



SRG, Fall Flow Reduction Coordination Meeting Summary

Tuesday, September 15, 1:00–2:00 p.m.

Participants

- CDFW: Matt Johnson, Jamie Ebenal, Travis Apgar, Erica Meyers, Crystal Rigby, Gang (Gary) Zhao, Tracy Grimes, Ryan Revnak, Vanessa Lo
- DWR: John Ford, Ryon Kurth
- Friends of the River: Devon Pearse
- NMFS: Kyra Fitz, Sam Pyros
- Pacific States Marine Fisheries Commission (PSMFC): Darin Olsen
- Reclamation: Lisa Elliott, Tom Patton, Emily Brenton, Mechele Pacheco, Timothy Warner, Stephanie Theis (Stantec), Luke Davis
- SRSC: Thaddeus Bettner, Mike Deas (Watercourse Engineering), Catherine Morales-Sandoval (MBK Engineers), Lee Bergfeld (MBK Engineers),
- SWRCB: Craig Williams, Jeff Laird, Matthew Holland
- SWFSC: Miles Daniels
- USFWS: Bill Poytress, Kaitlin Dunham
- Westlands Water District (WWD): Alan Rosenthal
- Pacific Coast Federation of Fishermen's Associations (PCFFA): George Bradshaw
- Nor-Cal Guides & Sportsmen's Association (NCGASA): James Stone
- University of Washington School of Aquatic and Fishery Sciences: W. Nicholas Beer
- Kearns & West: Terra Alpaugh, Colin Baker

Action Items

- **Reclamation to** determine a preferred flow schedule based on the scenarios under discussion after the FAWOG meeting on September 16th.
- **Reclamation to** share recent 750 ft water temperature data in the context of a conversation about a potential bypass at the next monthly SRG meeting.
- **CDFW to** share new fishery data at the fall flows meeting on September 22, and SRG to consider any adjustments advisable to the scheduled flows.
- **MBK to** share figures of the C2 and D1 comparison tool. *(Complete)*

Topics

Welcome, Action Items & Agenda Review

Kearns & West reviewed the agenda and action items from the September 1st meeting:

- **Reclamation to** develop a scenario that is feasible and includes C1 releases in September, A3 releases in October and November, and realistic ramping rates (given Delta demands for September).
- **Reclamation to** start the process of updating contracts with settlement contractors and share an update on this process at the next meeting.
- **Reclamation to** add the differences in end of November Shasta storage for the various scenarios to the SacPAS webpage.

Alternatives Under Consideration

Reclamation introduced a new scenario (D1) and updated C2 scenario. For context, after the September 1st meeting, Reclamation determined the Delta did not need as high of inflows as previously expected, so they were able to ramp down releases more quickly than anticipated. Currently, releases are down to 6,500 cfs and can be reduced further. Reclamation updated the C2 and developed the D1 scenarios to show two different options for reducing toward stable releases through November.

- C2: A refinement of the C1 scenario developed by MBK that spreads settlement contractor demand across October and November; this version is updated based on actual early September flows. C2 reduces releases to 5,500 cfs in mid-October and extends those through November.
- D1: Scenario assumes no fall smoothing and therefore maintains releases for rice decomp of 6,500 cfs through October. After that, releases would ramp down as fast as possible based on ramping rates in November. Rates would ramp down quickly to 6,000 cfs, followed by reductions of 200 cfs/day to 4,000 cfs.
- Current storage at Shasta is 2.5 MAF, and the end-of-September storage is anticipated to be higher than 2.4 MAF. This increased storage is due to higher-than-

normal flows into Shasta over the summer and lower than anticipated demands (and therefore reduced flows from Keswick). Since all scenarios result in higher than 2.4 MAF end-of-September storage for Shasta, the minimum flow through winter will be 4,000 cfs rather than 3,250 cfs.

- End-of-September Shasta storage forecasts for C2 and D1 are similar, at 2,440 MAF and 2,427 MAF, respectively. Monthly average releases for September, October, and November are slightly different and then equal out December, January, and February.

Reclamation shared its preference for scenario C2, explaining that the faster drop in releases will reduce fall-run redd dewatering and improve egg survival, despite the tradeoff of a few additional winter-run redds dewatered.

Comments and questions from participants included:

- Kearns & West followed up on the action item from September 1st meeting about Reclamation updating contracts with settlement contractors to allow them to extend decomp demand into November, given Reclamation's preference for C2.
- Reclamation responded that it is ready to update these contracts, but it is pausing until after this meeting and the Fish and Water Operations Group (FAWOG) meeting on September 16th. If C2 is chosen, then Reclamation would reduce releases to 6,000 cfs on September 18th and proceed with amending their contracts.
- USFWS asked for more information about Reclamation's rationale for preferring C2 over D1.
- Reclamation shared that C2 would reduce releases more quickly and stabilizes releases that are predicted to improve fall-run redd conditions compared to D1, despite tradeoffs related to winter-run redds (presented in more detail below).
- USFWS asked why A3 is no longer desirable.
- Reclamation explained A3 was an initial attempt at a scenario to show fall flow smoothing using monthly forecasted average releases prior to MBK's development of the C1 and C2 alternatives based on their actual demand. Higher releases may be extended into late November depending on contractor needs, so the exact date of additional ramp down is not certain. Reclamation will work with settlement contractors to ensure releases are adequate.

