BUREAU OF RECLAMATION

American River Group Notes – Spring Pulse Flow Meeting

Conference Line: +1 (321) 209-6143; Access Code: 985 598 947#
Webinar: Join Microsoft Teams Meeting
Tuesday, March 25, 2025

Action Items

Kearns & West

1. Work internally to receive update after the Sacramento River technical team has met to discuss their spring pulse flow.

Kleinschmidt Group

1. Pull data from years with similar water temperature and rotary screw trap data to have available for the next ARG meeting, whether ad hoc or the regularly scheduled 4/17/2025 occurrence.

Introductions

1. USBR: Elissa Buttermore, Kevin Thielen, Liz Kiteck, Mechele Pacheco, Randi Field
2. NMFS: Sam Pyros, Rachael Alcala
3. USFWS: N/A
4. CDFW: Duane Linander, Emily Fisher, Jason Julienne
5. DWR: N/A
6. SWRCB: Claudia Bucheli, Natalie Niepagen
7. California State Parks: N/A
8. EBMUD: N/A
9. City of Sacramento: N/A
10. Sacramento County: N/A
11. Environmental Council of Sacramento: N/A

12. City of Folsom: N/A
13. City of Roseville: N/A
14. Cramer Fish Sciences: Kirsten Sellheim, Jamie Sweeney
15. PCWA: N/A
16. PSMFC: Hunter Morris
17. SMUD: N/A
18. USACE: N/A
19. cbec Eco Engineering: Chris Hammersmark
20. Water Forum: N/A
21. Water Districts: N/A
22. Regional Water Authority (RWA): N/A
23. Shingle Springs Band of Miwok Indians: N/A
24. CSUS: N/A
25. Kleinschmidt Group: Craig Addley
26. WAPA: Vanessa Armentrout
27. BKS Law Firm: N/A
28. Sunzi Consulting: N/A
29. Other: Rod Hall

Framing

LTO BA: Proposed Action 3.6.4 Spring Pulse Flows

1. The ARG revisited the language about spring pulse flows in the most recent version of the LTO. The LTO states the following:
    a. Spring pulse flow addresses stressors on outmigration cues to increase emigration rates and move juveniles downstream. Reclamation will implement a spring pulse in years that the MRR for March (based on the March forecast) is between 1,000 cfs and 1,500 cfs, as described in the ARMFS. The peak flow of the pulse flow would be 3 times the March MRR, even if implemented in April or May, but no higher than 4,000 cfs and lasting two days. Following two days at the peak flow, Nimbus releases would be decreased at no more than 500 cfs per day and no more than 100 cfs per hour. Changes in Nimbus releases would occur at night, if possible. The ARG will provide technical input on shaping spring pulse flow

volumes, with the final timing determined by CDFW, FWS, and NMFS. Reclamation, through the ARG, will develop a pulse flow schedule.

b. Reclamation, through the ARG, may facilitate an additional spring pulse flow event if water is made available from non-CVP sources, or if there is flexibility to shape planned releases in a more variable schedule.

2. The two primary questions stemming from the 3/20/2025 ARG meeting were:
    a. Exact timing of the spring pulse flow
    b. Option to split into two flow peaks
3. USBR updated the ARG on short-term hydrologic conditions.
    a. As of 3/24/2025, Folsom Dam is about 7% encroached.
    b. The 10-day forecast is showing a potential weather event in early April that may bring significant inflow.
    c. If significant inflow is received, USBR will need to make some flood control releases.

Questions/Comments

1. Kleinschmidt Group asked if USBR has any flow predictions for the Sacramento and American rivers in terms of when there will be high hydrology going out to the Delta.
    a. USBR responded that the schedule for spring pulse flows on the Sacramento River is still undetermined. The 50% and 90% exceedance forecasts present a wide range of potential flows. The flow threshold target to improve outmigration survival of juvenile Chinook salmon is approximately 11,000 cfs at Wilkens Slough.
2. Kleinschmidt Group asked when USBR wants to take hydrological action and/or what location they were hoping to target.
    a. The ARG is tasked with specifying the timing of the pulse flow.

