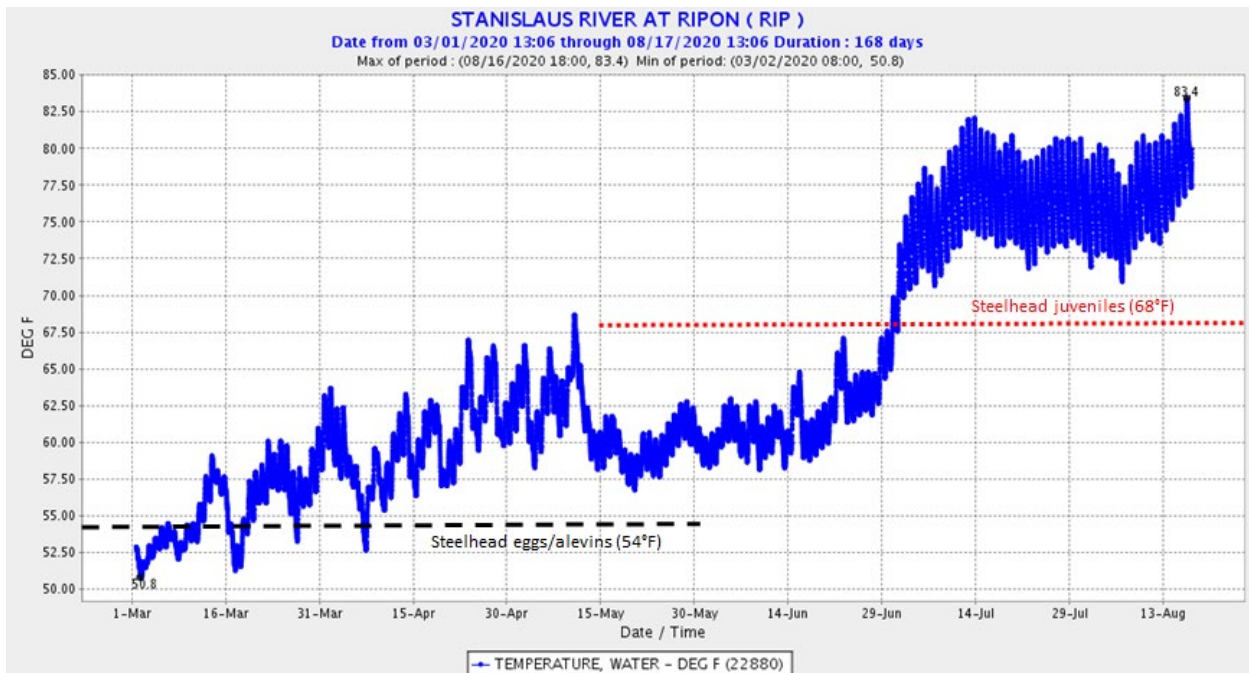
Water temperatures in the Stanislaus River since March 2020 are shown below at Goodwin Canyon (Figure 2), Orange Blossom Bridge (Figure 3), and at Ripon (Figure 4). Water temperatures in the San Joaquin River since March 2020 are shown below at Vernalis (Figure 5). Current-year water temperatures are 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 March 1, 2020. Data from USGS gage 11302000 on NWIS; temperature threshold reference lines added by SWT.

