



SRG, Fall Flow Reduction Coordination Meeting Summary

Tuesday, September 1, 1:00–2:00 p.m.

Participants

- CDFW: Matt Johnson, Jamie Ebenal, Travis Apgar, Erica Meyers, Crystal Rigby, Gang (Gary) Zhao
- DWR: John Ford, Ryon Kurth, Kevin Reece
- Friends of the River: Devon Pearse
- NMFS: Kyra Fitz
- Pacific States Marine Fisheries Commission (PSMFC): Darin Olsen
- Reclamation: Lisa Elliott, Tom Patton, Derek Rupert, Andrea Hamilton, Katherine (Mandy) Migura, Mechele Pacheco, Timothy Warner, Kristen Hiatt, Janice Pinero, Stephanie Theis (Stantec)
- Reclamation District 108: Lewis Bair
 - SRSC: Thaddeus Bettner, Roger Cornwell, Mike Deas (Watercourse Engineering), Catherine Morales-Sandoval (MBK Engineers), Lee Bergfeld (MBK Engineers)
- SWRCB: Craig Williams, Jeff Laird
- SWFSC: Miles Daniels
- USFWS: Bill Poytress, Craig Anderson
- Westlands Water District (WWD): Alan Rosenthal, Bradley Cavallo
- Kearns & West: Terra Alpaugh, Colin Baker

Action Items

- **Reclamation** to develop a scenario that is feasible and includes C1 flows in September, A3 flows 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

Topics

Welcome, Action Items & Agenda Review

Kearns & West reviewed the agenda and action items from the August 25th meeting; updates provided in italics.

- **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 created a scenario that distributes SRSC demand across October and November to reduce peak flows)*
- **Reclamation** to incorporate the end of month storage resulting from each scenario into the results generated on the SacPAS page. *(Reclamation shared that it would incorporate the end of month storage for each scenario on the SacPAS webpage by Friday, September 4th)*
- **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)*

Fishery Monitoring Update

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

- Eight redds have dewatered as of August 31st, with three from the last flow draw down. There are now 100 total redds remaining to monitor.
- The updated emergence date for the first shallow redd is anticipated to be September 11th, up from September 13th last week. The updated data files will be posted on the CDFW website by the end of the day.
- Carcass crews have seen approximately the same number of fresh fish, with only slight declines.

Operations Update & Alternatives Spreadsheet

Reclamation reviewed relevant seasonal and operational updates, including:

- Flows are down to 8,000 cfs at Keswick and holding. Delta needs are delaying flow reductions slightly but hopefully will only continue through the first part of September. Additional flow reductions will likely occur later in September to get closer to 7,000 cfs at Keswick.

- The August end-of-month storage at Shasta was 2.6 MAF. Diversions from Spring Creek power plant were reduced to 400-500 cfs. Of the 8,000 cfs at Keswick, the majority is coming from Shasta to keep the river as cool as possible for as long as possible.
- Reclamation is assuming an average of 8,000 cfs for the month of September. The September forecast may be completed this week. Based on the late August forecast, the end of water year (September) Shasta storage would be at 2.33 MAF. It will likely be close to that.

MBK introduced a new flow schedule alternative and associated dewatering analysis, sharing its spreadsheet tool.

- The tool was updated over the past week with the ability to more easily toggle between the five scenarios (A1, B1, A2 and A3) and a new scenario, which shifts SRSC demand across October and November. The MBK tool refers to this scenario as "Demand Shift," and Reclamation refers to it as C1.
- The tool currently uses CDFW data from August 26th, but it will be updated when new data is available.

