



Sacramento River Temperature Task Group Summary

September 26, 2024

Members Attending

- Bureau of Reclamation (Reclamation): Elissa Buttermore, Liz Kiteck, Emelia Barnum, Emily Van Seeters, Karissa Bridges, Peggy Manza, Tom Patton
- California Department of Fish and Wildlife (CDFW): Crystal Rigby, Doug Killam, Erica Meyers, Gang (Gary) Zhao, Marelle Arndt, Tracy Grimes, Travis Apgar
- California Department of Water Resources (DWR): Kevin Reece, Ryon Kurth, Mike Ford
- California State Water Resources Control Board (SWRCB): Craig Williams, Jeff Laird, Matt Holland
- National Marine Fisheries Service (NOAA, NMFS): Stephen Maurano
- Sacramento River Settlement Contractors (SRSC): Catherine Morales-Sandoval, Lewis Bair, Mike Deas
- Southwest Fisheries Science Center (SWFSC, NMFS): James Gilbert
- U.S. Fish and Wildlife Service (USFWS): Charles Chamberlain, Bill Poytress, Kaitlin Dunham
- The following SRTTG members did not have a representative present: Hoopa Tribe, Western Area Power Administration, and Yurok Tribe
- Facilitation Team: Victoria Pebbles and Jack Hughes, Kearns & West

Summary of Actions

- Reclamation will distribute the finalized CVP operations forecasts to the SRTTG as soon as they are complete.
- The SRTTG will discuss whether to have a November meeting at the October meeting.
- Kearns & West will reschedule the tentative November SRTTG meeting from November 28 to November 21 due to conflict with Thanksgiving.

- The SRTTG agreed to hold an in-person meeting with associated field trip somewhere in the Trinity System in April 2025. Kearns & West will follow up with Reclamation and other SRTTG members to create a proposal by the end of the calendar year.

Topics

Welcome, Agenda Review, and Purpose

Victoria Pebbles, Kearns & West, welcomed all participants. The objective for the meeting was to discuss the latest forecast and implications for the Sacramento River System and the implementation of the 2024 Temperature Management Plan for the Sacramento River. The purpose of the SRTTG is as follows:

- Sacramento River Temperature Task Group (SRTTG) consists of agency representatives having direct interest in cold water pool management on the Sacramento River and meets at least monthly February through October. The purpose of the SRTTG is to “share operational information monthly and improve technical dialogue to inform the development and the implementation of an annual Temperature Management Plan (TMP) for the Sacramento River.”
- The TMP is developed by the U.S. Bureau of Reclamation (Reclamation) in accordance with California State Water Resources Control Board Water Rights Order 90-5 to assist with improving and stabilizing Chinook salmon populations in the Sacramento River.

Hydrology and Pulse Flow Implementation Update

Tom Patton, Reclamation, provided the latest forecast and implications for the Sacramento System and reported on current hydrologic conditions including flows.

Current Operations:

- Keswick releases were 7,500 cfs at the time of the meeting and would likely decrease to 7,000 cfs on October 1.
- Reclamation is still releasing water to satisfy Fall X2 Outflow Action requirements.
- Storage at Shasta Reservoir was dropping below 2.8 MAF, which would trigger a 4,000 cfs minimum flow at Keswick through the winter.

Reclamation presented the information contained in the meeting packet shared with the SRTTG. Sections below correspond to groups of graphs, images and tables in the meeting packet provided by Reclamation.

Northern Sierra Precipitation as of September 26, 2024

- There was some measurable precipitation in August bringing the total Northern Sierra precipitation to 48.2 inches for the water year.

Current Storage, Releases, Water Temperatures and Current Operations: Daily CVP Water Supply as of September 26, 2024.

