Upper Sacramento Scheduling Team

Flow Smoothing Coordination

Tuesday, September 19, 2023, 10–11 a.m.

Meeting Summary

Members Attending

- CDFW: Doug Killam, Erica Meyers, Crystal Rigby
- DWR: Mike Ford, Kevin Reece
- Kearns & West: Terra Alpaugh, Eva Spiegel
- Reclamation: Emelia Barnum, Elissa Buttermore, Chase Ehlo, Lisa Elliott, Tom Patton, Derek Rupert
- NMFS: Evan Sawyer, Garwin Yip
- SWRCB: Claudia Bucheli, Jeff Laird, Craig Williams
- SRSC: Lewis Bair, Anne Williams
- USFWS: Craig Anderson, Jeff Beauchamp, Matt Brown, Jim Earley, Craig Flemming, Bill Poytress, Tanya Sommer
- Yurok Tribe: Chris Laskodi

Action Items

- Reclamation (Tom Patton) will schedule flow changes on the nights of Friday, Saturday, and Sunday (9/22-9/24): 200 cfs for two days and 100 cfs for one for total flow reduction of 500 cfs, down to 6,600 cfs.
- Tom Patton, Reclamation, will confirm information about the KES gage hourly data reported on CDEC and if it is an average of the 15-minute interval data collected during that hour period.
- Lewis Bair and Anne Williams will coordinate with Reclamation (Tom Patton) to share information about diverters needs and ability to spread their demand out and to explore Reclamation's ability to guarantee water into November
- Reclamation (Chase Ehlo) to finalize fall-run Chinook salmon redd dewatering analysis to share with the USST

- Reclamation (Lisa Elliot & Elissa Buttermore) to develop an alternative that ramps down to base flows as quickly as possible, while accommodating for diverters needs (probably something between alternatives 1b and 2e)

Update on action items from 9/12

- Tom Patton, Reclamation, said flows were reduced last weekend by 600 cfs to a current release of 7,100 cfs.

- Tom said that he is waiting for confirmation on the KES gauge hourly reporting to validate the 15-minute data collection. He reported that the flow meters were installed several years ago. Flow meters have recently been turned off due to mechanical issues, and they are working to have them resume operating this week.

Operations Update

- Reclamation reported that over the weekend they reduced flows by 200 cfs/night on Friday, Saturday and Sunday. The KES gage measurement showed that flows are currently 7,100 cfs and holding.

- On the Trinity, Reclamation adjusted diversions (2,000 acre feet/day) from Carr to help cool down Lewiston Reservoir, moving into mid-September.

- Reclamation requested a delay for the planned Carr outage to mid-November instead of the first of November. Tom Patton will update the group when he has confirmation. He explained that this will be a long outage, lasting perhaps to early March, because every five years they inspect and do repairs.

- Reclamation is adjusting the Whiskeytown drawdown, slowing it to 400 AF/day. Their concern is that if it is very dry, and there is not 200 cfs inflow to counteract the 200 cfs outflow into Clear Creek, levels in Whiskeytown will fall too low. If it is wetter, they will release additional flows through Spring Creek. Reclamation is releasing 150 cfs at Clear Creek and will increase that to 200 cfs on October 1.

- USFWS noted that Trinity River temperatures looked high.

- Reclamation will be checking temperature data on September 18, because there have been issues with gauge outages that have caused data to skew. Reclamation has made an adjustment to the guard gate at Whiskeytown Dam for cooler waters and are now drawing from the lowest configuration. They expect daily averages to be at or below 56 degrees F.

- CDFW noted that Clear Creek is one of the largest producers of fall-run Chinook salmon in the Upper Sacramento River watershed (as defined by the river and tributaries upstream of Princeton, CA (RM 160), (i.e., not the Feather, Butte or American), generally only passed by Battle Creek. They emphasized that flow changes in Clear Creek can affect fall-run Chinook salmon and stressed the need to avoid significant flow changes and/or dewater their redds.

- Reclamation explained that they need to draw Whiskeytown Reservoir down by 30,000 acre feet (10 to 15 feet elevation) to prepare for the possibility of an early storm, and confirmed that there should not be any issues with maintaining 200 cfs drawdown at

Clear Creek; excess water can be released through Spring Creek. Additional flows would only be sent down Clear Creek in the event of a spill event through the glory hole.

