



Upper Sacramento Scheduling Team, Flow Smoothing Coordination

Tuesday, August 22, 2023, 10–11 a.m.

Meeting Summary

Members Attending

- CDFW: Crystal Rigby, Tracy Grimes, Erica Meyers
- DWR: N/A
- Kearns & West: Eva Spiegel, Terra Alpaugh
- Reclamation: Elissa Buttermore, Derek Rupert, Lisa Elliot, Liz Kiteck
- NMFS: Garwin Yip, Stephen Maurano
- NMFS, SWFSC: Miles Daniel
- SWRCB: Claudia Bucheli, Craig Williams
- SRSC: Anne Williams, Yuen Lenh
- USFWS: Bill Poytress, Craig Flemming, Jim Earley, Matt Brown
- Yurok Tribe: Chris Laskodi

Action Items

- Reclamation (Elissa Buttermore) will follow up with Doug Killam (CDFW) or other staff to clarify the dates of the most recent redd data, specifically the estimated dewatering flow for any recently identified redds. [Update: spreadsheet distributed 8/22]
- Reclamation (Elissa Buttermore) will follow up with Doug Killam (CDFW) to better understand how the 0.7 expansion factor to calculate estimated total redds was derived and if it should be expected to vary based on flow, population size, or other factors. [Update: discussion on agenda for today]
- All USST Members: Based on the above, please weigh in on when you should next meet given that flows are scheduled to be reduced to 9,000 cfs on Thursday (Aug 24) and depending on the alternative, further reduced to between 7,000 and 7,600 by the next

scheduled meeting (Sept 5). [Done; meeting scheduled for 8/25; Reclamation agreed to hold flow changes until after meeting]

- Reclamation to consider adding end-of-October storage to their script in the “Real-time SRWC Redd Dewatering Estimates” document.

Objectives and Constraints

The Flow Scheduling Interests and Constraints spreadsheet was updated prior to the meeting and distributed to participants. It has been reformatted so that interest categories are on the left and the weeks/dates are listed across the top.

Scheduling considerations added to the timeline included:

- The Sacramento River Settlement Contractors met last week to discuss various items including harvest timing. Due to this year’s precipitation and cooler weather in the spring, the spring planting was rushed, and the harvest window will be narrower. It begins in early September and extends into October, starting earlier in the north and later in the south. As a result, some northern farmers will want water for decomp earlier.
- ACID Dam removal will likely occur at the end of October and will need flows at 8,000 cfs or lower for a week to ten days. Reclamation’s alternatives are within that range assuming there aren’t any storms around that time.
- Rice decomp and the food for fish program extend into the winter when fields are drained. The need for decomp is done by mid-January, but some fields will continue to be flooded to provide food for fish. The fields are flooded, the water sits for a certain number of days, and then the water is released back into the river.
- Duck hunting season ends in mid-January.
- Water conditions will drive need for irrigation; if it is a dry season, water will be needed for trees in February and row crops in March.
- Winter diversions are subject to winter water rights contracts. If Term 91 were activated, it could limit diversions.
- The Sacramento River Settlement Contractors (SRSC) demand on water is projected to be 90 TAF (thousand acre feet) in October, which is in line with wet years like 2017. Demand by the refuges, 18 to 19 TAF in October, will be on top of that amount.

Operations Update and Alternatives Spreadsheet

This week Reclamation has scheduled to make changes to reduce releases at Keswick Dam. Irrigation demands begin to reduce at this time of year, so depletions are reduced, which gives Reclamation the opportunity to cut back releases somewhat. Once releases are reduced to 9,000 cfs, Reclamation will determine if they can be lowered by an additional 350 cfs. The proposed schedule for the coming days is as follows:

- Aug. 22 9,500 cfs.
- Aug. 23, 9,250 cfs.

- Aug. 24, 9,000 cfs.
- September flows are planned to be reduced further. Draft schedules propose average flows ranging from 6,500 to 7,600 cfs.

There will likely be fall X2 requirements in September and October, so they may use some of the flows to help meet fall X2 as weather determines.

