Upper Sacramento Scheduling Team

Flow Smoothing Coordination

Wednesday, September 15, 2021 | 9:00 – 10:00 a.m.

MEETING SUMMARY

Participants

Agency	Attendees
CDFW	Crystal Rigby, Doug Killam, Erica Meyers, Ken Kundargi, Lauren McNabb, Mike Harris
DWR	Kevin Reece, Mike Ford
Kearns & West	Alyson Scurlock, Julie Leimbach, Terra Alpaugh
NMFS	Garwin Yip, James Gilbert, Stephen Maurano
Reclamation	Elissa Buttermore, Jo Anna Beck, Liz Kiteck, Mario Manzo, Mike Wright, Tom Patton
SWRCB	Craig Williams, Diane Riddle, Jeff Laird, Matt Holland, Michael Macon
SRSC	Mike Deas, Wes Walker
USFWS	Bill Poytress, Curtis McCasland, Matt Brown

Action Items

- Reclamation to update fall-run Chinook salmon dewatering estimates for Alternative J.
- Reclamation to formally request temperature and TDM modeling for Alternative J from the SWFSC.

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 Update on Redds Dewatered

CDFW provided the fishery monitoring update on redds dewatered.

- About half of shallow redds have emerged; the other half will emerge in October.

Reclamation presented updated fall-run Chinook salmon dewatering estimates for Alternatives H and I.

- Alternative H = 8%
- Alternative I = 17%

Objectives, Constraints, and Preferred Flow Alternatives/Rationale

The group discussed the following objectives, constraints, and preferences for the flow Alternatives.

Objectives

The following outlines objectives stated in the meeting. In some cases, the objectives reflect independent institutional mandates and do not reflect shared objectives.

1. Protect winter-run and fall-run Chinook salmon eggs and fry emergence.
    - Maintain instream coldwater temperatures for as long as possible.
    - Minimize dewatering redds.
2. Preserve Shasta Reservoir carryover storage for the next water year.
3. Meet transfer water volume.

Constraints

1. Ramping Rates from Keswick Dam
    - 90-5 Ramping Rates
        - Releases shall not be decreased more than 15 percent in a twelve-hour period.
        - Releases shall not be decreased more than 2.5 percent in a one-hour period.
    - Proposed Action Ramping Rates
        - Keswick releases > 6,000 cfs, reductions in releases may not exceed 15% per night, and no more than 2.5% per hour.
        - Keswick releases 4,000 cfs to 5,999 cfs, reductions in releases may not exceed 200 cfs per night, or 100 cfs per hour.
        - Keswick releases between 3,250 cfs and 3,999 cfs, reductions in releases may not exceed 100 cfs per night.
2. Uncertain Modeling
    - All the models have limitations related to the weather and forecasting.

Alternatives and Rationale

- Alternative I
    - Maintain Shasta Reservoir flows at 6,800 cfs until 10/25/21 then drop flows to 3,250 cfs by 11/12/21. Allows for 200 TAF of water transfers.
    - Discussion:
        - Higher percentage of fall-run Chinook salmon redd dewatering than other Alternatives. A lot of the dewatering occurs in early October.
        - Early fall-run Chinook salmon redds will experience high water temperatures. Should we consider those redds that will experience higher water temperatures as already dead?
- Alternative J
    - Maintain Shasta Reservoir flows at 6,800 cfs until 10/19/21 then drop flows to 3,250 cfs by 11/8/21. Allows for 200 TAF of water transfers.
    - Rationale:
        - Maintains higher flows for longer in order to move the water transfers and then drops to winter base flows as quickly to a stable flow as downramping rates allow to minimize dewatering fall-run Chinook salmon redds.
        - Allows volume neutral flow scenario to accommodate water transfers.

        - Spends as little water as possible while still moving the transfer water to preserve carryover storage in Shasta Reservoir.
    - Discussion:
        - End of September (EOS) storage projected at 1 MAF
        - End of October storage projected at 850 TAF.
        - Reclamation to request updated temperature modeling and temperature dependent mortality (TDM) modeling from SWFSC for Alternative J.
            - SWFSC's TDM modeling has been geared toward winter-run Chinook salmon, so may only complete temperature modeling for Alternative J at this stage and not TDM modeling.

Recommendations

- NMFS – Appreciate Reclamation looking into the feasibility of Alternative I and fine-tuning to create Alternative J. Alternative J is incrementally better than Alternative I for stabilizing flows for fall-run Chinook salmon. Winter-run Chinook salmon will have low survival late in the season due to projected temperatures around 60°F. Alternative J seems to be the best option for providing opportunities for winter-run and fall-run Chinook salmon. If there was not the requirement to deliver transfer water at this point in the season, fisheries agencies would not recommend this Alternative. Fisheries agencies are not recommending 6,800 cfs to protect winter-run Chinook salmon from dewatering; if water has to be transferred, it is better for that to take place in September than during the fall-run Chinook salmon spawning period. Alternative J is better than the previous Alternatives H and I.
- CDFW – Concur with NMFS for same reasons. Alternative J is not ideal, but it is not too different from Alternatives experienced in the past during the fall transition period. CDFW does not think it's necessary to update the fall-run Chinook salmon redd dewatering estimates for Alternative J. In comparing Alternative J to Alternative I, the flows only drop a few days earlier and we know dewatering will occur. We want to drop flows to 3,250 cfs as soon as possible. CDFW appreciates all of the effort getting to Alternative J and supports moving forward with it so Reclamation can have flow estimates to work with for long-term planning. This group has done its due diligence looking at all of these Alternatives.
- USFWS – USFWS supports Alternative J to decrease flows for fall-run Chinook salmon spawning.
- DWR – DWR supports Alternative J to decrease flows sooner and still provide similar level of protections. DWR also supports having temperature modeling for Alternative J to check assumptions and round this out and offers sincere appreciation to those doing the work.
- SWRCB – SWRCB supports the fisheries agencies' perspective on Alternative J. SWRCB also echoes NMFS' comments regarding not recommending the 6,800 cfs for winter-run Chinook salmon protection. But given the flow volume constraints, Alternative J appears to be the best option for later protection of fall-run Chinook salmon.

Meeting Scheduling

The group discussed future meeting scheduling.

- Two more meetings are scheduled in September.
- Group members agreed that meetings can be held on an ad-hoc basis after September if there are any changes to flow constraints or assumptions.

***Next Meeting**:* Wednesday, September 22, 9:00-10:00 a.m.