BUREAU OF RECLAMATION

Stanislaus Watershed Team

10:00 a.m.–12:00 p.m.
Conference Line: 1 (321) 209-6143; Meeting ID: 901 988 581#
Webinar: Join Microsoft Teams Meeting

Wednesday, December 21, 2022

Agenda

1. Introductions
2. Ground Rules[1]
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 Update on Proposed Action Elements
    a. Spawning and rearing habitat restoration
    b. Temperature management study
    c. Yellow-bellied cuckoo survey

[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

11. Other Discussion Items
    a. Curtailments
    b. Annual reporting check-in
    c. Items to elevate to WOMT
12. Review Action Items
13. Next Meeting: Wednesday, January 18, 2023 (10 a.m.–12 p.m.)

New Melones Dam & Lake - Stanislaus River Basin
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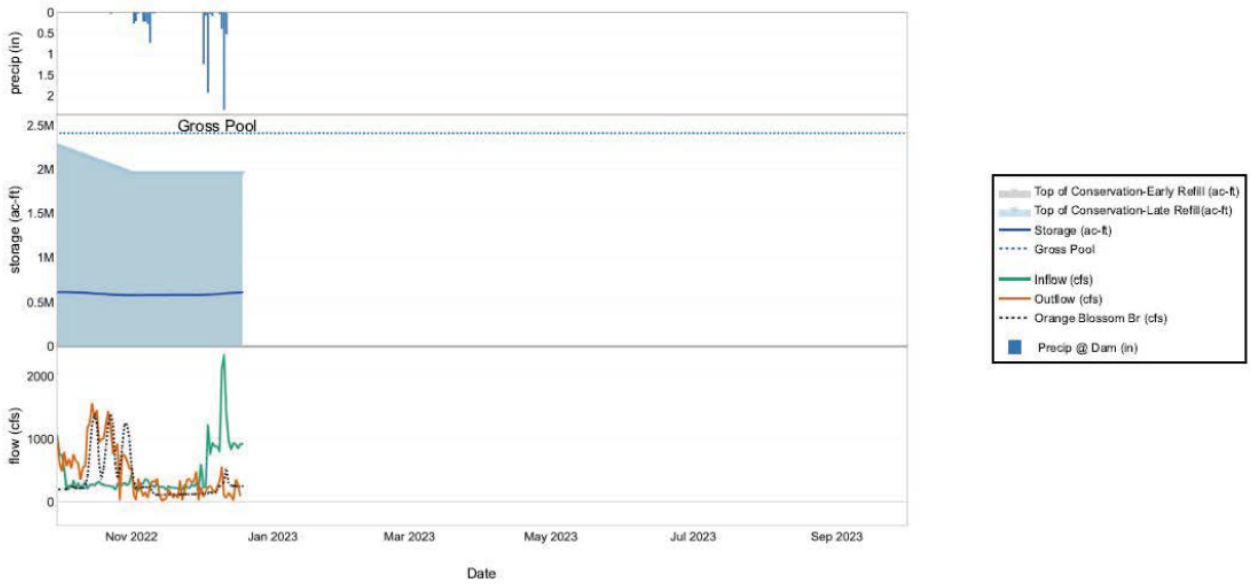

Table 4. Reservoir Releases in Cubic Feet Per Second

Reservoir	Dam	WY 2022	WY 2023	15-Year Median
Trinity	Lewiston	300	295	309
Sacramento	Keswick	3,334	3,347	4,024
Feather	Oroville (SWP)	950	950	1,550
American	Nimbus	568	1,327	1,786
Stanislaus	Goodwin	403	202	222
San Joaquin	Friant	602	585	354

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

Reservoir	Capacity	15-Yr Avg	WY 2022	WY 2023	% O 15 Yr Avg
Trinity	2,448	1,244	710	523	42
Shasta	4,552	2,256	1,206	1,437	64
Folsom	977	380	421	283	74
New Melones	2,420	1,227	890	615	50
Fed. San Luis	966	422	83	224	53
Total North CVP	11,363	5,530	3,310	3,082	56
Millerton	521	365	331	331	125
Oroville (SWP)	3,538	1,458	1,153	1,037	71

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

Reservoir	Current WY 2023	WY 1977	WY 1983	15-Yr Avg	% O 15 Yr Avg
Trinity	19	188	338	103	18
Shasta	435	779	1,844	703	62
Folsom	171	76	1,100	259	66
New Melones	70	NA	349	108	64
Millerton	119	36	366	126	94

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

Reservoir	Current WY 2023	WY 1977	WY 1983	Avg (N Yrs)	% of Avg	Last 24 Hours
Trinity at Fish Hatchery	6.07	13.58	18.20	31.87 (60)	19	0.00
Sacramento at Shasta Dam	8.13	15.78	36.89	61.15 (65)	13	0.00
American at Blue Canyon	18.24	15.63	38.05	68.15 (46)	27	0.00
Stanislaus at New Melones	8.57	NA	12.77	28.09 (43)	31	0.00
San Joaquin at Huntington LK	10.70	10.90	19.60	42.43 (47)	25	0.00

United States Department of the Interior, Bureau of Reclamation
Central Valley Project-California

December 2022 | New Melones Lake Daily Operations | Run Date: 12/19/2022

Day	Elev	Storage 1000-Acre-Feet in Lake	Storage 1000-Acre-Feet Change	Computed Inflow C.F.S.	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. C.F.S.	Evap. INCHES	Precip Inches
N/A	NA	586.0	NA	NA	NA	NA	NA	NA	NA	0.00
1	875.26	586.7	0.7	583	232	0	0	13	0.08	0.00
2	875.32	587.0	0.3	232	73	0	0	3	0.02	0.00
3	875.47	587.8	0.8	557	159	0	0	8	0.05	0.00
4	875.85	589.8	2.0	1,222	225	0	0	8	0.05	0.00
5	876.04	590.7	1.0	760	258	0	0	7	0.04	0.00
6	876.32	592.2	1.5	935	197	0	0	5	0.03	0.00
7	876.60	593.6	1.5	879	138	0	0	8	0.05	0.00
8	876.84	594.9	1.2	878	240	0	0	10	0.06	0.00
9	877.02	595.8	0.9	798	319	0	0	8	0.05	0.00
10	877.61	598.9	3.1	2,111	556	0	0	3	0.02	0.00
11	878.46	603.3	4.4	2,333	76	0	0	14	0.08	0.00
12	878.97	606.0	2.7	1,410	58	0	0	3	0.02	0.00
13	879.28	607.7	1.6	970	144	0	0	2	0.01	0.00
14	879.56	609.1	1.5	833	82	0	0	7	0.04	0.00
15	879.90	610.9	1.8	934	23	0	0	7	0.04	0.00
16	880.11	612.0	1.1	917	350	0	0	7	0.04	0.00
17	880.32	613.2	1.1	847	273	0	0	12	0.07	0.00
18	880.63	614.8	1.6	918	82	0	0	7	0.04	0.00
Totals	N/A	N/A	**28.8**	**18,117**	**3,485**	**0**	**0**	**132**	**0.79**	**6.59**
Acre-Feet	N/A	N/A	**28,800**	**35,935**	**6,912**	**0**	**0**	**262**	N/A	N/A

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

Summary: Precipitation

This month	6.59
October 1, 2021, to date	8.57

Summary: Release (Acre-Feet)