- Reclamation explained that for Whiskeytown Reservoir, there are no hard rules for the lake levels, but they try to have the lake at a higher level for the summer and then draw it down for winter. It is prudent to lower it for winter to manage the flashy inflows.
- Reclamation reported that Shasta Reservoir is currently at 3.4 million acre feet, making progress to be no more than 3.2 million acre feet by December 1. Flows are 7,000 cfs at Wilkins Slough. Diverters are easing demands due to their rice harvest. Water demand will increase in October due to rice decomposition, in the range of sustained 2,000 cfs diversions by mid-to-late October. Therefore, flows will need to be 6,500 cfs at Keswick Dam in order to sustain 4,500 cfs in the lower reaches; this will provide for Delta needs in coordination with operations from Folsom Reservoir.
- USFWS remarked that this group's task is to help smooth flow needs: if flows less than 6,500 cfs are optimal for fall-run Chinook salmon needs but there are also agricultural demands, they should think about how to shift some of those ag needs through timing. There may be an opportunity to talk with rice farmers about changing their planned operations. This is adaptive management.
- Reclamation agreed that there may be an opportunity to spread out demand so that the peak demand is less than 2,000 cfs.
- Reclamation also reported that ACID would like to remove their diversion dam by the end of October; optimally that would be done at flows of 5,000 cfs or less though it can be done at slightly higher flows.
- CDFW noted that having the diversion dam in may be benefitting the winter-run Chinook salmon redds immediately upstream of it from being dewatered, so it is helpful to have it in until those redds have emerged.

Fishery Monitoring Update

- CDFW reported that the recent 600 cfs reduction in Keswick Dam release did not dewater any winter-run redds; there were no changes observed in redd depth. The redd they expected to see dewatered still has 1 inch of water over the tail spill. KES gauge was down on September 18.
- CDFW said that, while there is no dewatering yet, some redds are close.
- CDFW noted that there are redds near Market Street Bridget in Redding that are being exposed to slower, warm water, and they did not know the impact of decreased velocity on redd survival.
- CDFW said in a typical year, the first spring-/fall-run Chinook salmon spawners arrive in late September, but none have been seen yet this year. Their arrival usually picks up in the last week of September, early October.

Flow Scheduling Adaptive Management

- Reclamation said that there is a count of 354 redds noted on the August 1 data available on CalFish.org. They explained that the expected expansion factor for 2023 is 3, which would be a total of 1,062 redds.

- Reclamation reported that two shallow winter-run redds have emerged, and there are still 24 shallow redds being monitored. Dates for redd emergence have been shifted (delayed) by three days due to cooler temperatures, which impacted the outcome of some of the flow alternatives that were analyzed.

- Reclamation created additional alternatives in an effort to remain protective of the shallow winter-run Chinook salmon redds, but also decreased the estimated percentage of fall-run Chinook redds dewatered. Except in the event that the total number of winter-run Chinook salmon aligns with the minimum expansion factor, none of the alternatives should result in the dewatering of more than 1% of total winter-run Chinook salmon redds. The fall-run Chinook salmon dewatered redd estimates for the alternatives under consideration now range from 5.6 to 8.5%.

- USFWS asked if dewatering estimates have been done for fall-run Chinook salmon to compare to the estimates predicted by the Gard (2006) report. CDFW explained that Gard's study developed dewatering charts using flow stage and observations of shallow likely spawning habitat. They could go back in time and compare actual fall- and winter-run Chinook salmon redd dewatering alongside what the Gard report predicted to determine if Gard's predictions were accurate. However, they also noted that fall-run Chinook salmon are not monitored as closely as winter-run Chinook salmon due to staffing issues and also the impact of rain and muddy water. CDFW hypothesized that there is less fall-run Chinook salmon redd dewatering than predicted in the Gard report.

- Reclamation shared that their staff have done some of that analysis and will share it once they have double-checked the assumptions.

- USFWS and CDFW requested an alternative that ramps down to base flows as quickly as possible, while taking into account the different demands for water and releases. Reclamation said that would likely be a flow schedule between alternatives 1b and 2e.

- NMFS asked Reclamation if a 6,500 cfs flow through October would provide for the Delta's diversion needs and asked about 6,000 cfs going into November, instead of jumping from 6,500 to 5,000 cfs. Reclamation responded that if rice decomposition demand can be spread out timewise, then flows can be lowered sooner. There is a great deal of uncertainty in rice decomp demands.

- SRSC said that they are looking at diversions of 2,000 cfs through October for peak demands. They explained that, under their contracts, they are relying on more senior water rights now but that, as of November 1, they shift to junior water rights. If they defer October diversions, they would need assurance from Reclamation that they would have access to that water in November and that Term 91 would not be going into effect.

- Reclamation was unable to answer regarding the status of Term 91 but said that Delta needs will decrease in November so the demand for downstream flow is expected to

decrease. Given that there is interest in cuts in October for fall-run Chinook salmon, he will confer with Reclamation leadership and coordinate with the SRSC.

- Based on the discussions, NMFS recommended reducing flows to 6,600 cfs this week, with the rationale that it would not dewater any winter-run Chinook salmon redds, compromise diversions, rice decomp, Term 91 or the Delta's needs. Maintaining 6,600 cfs, looking at the 10/29 date for last redd emergence, will protect that one now.
- CDFW and USFWS supported NMFS's recommendation. CDFW agreed to monitor redd depths as flows decreased and to refine dewatering estimates as needed to continue adaptive management.
- Reclamation agreed to lowering flows by 200 cfs Friday and Saturday and 100 cfs on Sunday to get to 6,600 cfs.

Meeting Schedule

- The next meeting is September 26, 2023, 10 to 11 a.m.