



# Sacramento River Group – Spring Pulse Flow Planning Subgroup Meeting Summary

Tuesday, April 14, 2026, 1:00 – 2:00 p.m.

## Members Attending

- ACID: Daniel Ruiz
- CDFW: Travis Apgar, Tracy Grimes, Matt Johnson, Erica Meyers, Ryan Revnak, Crystal Rigby
- DWR: Ryon Kurth, Kevin Reece
- Friends of the River (FOR): Devon Pearse
- NMFS: Kyra Fitz
- SWFSC: Flora Cordoleani, Miles Daniels, Cyril Michel, Jeremy Notch
- SWRCB: Matthew Holland, Jeff Laird, Diane Riddle
- SRSC: Thaddeus Bettner, Mike Deas, Yuen Lenh, Anne Williams
- USBR: David Ayers, Elissa Buttermore, Lisa Elliot, Mechele Pacheco, Tom Patton, Derek Rupert
- USFWS: Matt Brown, Robert Null, Bill Poytress
- Kearns & West: Terra Alpaugh, Chelsea Cullen

## Action Items

Reclamation

- Finalize April forecast and share with this group, if ready, by April 17<sup>th</sup>.
- Finalize draft TMP to share at the monthly SRG meeting on April 23<sup>rd</sup>.
- Quantify actual water volume used for Pulse 1 versus baseline assumptions.

- Coordinate with ACID to determine what, if any flexibility exists to implement a pulse flow in early May without damaging diversion dam infrastructure

#### SWFSC

- At next week's meeting, provide survival updates of pulse fish to Benicia, as well as initial post-pulse group results.
- Prepare to tag pre-pulse group next week.

#### USFWS

- At next week's meeting, provide report out on biweekly report showing catch during pulse flow

## Key Discussion Topics

### Agenda Review

Kearns & West (K&W) reviewed the agenda and held roll call by organization.

Last week, SRG participants voiced questions about whether SRG was the appropriate venue to discuss and negotiate tradeoffs that may exist between using water as pulse flows now for outmigration survival benefits versus using it to protect winter run redds in the fall; others asked whether fall impacts were out of scope for a discussion focused on identifying the most beneficial spring pulse flows. K&W's facilitator shared her understanding of the SRG's based on the language in the Action 5 Operations Plan as follows:

- SRG is the appropriate venue to identify/discuss any data and technical analysis that would inform the benefits and potential tradeoffs between pulse flows (or no pulse flow).
- While SRG generally focuses on the design of spring flows at this time of year, fall releases are within its scope, so if there were any tools by which they could analyze tradeoffs, that analysis appears to be in scope. However, participants suggested last week that there are not any good tools to do that analysis at that time. If that's correct, then the group may be limited to acknowledging that there could be tradeoffs in the Ops Plan documentation.
- SRG does not make decisions and is not the appropriate place to "negotiate." Policy questions/positions should be elevated and raised at FAWOG.

Reclamation stated that those observations tracked with their understanding as well.

### Update on Early April Pulse, Operations, & Forecast

Reclamation provided an overview of current conditions:

- Shasta ramped up to 10,000 cfs for 4 days, then stepped down to 8,500 cfs on 4/12, to 7,500 cfs on 4/13, and 6,500 cfs on 4/14, with the plan to drop and hold at 6,000 cfs tomorrow.

- Expecting diversions to begin picking up and potential needs in the Delta.
- Wilkins Slough is currently at 13,800 cfs and peaking on 4/14, then it will start receding over the next few days.
- Another storm is anticipated, though with less precipitation than this last storm. There is still uncertainty in the weather models, but Reclamation anticipates a drier forecast for April after this current storm. Despite this drier upcoming forecast, April as a whole may be wetter than normal for the Northern system. Actual inflows appear to be tracking closer to the 50% forecast, as opposed to the 90%.
- Shasta storage is currently at 4.1 MAF and gaining slowly.