Fishery Monitoring Update

CDFW monitoring crew was not available, and therefore, CDFW did not provide a fishery update.

Reclamation provided the following information, which was included in the document, “PRELIMINARY DATA: Real-time SRWC Redd Dewatering Estimates,” sent with the meeting materials:

- As of August 8, 2023, the unexpanded redd count is 324 winter-run Chinook salmon redds. It is important to note that until data collection is completed for the year this is the minimum number of possible redds. This number will always expand upon final analysis but gives an in-season guard rail of the minimum number of redds this year.
 - From 2018–2021, female expansion has ranged from 0.31 to 1.31 with a 0.7 average, thus we may expect the final number of redds to be closer to 551 redds using average expansion on data this year, and using this value, 5.51 redds dewatered would be at the 1% take level.
- As of August 8, 2023, 0 winter-run Chinook salmon shallow water redds have emerged and 0 have been dewatered. This leaves 26 shallow water redds of concern.
- The redds are dewatered with a 100 cfs buffer¹, which will result in 10 to 15 redds being dewatered. With this buffer, 3.1 to 4.6% of the population could be dewatered depending on which alternative is selected.
- The threshold for 1% winter-run Chinook salmon redd dewatering (which is the incidental take limit) is 4 to 8 redds using the female expansion of 0.31 to 1.31, respectively.
- According to the plot provided, four shallow water redds will be dewatered at 9,000 cfs.

Reclamation noted that since the data were pulled from CDFW’s website on August 8, the total winter-run redd count has been increased to 347.

¹ Reclamation: The 100 cfs buffer means that if the flow is 100 cfs greater than the expected dewatering flow, the redd is counted as one that could potentially be dewatered. So for example, a redd expected to be dewatered at 7,500 cfs would be counted as potentially dewatered if the flow reached 7,600 cfs. We include this as a more conservative metric of dewatering, to give some buffer to the expected impacts of flow reductions given the uncertainty in dewater flow estimates, suggested by Steven Maurano in 2022.

Discussion included the following:

- The incidental take limit for winter-run Chinook salmon redd dewatering is 1%.
- Based on the provided data, four redds will be dewatered when flows drop to 9,000 cfs. Whether this will exceed the 1% take limit or not depends on which total redd calculation is used – the actual count to date, which is 347 redds, or the expanded estimate, which is undetermined at this time due to uncertainties in which expansion factor is appropriate to use this year.
- The group expressed an interest in the rationale behind the 0.7 average expansion figure. Reclamation believed that figure had been proposed by Doug Killam, CDFW, last year and needed to follow up for more information.
 - USFWS was curious whether that number should vary based on total population or flows.
- NMFS suggested that the group needed to be consistent regarding the use of either the unexpanded or expanded redd count to determine the percentage of potential redd dewatering. NMFS proposed the group use the expanded factor of 0.7 but wanted feedback from others.
- CDFW suggested that they should also consider what the appropriate expansion estimate for shallow water redds should be; given how redd surveys work, it is possible that some shallow water redds have not been counted and are in danger of dewatering. Therefore, the group should base their decisions on both an expanded total number of redds and also an expanded number of shallow water redds.
- NMFS noted that it would be valuable to protect redds in the lower sections since that downstream habitat hasn't had adequate incubation water temperatures in recent years but could still be an important part of the life history portfolio for the population.
- NMFS noted that there may be more recent redd data. Based on the file names, it was unclear whether CDFW's shallow redd data were last updated on 8/8/23 or 8/13/23.
- Reclamation was not yet sure how well the proposed flows would align with decomp needs in October; SRSC shared that those demands are expected to be around 108-109 TAF for decomp and refuges combined.

Given the uncertainty around how many redds would be dewatered at and below 9,000 cfs and whether a 0.7 expansion factor to calculate total redds is appropriate for use this year, the group was not prepared to make a flow schedule recommendation. Reclamation committed to following up on both items and making a recommendation of when the group should meet again to discuss further.