

Sacramento River Temperature Task Group (SRTTG) Meeting Summary

September 22, 2022 | 1:00 PM – 2:45 PM

Participants

- Bill Poytress, FWS
- Charles D. Chamberlain, FWS
- Chris Laskodi, Yurok Tribe
- Claudia Bucheli, SWRCB
- Craig A. Fleming, USFWS
- Craig Isola, USFWS
- Craig Williams, SWRCB
- Crystal Rigby, CDFW
- Diane Riddle, SWRCB
- Doug Killam, CDFW
- Elissa N. Buttermore, Reclamation
- Elizabeth G. Kiteck, Reclamation
- Erica Meyers, CDFW
- Gary Shao, CDFW
- James Earley, USFWS
- James Gilbert, SWFSC
- Jo Anna M. Beck, Reclamation
- Mike Ford, DWR
- John M. Hannon, Reclamation
- Kevin Reece, DWR
- Lewis Bair, SRSC
- Matt Brown, USFWS
- Matthew Holland, SWRCB
- Michael J. Wright, Reclamation
- Michael Prowatzke, WAPA
- Michael R. Harris, CDFW
- Mike Deas, Watercourse Inc.
- Miles Daniels, UCSC/SWFSC
- Seth Naman, NMFS
- Stephen Maurano, NMFS
- Thomas K. Patton, Reclamation
- Facilitation Team:
- Adam Fullerton, Kearns & West
- Maria Bone, Kearns & West

Key Discussion Topics with Summary of Recommendations and Outcomes

Action Items

1. Tom Patton, Reclamation, will compare the data on cold-water depletion rate from this year to past years and report back on how the lower flows this year have impacted the cold-water pool.

2. SRTTG requests that when the Shasta Planning Group (SPG) meets again, they clarify the IOP guidance on:
 - a. Whether the SRTTG needs to make a recommendation to the SPG for any deviation from the Temperature Management Plan (TMP), and
 - b. Whether/how that recommendation needs to be documented in order to be passed along to the SPG for consideration.

Welcome, Agenda Review, and Purpose

Adam Fullerton, Kearns and West welcomed all participants and mentioned the addition of the fall and winter flow update.

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.” Reclamation provides “a draft temperature management plan to the SRTTG in April for its review and comment, consistent with WRO 90-5.”

Prior Action Items

Action Items from the 9/15/2022 Ad-hoc Fall and Winter Flows Meeting:

1. All – Email Adam Fullerton, K&W with agenda topics or requests for additional ad-hoc meetings related to Fall and Winter Flows. Redd Dewatering.
 - a. Complete
2. All – Brief Shasta Planning Group (SPG) representatives on the Fall and Winter Flow alternatives and request for a recommendation in preparation for the SPG meeting on 9/16/22.
 - a. Complete
3. Lisa Elliot, Reclamation – Continue developing and using the automated tool to improve understanding of redd dewatering conditions and support SRTTG technical input with quick turnaround time when new monitoring information or additional scenarios are proposed.
 - a. Ongoing, updates will be provided as the tool is developed.
4. Reclamation – Evaluate the effects of the flow alternatives on dewatering of fall-run Chinook redds and share with SRTTG.
 - a. Reclamation forecasted fall-run Chinook salmon redd dewatering using the information from the 2006 USFWS report and historical information on fall-run distribution. Fall-run dewatering forecasts were low (0-1%) for alternatives 6 and 7. For comparison, fall-run redd dewatering forecasts using the same method mostly ranged from 5-15% for the previous 2 years.