Additional Information

1. Kleinschmidt Group presented data on the rotary screw traps (RSTs) from the previous four years.
    a. The data included fish numbers, size, and temporal distribution for Chinook salmon and steelhead.
    b. Kleinschmidt Group shared data on fish size patterns when captured in the RSTs.
        i. Dates when Chinook salmon mean fork length stopped visibly increasing based on daily catch data were: 4/16/2021, 4/23/2022, 5/21/2023, 5/6/2024.
        ii. Peak dates for steelhead were: 5/14/2021, 4/30/2022, 6/11/2023, 6/3/2024.
        iii. The latest dates in peak growth sizes occurred in 2023 which was a high-volume, low-temperature water year.

Questions/Comments

1. PSMFC added that 2023 was a high discharge year. Chinook salmon peak size at the RST is typically observed when temperatures are around 16°C. This year we seem to be tracking to somewhere between 2024 and 2022 conditions. This indicates that peak size can be expected in early May.
2. Kleinschmidt Group added that the ARG should think through at what point they want the pulse flow to affect the fish – in the beginning, middle, or end of their peak growth stage.

Additional Information, continued

1. Cramer Fish Sciences (Cramer) shared emergence predictions based on spawning survey data from Fall 2024.
    a. Chinook salmon
        i. Five spawning events took place from 10/28/2024 – 1/6/2025.
        ii. By mid-March, all Chinook salmon have emerged from the gravel and are rearing in the river.
        iii. Cramer also compared their emergence predictions based on spawning data with predictions based on the CDFW carcass data. The temporal distribution of emergence was similar.
    b. Steelhead
        i. Five spawning survey events took place from 1/7 – 3/4/2025.

ii. This steelhead season has seen a record low number of fish spawning in the river (29 steelhead redds observed).

iii. Cramer estimates that approximately 75% of steelhead have hatched and emerged from the gravel as of 3/25/2025, and that almost all fry will have emerged by mid-April.

Straw Proposal Discussion

1. Cbec commented that either the third or fourth week of April sounds like the target timing for the spring pulse flow based on the data presented by Cramer and Kleinschmidt Group.
    a. Kleinschmidt Group specified that end of April through 5/1/2025 would coincide with the maximum growth range for Chinook salmon and an early growth range for steelhead.
2. Cbec noted that USBR needs at least a week's notice to schedule the pulse flow and asked if a specific date needs to be chosen during this meeting as opposed to targeting the end of April/early May for now and refining as more meteorological data becomes available.
    a. Kearns & West noted that the next regularly scheduled ARG meeting is on 4/17/2025. This would allow for scheduling a pulse flow as early as 4/24/2025.
    b. Cramer added that they regularly see more steelhead stranding later in the season which is compounded by higher water temperatures as spring weather becomes warmer. Cramer recommends monitoring air temperatures for any potential heat waves or detrimental temperature changes. Fish are more likely to survive if they're not trapped in stranding areas on a hot day.
        i. USBR offered to research historical water temperatures for the Delta and the Sacramento River.
3. USBR commented that having multiple scenarios for comparison could be helpful for potential flexibility in planning with so many shifting variables. The Water Operations Team usually makes more of these operations-related decisions. There is biological modeling happening and the Sacramento River Technical Group is meeting on 3/27/2025 to discuss their spring pulse flow. They have previously targeted late April/early May to focus on smolt spring-run and hatchery releases.

a. USBR asked if any additional hatchery releases are scheduled for the American River.

    i. CDFW responded that the hatchery is preparing to tag fish but are not ready to release them. Beginning 4/7/2025, hatchery staff will spend 10 days tagging each release group with a total of six release groups planned. An in-river release will occur after 4/17/2025. The targeted fish size will be 60 to the pound.

4. NMFS suggested waiting on scheduling a pulse flow until the Sacramento River technical team meets and for the fish agencies to meet separately during the week of 3/24/2025 to discuss.

Next Meeting

Kleinschmidt Group offered to pull RST and water temperature data that seems to be most similar to the current year. They will bring that data to the 4/17/2025 ARG meeting.

Kearns & West will collect updates from the Sacramento River technical team and share those with the ARG to determine if discussion ahead of the 4/17/2025 meeting is warranted.