- Releases at Keswick Dam were 7,567 cfs, which is higher than usual for this time of year due to Fall X2 Outflow Action requirements.
- Storage at Shasta Reservoir was at 2.8 MAF at the time of the meeting, which was 113% of the 15-year average.
- Trinity Reservoir storage was 1.7 MAF, which was 130% of the 15-year average.
- The Carr Tunnel outage is tentatively scheduled for the beginning of November through early April. During that time there will be no diversions and any flood releases on the Trinity Reservoir will go down the Trinity River. Operations would likely not change for Whiskeytown Dam, but Reclamation might keep the reservoir level slightly higher in case conditions are dry.
- As the water year ends, accumulated inflow and precipitation are near normal.
- The release at Clear Creek was around 225 cfs. Typically, releases this time of year are near 150 cfs; however, the water temperature is warmer than the 56°F temperature target at the Clear Creek Igo gage (IGO), so Reclamation has been releasing more to bring the temperature down. Bringing temperatures down by releasing more water from Whiskeytown might be difficult to achieve since the cold-water pool in Whiskeytown Reservoir was diminishing. Reclamation planned to schedule another increase to 300 cfs soon.
- There was a 450 cfs release to Trinity River from Lewiston Dam, which is planned to be lowered to 300 cfs in mid-October.

Temperature Management

- Shasta System
 - Reclamation opened the Temperature Control Device (TCD) side-gates at Shasta Reservoir on September 3. On September 4, the mean daily water temperature exceeded the 53.5°F target at Clear Creek by 0.2 of a degree. However, temperatures remained below that target temperature and steady for the rest of the month to date. TCD middle gates 4 and 5 were closed and lower/PRG Gates 1, 2, and 3 were open.
- Clear Creek
 - Mean daily water temperatures at IGO have been warmer, ranging from 56.4 to 58.6 °F.
- Trinity System
 - Mean daily water temperatures on the Trinity River have been good, with temperatures at Douglas City below the 56°F temperature target since mid-September.

- On October 1, the temperature target will move from 56°F at Douglas City to 56°F at North Fork, where the water temperature has been warmer than that all September. It may be difficult to meet that target with the hot air temperatures.
- Reclamation was still diverting the same amount of water through Spring Creek Power Plant and did not plan to make any changes through October.

Reservoir Profiles and Cold-Water Pool: Graphs on Isothermobaths-2024, Graphs on Cold Water Pool Volume, Percent Exceedances (1998-2023)

- Shasta Lake:
 - There is still a decent cold-water pool remaining in Shasta Reservoir.
 - Shasta Reservoir cold water volume of 52°F and lower; 50°F and lower; and 48°F and lower were all comparable to 2016 and 2018 and either above the average (52°F and 50°F near the 25% exceedance) or just at average (48°F near the 50% exceedance).
- Trinity Lake:
 - There is still a sizable cold-water pool in Trinity Lake. Cold water volumes were above average. Cold water pools were all just above the 25% exceedance.
- Whiskeytown Lake:
 - The pool of coldest water between 54 and 56°F is smaller than in previous years and the water in general is warmer than ideal for meeting downstream temperature targets.

Seasonal Temperature and Precipitation Outlook

- The current 30-day forecast shows equal chances of above and below average temperatures in Northern California.
- The seasonal outlook for the months of October, November, and December predicts a slight chance of above normal temperatures and equal chances of above and below normal precipitation.
- The seasonal outlook for the months of December, January, and February predicts equal chances of above and below average temperatures as well as precipitation.

Temperature modeling using partial data from 90% Exceedance Forecast

- Reclamation did not have the estimated Central Valley Project operations forecast finalized at the time of the meeting but made a preliminary temperature model run using the flows that will likely not change. Reclamation will distribute the whole package when it is complete.
- The preliminary model run predicts an end of September storage of 2.76 MAF and an estimated October release at Keswick of 7,000 cfs.

Questions and Comments

- SWRCB asked how Reclamation was able to make the cold water last this long despite the high summer releases and the hot temperatures in July.
 - Reclamation responded that the 25% probability of exceedance was used for the forecast, so it probably matched actual conditions well. Reclamation will do a hindcast to compare the forecast with observed conditions. There may be a slow increase of water temperatures coming out of the TCD. The modeling platform, HEC-5Q, does not perform well to address slow temperature increases in the later part of the season.
- CDFW asked if Reclamation would use the new water temperature modeling platform and compare its performance with HEC-5Q.
 - Reclamation responded that they had started making modeling runs with the new models. There are some differences with the new modeling platform, so it would not be an even comparison, although, so far, their results are similar. Reclamation could run both next season, but it might cause uncertainty if their results are different. Ultimately, Reclamation is still testing and addressing bugs, so it will likely be Fall 2025 when the SRTTG sees results from it. Reclamation will ask the SRTTG if there are any reports they would like to see generated based on WTMP capabilities.
- USFWS stated that there seems to be a discrepancy of flows reported at IGO versus what is coming out of Whiskeytown Dam. The flows reported at IGO are often lower than expected, so Whiskeytown Dam flows might be overreported. This could be due to the Redding Power Plant going offline and water bypassing the dam so that flows are not measured.
 - Reclamation replied that the flow comes from two different outlets. The City of Redding Power Plant can take 150 cfs but any additional flow must go through the regulating gate. Water is being pulled from the lower guard gate, in order to release the coldest water from Whiskeytown Reservoir. Ultimately, the flow rate matters less than meeting the temperature target downstream.
- USFWS asked if Reclamation anticipated making any changes in releases from Keswick before October 1.
 - Reclamation replied that they would hold releases at 7,500 cfs until then.