Power	6,912
Spill	0
Outlet	0
Total	6,912

November 2022 | New Melones Lake Daily Operations | Run Date: 12/01/2022

Day	Elev	Storage in Lake (1000 Acre-Feet)	Storage Change (1000 Acre-Feet)	Computed Inflow C.F.S.*	Release C.F.S. – Power	Release – C.F.S. Spill	Release C.F.S. – Outlet	EVAP – C.F.S.	EVAP – Inches	Precip Inches
N/A	N/A	583.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	874.62	583.4	-0.3	442	544	0	0	28	0.17	0.00
2	874.68	583.7	0.3	258	93	0	0	10	0.06	0.00
3	874.74	584.0	0.3	188	31	0	0	2	0.01	0.00
4	874.66	583.6	-0.4	175	369	0	0	13	0.08	0.00
5	874.68	583.7	0.1	280	203	0	0	25	0.15	0.00
6	874.75	584.1	0.4	287	83	0	0	23	0.14	0.00
7	874.82	584.4	0.4	358	154	0	0	23	0.14	0.00
8	875.01	585.4	1.0	550	55	0	0	3	0.02	0.00
9	875.02	585.5	0.1	263	230	0	0	7	0.04	0.00
10	874.99	585.3	-0.2	256	329	0	0	5	0.03	0.00
11	874.96	585.2	-0.2	232	305	0	0	5	0.03	0.00
12	874.89	584.8	-0.4	212	366	0	0	27	0.16	0.00
13	874.93	585.0	0.2	230	113	0	0	13	0.08	0.00
14	875.01	585.4	0.4	240	18	0	0	15	0.09	0.00
15	875.08	585.8	0.4	229	34	0	0	13	0.08	0.00
16	875.13	586.0	0.3	194	74	0	0	17	0.10	0.00
17	875.14	586.1	0.1	247	198	0	0	23	0.14	0.00
18	875.17	586.2	0.2	224	131	0	0	15	0.09	0.00
19	875.23	586.6	0.3	226	57	0	0	13	0.08	0.00
20	875.25	586.7	0.1	216	122	0	0	42	0.25	0.00
21	875.30	586.9	0.3	213	50	0	0	33	0.20	0.00
22	875.24	586.6	-0.3	192	338	0	0	10	0.06	0.00
23	875.30	586.9	0.3	196	22	0	0	18	0.11	0
24	875.33	587.1	0.2	263	170	0	0	15	0.09	0.00
25	875.27	586.8	-0.3	230	361	0	0	25	0.15	0.00
26	875.21	586.4	-0.3	216	355	0	0	17	0.10	0.00
27	875.19	586.3	-0.1	275	300	0	0	27	0.16	0.00
28	875.15	586.1	-0.2	245	322	0	0	27	0.16	0.00
29	875.07	585.7	-0.4	293	481	0	0	20	0.12	0.00
30	875.13	586.0	0.3	195	22	0	0	17	0.10	0.00
Totals	**N/A**	**NA**	**2.6**	**7,625**	**5,903**	**0**	**0**	**531**	**3.19**	**1.96**
Acre-Feet	**N/A**	**MA**	**2,600**	**15,124**	**11,709**	**0**	**0**	**1,053**	**N/A**	**N/A**

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

Summary: Release (acre-feet)

Power	11,709
Spill	0
Outlet	0
Total	11,709

Summary: Precipitation (Month/Inches)

This Month	1.96
October 1, 2021 to date	1.98

United States Department of the Interior, Bureau of Reclamation
Central Valley Project-California

December 2022 | Tulloch Reservoir Daily Operations | Run Date: 12/19/2022

Day	Elev	Storage (Acre-Feet) Res.	(Acre-Feet) Change	Compu-ted Inflow C.F.S.	New Melones Release	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. CFS (1)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	499.68	54,962	139	295	232	222	0	0	3
2	499.4	54,663	-299	68	73	218	0	0	1
3	499.42	54,684	21	231	159	218	0	0	2
4	499.80	55,090	406	425	225	218	0	0	2
5	499.91	55,207	117	278	258	218	0	0	1
6	499.88	55,175	-32	198	197	213	0	0	1
7	499.74	55,026	-149	143	138	216	0	0	2
8	499.76	55,047	21	233	240	220	0	0	2
9	499.95	55,250	203	323	319	219	0	0	2
10	501.83	57,302	2,052	1,255	556	216	0	0	1
11	502.13	57,636	334	389	76	218	0	0	3
12	501.97	57,457	-179	128	58	217	0	0	1
13	501.88	57,358	-99	165	144	215	0	0	0
14	501.67	57,126	-232	100	82	216	0	0	1
15	501.32	56,740	-386	23	23	217	0	0	1
16	501.57	57,016	276	357	350	217	0	0	1
17	501.66	57,115	99	270	273	217	0	0	3
18	501.44	56,872	243	94	82	135	81	0	1
Totals	N/A	N/A	**2,049**	**4,975**	**3,485**	**81**	**81**	**3**	**28**
Acre-Feet	N/A	N/A	**2,049**	**9,868**	**6,912**	**161**	**161**	**6**	**56**

* Computed inflow is the sum of change in storage, releases, pumping and evaporation
** Evaporation records taken from Shasta Pan

Summary: Release (acre-feet)

Power	7,597
Spill	161
Outlet	6
Total Releases	7,763

November 2022 | Tulloch Reservoir Daily Operations | Run Date: 12/01/2022

Day	Elev	Storage (Acre-Feet) Res.	Storage (Acre-Feet) Change	Compu-ted Inflow C.F.S.	New Melones Release	Release C.F.S. Power	Release C.F.S. Spill	Release C.F.S. Outlet	Evap. (1)
N/A	N/A	56,246	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	501.46	56,894	648	578	544	245	0	0	6
2	501.23	56,641	-253	84	93	210	0	0	2
3	500.90	56,279	-362	30	31	213	0	0	0
4	501.17	56,575	296	368	369	216	0	0	3
5	501.14	56,541	-34	204	203	216	0	0	5
6	500.90	56,279	-262	89	83	216	0	0	5
7	500.81	56,181	-98	172	154	216	0	0	5
8	500.57	55,921	-260	86	55	216	0	0	1
9	500.60	55,953	32	233	230	216	0	0	1
10	500.78	56,149	196	316	329	216	0	0	1
11	500.93	56,311	162	298	305	215	0	0	1
12	501.20	56,608	297	369	366	213	0	0	6
13	501.01	56,398	-210	111	113	214	0	0	3
14	500.63	55,986	-412	11	18	216	0	0	3
15	500.27	55,596	-390	23	34	217	0	0	3
16	499.94	55,239	-357	42	47	219	0	0	3
17	499.88	55,175	-64	192	198	219	0	0	5
18	499.71	54,994	-181	131	131	219	0	0	3
19	499.40	54,663	-331	54	57	218	0	0	3
20	499.21	54,460	-203	125	122	218	0	0	9
21	498.89	54,120	-340	54	50	218	0	0	7
22	499.10	54,343	223	333	338	219	0	0	2
23	498.72	53,942	-401	21	22	219	0	0	4
24	498.62	53,837	-105	169	170	219	0	0	3
25	498.89	54,120	283	367	361	219	0	0	5
26	499.14	54,385	265	356	355	219	0	0	3
27	499.28	54,535	150	302	300	220	0	0	6
28	499.46	54,727	192	323	322	220	0	0	6
29	499.91	55,207	480	463	481	198	0	19	4
30	499.55	54,823	-384	28	22	201	0	18	3
Totals	NA	NA	**-1,423**	**5,932**	**5,903**	**6,500**	**0**	**37**	**111**
Acre-Feet	NA	NA	**-1,423**	**11,766**	**11,709**	**12,893**	**0**	**73**	**220**