Action Items from August 25 SRTTG Meeting:

1. Seth Naman, NMFS – Will share the Trinity River Temperature Task Group (TRTTG) meeting notes once they are finalized.
 - a. Complete
2. K&W – include a standing agenda item for a TRTTG update.
 - a. Complete

Fall and Winter Flows Update and Discussion (as needed)

- Reclamation provided an update on the dewatering of fall-run Chinook salmon redds.
- The 2006 USFWS report was used to create a forecast for fall-run Chinook salmon redd dewatering under Alternatives 6 and 7.
- Redd dewatering for fall-run Chinook salmon redds was estimated to be 0-1% for these alternatives. This is low compared to previous years. Forecast estimates for the previous 2 years ranged from 5-15%.
- Estimates are based on real-time shallow redd monitoring. Shallow redd de-watering is forecasted to be low. Flows are currently lower than in the previous 2 years, and changes in flows will not be significant.
- Lisa Elliot is a new biologist with Reclamation and is helping to build a tool that will turn around results for potential winter-run Chinook salmon redd dewatering faster. Reclamation is interested in improving redd dewatering forecasts for fall-run Chinook salmon. Reclamation is open to working collaboratively with others on this effort.

Update from Shasta Planning Group

- Matt Holland, SWRCB, provided an update on the fall and winter flow schedule. The Shasta Planning Group reached a consensus on Alternative 7, as was discussed in the Ad Hoc meeting.

Update from Trinity River Temperature Task Group

- Reclamation shared that the next TRTTG meeting will be held tomorrow.
- Ramping down flows out of Trinity Reservoir down to 450 cfs today, which will go back down to the summertime low on the Trinity River.
- Beginning tomorrow we will start a bypass from the auxiliary outlet to begin moving colder water downstream. Will adjust accordingly next week based on the temperature results at Lewiston.
 - SWRCB: Asked a follow-up question regarding the Water Rights Order (WRO) 90-5 conditions for the Trinity River.
- Reclamation: It is a little higher than the 56 °F at Douglas City for the first few days
- Air temperatures have helped with the cool down. The auxiliary release will help Douglas City to keep it below 56 °F based on the WRO 90-5 targets.

- These will be addressed in our monthly report to the board.
- No significant diversions from the Trinity River to the Sacramento River have been made this summer. There have been some diversions, but they have been reduced compared to previous years to help minimize impacts to the Trinity.

Hydrology, Operations, Forecasts, and Temperature Management

- Reclamation presented the hydrology, operations, and temperature management updates.
 - Temperatures are currently around the target temperature of 54.5 °F at the SAC gauge. It varied slightly with the heat wave but is still within the target range.
 - Both side gates are open, and no adjustments have been made. The Shasta TCD is at the coldest configuration out of Shasta Dam, and the plan is to continue to monitor temperatures and adjust as necessary.
 - Releases out of Keswick Dam are going to be maintained at 4,100 cfs to help minimize winter-run Chinook salmon redd dewatering.
 - Spring Creek powerplant releases (which were warmer than Shasta) have been minimized
- Sac River Mean Daily Temperatures:
 - Earlier in September, the TCD temperatures were observed to be slightly higher than at the KWK gage. These results are different than what has been previously observed. This could be due to the lack of Spring Creek release or due to it being cooler for the latter half of the month. Reclamation plans to review the data again. The computation seems to be accurate.

Latest profile from 9/21/2022- 2022 Shasta Temp Profiles:

- The TCD is releasing roughly 54 °F right now, which is expected due to the time of year and based on the profile.
- Starting to see some cooler water at the surface of Shasta Lake.
- Anticipating some wintertime inflow and mixing within the next few months, which is typical for this time of year.
- The monthly average flow from Keswick Dam is 4,100 cfs, which is slightly higher than the Temperature Management Plan (TMP).
- Storage is higher than anticipated in the TMP (1.14 MAF) at 1.5 MAF end of September storage for Shasta Reservoir.
- Trinity is not looking good. The forecast for September will be sent out to the group. Trinity is extremely low. There are no plans to move any water over from Trinity to the Sacramento system next year.
- Hoping to recuperate the storage at Trinity. Long range forecast is not looking so good, there is potential for another dry winter. Reclamation opened the discussion with questions on operations.