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

- The expansion factor is still expected to be 1.6, resulting in a dewatering threshold of approximately 66 winter-run redds.
- The fall-run dewatering estimates differ by scenario. Notably, the C1 scenario anticipates lower fall-run redd dewatering relative to the other scenarios because it reduces flows to a lower rate earlier than the others.
- Relative to previous years, this year's fall run spawning distribution will likely be most similar to 2025. This is not currently shown on the SacPAS webpage, however, because fall-run redds have not started spawning yet.
- There are no anticipated carryover TDM effects on winter-run chinook for next year from any of the scenarios. Carryover impacts are anticipated to occur when end-of-season storage falls below a 2,200 TAF threshold. The end of September Shasta storage is expected to be at 2,351 TAF based on scenario A1 using the 90% exceedance forecast. The other scenarios are expected to be a little less costly compared to A1, which means a threshold effect for TDM is not anticipated for any of the scenarios.
- Dewatering count measures range from 41 to 52 depending on the scenario. C1 anticipates 50 winter-run redds dewatered. Dewatering count measures with a 250 cfs buffer range between 50 and 57.
- Most scenarios anticipate dewatering close to the 1% incidental take limit with an unexpanded redd count. With an expansion factor of 1.3, all scenarios are slightly below 1%. With the 250 cfs buffer, all scenarios are slightly higher, but there is no expansion factor accounted for. The percent of fall-run redds dewatered depends on the scenario, with C1 anticipated to be the most protective.

- Estimated emergence dates have shifted earlier, as CDFW indicated earlier in the meeting.

Comments and questions from participants included:

- CDFW commented that distributions for fall-run redds are not yet known because they have not started spawning yet. When temperatures are warmer, fall run sometimes delay spawning, but there is no data currently.
- CDFW asked about the assumptions with respect to water demand behind the various scenarios and which scenario is most likely to occur.
- MBK explained that the flow schedule for C1 was developed starting with the August 90% exceedance forecast and then understanding the settlement contractors' demands and their ability to shift demands and for how long.
- Reclamation noted that forecasts, which are what A1 and B1 are based on, are monthly averages, whereas the C1 scenario provides more detail in demand within a given month. There are also slight differences between Reclamation and MBK's assumptions, e.g., in the earlier scenarios, Reclamation estimated needing to maintain 5,000 cfs at Wilkins Slough, whereas, based on SRSC input, MBK assumed flows of 4,000 cfs at Wilkins are adequate. Settlement contractors also do not need the full month of November to ramp down.
- CDFW noted that B1 shows lower flows in November and higher flows in October, which is more comparable to C1. Other scenarios are more different based on uncertainty and Wilkins flow.
- Reclamation shared that the 50% exceedance forecast (B1) would be slightly wetter than the 90% forecast (A1), which is not likely this year since it has been drier.
- Kearns & West asked for confirmation that C1 is based on estimated actual water demand, whereas the other scenarios are based more on monthly average forecasts.
- Reclamation confirmed this, assuming demand is partially shifted from October to November.
- Kearns & West noted that these demand shifts into November would require contractual adjustments, meaning that Reclamation would need to make a decision to ask the contractors to make those changes sooner rather than later.
- CDFW asked Reclamation if would be possible to reduce September flows below 8,000 cfs by mid-month.
- Reclamation responded that it could be possible, depending on Delta demands at that time. The two redds around 7,500 cfs will be monitored to keep them watered and then flows could be reduced below 7,500 cfs later in the month. There will likely be more flexibility in the later half of September.