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

** Evaporation records taken from Shasta Pan

Summary: Release (acre-feet)

Power	12,893
Spill	0
Outlet	73
Total Releases	12,966

October 2022 | Goodwin Reservoir Daily Operations | Run Date: 10/17/2022

Day	Elev	Storage (1000 Acre-Feet) in Lake	Storage (1000 Acre-Feet) Change	Tulloch Release	Release C.F.S. – River Outlet	RELEASE C.F.S. – Spill	Canals – Joint Main	Canals – South Main
N/A	N/A	519	N/A	N/A	N/A	N/A	N/A	N/A
1	359.74	519	0	222	0	211	0	0
2	359.74	519	0	218	0	203	0	0
3	359.76	520	1	218	0	207	0	0
4	359.74	519	-1	218	0	219	0	0
5	359.74	519	0	218	0	209	0	0
6	359.74	519	0	213	0	203	0	0
7	359.74	519	0	216	0	201	0	0
8	359.76	520	1	220	0	202	0	0
9	359.76	520	0	219	0	204	0	0
10	359.77	521	1	219	0	228	0	0
11	359.76	520	-1	218	0	213	0	0
12	359.74	519	-1	217	0	206	0	0
13	359.74	519	0	215	0	200	0	0
14	359.74	519	0	216	0	202	0	0
15	359.74	519	0	217	0	202	0	0
16	359.74	519	0	217	0	202	0	0
17	359.74	519	0	217	0	202	0	0
18	359.76	520	1	216	0	202	0	0
Totals	N/A	N/A	**1**	**3,914**	**0**	**3,716**	**0**	**0**
Acre-Feet	N/A	N/A	**1**	**7,763**	**0**	**7,371**	**0**	**0**

Joint Main operated by SSJID and OID

Summary: Release (acre-feet)

Joint Main Canal	0
South Main Canal	0
Outlet	0
Spill	7,371
Total Releases	7370.686

November 2022 | Goodwin Reservoir Daily Operations | Run Date: 12/01/2022

Day	Elev	Storage (1000 Acre-Feet) in Lake	Storage (1000 Acre-Feet) Change	Tulloch Release	Release C.F.S. – River Outlet	Release C.F.S. – Spill	Canals – Joint Main	Canals – South Main
N/A	N/A	529	N/A	N/A	N/A	N/A	N/A	N/A
1	359.74	519	-10	245	0	256	0	0
2	359.74	519	0	210	0	204	0	0
3	359.74	519	0	213	0	204	0	0
4	359.74	519	0	216	0	202	0	0
5	359.76	520	1	216	0	202	0	0
6	359.76	520	0	216	0	202	0	0
7	359.76	520	0	216	0	209	0	0
8	359.74	519	-1	216	0	209	0	0
9	359.74	519	0	216	0	205	0	0
10	359.74	519	0	216	0	204	0	0
11	359.74	519	0	215	0	204	0	0
12	359.74	519	0	213	0	202	0	0
13	359.74	519	0	214	0	201	0	0
14	359.74	519	0	216	0	202	0	0
15	359.74	519	0	217	0	202	0	0
16	359.74	519	0	219	0	202	0	0
17	359.74	519	0	219	0	202	0	0
18	359.74	519	0	219	0	202	0	0
19	359.74	519	0	218	0	202	0	0
20	359.74	519	0	218	0	202	0	0
21	359.74	519	0	218	0	202	0	0
22	359.74	519	0	219	0	202	0	0
23	359.74	519	0	219	0	202	0	0
24	359.74	519	0	219	0	202	0	0
25	359.74	519	0	219	0	202	0	0
26	359.74	519	0	219	0	202	0	0
27	359.74	519	0	220	0	202	0	0
28	359.74	519	0	220	0	203	0	0
29	359.74	519	0	217	0	205	0	0
30	359.74	519	0	219	0	204	0	0
Totals	N/A	N/A	**-10**	**6,537**	**0**	**6,144**	0	**0**
Acre-Feet	N/A	N/A	**-10**	**12,966**	**0**	**12,187**	0	**0**

Joint Main operated by SSJID and OID

Summary: Release (acre-feet)

Joint Main Canal	0
South Main Canal	0
Outlet	0
Spill	12,187
Total	12,187

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.