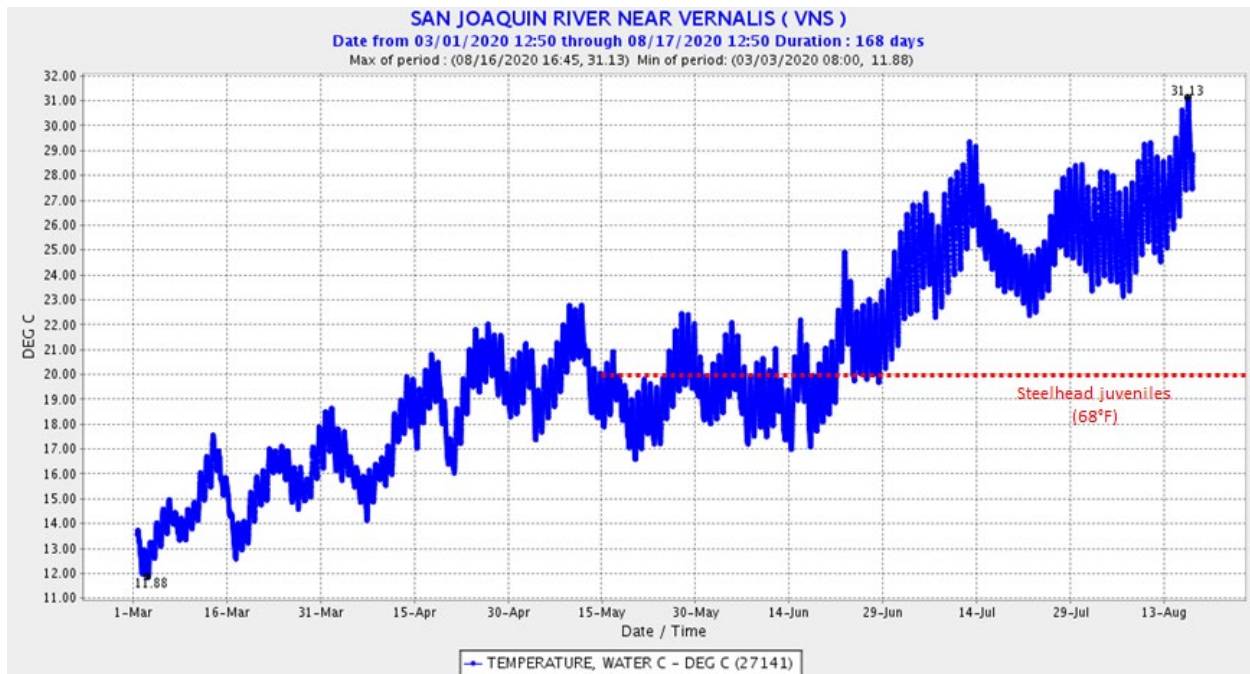


**Figure 3.** Stanislaus (hourly) water temperatures at Orange Blossom Bridge since March 1, 2020. Data from OBB station on CDEC; temperature threshold reference lines added by SWT.



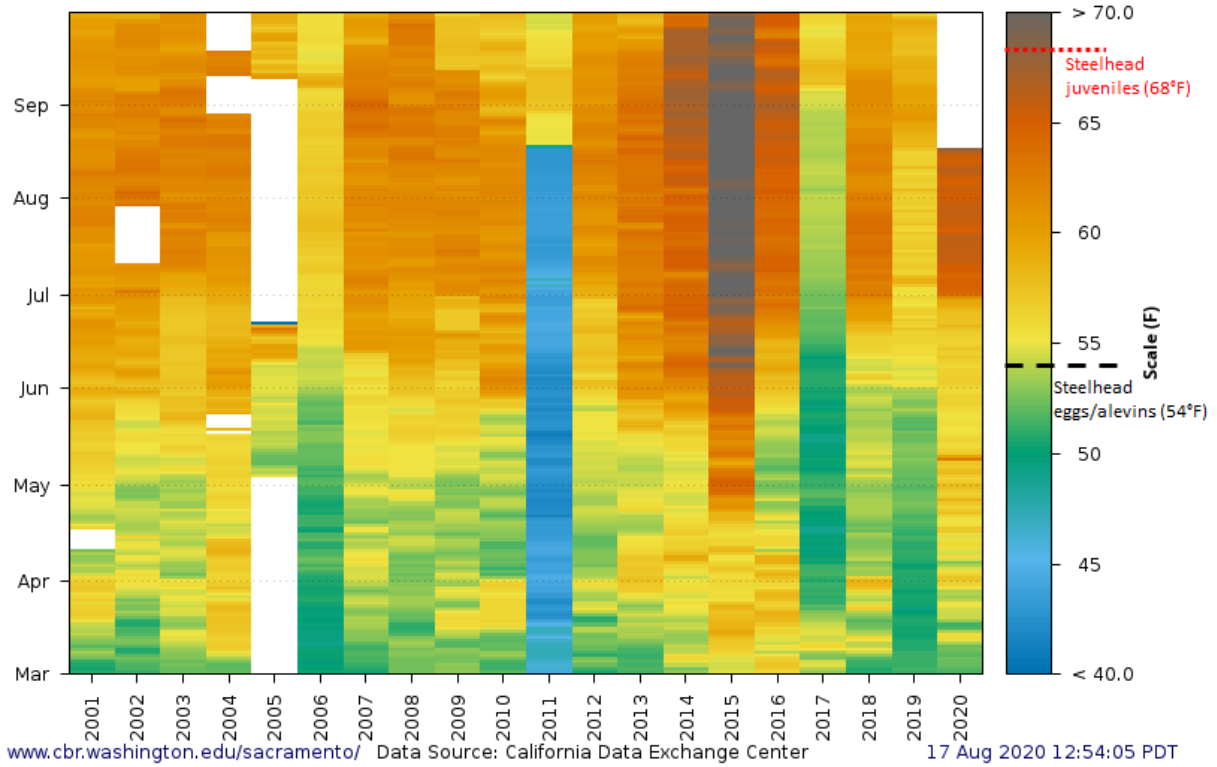
**Figure 4.** Stanislaus (15-minute) water temperatures at Ripon since March 1, 2020. Data from RIP station on CDEC; temperature threshold reference lines added by SWT.