- CDFW shared that its primary concern is about carryover impacts into next year. CDFW would prefer to minimize carryover impacts even if that would require sacrificing those two redds.
- USFWS shared that A3 could decrease impacts on fall-run redds and asked what other meeting participants thought of A3 relative to C1.
- CDFW shared that fall-run redds would benefit from A3 with flows reduced earlier and then sustained longer at that level. Fall-run redds will ramp up spawning in the middle to end of October. Shallow redds normally tend to spawn at approximately 7,200 cfs, so A3 would be better for them. An optimal scenario would include B1 flows for September and A3 flows for October and November.
- USFWS agreed.
- SWRCB asked how many redds will emerge early enough to avoid the heat and raised concerns about dewatering some redds that should be kept alive.
- MBK asked if CDFW and USFWS had a preference between A3 and C1 for October and November if the September flow reductions they would like are not possible.
- CDFW responded that this consideration would be more relevant if there were a lower spawning population this year. CDFW reiterated its desire for flows to drop as soon as possible to reduce carryover impacts next year and that it would accept the tradeoff of losing two redds that would emerge before TDM takes hold. The sooner a decision is made about September flows, the bigger the impact on cold water storage.
- MBK asked if C1 would be preferred over A3 in October, regardless of flow reductions in September.
- CDFW responded that C1 would not be preferred because winter-run chinook also need to be considered. Higher flows in November and December are beneficial for the winter run. Overall, reducing flows sooner and holding them later into the fall would be best for fish outcomes.
- USFWS also noted that A3 is more stable than C1. The date of emergence may also shift due to rising temperatures. USFWS asked Reclamation to add the differences in end of November Shasta storage for the various scenarios to the SacPAS webpage.
- CDFW shared that the current estimated date of emergence for the first redd is September 11th, and it is currently in 13 inches of water and holding on well. A neighboring redd is in 5 inches of water and is anticipated to emerge on approximately September 19th; CDFW expects it to remain watered, because it is in a side channel where redds tend to hold on better. Hypothetically, these two redds will be safe under any of the scenarios.
- Reclamation pointed out that the graph on the SacPAS webpage does not extend into December and does not show when flows will ramp down to get to 3,250 cfs for December. Reclamation asked if CDFW and USFWS would prefer there to be a significant and fast drop in flows in December.

- USFWS responded that it is more concerned about how C1 reduces flows in a step fashion instead of a more significant drop to 3250 cfs later on. There is always the possibility of rain later in the season to increase overall inflows.
- CDFW added that more fish would be spawning on a landscape that is less susceptible to dewatering if there were to be a large drop in flows in December.
- MBK noted that Reclamation needs to follow ramping rates as it reduces flows at Keswick in November and December. Flows cannot be reduced more than 100 cfs per night, so flows will slowly go down to 3,250 cfs regardless. The MBK tool tries to present how Reclamation might approach reducing flows considering ramping rates. Additionally, Reclamation shows average flows for a month and not the reductions they make over the course of a month. MBK asked if there could be benefit to additional ramping down in October given that most fall-run redds spawn by mid-October, but some are still spawning into late October, or if it would be better to keep flows higher in anticipation of tributary flow. MBK also asked where the majority of fall-run redds spawn on the Sacramento River.
- CDFW answered that peak spawning for fall-run redds typically occurs around the third week of October, with the peak of the curve from mid-October to mid-November. They spawn throughout the river, but typically lower than winter-run redds. Chinook always have a bias for spawning at the upper river and naturally congregate towards the upstream limit. CDFW shared a reminder that reducing flows as much as possible before the initiation of spawning and then holding that flow rate for as long as possible would be best for the fish. Fifty-six percent of fall-run spawn in October, 35% in November, and 7% in December. The spawning range for fall-run is a lot larger than other runs. The impacts of flows on fall-run spawning are less below Clear Creek.

Next Steps

Kearns & West reviewed next steps, including developing a scenario that could feasibly be implemented and reflects C1 flows in September and A3 flows in October and November. This scenario should include realistic ramping rates and consider Delta demands for September.

CDFW asked that the possibility of ramping down flows starting in mid-September or September 20th be considered. CDFW encouraged this group to meet again when Reclamation is ready to present an updated scenario, whether that is next week or the week after.

Reclamation responded that although it is currently difficult to know which scenarios will be operationally feasible, both of those under discussion proposes reducing flows earlier and more significantly. Therefore, Reclamation will start working on diversion adjustments and updating contracts with settlement contractors. Reclamation offered to share an update on this process at the meeting next week.