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

[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

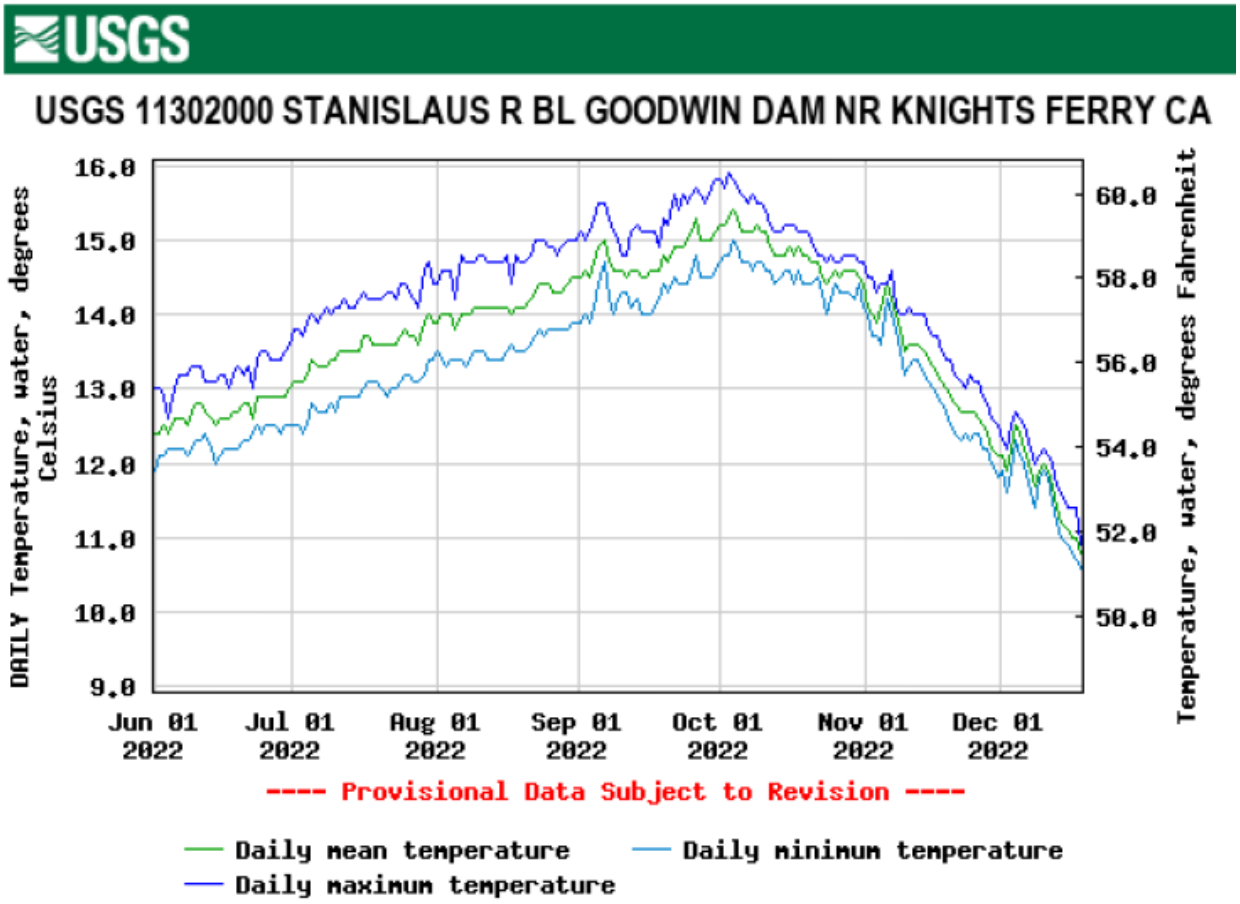

Figure 2. Daily water temperatures on the Stanislaus River upstream of Knights Ferry since June 1, 2022. Data from USGS gage 11302000 on NWIS; temperature threshold reference line added by SWT.

Chart: Vertical axis shows hourly water temperature (in Fahrenheit degrees) at Orange Blossom Bridge on the Stanislaus River. Horizontal axis shows date from 6-1-2022 through 12-19-22. Hourly water temperatures since 7-1-22 have ranged between approximately 59 and 67 degrees Fahrenheit. For more information, please call (916) 414-2400.

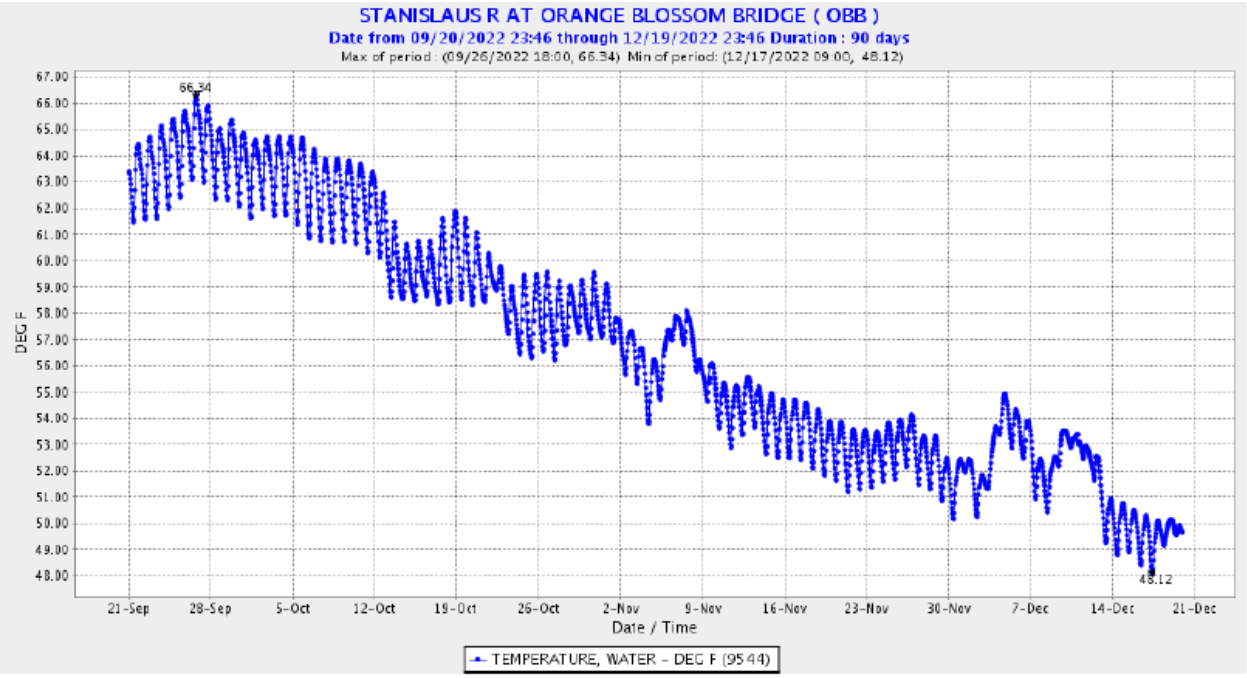

Figure 3. Stanislaus (hourly) water temperatures at Orange Blossom Bridge since October 1, 2022. Data from OBB station on CDEC; temperature threshold reference line added by SWT.

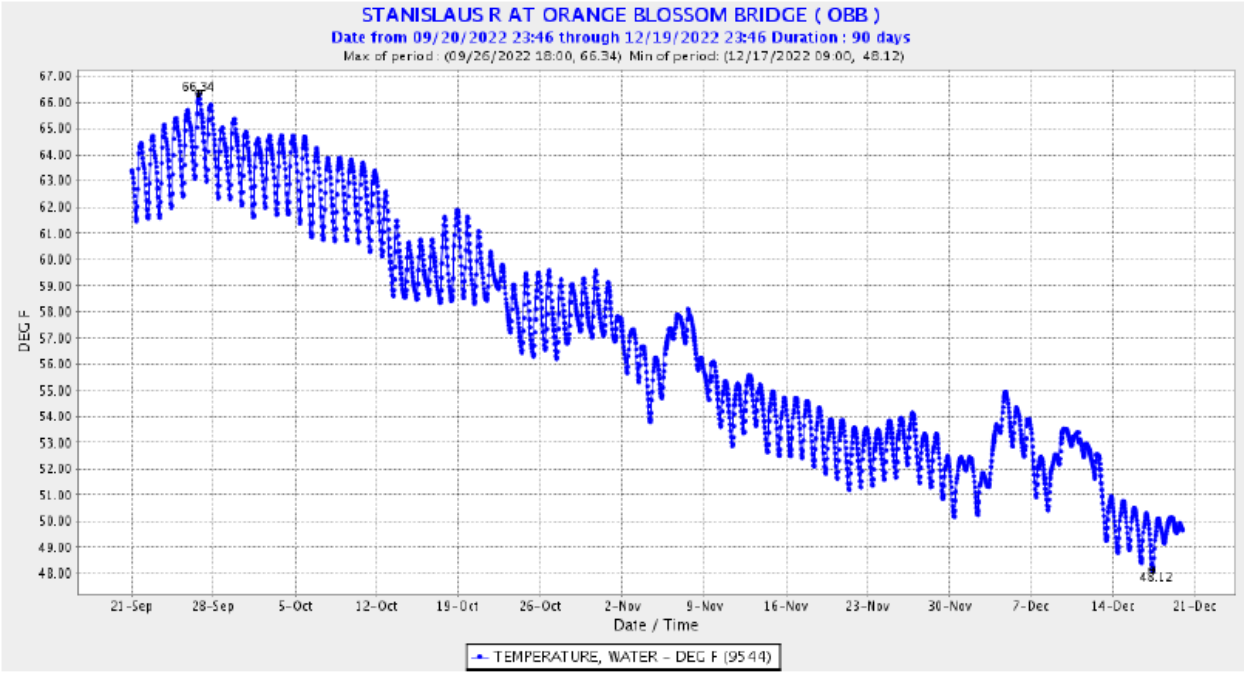

Figure 4. Stanislaus (15-minute) water temperatures at Ripon since October 1, 2022. Data from RIP station on CDEC.

