



Upper Sacramento Scheduling Team Flow Smoothing Coordination

Tuesday, September 26, 2023, 10–11 a.m.

Meeting Summary

Members Attending

- CDFW: Tracy Grimes, Doug Killam, Erica Meyers,
- Kearns & West: Terra Alpaugh, Eva Spiegel
- Reclamation: Elissa Buttermore, Chase Ehlo, Lisa Elliott, Tom Patton, Elizabeth Kiteck,
- NMFS: Stephen Maurano, Garwin Yip, Evan Sawyer
- SWRCB: Claudia Bucheli, Jeff Laird, Craig Williams
- SRSC: Lewis Bair, Wesley Walker, Mike Deas,
- USFWS: Jim Earley, Craig Fleming, Bill Poytress, Baker Holden

Action Items

- Reclamation (Tom Patton) will schedule a flow change of 200 cfs, down to 6,400 cfs, on Friday night.
- CDFW will remeasure shallow water redds after the upcoming flow drop with a specific focus on the 4 redds currently forecasted to be dewatered at 6,000 cfs.
- Reclamation (Tom Patton) 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.
- All USST members are encouraged to provide feedback on the fall-run Chinook salmon redd dewatering analysis shared by Reclamation (send to Elissa, Lisa, and Chase); Reclamation will consider doing a parallel analysis of Mark Gard's winter-run Chinook salmon redd dewatering analysis compared to winter-run Chinook salmon redd dewatering actuals in past years.

Operations Update

- Reclamation reported that it proceeded with the ramp-down discussed last week; flows are now at 6,600 cfs. There is debris in the Keswick traps, which is

interfering with the KES gage. The KWK gage downstream is more accurate. There are no issues with temperature, and current releases are providing enough water downstream.

- Reclamation reported that Wilkins Slough flow is above 6,000 cfs and getting lower due to the Keswick flow reductions.
- Reclamation asked the group to discuss if they should hold flows or make further reductions.
- The Sacramento River Settlement Contractors (SRSC) met with Reclamation last week to review October volumes required for rice decomp needs. Their demand will average approximately 1,700 cfs max daily average. Peak usage should be just under 2,000 cfs in mid-to-late October.
- SRSC reported that some users could take water for decomposition in November in the range of 700 cfs, which could reduce the October demand slightly.

Fishery Monitoring Update

- CDFW reported that there were two winter-run Chinook salmon redds dewatered at approximately 6,600 cfs measured at the KWK gage.
- CDFW reported that fall-run Chinook salmon spawning has not begun; there are a few spring-run Chinook salmon in the upper watershed. CDFW has been doing weekly carcass surveys, and no carcasses were found on the river in September. CDFW does not predict that there will be a lot of fall-run Chinook salmon this year.
- CDFW reported that one winter-run Chinook redd at 2.5 inches had emerged, and that three more emerged today without being dewatered. CDFW estimates that there are 4 winter-run Chinook redds at 4 or 5 inches of water that may be at risk of dewatering at 6,000 cfs. Three redds are estimated to emerge on October 29, followed by another on October 31st. Dropping to 6,100 cfs should be relatively safe, though it could dewater one. They have not been measured for several weeks, so the estimated dewatering flow may not be entirely accurate; they will be remeasured next week.

Fall-Run Chinook Salmon Redd Dewatering Analysis

- Prior to the meeting, Reclamation distributed a memo describing their analysis of fall-run Chinook salmon redd dewatering estimates from 2013-2022, produced using past flow and temperature data, known salmon temporal spawning, and the USFWS Gard (2006) report as compared with field dewatering counts.
- They found that the calculations based on Gard (2006) overestimated fall-run Chinook salmon redd dewatering. This is likely a result of the Gard (2006) assumption that all fall-run Chinook salmon redds are in less than 2 feet of water (as opposed to a certain percentage being in shallow water and the rest being in deeper water). Reclamation suggested that the estimates should not be understood

as an actual number of redds dewatered, but rather, as a tool to compare redd dewatering between flow scenarios.