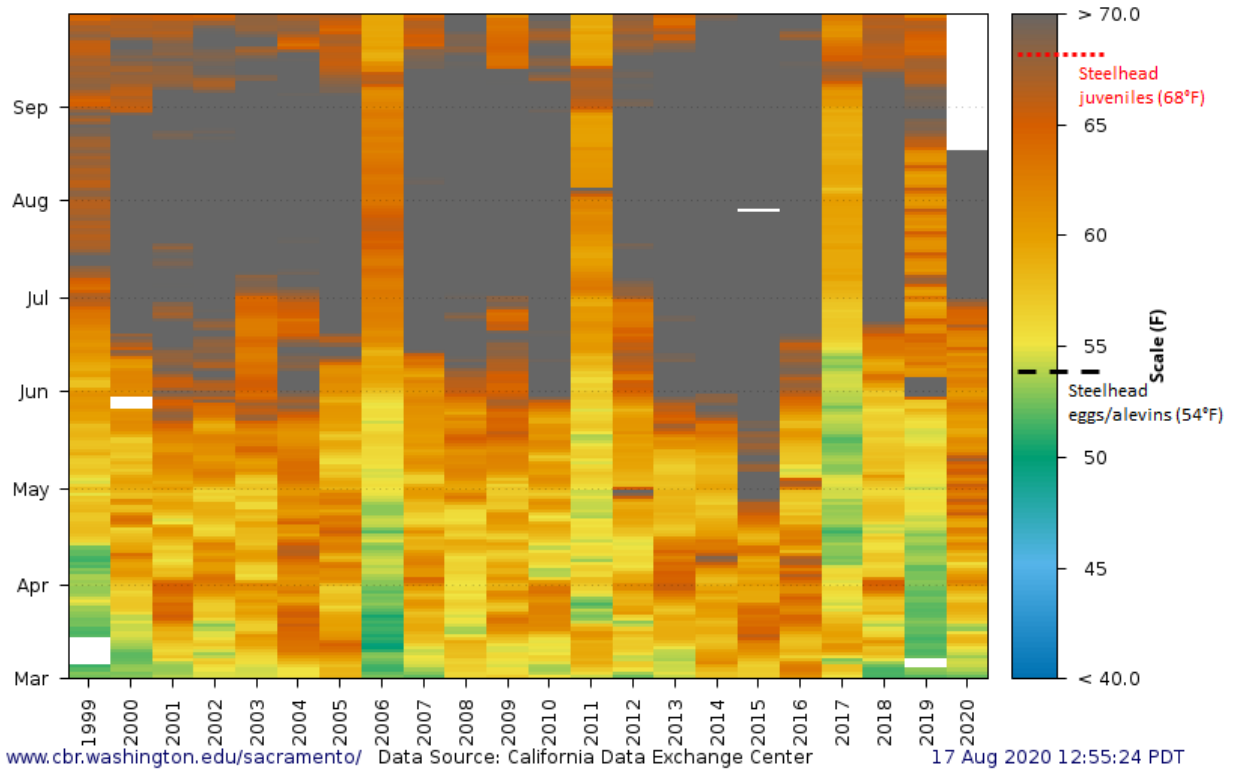
**Figure 5.** San Joaquin River (15-minute) water temperatures at Vernalis since March 1, 2020. Data from VNS station on CDEC; temperature threshold reference line added by SWT. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 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 2001-2020 OBB Stanislaus R at Orange Blossom Bridge  
Daily Average Water Temperature (F)  
Observed Range 36.30-73.07**