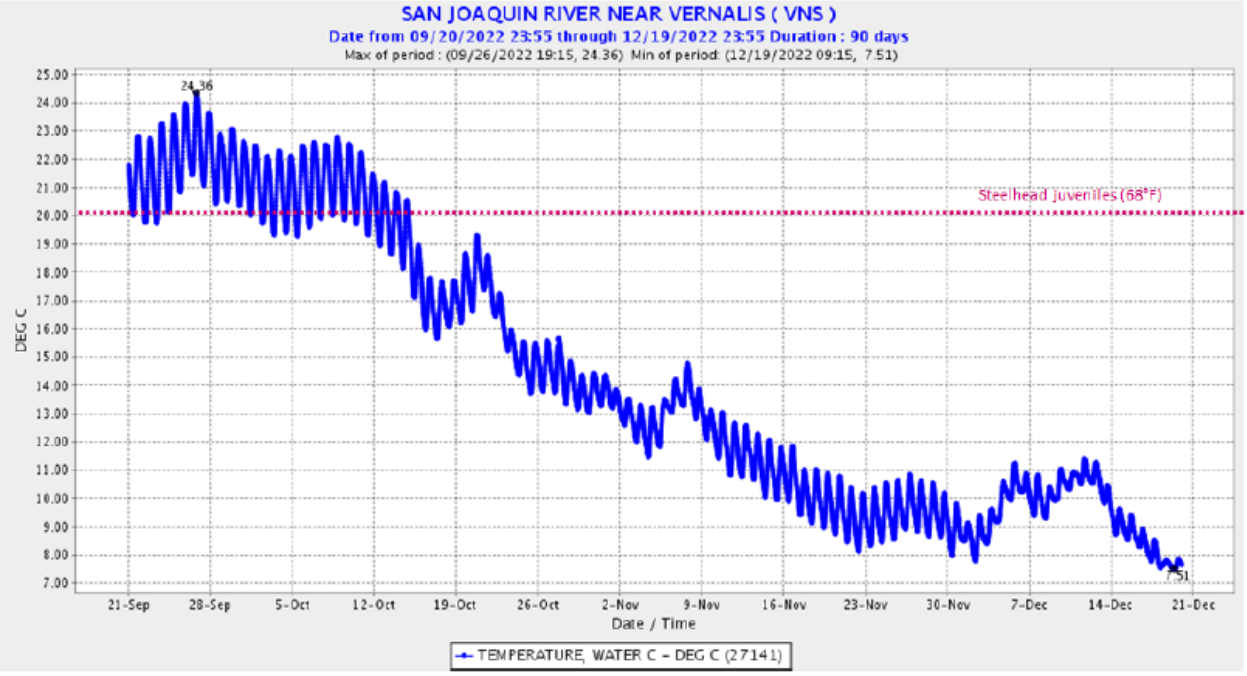

Figure 5. San Joaquin River (15-minute) water temperatures at Vernalis since October 1, 2022. Data from VNS station on CDEC. Note that, unlike in the previous figures, temperature is reported in degrees Celsius. 8°C=46.4°F; 10°C=50°F; 12°C=53.6°F; 14°C=57.2°F; 16°C=60.8°F; 18°C=64.4°F; 20°C=68.0°F; 22°C=71.6°F; 24°C=75.2°F; 26°C=78.8°F; 28°C=82.4°F.

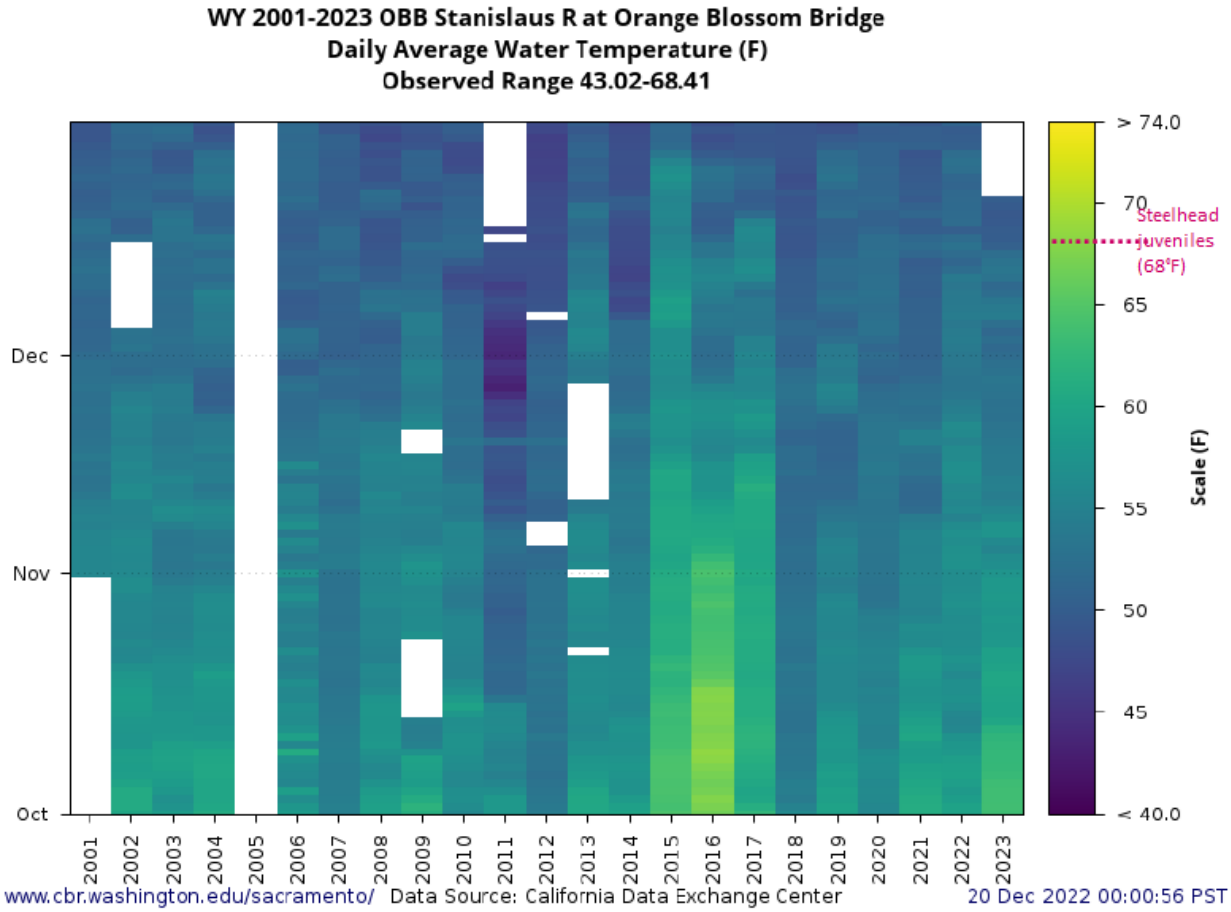

Figure 6. Stanislaus River water temperatures at Orange Blossom Bridge for October through Decembe r from WY 2001 to present. Data from SacPAS; temperature threshold reference lines added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