Fishery Monitoring Update

CDFW shared an update on shallow redds and anticipated spawning timing, including:

- As of September 14th, 36 redds have been dewatered, with one that emerged last weekend and one more expected to emerge in the next three days. Many more are expected to emerge next week.

- The majority of remaining redds are in Section 1, with a handful in Section 2. Section 1 redds will emerge slightly later than Section 2 redds.

Dewatering Analysis and Technical Input

Reclamation presented updated data on the [SacPAS webpage](#).

- The unexpanded winter-run redd count is 4,412, representing the minimum number of possible redds.
- With an expansion factor of 1.0, the 1% dewatering threshold is 44 redds. Previously, CDFW anticipated an expansion factor of 1.6, which would result in approximately 70 redds at the 1% dewatering threshold.
- 108 redds have been monitored, with one winter-run redd that has emerged and 36 that have been dewatered, leaving 71 redds of concern.
- Estimated fall-run redd dewatering for scenarios C2 and D1 range from 4.4% to 12.5%, with C2 slightly lower than D1.
- They do not anticipate carryover effects to next year winter-run brood, based on an end-of-September storage of 2,351 TAF, above the 2,200 TAF threshold.
- Expected dewatering counts for winter-run redds are similar, with C2 showing three more redds dewatered than D1. The two scenarios have moved closer to each other with the latest CDFW data; prior to these data C2 was expected to dewater approximately 30 more redds than D1.
- Both scenarios are expected to stay below 1% of winter-run redds dewatered.

MBK shared an updated version of its spreadsheet tool using the same data as presented on the SacPAS webpage. The tool visually displays the different numbers and estimated timing of the redds that would be dewatered with C2 and D1. The tool also shows a target date for Clear Creek to hit 56 degrees (September 16th). C2 would result in three more redds being dewatered than D1. MBK offered to provide figures of the tool to participants.

Comments and questions from participants included:

- CDFW shared that C2 and D1 are relatively similar, but it prefers C2 because it would likely result in better conditions for fall-run redds and more water in the reservoir to help with temperature control for the winter run. D1 could dewater several fewer winter-run redds, but precise predictions are challenging when considering a handful of redds that also may have faced temperature-driven mortality by then. CDFW's primary desire is to reduce releases as soon as possible.
- USFWS voiced concern about redd survival in both scenarios given that temperatures at Clear Creek are already peaking above 58 degrees. USFWS wondered if the releases in the D1 scenario would help survival by increasing oxygenation and/or decreasing temperature (regardless of the risk of dewatering). Reclamation responded that there would still be uncertainty about water

temperatures even with higher volumes. Lower releases can help to preserve cold water storage and therefore, some temperature control longer, but air temperatures also have a large impact on water temperatures. There is more water in the reservoir this year than in typical drought years, which should help to insulate and slow the rise of temperatures. Sacramento River water is currently showing 53.5 degrees at the TCD and 55.5 degrees at CCR, indicating a two degree increase during its travel downstream. Warming slows later in the year with changes in the sun angle, but there are still uncertainties.

- USFWS noted that air temperatures are forecasted to be over 95 degrees during the weekend of September 19th in the Redding area. Additionally, the current egg incubation study is showing some mortality already as it relates to decreases in flow, the mechanism is not currently known (data analyses should identify oxygenation, flow velocity, and temperature effects related to mortality).
- CDFW asked if there is a change in the target date to attain 56 degrees at Clear Creek on the Sacramento River.
- Reclamation explained that the transition from 55 degrees to 56 degrees is scheduled for September 16th without a change in operations.
- NMFS asked if achieving 56 degrees at Clear Creek would be attainable with either C2 or D1.
- Reclamation replied that temperatures have been slowly rising; they expect temperatures at Clear Creek to be close to 56 degrees starting this week and going forward, hence their decisions to staircase up to the 56-degree F target.

Reclamation anticipates a slow increase in temperatures, barring any heat waves.

- SWRCB shared that it has received inquiries about the cold water bypass and asked if the topic could be discussed at the next Sacramento River Group (SRG) meeting on September 24th.
- Reclamation shared that it now has access to temperature data at the 750 ft elevation that the bypass would pull from. The Livingston Stone Hatchery now receives water from the 750 ft elevation tap directly and is now sharing temperature data. Reclamation recently received actual temperature data from a logger on the 750 ft valves and is still reviewing the data. If there is cooler water at the 750 ft level, then there could be discussion about the cold-water bypass at the next SRG meeting. Reclamation will share these data with participants.
- SWRCB noted that it would be beneficial to prepare in advance in case temperatures rise above 56 degrees at Clear Creek. Using the cold water bypass requires coordination with the Western Area Power Administration (WAPA), which must consider foregone generation.
- Reclamation shared that air temperatures have been relatively moderate during the late summer and the weather forecast predicts that they should remain that way.

Next Steps

- Kearns & West confirmed that the FAWOG would discuss scenarios C2 and D1 at its meeting on September 16th, after which Reclamation would determine a path forward at by September 18th.
- Reclamation encouraged participants to speak with their FAWOG representatives about the scenarios and suggested continuing weekly fall flows meetings. Reclamation will share new fishery data at the fall flows meeting on September 22nd.