



Sacramento River Temperature Task Group

November 16, 2023

Members Attending

- USBR: Alexander Jensen, Elizabeth Kiteck, Emely Van Seeters, Mussie Beyene, Thomas Patton
- USFWS: Charles Chamberlain, Craig Fleming, James Earley, Kaitlyn Dunham
- CDFW: Doug Killam
- NMFS: Miles Daniels
- SWRCB: Craig Williams, Jeff Laird, Matthew Holland
- SRSC:
- MBK Engineering: Lee Bergfeld

Topic Actions

Welcome, Agenda Review, and Purpose

Nahal Ipakchi, Kearns & West (K&W) welcomed all participants.

Purpose and Objective

The purpose of the SRTTG is to “share operational information monthly and improve technical dialogue on the implementation of the temperature management plan (TMP).” Reclamation provides “a draft temperature management plan to the SRTTG in April for its review and comment, consistent with WRO 90-5.”

Hydrology, Operations, Forecasts, and Temperature Management

Reclamation presented the hydrology, operations, and temperature management updates.

Northern Sierra Precipitation:

- Precipitation is a little bit behind in terms of average for October and November.

- Still forecasting a strong El Nino this year, which could help with precipitation levels.
- The current 8-Station index is at 32% of average with 1.8 inches of precipitation.
- Not a lot of precipitation is expected in the Northern 8 station index, and a drier period is anticipated going into the week of 11/23.
- Moving into December there could be colder wetter storms in the forecast.

Current Storages, Releases, and Water Temperatures:

- Keswick flows have been decreased to 5,000 cfs with plans to hold at that flow through the winter, given the higher storage at Shasta Reservoir (currently at 3.1 MAF but that was at 3.3 MAF at end of WY23).
- Most of the releases for the CVP are where they typically are for this time of year.
 - Trinity below Lewiston is at 300 cfs.
 - 5,000 cfs below Keswick.
 - Feather is typical 1,750 cfs.
 - American is at 2,000 cfs.
 - Stanislaus is at 200 cfs.
- Storage is looking good. Better than last year at this time.
 - 100% of the 15-year average for Trinity for storage.
 - Shasta Reservoir looks good. Close to 140% of normal for this time of year. Levels are currently below the flood curve; at 3.25 MAF is where we would encroach in the flood space and will begin initiative releases at Keswick.
 - Folsom Reservoir near 500,000 AF. The reservoir is just below the flood space. New Melones is similar condition just below flood curve.
 - All big projects reservoirs are at or near where they need to be for flood control.
 - For Trinity Reservoir, safety dam criteria mandate releases near 1.85 MAF levels. Therefore, at Trinity there is quite a bit of room before any dam safety additional releases, over and above the 300 cfs, are needed.

Temperature Management:

- On the TCD at Shast, all the lower gates are still open and one middle gate (#3) is open. Temperatures are looking good coming out of the TCD.

- CCR is steady at around 50 °F. Temperatures were warmer at the beginning of the month, but things have cooled off and are now showing steady temperatures, below the 50 °F mark.
- On the Trinity side, Lewiston is releasing cold temperatures of around 48 °F.
- Water (about 1,000-acre feet a day) has been diverted through Lewiston and through Spring Creek: the diversions will taper off in the next few days, as they begin to shut it down and minimize the diversions.
- The Carr tunnel outage has been pushed off to late December. If necessary, they can start diverting a little bit of water until around late November and December, but Reclamation does not think there is any need to implement diversions unless it is for an emergency power basis. At this point, there is no reason to divert water; they will instead try to store as much as possible at Trinity Reservoir.
- Water temperatures in the North Fork have been rather cool, which is expected with some cooler nights and mild day time temperatures.
- Igo on Clear Creek is looking cool, below the 56 °F.
- All the tributaries are showing cool temperatures.

Profiles and Cold-Water Pool:

- Shasta Lake:
 - At the surface, temperatures have started to cool off into the 60 °F range.
 - Temperatures have decreased significantly below the water surface.
 - Comparing the 52 °F profile at Shasta with historical years reveals more cold water in the lake, less typical for this time of year. Consistent with that observation, the 52 °F exceedance graph shows the cold-water pool volume being above normal.
 - 2023 Shasta Temperature Profile was finalized yesterday Nov. 15, 2023. Temperatures have cooled down from the surface down to the middle gate range at the 900 ft. mark. Profiles are looking like what one would expect this time of year.
- Trinity Lake:
 - Trinity isothermobaths are showing similar cooler temperatures, with more cooling at the surface at Trinity Reservoir.
 - Good amount of cool water pool.
 - The 52 °F profile is close to the historical average (2000-2022).