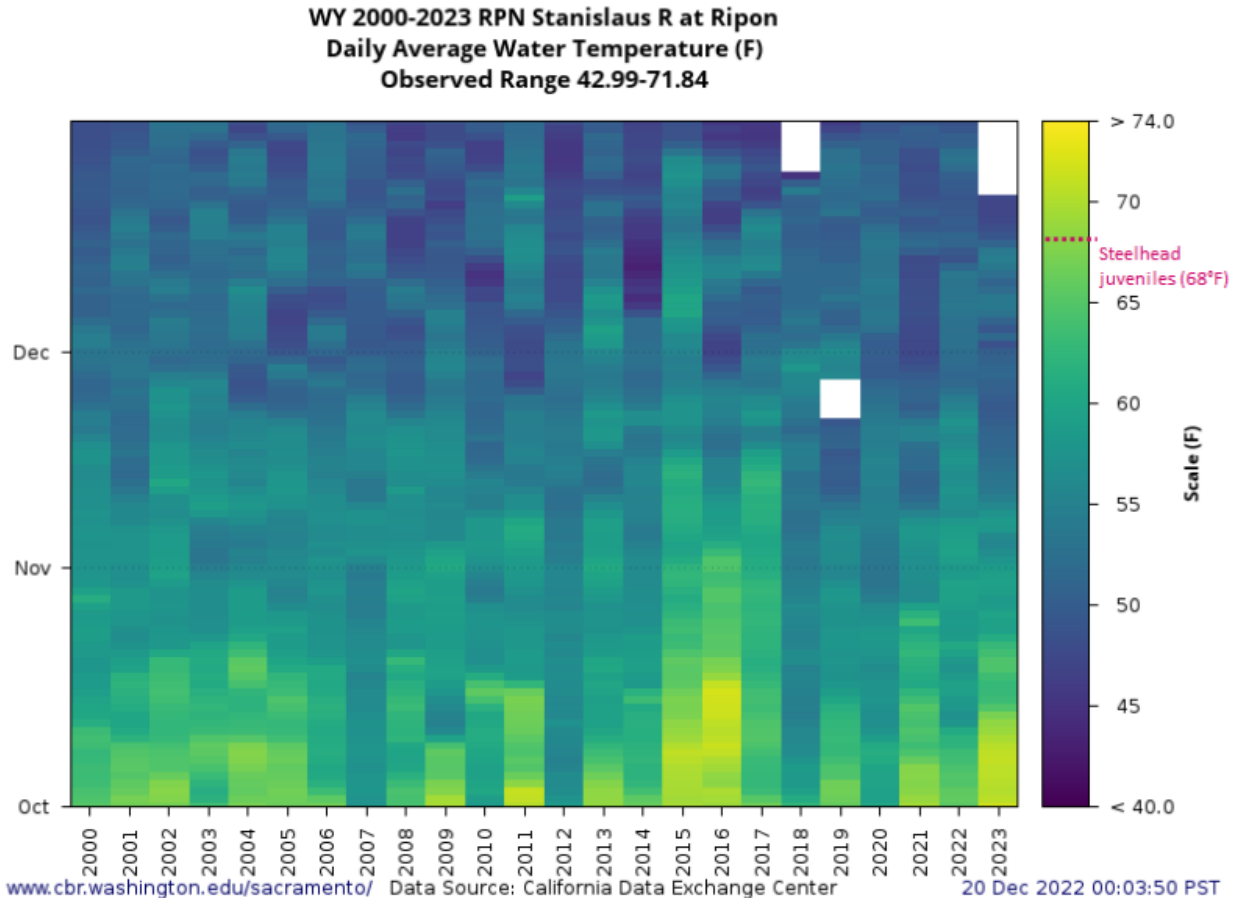

Figure 7. Stanislaus River water temperatures at Ripon for October through December from Water Year 2000 to present. Figure from SacPAS using RIP station data from CDEC; temperature threshold reference line added by SWT.
http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

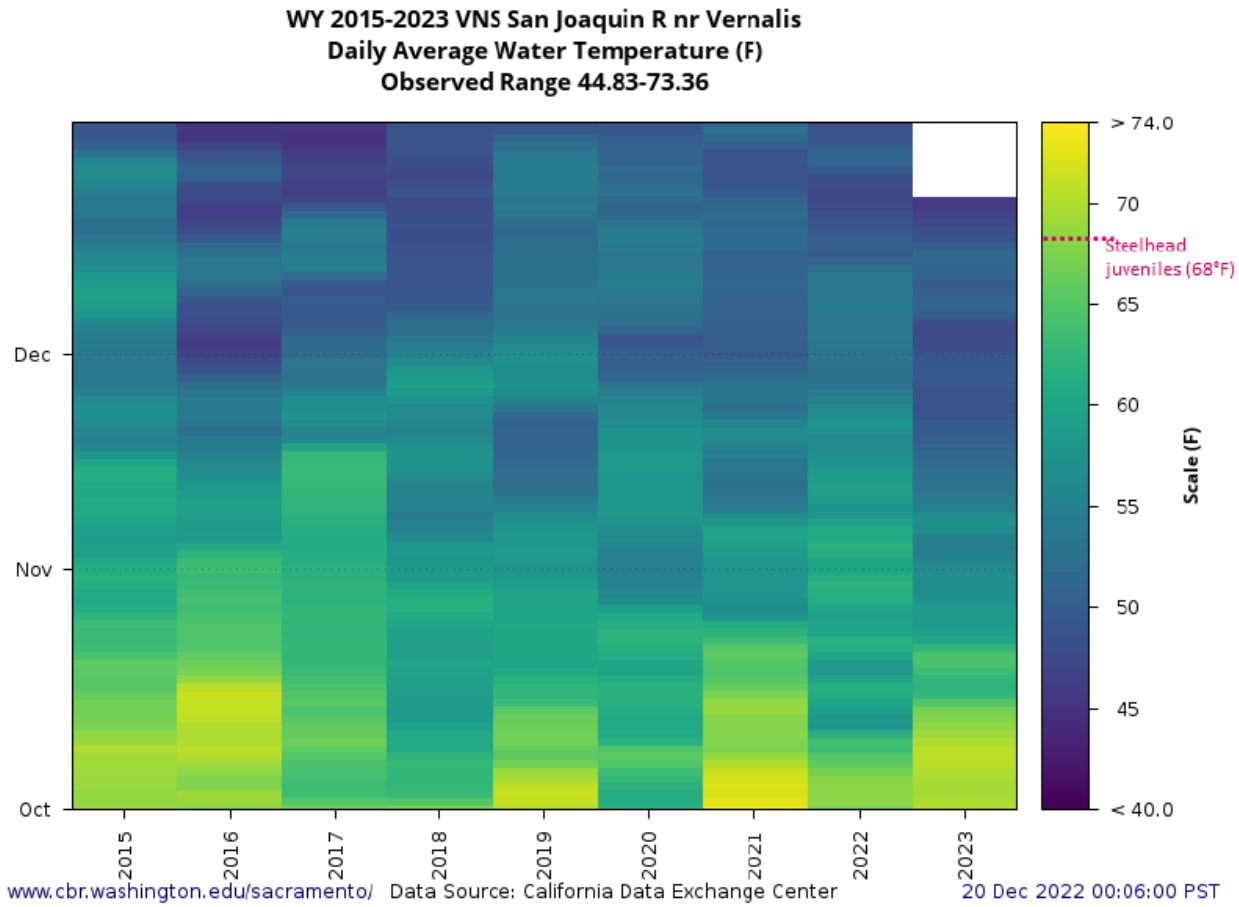

Figure 8. San Joaquin River water temperatures at Vernalis for October through December from Water Year 2015 to present. Figure from SacPAS using VNS station data from CDEC; temperature threshold reference line added by SWT. http://www.cbr.washington.edu/sacramento/data/query_river_allyears.html