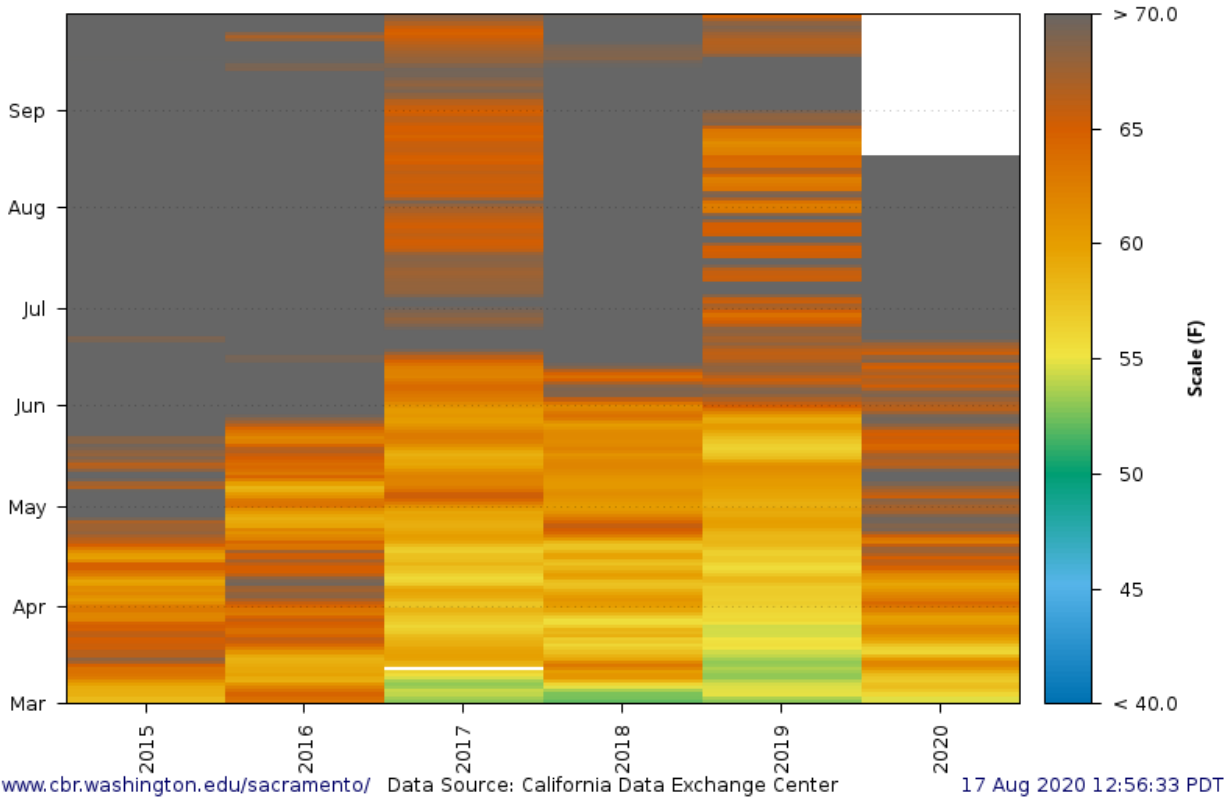
**Figure 6.** Stanislaus River water temperatures at Orange Blossom Bridge for March through September from 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT. [http://www.cbr.washington.edu/sacramento/data/query\\_river\\_allyears.html](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

WY 1999-2020 RPN Stanislaus R at Ripon  
 Daily Average Water Temperature (F)  
 Observed Range 49.63-84.36