USFWS and SWFSC provided a fish update:

- USFWS shared that the biweekly monitoring report that ended April 9<sup>th</sup> captured the start of the pulse flow, but they anticipate a new report by the end of the week with more details.
- SWFSC shared that the Wilkins Slough hydrograph shows the pulse's arrival on April 11<sup>th</sup>, first stabilizing at 11,000 cfs, and then rising with the storm inflows to 13,900 cfs. Water temperatures dropped from daily highs of 20 °C pre-pulse to 14–16°C post pulse, which provided beneficial conditions for juvenile Chinook. Turbidity at Freeport rose from 5-10 NTU to 20-35 NTU, then receded.
- SWFSC also noted that the storm created big flows on Mill and Deer Creeks, which they hope initiated migration for spring run on those tributaries; they would have joined the Sacramento on the descending limb of the pulse hydrograph.
- SWFSC shared the acoustic tagging results: fish released during the pulse showed faster, more directed downstream movement and higher apparent passage to Meridian than those released prior to the pulse (55% survival vs 25% survival), which suggested improved survival and movement in the first reach. However, those improvements did not clearly propagate to Tower Bridge (5.7% survival vs 7% survival). This could have been the result of the number of striped bass believed to be in the lower reach. The post pulse group will be released tomorrow. The pre-release group did not survive the Delta; for the pulse group, Delta survival remains uncertain. They will share more data next week.
- USFWS shared observations from field teams: a pronounced first night pulse led to initial movement from a significant number of fish, followed by a drop off in subsequent nights which were concurrent with the storm. Field teams have observed that fish seem to slow down during low pressure systems.

Participant questions and comments included:

- USFWS asked if Reclamation has quantified actual water volume used for the pulse versus predicted/baseline.

- Reclamation responded that it's pretty close or the same as what was anticipated – 35,000 AF. Reclamation will try to quantify the assumed baseline.
- FOR observed that the pulse appears to have gone as well as possible. They asked if the fish that moved with the pulse might be holding somewhere downstream, whether a follow up pulse would benefit them.
  - SWFSC responded that larger acoustically tagged Chinook typically move quickly once they start migration and likely will have finished migration by the weekend or have been eaten. Smaller wild fish behavior is uncertain.
- CDFW asked whether pulse attenuation downstream has been considered as a factor in reduced downstream survival benefits.
  - SWFSC agreed that the pulses start with a sharp increase in flow upstream, followed by attenuation of those flows as you move downstream. For instance, at Freeport, flow increases, but the pulse cannot be clearly observed. Attenuation could reduce downstream benefits, but they are not sure how important the sharp increase in flows is. This year, tributary inflows and synchronized releases from multiple reservoirs made the downstream signal different from past years.
- USFWS asked about trap counts on Mill and Deer Creek this year compared to prior years.
  - CDFW responded there are very few spring-run Chinook detected so far, with more steelhead present. Trap downtime during storms may have missed the impact of pulses. Migration will likely continue into May and June.
- USFWS asked about timing for a clearer understanding of survival.
  - SWFSC responded about one week to have a clearer sense for pulse fish survival to downstream checkpoints.

## **Potential Pulse 2 Scenario Development**

The group discussed the following for considering a second pulse:

- Reclamation reported that the April forecast is delayed, so planning for a potential second pulse will need to wait. The earliest feasible date is around April 29<sup>th</sup> with preparatory actions needed the week before.
- If a late April/early May pulse is considered, releases would likely need to exceed 14,000 cfs at Keswick and at the ACID diversion dam. ACID explained that flashboards are set based on expected flows of less than 14,000 cfs; modifying the board settings under higher flows requires experienced crews and significant effort. Structural and mechanical improvements could help but would require funding, permitting, and planning. In future years, they could set the boards to accommodate higher flows.

Participant questions and comments included:

- SWFSC asked when the earliest date a pulse could be executed so that pre-pulse tagging would be meaningful.
  - Reclamation responded April 29<sup>th</sup> is the earliest, so tagging for a pre-pulse release would need to occur next week.
- USFWS asked whether it's possible to improve ACID structure to ease operations above 14,000 cfs.
  - ACID responded that improvements would help, but they would need funds and permits. Short-term work is difficult during the active season.
- USFWS asked what forecast and modeling products most influence FAWOG input and Reclamation decisions about whether to consider a pulse.
  - Reclamation responded end-of-September Shasta storage forecasts, temperature modeling runs, and draft temperature management plan estimates.

### **Next Steps**

- Reclamation will aim to have a draft forecast by 4/17 to inform pulse discussion next Tuesday 4/21 and temperature modeling preliminary runs and draft temperature management plan by the SRG monthly meeting on 4/23. The 4/22 FAWOG meeting will provide management direction that SRG can use to refine scenarios.
- Monitoring teams will plan for tagging next week as a precaution to support a potential late April pulse. USFWS and SWFSC will provide telemetry and monitoring updates with clearer survival estimates next week.