Sacramento River Temperature Task Group (SRTTG) Meeting
August 26, 2021 | 1:00 PM – 2:45 PM
Meeting Summary

Participants

Alyson Scurlock, Kearns & West
Ammon Danielson, WAPA
Bill Poytress, USFWS
Chris Laskodi, Yurok Tribe
Craig Anderson, USFWS
Crystal Rigby, CDFW
Dave Mooney, Reclamation
Diane Riddle, SWRCB
Doug Killam, CDFW
Elissa Buttermore, Reclamation
Erica Meyers, CDFW
Eric Danner, SWFSC/NMFS
Garwin Yip, NMFS
James Gilbert, SWFSC/NMFS
Jeff Laird, SWRCB
Jeff Onsted, DWR
Jim Early, USFWS
Jo Anna Beck, Reclamation
Julie Leimbach, Kearns & West
Ken Kundargi, CDFW
Kevin Reece, DWR
Kristin White, Reclamation
Liz Kiteck, Reclamation
Lee Bergfield, MBK Engineers/SRSC
Lewis Bair, RD108/SRSC
Matt Brown, USFWS
Matt Holland, SWRCB
Michael Macon, SWRCB
Mike Deas, Watercourse Engineering/SRSC
Mike Harris, CDFW
Mike Prowatzke, WAPA
Mike Wright, Reclamation
Miles Daniels, SWFSC/NMFS
Shaun Green, Hoopa Valley Tribe
Sheena Holley, CDFW
Stephen Maurano, NMFS
Suzanne Manugian, Reclamation
Thad Bettner, GCID/SRSC
Tom Patton, Reclamation

Key Discussion Topics with
Summary of Recommendations and Outcomes

Action items

1. **Tom Patton, Reclamation** -
    a. Distribute 8/25 vertical profile to SRTTG.
    b. Send email report out on findings of 8/27 ROV test to SRTTG.
    c. Provide estimate for total loss of power generation that will occur during the cold water power bypass test to SRTTG.
    d. Send out results from 8/29 cold water power bypass test to SRTTG on Monday, 8/30.
    e. Develop management options based on results of the cold water power bypass test for discussion at the next SRTTG meeting on 9/2.
2. **All** - Review cold water power bypass test results and submit any suggestions to Tom Patton for consideration while Reclamation develops potential management options.
3. **Miles Daniels, SWFSC** - Add legend to SWFSC TDM landscape plots that explains white dashed lines and corresponding percent TDM.

4. **KW** - Follow up with Elissa Buttermore and Doug Killam on integration of CDFW's stranding surveys into the flow spreadsheet to inform flow ramp down.

1. Introductions

Julie Leimbach, Kearns & West, welcomed everyone and reviewed the meeting agenda.

2. Purpose and Objective

In the Shasta Cold Water Pool Management Guidance Document, Reclamation "proposes to convene the Sacramento River Temperature Task Group (SRTTG), consisting of agency representatives having direct interest on cold water pool management on the Sacramento River, at least monthly February through October, share operational information monthly, and improve technical dialogue on the implementation of the temperature management plan." Reclamation provides "a draft temperature management plan to the SRTTG in April for its review and comment, consistent with WRO 90-5."

3. Prior Action Items

Kearns & West reviewed action items from the previous weekly meeting (see below).

Action Items from August 19, 2021

Addressed

1. **KW** - Relabel SWFSC 8/18 model run to clarify it is for Alternative B.
2. **Tom Patton, Reclamation** - Update Shasta Lake Profiles graph with the August 19 profile and distribute to the SRTTG.
3. **Stephen Maurano, NMFS** - Update Fall Keswick Release Scenarios graph with most recent CalFish data/remove December transfers. Coordinate with Doug Killam (CDFW) directly to receive the latest information available instead of waiting for the weekly update to the CalFish file.
4. **Tom Patton, Reclamation** - Propose options for timing for test of cold water power bypass in next couple weeks. Test would include shutting down the powerplant and running full release through the river outlets (elev. 750) for an extended period of time to determine if there are differences in water temperatures when running water through the river outlets and TCD.
5. **Elissa Buttermore, Reclamation** - Distribute USST flow spreadsheet with updated fall-run dewatering estimates once the information is QAQC'd; continue to generate winter-run dewatering estimates.

4. **River Fish Monitoring: 1) carcass surveys 2) redd counts 3) stranding and dewatering surveys.**

Doug Killam, CDFW, presented the river fish monitoring update.

- The carcass survey is winding down; the survey has extended into September the last few years, but the official end date will be determined by the number of carcasses. This year is the third highest number of carcasses on record with over 4,800 carcasses.
- The aerial redd survey has been discontinued due to low numbers of redds and limited helicopter availability due to fires. 578 aerial redds have been observed in the upper six and a half miles of the river; the most downstream redd was just below the Highway 44 bridge.
- CDFW is currently tracking 64 shallow redds; 4 shallow redds have emerged fully and 2 shallow redds were top dewatered in the kayak ramp area in downtown Redding on 8/25.

5. **Fish Distribution/Forecasts: 1) Estimated percentage of the population upstream of Red Bluff Diversion Dam (RBDD) for steelhead, winter-run, and spring-run Chinook salmon 2) Sampling at rotary screw traps at Red Bluff Diversion Dam 3) Steelhead update 4) Livingston Stone Hatchery.**

Bill Poytress, USFWS, presented the fish distributions/forecasts update for RBDD.