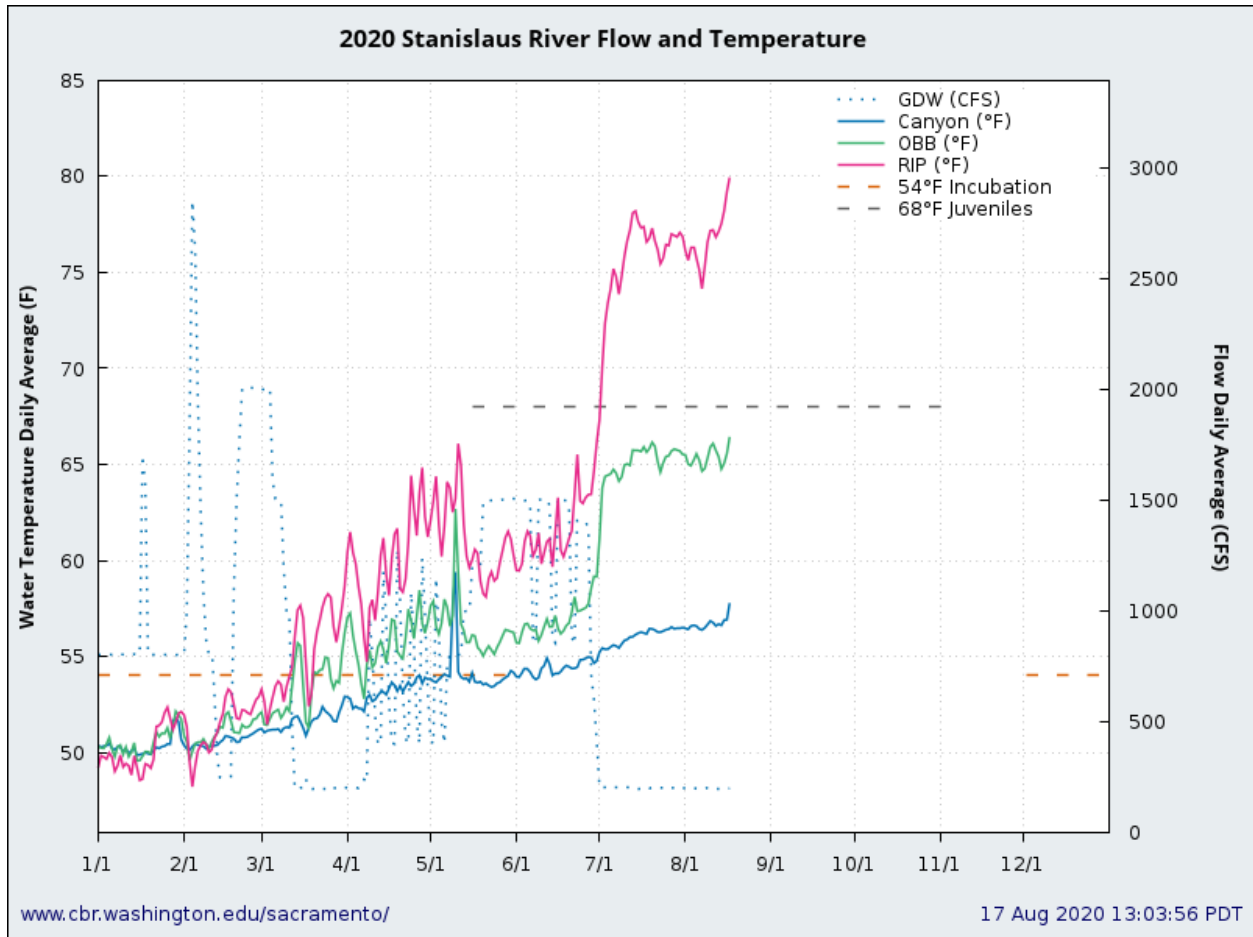


**Figure 7.** Stanislaus River water temperatures at Ripon for March through September from 1999 to present. Data from SacPAS; temperature threshold reference lines added by SWT.  
[http://www.cbr.washington.edu/sacramento/data/query\\_river\\_allyears.html](http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html)

WY 2015-2020 VNS San Joaquin R near Vernalis  
Daily Average Water Temperature (F)  
Observed Range 51.42-84.80



**Figure 8.** San Joaquin River water temperatures at Vernalis for March through September from 2015 to present. Data from SacPAS; 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.** 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#nmfs2019](http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html#nmfs2019)

#### Update on Fish Monitoring

No updates since last month. Monitoring for juvenile salmonid outmigration using rotary screw traps has ended for the year, and monitoring for adult salmonid migration into the river (using a weir) and spawning (via carcass surveys) has not yet started.

