



SRG, Fall Flow Reduction Coordination Meeting Summary

Tuesday, August 25, 1:00–2:00 p.m.

Participants

- CDFW: Matt Johnson, Jamie Ebenal, Tracy Grimes, Gang (Gary) Zhao
- DWR: John Ford, Ryon Kurth, Kevin Reece
- NMFS: Darren Howe, Kyra Fitz
- Reclamation: Lisa Elliott, Tom Patton, Derek Rupert, Andrea Hamilton, Katherine (Mandy) Migura, Timothy Warner, Emily Brenton, Janice Pinero, Emilia Barnum, Luke Davis, Ryan Lucas
- SRSC: Thaddeus Bettner, Mike Deas (Watercourse Engineering), Yuen Lenh (MBK Engineers), Catherine Morales-Sandoval (MBK Engineers), Anne Williams (MBK Engineers)
- SWRCB: Matthew Holland, Craig Williams, Jeff Laird
- SWFSC: Miles Daniels
- USFWS: Bill Poytress, Robert Null, Kaitlin Dunham
- WAPA: Eric Mork
- Westlands Water District (WWD): Alan Rosenthal, Bradley Cavallo
- Pacific States Marine Fisheries Commission (PSMFC): Darin Olsen
- Pacific Coast Federation of Fishermen's Associations (PCFFA): George Bradshaw
- Friends of the River: Devon Pearse
- Kearns & West: Terra Alpaugh, Colin Baker

Action Items

- **All participants** to share additional flow scenarios and/or considerations for Reclamation to consider.

- **Reclamation** to create a scenario that combines B1 for September and October and A2 or A3 for November.
- **Reclamation** to incorporate the end of month storage resulting from each scenario into the results generated on the SacPas page.
- **Kearns & West and Reclamation** to coordinate with MBK about sharing its tool at the SRG meeting on Thursday, August 27th. (*Coordination in progress*)
- **Kearns & West** to follow up with the PCFFA about its questions (*KW has reached out*)

Topics

Welcome, Action Items, and Agenda Review

Kearns & West reviewed the agenda and action items from the August 18th meeting:

- **Catherine Morales-Sandoval (MBK Engineering)** to share overview of fall flows planning tool that MBK Engineering developed.
- **All participants** to review the Flow Scheduling Interests Constraints Timeline and share comments on any items that should be added, removed, and/or amended with Kearns & West.
- **All participants** to share input on other data that should be tracked on the SacPAS webpage.

Fishery Monitoring Update

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

- One dewatered redd was dewatered at Market Street by the flow reduction last week. There are four new shallow redds, bringing the total up to 107.
- The earliest emergence is estimated at September 13 and latest is November 13.
- There are more than handful of redds in less than 6 inches of water, but they are mostly in places that hold water, so they likely will dewater during the next flow drop.
- The unexpanded redd count is currently 4,256 (1% = 42). The anticipated expansion factor of 1.6 is unchanged from last week (1% of expanded count = 68).

Operations Update & Alternatives Spreadsheet

Reclamation shared the August 90% exceedance forecast, noting actual inflows are currently tracking between the 50% and 90% exceedance forecasts. Reclamation uses the 90% forecast for temperature dependent mortality (TDM) analysis and temperature modeling runs.

Reclamation reported that flows are currently at 10,000 cfs at Keswick and are scheduled to be reduced to 9,500 cfs on Wednesday, August 26. Additional reductions will occur later in the week and early the week of August 30, to bring flows down to approximately 9,000 cfs.

The August average monthly releases forecast of 12,400 cfs was slightly higher than actuals, which will be closer to 11,400 cfs. Reclamation reduced Spring Creek diversions. Reclamation anticipates reducing Keswick flows in September to an average of 8,000 cfs, further ramping down to an average of 7,000 cfs in October and then down throughout November to 3,250 cfs by December.

Reclamation shared that it will discuss temperature management at the SRG meeting on Thursday, August 27th and acknowledged that those results could also impact the ramp down schedule in that flow and temperature can be interrelated in some ways.

Reclamation shared its spreadsheet tool used to assess different ramp down scenarios and their tradeoffs:

- They presented four scenarios that use the August 90% or 50% exceedance forecasts as starting points. None of the scenarios use ramping rate criteria. The scenarios include:
 - A1: Uses August 90% Exceedance Forecast
 - B1: Uses August 50% Exceedance Forecast
 - A2: Uses August 90% exceedance forecast with reduced October flows
 - A3: Uses adjusted down October flows and slightly increased flows in November (e.g. spreading out decomposition water scenario)
- The “Keswick Flow Alternatives” tab shows statistics for volumes associated with the different scenarios. Reclamation noted that end of month Shasta storages for scenarios A2 and A3 have not been calculated yet, but they will be going forward. The average flow at Keswick is 6,500 cfs for scenario A2 and 6,000 cfs for scenario A3. These scenarios are displayed graphically in the flow charts in the spreadsheet.
- In addition to redd dewatering and temperature management considerations, constraints to be managed include the ACID dam removal, Delta needs, rice decomp demands in October.