USFWS Fish Conditions, Forecasts and Hatchery Updates

Kaitlin Dunham, USFWS, gave an update from Coleman National Fish Hatchery. USWS had 923,000 late-fall Chinook salmon and 674,000 steelhead at the hatchery. The hatchery was using Intake 1 and 3 and water temps were slowly cooling down. The water temperature range was 61 to 63°F. There were no current fish health concerns. Fish growth was on track for late-fall Chinook salmon being released in late November and steelhead in mid-December. Fish releases will be scheduled to coincide with a storm event. The first fall-run Chinook salmon spawning day

was scheduled for October 8. USFWS will host the "Return of the Salmon Festival" on Saturday, October 19 from 9:00 a.m. to 3:00 p.m. at the Coleman National Fish Hatchery.

Bill Poytress, USFWS, presented an update of monitoring upstream of Red Bluff Diversion Dam. USFWS is wrapping up its monitoring of winter-run Chinook salmon. USFWS estimated that passage was about 150,000 through September 23. USFWS has captured an average of 118 fish per day this year compared to an average of 180 fish per day last year. USFWS have increased efforts by 20% in an attempt to sample enough fish to do mark recapture trials this year. So, even with the increased effort, they are not catching as many as last year. USFWS will not be sending out data reports through email anymore; instead all data will be posted on SacPAS.

Dunham gave an update for Livingston Stone National Fish Hatchery. USFWS has tanked 69 of the 120 female winter-run Chinook salmon that they spawned. The fish are healthy, and the water temperature is around 51°F. Livingston Stone started spawning captive brood stock and has spawned 28 females to date. They will be moved to Mount Lassen Trout Farm and ultimately be released into Battle Creek. Also, Reclamation was on site with contractors building the pipeline at the 750 ft level to deliver colder water to the hatchery.

CDFW Sacramento River Fish Monitoring Update

Doug Killiam, CDFW, provided river fish monitoring updates. The carcass survey season ended, and 276 winter-run Chinook carcasses were observed, which is the second lowest number on record. CDFW will have the final escapement estimates in October.

Shallow redd surveys conducted by boat were ongoing. 11 of the 17 they were tracking have not emerged yet. The next fish will likely emerge in two and a half to three weeks. Flows are at 7,500 cfs and the shallowest redd right now is at 7 inches deep, and a few are 8 inches deep. CDFW has been pulling juveniles out of stranding pools downstream and putting them back in the river. Aerial redd surveys were finished for the year and a total of 26 were observed. However, due to lack of availability of a helicopter, no surveys were conducted during the peak of the season.

CDFW started the spring-run carcass survey, which is part of the fall-run survey. They do not expect to observe many adults but do expect to see decent numbers of two-year-old fish.

Additional Announcements

The SRTTG discussed the schedule of meetings for the remainder of 2024. There were two remaining meetings scheduled for the season: October and November. The November meeting falls on Thanksgiving Day. Members discussed the necessity of meeting in November, noting that a meeting would be a good forum to get updates on emerging redds, USST discussions on fall flows, and other operations updates. However, Reclamation could send out a packet in November and the redd information would be available online. The SRTTG decided to meet in October and decide if the November meeting was needed at that time. The tentative November meeting date was moved to November 21 to avoid the Thanksgiving holiday.

The SRTTG then revisited the topic of the timing of a field trip and in-person meeting in 2025. The group agreed to plan for April to avoid the potential of inclement weather earlier in the year. The Kearns & West facilitation team agreed to continue discussions on the agenda and

logistics with Reclamation and other SRTTG members with the goal of having a proposal by the end of 2024.

Adjourn