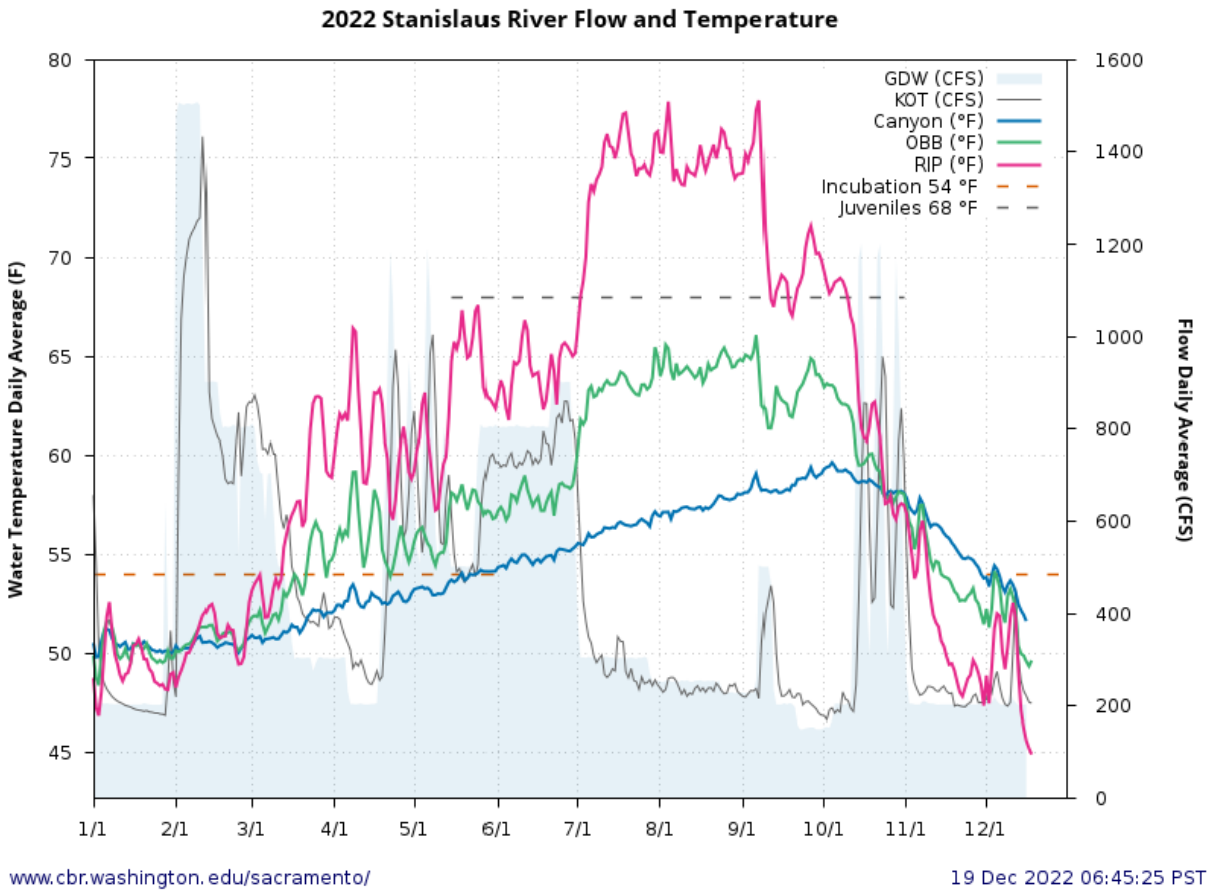

Figure 9. Stanislaus River flow and water temperatures from January 1, 2022 to present. Data (including temperature threshold reference lines) from SacPAS: http://www.cbr.washington.edu/sacramento/data/tc_stanislaus.html

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 3, 2022 for the Stanislaus River and Merced River. The Tuolumne carcass survey started on September 26 Carcass survey data for all three San Joaquin River tributaries through the week of October 9, 20212 are reported in Table 1.

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

River	Week	Date	# Live	# Redds	# Skeletons	# Tagged	# Ad-Clipped	# Scale Samples	# Recov-ered	Average Flow (cfs)
Stanislaus	1	10/3/2022	1	7	0	0	0	0	0	190
Stanislaus	2	10/10/2022	26	9	0	0	0	0	0	487
Stanislaus	3	10/18/2022	43	4	0	0	0	0	0	529
Stanislaus	4	10/24/2022	32	8	0	0	0	0	0	371
Stanislaus	5	10/31/2022	417	216	1	10	0	9	0	289
Stanislaus	6	11/7/2022	738	389	8	26	9	29	1	200
Stanislaus	7	11/14/2022	1049	691	41	128	22	128	9	200
Stanislaus	8	11/20/22	926	775	86	254	50	254	48	200
Stanislaus	9	11/28/22	621	715	188	247	56	247	131	200
Stanislaus	10	12/5/22	654	825	173	200	50	200	153	200
Stanislaus	11	12/12/22	313	594	116	165	43	165	61	256
Tuolumne	1	9/26/2022	5	7	0	1	1	1	0	91
Tuolumne	2	10/3/2022	8	5	1	1	2	1	0	117
Tuolumne	3	10/10/2022	5	9	1	0	0	0	0	114
Tuolumne	4	10/17/2022	1	2	0	0	0	0	0	425
Tuolumne	5	10/24/2022	5	1	1	0	0	0	0	369
Tuolumne	6	10/31/2022	18	3	0	0	0	0	0	275
Tuolumne	7	11/7/2022	218	101	0	0	0	0	0	177
Tuolumne	8	11/14/22	259	187	7	26	3	26	0	175
Tuolumne	9	11/21/22	138	286	40	76	21	76	12	171
Tuolumne	10	11/28/22	257	190	29	40	10	40	34	170
Tuolumne	11	12/5/22	29	125	14	9	2	9	15	169
Tuolumne	12*	12/12/22	3	1	1	1	0	1	0	177
Merced	1	10/5/2022	0	0	0	0	0	0	0	205
Merced	2	10/12/2022	0	0	0	0	0	0	0	235
Merced	3	10/18/2022	0	0	0	0	0	0	0	989
Merced	4	10/25/2022	4	0	0	0	0	0	0	205
Merced	5	11/1/2022	3	1	0	0	0	0	0	150
Merced	6	11/8/2022	65	29	0	0	0	0	0	156
Merced	7	11/15/22	133	80	0	2	0	2	0	160
Merced	8	11/21/22	82	72	4	10	1	10	0	161
Merced	9	11/29/22	28	69	4	6	1	6	2	161
Merced	10	12/6/22	23	41	0	2	1	2	0	160
Merced	11	12/13/22	9	4	0	0	0	0	0	164

*Tuolumne week 12 only surveyed section 1 and 2

Table 2. O mykiss found on Stanislaus Carcass Survey

Count	Date
1	11/14/22
1	11/20/22

Steelhead redd surveys

CDFW expects to start the steelhead redd surveys to start in January 2023.