Comments and questions from participants included:

- SWRCB asked for more context about the ACID dam removal and Delta constraints.
- Reclamation reviewed the Delta summary in the August 90% exceedance forecast, highlighting that Tracy is at full pumping at 283 TAF in August, but estimates reducing to 170 TAF in September and then to 50 TAF in December. Reclamation is currently still managing outflow and water quality: in September and October, there is a transition from the Delta’s needs playing a bigger role in controlling flows to a period of upstream needs taking more precedent, including dewatering and diversions for rice decomp. This is reflected in reduced releases and minimizing pumping in the fall. Reclamation coordinates with American River Operations to balance the flows of the two rivers, and it works with State Water Project through

Coordinated Operations Agreement (COA) to meet the needs of the Central Valley Project (CVP) and the Delta. ACID is currently planning to remove its dam at the end of October or start of November, but discussions with ACID about the exact timing are ongoing. Dam removal will have a large impact on water levels above the dam. Later removal of the dam would be better in that more of the redds upstream will have already emerged. There are minimal issues with flows being too high for removal in the fall (which is typically an issue during spring install).

- SWRCB asked if dam removal needs to balance sufficiently low water levels for safe removal with upstream needs.
- Reclamation responded that low water levels are generally better for dam removal in terms of safety, e.g. 5000 cfs. However, if more water is needed downstream, Reclamation will coordinate with ACID, which may affect its removal schedule. Reclamation would not reduce flows as low as the 4,000 cfs range only for the dam removal.
- SRSC asked when the COA resets on an annual basis, noting that the COA split is currently 80/20, such that the CVP is responsible for meeting 80% of Delta and outflow requirements, which is a heavy burden.
- Reclamation replied that the COA is based on the May B-120. Those terms will not change until February 2027, but even then, the terms might not change for the next year if it is another above normal year. Reclamation is compensating to COA debt and getting within approximately two days of being equal for its credit/debit.
- USFWS asked why the B1 scenario is not reflected in the "Keswick Flow Chart Fall only" tab in the spreadsheet, or if B1 reflects base flows.
- Reclamation explained that B1 is the August 50% exceedance forecast, which started with slightly higher flows than the other scenarios. B1 is shown in the "Keswick Flow Chart thru Feb" tab in the spreadsheet and was inadvertently left out of the second chart
- USFWS asked about the differences in the Shasta storage amounts shown in the spreadsheet.
- Reclamation explained that the differences are a result of different operations and inflow. Additionally, scenarios A2 and A3 consider downstream needs. Reclamation has not yet calculated impacts to Shasta storage for those scenarios, but they should be equal to each other.

Reclamation next provided an update on the dewatering analysis on the [SacPAS webpage](#), which is currently using the data that CDFW shared on August 17th. Reclamation noted that the latest data from CDFW will be uploaded after this meeting.

- Winter-run redd counts are slightly over 4,000, which reflects the minimum number of possible redds. The Winter-run number will expand upon final analysis, but the count gives an in-season guard rail of the minimum number of redds this year.

- The expansion factor is expected to be 1.6, and the dewatering threshold of 1% results in approximately 61 redds. That number could increase to 66 or 67 redds with the updated data.
- A total of 107 redds have been monitored this season, and one has been dewatered, leaving 106 redds of concern.
- Fall-run dewatering estimates range from 9.4 to 22.9% depending on year of analysis and different scenarios. Reclamation cautioned that these estimates should be used in comparison to each other, not as reliable predictors of exact numbers of dewatered redds.
- Carryover effects to next year's winter-run brood are possible, given that the end of September Shasta Storage is forecasted as 2,351 TAF relative to a threshold of 2,200 TAF for TDM impacts. Reclamation noted that the webpage is having issues uploading data related to carryover effects.
- The analysis provides volume measures for each of the scenarios, which use actual flow-to-date data after August 1 and then the proposed flows for that scenario for the remainder of the incubation period. USFWS asked if the webpage could include the end of month storage that results from each of these scenarios; this would be more informative than water volume.
- Reclamation agreed that this would be a good idea and they would work to incorporate it into the results.
- Dewatering count measures show the estimated number of redds dewatered for each scenario, with both no buffer and a 250 cfs buffer that increases the dewatering numbers slightly. This buffer helps with uncertainty about exactly when redds would dewater.
- Predicted dewatering percent measures show the number of redds expected to be dewatered across the scenarios as a percentage of the unexpanded redd count, an expanded redd count, and if flow buffers are incorporated. The fall-run percent of redds dewatered for each scenario range from approximately 15% to 19%, but these numbers are meant to be purely comparative.
- The shallow water redd graph displays each scenario with actual flows through August 21st at the KES and KWK gauges. Redds are shown with their expected date of emergence and dewatering flow. These can change over the season and sometimes move to slightly lower flows than initially estimated.
- SRG members are encouraged to share feedback and additional perspectives and scenarios that Reclamation should consider.