- Expecting an increase in cooler weather in the winter and some inflows.
- Whiskeytown Lake:
 - Temperatures are cooling down more than what is being shown in the isothermobath plots.
 - In terms of draw down, Whiskeytown Lake is being lowered slightly. The water levels were brought down a foot or so earlier in November; they are in the process of bringing the water levels down a little bit more. Drawdowns are being made more slowly this year due to the Carr tunnel outage. The water cannot be drawn down too much. Because if conditions begin to get really dry, there would be no way to divert water to help keep the lake at a certain level. The Shasta office is going to put out a press brief on this topic to give the public a heads up that there will be more fluctuations this year.

Forecast and Temperature Modeling:

- 30 day forecast for November is not yet finalized.
- Shasta Operations Forecast: Things are expected to cool off in the winter.
- 90% Exceedance Forecast: shared the finalized October forecast showing what we are projecting for the 90% exceedance forecast. Not too bad considering it is a 90% forecast. Once the November forecast is finalized it will be sent out to the group.
- 50% Exceedance Forecast: most of the reservoirs in the 50% forecast will start making flood releases in the middle of the winter. Anticipating an increase in releases.
- Updated Official 30-day Forecast was Issued October 31, 2023: for the month of November, they are projecting higher and above normal temperatures for the northwest corner. Appear low on the low end of precipitation.
- Seasonal Temperature Outlook: the three-month outlook for December, January, and February shows a classic El Nino forecast with milder temperatures in the Northwest and from a precipitation perspective, slightly wetter conditions in the southern tier. Shows above normal precipitation for most of California. Reclamation also looks at the January, February, and March time frame it looks very similar to what is being seen here in terms of precipitation as well.

Coordination Operation Agreement Update:

- Reclamation shared that they have not been in balanced conditions for a while and have suspended accounting at this point but will confirm. Whatever the last update on this topic was provided will likely be applicable now.

River Fish Monitoring: 1) carcass surveys 2) Redd counts 3) stranding and dewatering surveys.

Doug Killam, CDFW, provided River Fish Monitoring updates.

- CDFW shared that they are currently tracking about 50 shallow fall run redds, but the flows have been steady with no dewatering to date. The counts are low on the mainstem river. Only 120 carcasses were seen between September and now, which is about the lowest they have been at in the past 20 years. The returning adults to spawn are extremely low this year. The same scarcity has not been seen in other watersheds in the Sacramento, Feather, and American rivers, which seem to be doing alright numbers-wise. Above Pico numbers are way down. None of the shallow redds being tracked have dewatered at the current 5,000 cfs flows. The winter-run redds have all finished up and counts at Red Bluff are going down; fall-run have not started emerging yet.

Fish Distribution/Forecasts: 1) Estimated percentage of the population upstream of Red Bluff Diversion Dam 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 National Fish Hatchery

Craig Fleming, USFWS, presented on the most recent Fish Distributions/Forecasts:

- So far, they have seen about 80% of the run go by. The current number is 659,457 winter-run Chinook Salmon. As CDFW mentioned, the counts are going lower and lower as they continue to operate the trap.

Livingston Stone National Fish Hatchery Update:

Kaitlin Dunham, USFWS, provided Livingston Stone National Fish Hatchery (LSNFH) updates:

- The last female came out of the stack. Water temperatures have been between 47-48 °F every day. On track to have the tagging trailer come out in December to start tagging their fish for a February release.

Additional Announcements:

- K&W shared that they will begin scheduling some meetings in person but will be confirming the location of these meetings in the next month or two. If there is any preference to the location, please contact Terra Alpaugh.

Action Items:

- Tom Patton (Reclamation): will check in on the status of the Coordination Operations Agreement.

Topics for Elevation to Shasta Planning Group:

- No topics to elevate to the Shasta Planning Group.

Adjourn