Weir

Fishbio installed the weir near Riverbank and began monitoring for upstream passage of adult salmonids on September 15, 2022. The cumulative net upstream passage through December 13, 2022 is 3,504 Chinook salmon (an additional 1,706 since the 1,798 Chinook reported in the November handout). Twenty-two percent of the observed Chinook were ad-clipped, indicating a hatchery origin. Two Oncorhynchus mykiss have been observed (one each on October 20 and December 5). Both O. mykiss observed were greater than 16" (indicating possible anadromy) and ad-clipped (indicating a hatchery origin). Data highlights provided by Fishbio on December 14, 2022 in their "Stanislaus River Weir Update through 11/13/22" are provided below in Figure 10 and Figure 11.

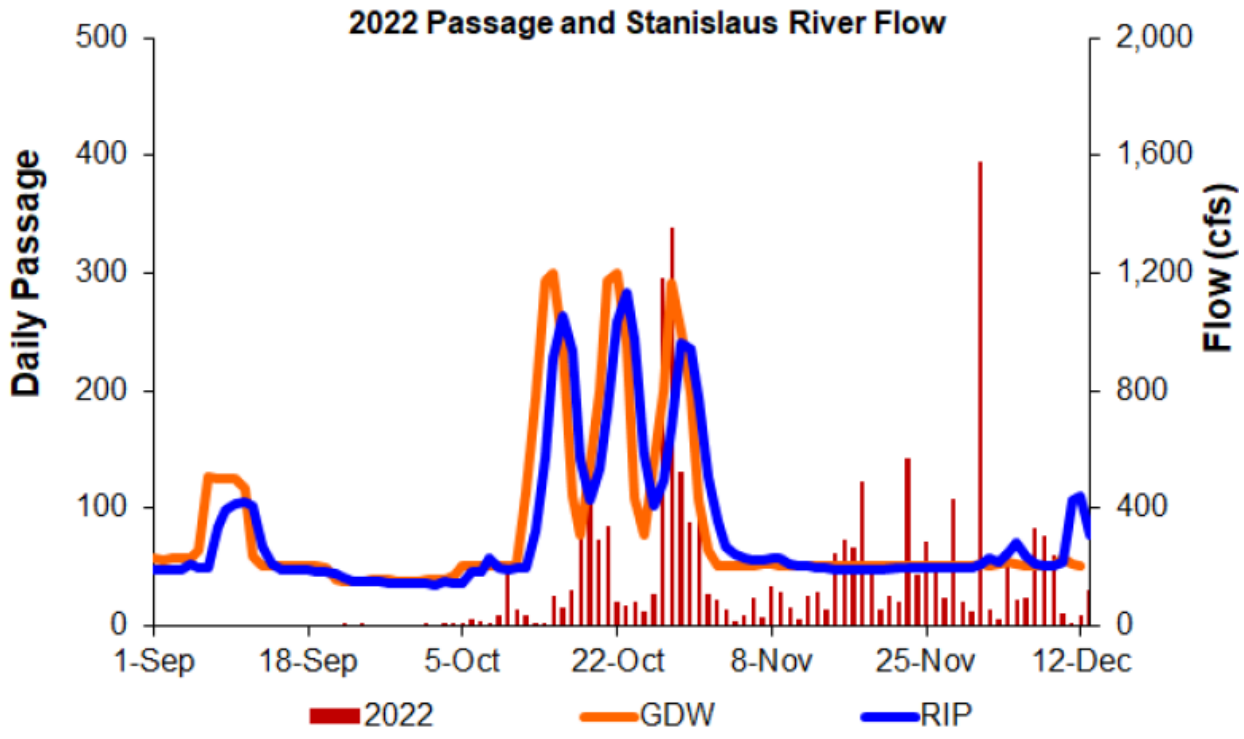

Figure 10. Daily Chinook salmon passage through December 13, 2022, at the Stanislaus River weir near Riverbank. Data courtesy of Fishbio.

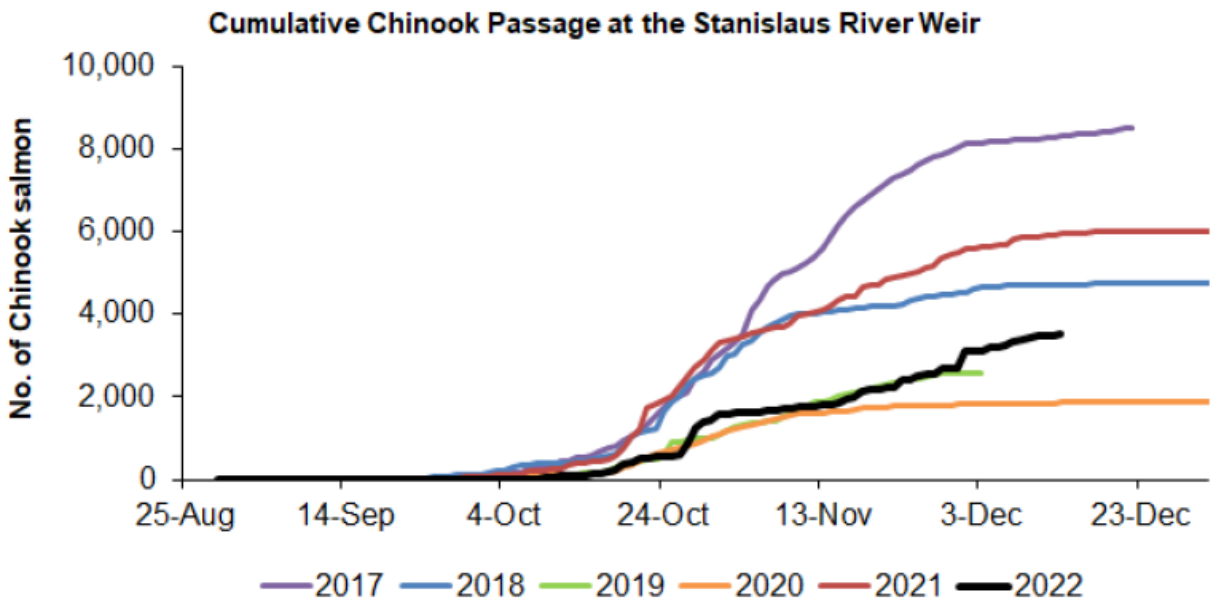

Figure 11. Cumulative Chinook salmon passage in the current year through December 13, 2022, at the Stanislaus River weir near Riverbank, along with cumulative passage for the previous five years. *Data courtesy of Fishbio.*

Update on Fish Monitoring (Juveniles)

Mossdale Trawl

No salmonids have been caught in the Mossdale trawl sampling since May 14,2022. While Mossdale trawl sampling is ongoing, catch is rare outside of the spring months so reporting on the Mossdale Trawl will not resume until March 2023.

Rotary Screw Traps

Rotary screw trapping at Oakdale and Caswell for the 2022/2023 outmigration season (for monitoring of outmigrating juvenile salmonids) is expected to begin in December 2022 or January 2023.

Green Sturgeon Update

Survey Crews reported detection at an acoustic receiver within that last month. Visually seen and verified as alive within the past 2 weeks.