

## Sacramento River Temperature Task Group (SRTTG) Meeting

August 25, 2022, | 1:00 PM – 2:45 PM

### Meeting Summary

#### *Participants*

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Craig Anderson, USFWS  
Craig Fleming, USFWS  
Craig Williams, SWRCB  
Charles Chamberlain, USFWS  
Chris Laskodi, Yurok Tribe  
Claudia Bucheli, SWRCB  
Crystal Rigby, CDFW  
Doug Killam, CDFW  
Erica Meyers, CDFW  
Garwin Yip, NMFS  
Gary Zhao, CDFW  
James Early, USFWS  
Jeff Laird, SWRCB  
Jeffrey Onsted, DWR  
John Hannon, Reclamation  
Kaitlin Dunham, USFWS  
Kristin White, Reclamation  
Kevin Reece, DWR

Liz Kiteck, Reclamation  
Lisa Elliott, Reclamation  
Marry Suppiger, Reclamation  
Matt Brown, USFWS  
Matt Holland, SWRCB  
Michael Wright, Reclamation  
Mike Ford, DWR  
Miles Daniels, SWFSC  
Mike Deas, Watercourse Engineering  
Stephen Maurano, NMFS  
Seth Naman, NMFS  
Thomas Patton, USBR  
Thad Bettner, SRSC

##### *Facilitation Team*

Adam Fullerton, Kearns & West  
Mia Schiappi, Kearns & West

### Key Discussion Topics with

### Summary of Recommendations and Outcomes

#### **Action Items**

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

#### **Welcome, Agenda Review, and Purpose**

Adam Fullerton, Kearns and West, welcomed all participants and mentioned the addition of agenda item regarding the discussion of the Shasta Reservoir Cold Water Power Bypass.

#### **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.”

## **Shasta Cold Water Bypass Update**

- Tom Patton, Reclamation, emailed the SRTTG after the last meeting stating that the Temperature Control Device (TCD) was functioning well and that the current recommendation is that a cold water bypass is unnecessary at this time.

### Questions/Comments

- NMFS asked whether the power bypass conversation at the 8/11/22 SRTTG meeting ended with the decision not to have a cold water bypass this season.
  - Reclamation responded that during the last meeting the SRTTG discussed how the TCD has been performing. At this point there is no need to have a bypass, but if the circumstances change the discussion can reopen.

## **Shasta Planning Group (SPG) Update**

- There was no update from the SPG as they did not meet since the last SRTTG meeting.

## **Trinity River Temperature Task Group (TRTTG) Update**

- Seth Naman, NMFS, reported that the TRTTG met on 8/22/22 and 8/25/22 to develop recommendations for fall water temperatures from Lewiston Dam for the benefit of spawning in the Trinity River and the Trinity Hatchery.
  - Chinook salmon - September 15 – November 1: 53.5 °F
  - Coho salmon - November 1 – December/January: 50 °F
- Methods to be used to reach recommended temperatures:
  - Auxiliary outlet at Trinity Reservoir – it draws water from the lowest portion of the reservoir that can be utilized.
- The TRTTG will meet again the week of 9/5/22 to discuss the volume of cold water pool left at 50 °F and calculate how long it will last based on whether there is a fall action flow release to protect adult salmonids in the lower Klamath and Trinity Rivers, and whether it would occur before or after September 15.

### Questions/Comments

- USFWS asked if any of the changes in flow would negatively affect the fish in Clear Creek.
  - NMFS responded that it would not be flows that affected the fish, rather it would be dependent on the temperature of water released and how it would affect egg survival. They do not know when there would be a change.
  - Reclamation responded that they do not believe that any change in diversions would negatively affect Clear Creek. The volume of cold water pool in Whiskeytown for Clear Creek is set and changing the diversions would not have any significant impact. There will be new profiles in early September and October to track cold water in Whiskeytown.

## **Hydrology, Operations, Forecasts, and Temperature Management**

- No major change from the last meeting. There has been a total of 41.4 inches of precipitation.
  - CA Snowpack – there is no snowpack at this time of year.
  - Daily CVP Water Supply Report

- Storage:
      - Trinity is at 45% of 15-year average.
      - Shasta is at 1.6 MAF, which is 63% of the 15-year average.
      - Folsom is at 472 TAF, which is 95% of the 15-year average.
    - Accumulated Inflows for Water Year
      - Trinity is currently very dry at 482 TAF.
      - Shasta is at 2,734 TAF.
      - Folsom is at 1,668 TAF.
    - Releases:
      - Trinity River: 857 cfs
      - Sacramento River: 4,500 cfs with a decrease to 4,300 cfs on 8/28/22. The goal is to get to 3,250 cfs by the end of the summer.
  - Temperature Control Device (TCD) changes:
    - Reclamation closed all PRGs, with the final being closed on 8/22/22. They had opened that PRG on 8/12 because they saw colder water than they thought was then necessary to meet the goal of 45.5 at SAC. There is about a half degree cooling from closing the last PRG.
- Trinity updates:
  - It is warmer than what is usual for this time of the season. Reclamation is looking at different options to increase cold water flows.
    - Using the auxiliary system
    - Reducing diversions to the Spring Creek Tunnel to zero.
    - Reducing Whiskeytown storage level – Whiskeytown is typically drawn down in October, but that may start in mid-September this year.
    - Reducing flows of warm water from Spring Creek – this will increase the need for releases from Shasta.
  - Trinity releases are lower than typical.
  - Trinity and Whiskeytown profiles are done monthly. There will be a new profile the first week of September.
  - Trinity has the opportunity for augmentation flows for the Klamath River, which would be 50 TAF split equally between August and September. If it is not needed overall storage will be better in the late summer and early fall.