- USFWS is consistently seeing 30-40 winter-run Chinook fry daily at RBDD.
- Fish passage numbers are low and are likely affected by the full moon; USFWS expects the numbers of fry to increase when the moon is not so lit at night.
- The next biweekly report that includes fish passage values will be sent out on 8/27.

Nobody was present to provide an update on the fish distribution/forecasts for Livingston Stone Hatchery.

6. **Questions/Comments on Hydrology Update, Operations Update and Forecasts, and Temperature Management**

Tom Patton, Reclamation, asked participants to refer to the meeting materials for details and to ask any follow-up/clarifying questions. He provided a brief operations update:

- Flows at Keswick were scheduled to drop to 6,750 cfs but Reclamation made a slight modification to the change order to hold flows at 6,800 cfs based on feedback provided at the 8/25 Upper Sacramento Scheduling Team (USST) meeting.
- The temperature reports included in the meeting packet show Sacramento River flows and the TCD continuing to warm. The daily average water temperature at SAC gauge on 8/25 was 56.1°F.
- Reclamation reduced releases from the Spring Creek Power Plant to 1,000 cfs to try to reduce water temperatures downstream; temperatures at Spring Creek are reporting 56°F and are starting to ramp down, but they are still warmer than releases out of Shasta Reservoir.

- Reclamation will distribute the 8/25 vertical profile for Shasta Lake via email since it was not included in the meeting packet.

7. Cold Water Power Bypass Test

Reclamation discussed the cold water power bypass test scheduled for Sunday, 8/29.

- The test will start at 7:00 a.m. and will run for approximately 6 hours. Reclamation does not anticipate warming of the penstocks during the timing of the test.
- Shasta Power Plant will be shut down during the test and 2,000 cfs will be released through the 750-ft river outlets to analyze what water temperatures they produce downstream.
- Penstock 4 will continue to supply water to the hatchery during the test; it will not generate power but will have water flow through it to minimize the warming effect of Shasta Power Plant not running.
- Three additional probes have been placed in the river for additional analysis; they will be pulled out of the river the day after the test.
- Reclamation is planning to analyze test results by mid-day on Monday, 8/30 and will send out an update to the group after.

The group discussed the following:

- Efforts to make cold water bypass test power neutral
    - Reclamation – Six hours of power generation will be lost during the test. Reclamation is aiming to minimize power generation impacts by conducting the test on an off-peak day and during daylight hours. The power generation schedule later in the day will have to peak slightly harder to make up for overall water demand at Keswick. Reclamation will provide an estimate for the total loss of power generation that will occur during the cold water power bypass test.
- Predicted outcome of temperatures based on volume going through bypass
    - Reclamation – The purpose of the test is to verify what water temperatures are produced out of the 750-ft river outlets. Reclamation estimates that water temperatures will not align exactly with the 750-ft profile; water temperatures are anticipated to be in the 50°F range during the test but will continue to warm thereafter.
- Consideration of cold water power bypass after Shasta Reservoir reaches 900 feet elevation and pulling warm water from the higher layers of Shasta Reservoir?
    - Reclamation – Shasta Reservoir is almost down to 900 feet which is key because leakage from the middle gates being pulled into the penstocks is no longer an issue below that elevation. Reclamation believes that leakage near the lower gates is currently more of an issue and that there will be natural blending regardless.
    - Reclamation – Shasta Reservoir has temperature layers that are not independent of other temperature layers. The river outlets will likely pull water from the warmer layer above them and are expected to perform similar to when the TCD has leakage.

- 2014 power bypass implementation constancy
    - Reclamation – The 2014 power bypass was not constant the whole time; it fluctuated between 1,000 cfs and 4,000 cfs. This year is tracking similar to 2014 except that two side gates were opened slightly faster and Shasta Reservoir is about 10 feet lower than in 2014. Flows at Spring Creek will also likely be kept a little higher than in 2014.
- Scheduling needs for cold water power bypass
    - Reclamation – If everything aligned, it would likely take a week or more until implementation of a bypass.
- Reclamation is having a remote-operated vehicle (ROV) test conducted at Shasta Reservoir on 8/27 to verify that all gates are seated correctly and to rule out any issues with functionality of the TCD. Reclamation will report out on the findings of the test via email.

8. Temperature Dependent Mortality

The SWFSC presented their 8/26 model run.

- The model run includes a more simplified scale for viewing the TDM landscape plot.
- Anything between August and October is estimated at nearly 100% TDM.
- The SWFSC will add a legend to their TDM landscape plots that explains the white dashed lines and corresponding percent TDM.

9. Upper Sacramento Scheduling Team

The USST met on 8/25 to discuss the different flow Alternatives. Group members acknowledged that there were not good flow Alternatives for this year but moved forward with the following recommendation:

- Consensus from NMFS, CDFW, USFWS, DWR, and SWRCB to move forward with Alternative F which holds flows at 6,800 cfs and drops flows the third week of October to 3,250 cfs.
- Given constraints of delivering transfer water and staying volume neutral, Alternative F aims to minimize winter-run redd dewatering and stabilizes flows for fall-run Chinook spawning as best as possible.
- Required flows to meet water quality needs in the Delta during October and November may need to be factored in. The USST will reassess the flow Alternative approach over the next few weeks.

The group discussed the following:

- Suggestion to integrate CDFW's stranding surveys with flow ramp downs to help guide flow changes.

10. Review Action Items

Julie Leimbach, Kearns & West, reviewed the action items.

11. Next Meeting Scheduling

The next weekly meeting will be on Thursday, September 2, 2021; the next monthly meeting will be held on the 4th Thursday of next month, September 23, 2021.