- NMFS asked if there was an observed slower depletion in cold water pool based on lower releases coming out of Shasta. Seems slightly different whether you are measuring cold water pools for 52, 50, 48 °F. How do the reduced releases impact the relation to the cold-water pool?
 - Reclamation: said that they had not yet compared this data to previous years. Reclamation will compare the data from this year to past years and report back. The fact that we have managed 54.5 °F at the SAC gage all season shows that we have slowed down the draw and spread it out throughout the summer. There is currently no data to support this now, but it seems to be the case this year.
- NMFS shared that the TMP was aiming to hit 54.5 °F for 16 weeks centered on 8/2/2022. We are coming up to the end of that duration, where 9/27/2022 will be the end of the TMP's 54.5 °F target period. Reclamation operated to the target and kept it close to 54.5 °F throughout the time period and have had better than anticipated temperature-dependent mortality due to higher inflow and cooler temperatures than modeled.
 - Reclamation responded that reduced releases may have helped maintain water temperatures throughout the season and thus resulted in the lower than anticipated TDM this year, but other factors may also have influenced the results. Hard to reconcile but looking back on the hindcast may help shed some light on what happened this season.
- CDFW asked if the recent small rain event in the Sacramento Valley helped increase storage in Shasta.
 - Reclamation: There has been no change in the inflow. There was some precipitation at Whiskeytown but nothing significant. A little at Trinity, but no reflection of increased Shasta inflow or storage.

Coordinated Operations Agreement Update

- Reclamation provided an update on the Coordinated Operations Agreement (COA). At the end of August, it was at 19 TAF for the COA balance, in the Central Valley Project's favor, meaning the State Water Project owes the Central Valley Project.

Temperature Management and Temperature Dependent Mortality Modeling

Modeling Assumptions Table

- SWFSC stated that there was nothing to report. In the coming weeks SWFSC plans to use the observed 2022 redd distributions to update the TDM modeling. So far, SWFSC has been targeting the broader historical redd distribution.

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

- CDFW presented the winter-run Chinook salmon carcass survey which officially ended today.
- Fall-run Chinook salmon carcass surveys started at the beginning of September and both surveys are going concurrently. The fall-run and spring-run Chinook salmon counts have been picking up a little bit and they are still only in double digits.

- No new flights have occurred since the last winter-run Chinook salmon redd flight. Currently waiting for more fish to show up in the system.
- Today is the emergence date for a lot of shallow water winter-run Chinook salmon redds.
- We will only have 12 shallow winter-run Chinook salmon redds left in the system that we need to monitor next week.
- Stranding surveys have not seen much due to releases being at 4,100 cfs.
- Seeing juvenile winter-run as expected; 30% of the eggs have turned into fry and have emerged from the gravel.
- About 70% of winter-run Chinook salmon eggs are still in the gravel. Water temperatures are still adequate for winter-run Chinook salmon egg survival, most of the redds were from Sundial Bridge Area up to Keswick Dam.

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 Hatchery

- USFWS reported on winter-run Chinook salmon at Red Bluff Diversion Dam (RBDD).
 - The juvenile winter-run Chinook salmon passage moving past RBDD is 400-500 per day (low numbers).
 - Nearly 11,000 juvenile winter-run Chinook salmon had past RBDD as of September 9. Precipitation impacted Cottonwood Creek drainage. Turbidity was very high, which doubled the passage estimate of winter-run Chinook salmon passing RBDD.
- Livingston Stone Fish Hatchery:
 - No update was provided.
- CDFW asked if there were any updates on the translocations that occurred over the summer.
 - USFWS said that spring-run Chinook salmon were transferred to Clear Creek and winter-run Chinook salmon were transferred from Keswick fish trap to Battle Creek and further upstream. There is currently not a lot of data on the spawning success of those fish. The winter-run in Battle Creek have spawned successfully. Other translocations of winter-run Chinook salmon were made to the McCloud River drainage above Shasta Reservoir. Some of those fish have emerged and were recaptured downstream. It is a little early to determine the success of any of the translocations.

Adjourn