

Upper Sacramento Scheduling Team

Flow Smoothing Coordination

Thursday, July 29, 2021 | 10:00 – 11:00 a.m.

MEETING SUMMARY

Participants

Agency	Attendees
CDFW	Crystal Rigby, Doug Killam, Jason Roberts, Ken Kundargi, Lauren McNabb
DWR	Kevin Reece
Kearns & West	Alyson Scurlock, Julie Leimbach
NMFS	Cyril Michel, Flora Cordoleani, Kristin Begun
Reclamation	Elissa Buttermore, Kristin White, Liz Kiteck, Mario Manzo, Mike Wright, Suzanne Manugian, Tom Patton
SWRCB	Diane Riddle, Michael Macon
SRSC	Wes Walker
USFWS	Bill Poytress, Curtis McCasland, Jim Early, Matt Brown, Taylor Lipscomb
WAPA	Ammon Danielson, Mike Prowatzke
Whiskeytown NRA	Josh Hoines

Action Items

- Reclamation to add Alternatives to the flow spreadsheet based on the USST's feedback and re-circulate the updated spreadsheet by Friday, 7/22/21.
- Kearns & West to follow up with SRSC and SWFSC on willingness to help with modeling the different flow Alternatives.
- Kearns & West to schedule a USST meeting on Monday, 8/11/21, from 11:00 a.m.-12:00 p.m. and weekly USST meetings thereafter on Wednesdays from 9:00-10:00 a.m.

Key Discussion Topics with Summary of Perspectives, Outcomes, and Agreements

Meeting Objectives

1. Shared understanding of interests and external conditions for scheduling flow transitions
2. Collaboratively develop flow smoothing and reduction Alternatives as a means to support salmon recovery
3. Strive for Alternatives that enjoy broad support from USST members
4. Test of support for real-time and planned flow schedules

Fishery Monitoring Update

CDFW provided the fishery monitoring update.

- CDFW is tracking about 51 shallow redds to date; no redds have been dewatered and flows have only increased since winter-run redds started spawning.

- Emergence timing for redds in the gravel is estimated at 77-80 days with current water temperatures.
- Dewatering estimates are rough and are dependent on specific locations; the later a fish spawns in July, the later emergence will occur into October. This year, many redds are in Section 2 of the river. There are very few redds in Section 1 that are currently in shallow water.

Interests, Objectives, and Constraints

The group reviewed the interests and constraints table included in the flow spreadsheet. Last year, the USSST was focused on fall flows for rice decomposition and water transfers, whereas this year the USSST is broadening its discussion to include smoothing monthly flow changes. The guidance document may need to be updated accordingly.

Flow Transitions and Options Generation for Smoothing Flow Transitions

Reclamation reviewed the flow spreadsheet.

- Monthly flows are based on the July forecast.
- The rationale for the August and September flows is based on keeping Shasta Reservoir storage elevated to reach the 1.25 MAF End of September (EOS) storage target. The latest forecast predicts that Reclamation will not meet the Shasta Reservoir storage target.
- In October, Reclamation will start to release water from Shasta Reservoir to provide transfer water; average Keswick flows are projected at 6,700 cfs. In order to reduce releases to 3,250 cfs in November and meet down-ramping requirements, weekly flows will have to be slightly higher than 3,250 cfs on a monthly average.
- The monthly forecast assumes an average monthly flow of 6,700 cfs to meet downstream objectives and transfer water.

The group agreed that they would like to see model runs to inform their recommendations. They discussed the following objectives, constraints, and suggested flow Alternatives:

Objectives

1. Temperatures and flows supportive of winter-run Chinook salmon redd emergence.
2. Temperatures and flows supportive of fall-run Chinook salmon spawning.
 - a. River temperatures could mean high levels of TDM for winter-run Chinook salmon redds. If the majority of these winter-run eggs are dead prior to emergence, suggest the group shifts focus to protecting fall-run Chinook salmon spawning.
3. EOS carryover storage.