- NMFS noted that one of the fundamental concerns about Gard (2006) is that it is based on what is likely outdated morphology of the river. Reclamation acknowledged that they would like to update the model using new maps and the GPS locations of the redds; however, they still believe the results can be useful in scenario analysis.
- CDFW offered to make staff available, including Mark Gard and a fluvial geomorphologist, for any effort to update their understanding of the river's geomorphology and associated impacts on where redds might be dewatered.
- CDFW also suggested that Reclamation examine Gard's predictions for winter-run Chinook salmon redd dewatering as compared to the shallow redd data. Reclamation agreed that would be a worthwhile analysis.
- Reclamation asked USST members to provide any feedback on their analysis via email.

Flow Scheduling Adaptive Management

- Reclamation developed a new scenario (1c) based on the 50% forecast, but it may not be actually feasible in that there could be issues with ramping down as quickly as is outlined. They suggested it should be used as a benchmark for what ramping down as quickly as possible would look like.
- Reclamation said that there is a count of 354 winter-run Chinook salmon redds noted on the August 31 data available on CalFish.org. They explained that the current alternatives would dewater from 2 to 6 winter-run Chinook salmon redds, which using the current total count and anything other than the minimum expansion factor, would represent less than 1% of the population. The fall-run Chinook salmon redd dewatering estimate ranged from 4.7% (for alternative 1c) to 8.5% (for alternatives 2e and 3k, which are most protective of winter-run Chinook salmon redds) of the population.
- Participants reviewed the alternatives spreadsheet as a group. The fisheries agencies were interested in lowering flows to 6,100 cfs over the coming week in order to be more protective of fall-run Chinook salmon, while still avoiding dewatering the winter-run Chinook salmon redds whose dewatering flows were measured at 6,000 cfs.
- Reclamation explained that lowering to 6,100 cfs would likely result in flows at Wilkins Slough of 4,000 cfs. Based on the assumption that 2,000 cfs will be needed for rice decomp in mid-October, this would be too low to ensure Delta needs during that period. They could reduce to 6,100 cfs for a couple weeks but would likely need to increase later to meet decomp needs. The exact increase would depend on rain and creek inflows, but they should assume a need for Keswick Dam releases of 6,500 cfs. Those flows would then follow the reduction

in usage at the end of October and slowly drop to baseflow of 5,000 cfs over the course of November.

- SRSC stated that if decomp water demand was able to be spread into November, some farmers could postpone their use. The absolute max demand that could be moved is 700 cfs, but 400–500 cfs is a more realistic range.
- USFWS asked what the impact of reducing, then increasing, then reducing flows would be on fall-run Chinook salmon spawning. CDFW explained that it depends on the timing; if the low flows aligned with spawning, that would be ideal, but if they spawn at peak flows, it will increase their likelihood of dewatering later.
- NMFS noted the uncertainty of the flows that would dewater the winter-run Chinook salmon redds of interest and asked what buffer would be needed to ensure they all stay watered. CDFW explained that there are three in deeper water and/or below riffles that will likely stay watered at 6,100 cfs; however, there is one in an area prone to dewatering. To protect that final redd, they suggested a flow of 6,400 cfs.
- NMFS, USFWS, and CDFW recommended a flow drop of 200 cfs to 6,400 cfs in order to protect all four winter-run Chinook salmon redds in danger of dewatering but also to lower flows as much as possible for fall-run Chinook salmon spawning at this time, while keeping in mind that they are likely to have to increase flows to provide water for rice decomp in mid-October.
- CDFW will provide updates next week on the four winter-run Chinook salmon redds of interest and any changes to their estimated dewatering flows.

Meeting Schedule

- The group discussed the possibility of a government shut down but agreed that those federal staff deemed essential would continue to meet with state staff to provide flow recommendations even if some federal staff were furloughed.
- The next meeting is October 3, 2023, 3 to 4 p.m.