Comments and questions from participants included:

- PCFFA asked Kearns & West to follow up offline about its questions.

- USFWS asked for clarification about scenarios not following ramping criteria for demonstration purposes and about the role ramping criteria would play with actual ramp downs.
- Reclamation confirmed the ramping criteria are not used in the scenarios because they are for demonstration purposes only and that Reclamation will use ramping criteria when it implements daily flow reductions.
- USFWS asked if a scenario that mirrored B1 in September and October (which goes lower faster) and A2 or A3 in November (so that flows do not drop as low) could be considered.
- Reclamation answered that a scenario like this could be considered, but that flows should still get down to 3,250 cfs by December. A scenario like this would likely result in higher carryover going into next year. September flows are still partially driven by Delta needs and coordination with American River Operations; however, there is some flexibility to reduce flows below than 8,000 cfs.
- USFWS asked if 7,000 cfs would be sufficient for rice decomp in October.
- Reclamation is talking with SRSC about the possibility of spreading out rice decomp flows into November in order to lower peak demand; this would require changing some contracts to extend into November.
- CDFW posed a question to the SRG about when it should decide on a scenario, considering that fall-run will ramp up in early October.
- Reclamation responded that the weekly fall flows meetings will help the group reach a decision sooner rather than later. Each year is different. Identifying TDM factors for redds earlier rather than later would be better.
- Kearns & West shared the context that the exact date when this group decides on a scenario has varied over the last few years. Generally, the SRG has a good idea about the direction it wants to go by mid-September, but there have been years when fall flows meetings have occurred weekly or bi-weekly through October to make tweaks as needed.
- SRSC encouraged the SRG to come to an agreement soon. SRSC would like to the river reset around 5,000 to 6000 cfs in October and has had conversations with Reclamation about extending their demand into November to make that happen. Coordinating ramping down flows is a large effort, including coordinating with contractors and landowners. At least one month of lead time would be needed to implement. SRSC expressed its interest in meeting more frequently earlier in the fall flows process.
- Kearns & West asked SRSC to clarify if it is suggesting the SRG provides input on an optimal flow in October ASAP.
- SRSC confirmed this request.

- Kearns & West noted that the minimum flows in October have often been driven by the maximum diversion needs, so SRSC's position suggests doing the opposite by deciding on optimal flows through October and then figuring out how to schedule demand in order to achieve them.
- PCFFA expressed its support for water operations that would help fall-run and balance all river needs and agreed with SRSC that the SRG should decide on flows as soon as possible to improve the chances of success later on. PCFFA asked if it would be possible for Reclamation to change flows mid-month, instead of the beginning or end of the month, as shown in the exceedance forecast.
- Reclamation explained that it changes flows daily and that the tables and charts shown earlier in the meeting show average flows for the month. There is flexibility to adjust flows in real time. There is also uncertainty about the redds' actual situations as fall progresses.
- Kearns & West asked when there would be a sense of which redds would be impacted by TDM.
- DWR responded that any shallow redds that have not emerged in November are likely to die. DWR asked if Reclamation about end of August flows, which are shown as increasing.
- Reclamation shared that August actuals are shown on the chart on the SacPas webpage; flows would start from those levels, not from the forecasted levels.
- CDFW added that the decision to write off some redds based on TDM would have to be made at a higher level in the agency for regulatory management purposes. As flows drop, the number of redds will likely also drop, and managing flows for both the winter and fall-run is best.

Explore MBK Visualizations to Support Discussion of Fall Down Ramping Options

- MBK did not have time to fully present its scenario visualization tool but briefly highlighted the tool's ability to be adjusted to various scenarios and show projected impacts. MBK will walk through the tool in more detail at the next meeting.
- SWRCB asked for MBK to present its tool at the SRG meeting on Thursday, August 27th.
- Kearns & West and Reclamation agreed to coordinate with MBK about sharing the tool at this meeting.