Constraints

1. EOS carryover storage target may not be achievable and may not be considered a constraint. However, increased carryover storage, even less than the target, is desirable for Water Year 2022.
2. Regulatory constraints to shifting water transfers later into November or December. CDFW and ACOE permit these barriers and require their removal starting in early November. This takes 2-3 weeks and causes salinity issues in the Delta.

- a. These regulatory constraints might be waived or adapted during this atypical year and because Reclamation water transfers are under forbearance agreements.
3. Regulatory requirements constrain making water transfers later in November. Regulations and permitting related to water level and salinity issues in the Delta and removal of agricultural barriers.
4. Reclamation has determined that there is a certain volume of releases it intends to make during the Fall for transfers and other demands. Fisheries proposals are constrained to be volume-neutral and won't be considered if they result in lower total releases.

Suggested Flow Alternatives and Rationale

- Existing Alternatives A & B
 - Proposed monthly flow average in October is 6,700 cfs. This is based on pushing most transfer water into October, which causes higher Keswick releases. Keswick release is required to move transfer water south of Wilkins Slough.
 - Higher October releases are also a tradeoff for trying to meet the Shasta EOS storage target. Fisheries agencies should let SWRCB know if they want to smooth flows, which would lower EOS Shasta storage.
- Suggested Alternative C: Shift deliveries from October and November into September to achieve higher flows than the proposed 5,200 cfs flows.
 - Rationale:
 - Minimize dewatering winter-run Chinook salmon redds and decrease temperature to protect winter-run Chinook salmon redds.
 - 700 cfs of cold water per day could be significant in the long run when water is being pulled through the side gates. It would be problematic if flattening flows greatly changes TDM.
 - Tradeoff:
 - Moving more water in September could potentially increase TDM in theory. Fisheries agencies should look at flows and predicted water temperatures in October. If Reclamation is going to release water in October that is not suitable for fall-run incubation and elevated water temperatures will cause fish to die, it will not matter if fall-run Chinook salmon are dewatered due to operations. If this is the case, the group should focus on protecting later spawning fall-run redds.
- Suggested Alternative D: Shift water transfers so they are spread out between September and November.
 - Rationale:
 - Poor projected temperatures and flow conditions in November for winter-run and fall-run Chinook salmon.
 - Tradeoff:
 - Moving more flow into November will encourage fall-run Chinook salmon to spawn at higher flows, likely to leave redds dewatered when flows are decreased to winter baseline.
- Suggested New Alternative: Optimize Alternative for fish conditions and agnostic to water levels and salinity in the Delta.

- Suggested New Alternative: With and without Shasta EOS storage target.

Model Runs

The group agreed on the following model runs to discuss with the modelers:

- Alternative A: Baseline July 90% forecast
- Alternative B: Baseline July 90% forecast with smoothing weekly flow transitions
- Alternative C: Maintain higher flows in September
- Alternative D: Decrease flows in September, delay water transfers from September to November
- Alternative E: Spread water transfers through September-November

The group agreed that Reclamation would add these three new Alternatives to the flow spreadsheet, as well as add flows that meet these guidelines for each Alternative.

The group discussed model requests and distinctions:

- The HEC-5Q model does not do a good job at projecting water temperatures later in the year. Therefore, Reclamation would need modeling support from SRSC or SWFSC for running these Alternatives through the complementary models.
- The group can look at river temperature graphs and make fair projections to deduce fall-run Chinook salmon TDM. It is important to look at winter-run Chinook salmon TDM.
- Reminder that the stage dependent and independent model results show substantial differences in their predictions for water temperatures in October. These differences would change how we view fall-run Chinook salmon survival under different Alternatives. The differences should be considered for management decisions.

Meeting Scheduling

The group discussed future meeting scheduling.

- A follow-up meeting will be held on Monday, 8/2/21, for the USST to review the new flow Alternatives before any modeling is initiated.
- Weekly meetings will be held on Wednesdays from 9:00-10:00 a.m. (starting on 8/11/21) so that any recommendations from the USST can be shared during the Wednesday WOMT meetings and Thursday SRTTG meetings.

Next Meeting: Monday, August 2, 11:00 a.m.-12:00 p.m.