## DATA SHARING

- High level feedback:
  - Please share data requested prior to meeting (even a summary set of request categories would be helpful)
  - Not clear on ask. FishBIO coordination with fisheries agencies on Stanislaus includes data sharing but FishBIO hasn't been part of the dialogue that initiated this data sharing topic
  - Reporting on studies is not always publicly available, therefore identifying broad categories of data in request (rather than naming specific studies which may involve the same or similar methodology)
  - Interested in knowing what data the Irrigation Districts are collecting and what they are willing to share.
- Specific data requests:
  - **Rotary Screw Trapping**- In order to be most meaningful the data should include both release and recapture data for efficiency releases, trap data (eg revolutions, debris), and associated water quality
  - **Seine Surveys**- In order to be the most meaningful the data should include area seined, length and species of all catch, life-stage of salmonids, and associated water quality data
  - **Electrofishing Surveys**- In order to be the most meaningful the data should include information about the electrofisher settings, and time surveyed, length of species of all catch (including fish not taken onto the boat, if available), and associated water quality data
  - **Snorkel Surveys**-In order to be the most meaningful the data should include information about survey area, fish data (including length, if available), turbidity, and associated water quality data
  - **Redd Surveys**-In order to be the most meaningful the data should include information about survey methodology, location of redd (by riffle name, number or GPS coordinates), and size of redd (if available)
  - **Weir Data**- In order to be the most meaningful the data should include information about daily fish passage (both downstream and upstream), sex ratios (if available),and stacking data
  - **PIT Tag Data**-n order to be the most meaningful the data should include information about location of detection, PIT tag number, as well as the information necessary to identify the species and initial tagging data
  - **Diet Contents**-In order to be the most meaningful the data should include information to match diet contents with source fish, and identification to the lowest taxonomic group possible as well as certainty (if available)
  - **Restoration Monitoring**- In order to be the most meaningful the data should include site information, monitoring methods, results, and associated water quality data
  - **Water Quality Monitoring (temperature, Dissolved Oxygen, etc)** - In order to be the most meaningful the data should include site information, and results including any revisions from QA/QC protocols
  - **Daily catch at the lower Stanislaus R. RST located at Caswell** - It is operated by Pacific States Marine Fish Commission. Working on an adaptive management plan for the South Delta Temporary Barriers, have not had any luck reaching out directly to PSMFC for the data.

- **Distribution and abundance of juvenile and adult O. mykiss in the Stanislaus River** - with details on survey timing so can be linked to environmental covariates (likely source is FISHBIO, possible data from earlier years from Cramer Fish Sciences)
- **Temperature modeling runs for alternative flow shaping of the fall and spring pulse flows** - This would provide a more quantitative water temperature information input into our considerations for flow shaping. Currently, we just look at current water temperatures and qualitatively project future water temps based on typical seasonal temperature trends (likely source is modeling support from Reclamation, the Districts, or district consultants)

### **ANNUAL REPORT: LESSONS LEARNED**

- Better communication on the timing of spawning and egg incubation through fry emergence and communication and coordination on management of flows, including flood control releases, to avoid redd dewatering and redd scouring impacts
- Pulse Shaping Considerations: This year might be a good opportunity to include our lists of various considerations for the fall and spring pulse flows to capture the lessons learned over the past 10+ years and serve as a reference for the SWT going forward. (Barb has draft lists prepared when there was discussion about including them in the SRP guidance document; we could add the Tulloch ops considerations discussed at the July SWT meeting.)
- Flow Schedule Accounting: One of the lessons learned by SOG was that the minimum flow schedule accounting gets a little complicated when the year-type changes during the spring pulse flow period. My understanding is that Reclamation intends for SWT to continue to use the water accounting method used WY 2018 onward by SOG. I recommend that we memorialize the use of this water accounting method for implementation of the SRP flows. (Barb has a draft summary of this accounting method prepared when there was discussion about including them in the SRP guidance document)
- Optimal flow shaping is an iterative process and it may be impossible to meet the needs of all concerned parties.