#### Questions/Comments

- NMFS commented that although it's hypothesized that a bypass may not produce colder water than what is currently coming through the TCD it may be worth testing the outcome of a bypass to better understand any issues with the TCD, including leakage, and how a bypass would perform.

Considerations to think about when making this decision are:

- The lower outlets would be drawing from a higher elevation than the side gates and may draw from warmer waters above the gates which could be counterproductive. However, there are the complications of an undefined cone of influence that draws from a range of elevations and an unquantified amount of warm water introduced through TCD leakage. Additionally, there is a high amount of flow during hydropeaking and a higher rate could get a mix of water from different elevations. It may be helpful to run a bypass for 24 to 48 hours to see the effect. NMFS is not committed to this approach but wanted to put it to the group for discussion.

- Reclamation responded that they are not sure what running such a test would tell them. Each penstock is looked at independently and what temperature it is generating. This data is on CDEC for anyone to review. Currently 48 °F water is coming through Unit 5 and there is a priority to maximize that unit to get the coldest water. The different penstocks, even Unit 1, which is running very little and the warmest, is not showing evidence of leakage from the middle gates or the PRGs. Reclamation is confident that the leaks in the middle gates are minimal at this time, even without the temperature curtains deployed.
  - In 2014 Reclamation tried to use these outlets to get cold water later in the season. They also tried to turn them on an off to create small pulses to reach the colder water. They are unsure of what the outcome produced, and it would be useful to look at the 2014 meeting notes.
  - NMFS commented that they are okay proceeding with the current plan after listening to further discussion on the topic.
- There was a question about an older tech memo that seemed to show lower river outlets.
  - Reclamation responded that is an error and there are no lower outlets, the lowest are the 750 ft outlets.
- CDFW asked if there is a website to track whether or not the power grid is in excess.
  - Reclamation responded that the power grid is never necessarily in excess, but the Cal ISO site is useful. <https://www.caiso.com/TodaysOutlook/Pages/default.aspx>

### **Coordinated Operations Agreement (COA) Update**

- The COA was 36 TAF at the end of July. This does not include any adjustments from last year, and adjustments from New Melones, or any adjustments made earlier in the season.

### **Temperature Management and Temperature Dependent Mortality (TDM) Modeling**

- Miles Daniels, SWFSC, provided modeling for what TDM is estimated to be using Reclamation's forecasted Keswick temperature and hindcast temperatures.
  - The model uses June as the starting point as the last Reclamation Forecast. TDM has been going down based on temperatures being lower than forecasted.
  - The model used the 2016-2021 redd distribution and will change when final redd distribution numbers are released.

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

- Carcass Survey:
  - 1,600 carcasses to date which is approximately half of average.
  - Approximately 99% of total carcasses (both spawned and unspawned) of the winter run are observed by this date on average.
- Redd Counts:
  - 406 aerial redds have been observed, with 53% observed above the ACID in the cooler water and 45% from Highway 44 bridge, near Turtle Bay, to ACID. 2% were slightly downstream of Highway 44 bridge.
  - 52 redds were observed during spawning season (May-Aug). Most of the redds were in deep enough water at around 4,500 cfs that the chance of being dewatered at 3,250 cfs is not likely. Approximately 13 redds are in water depths shallow enough (under 12 inches) at

4,500-4,600 cfs as to be a concern if flows drop to 3,250 cfs before they have a chance to emerge.

- Currently, the cooler water near Keswick is causing those redds to take about 88-90 days to emerge, while downstream in warmer water days to emergence is taking closer to 83-85 days.

Questions/Comments:

- What do you think the efficiency of recovery of carcasses will look like?
  - Typically for winter-run it is between 40-50% on average. Recapture efficiency this year is likely close to the average of 40-50% because the river was relatively shallow and clear this year. It should be 30-40% recapture efficiency because the water was much clearer than in the past years.
- The bulk of the juvenile winter-run Chinook salmon should be emerged by mid-September or is that halfway point?
  - This is the halfway point. It will really start in mid-September. Last year, the cumulative run was in the single digits emerging on September 17, 2021 and then there were double digits the next four weeks. By mid-October 90% of the run should be emerged.

**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**

- Bill Poytress, USFWS, was not present to give full fisheries update.
- Matt Brown, USFWS, reported that there are low numbers of winter run observed at the rotary screw traps and few juveniles observed at redd bluff with the highest catch being 8 in a single day. Temperatures are still adequate for sampling.
- Livingston Stone Hatchery Update:
  - Production for winter run is complete. The captive brood stock is being spawned and is four weeks ahead of last year meaning the work towards accelerated maturation has been successful. This allows the fish to be released into the river at earlier date and at a larger size.

**Adjourn**