

Upper Sacramento Scheduling Team

Spring Pulse Flow Planning Subgroup

Wednesday, March 2, 2022 | 3:00 – 4:00 p.m.

MEETING SUMMARY

Participants

| Agency | Attendees |
|---------------|---|
| CDFW | Crystal Rigby, Doug Killam, Erica Meyers, Gabe Singer, Jonathan Williams, Lauren McNabb, Michael Harris |
| CNRFC | Brett Whitin, Nathan Patrick |
| DWR | Kevin Reece, Mike Ford |
| Kearns & West | Adam Fullerton, Terra Alpaugh |
| NMFS | Garwin Yip, Stephen Maurano |
| Reclamation | John Hannon, Liz Kiteck, Suzanne Manugian |
| SWFSC | Cyril Michel, Flora Cordoleani |
| SWRCB | Craig Williams, Jeff Laird |
| SRSC | Anne Williams, Mike Deas |
| USFWS | Bill Poytress |
| WAPA | Ammon Danielson, Michael Prowatzke |

Action Items

- **KW** - Schedule subgroup meetings in March and April.
- **Suzanne Manugian, Reclamation, and Cyril Michel, SWFSC** – Under the assumption that conditions will not change enough to actually consider a pulse flow, consider feasibility of conducting a March or April **test run of the process** that would be required to analyze pulse flow scenarios (e.g., running survival and travel time scenarios, projecting TDM, and taking a recommendation through SRTTG and WOMT); this is heavily dependent on Suzanne and Cyril’s bandwidth, so they will discuss internally and report back to KW in next two weeks.

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

Meeting Objectives

1. Review pre-conditions for considering a spring pulse flow
2. Provide operations update and explore implications for a spring pulse flow
3. Review planning process steps and deliverables; develop an approach for the '22 season planning process

Proposed Action Spring Pulse Flow Guidelines

Kearns & West reviewed the spring pulse flow guidelines outlined in the Proposed Action and NMFS Biological Opinion. Perspectives and questions shared by subgroup members included:

- Hydrology for WY 2022 has led to conditions which are likely too dry to consider a spring pulse flow. However, the Proposed Action's spring pulse flow guidelines indicates the USST could determine there is adequate water to do a pulse even if projected May 1 storage is less than 4 MAF. The group decided the USST should continue planning for a potential pulse flow in all years, in preparation for future possible pulse flow actions.
 - KW reminded the group that last year USST participants interpreted the flexibility outlined in the Proposed Action and NMFS Biological Opinion around implementing a spring pulse flow as intended for years in which conditions are on the boundary of the parameters set out. The forecasts for WY 2022 look like levels will be significantly below the suggested May 1 storage, so a spring pulse flow is unlikely unless conditions change.
- The spring pulse flow guidance states that a pulse flow should not be considered if it would drop the system into a Tier 4 year. What happens if we start in a Tier 4 year?
 - KW stated that in previous conversation on this topic, USST members assumed there would not be a spring pulse flow in a Tier 4 year; that interpretation likely depends on how strictly you read the language in the Proposed Action.
- Other topics of note: In thinking towards the future, the way the system is operated may change (e.g., water could be available via other sources).

Operations Update

Reclamation provided a brief update on operations. A more detailed operations update can be found in the February 24, 2022, Sacramento River Temperature Task Group (SRTTG) meeting packet.

- Reclamation's February 90% exceedance forecast estimates Shasta Reservoir storage to be just above 2 MAF at the end of April.
- Reclamation also ran a 99% exceedance forecast, which forecasts Shasta Reservoir storage at 1.8 MAF at the end of April.
- Early season precipitation occurred further south. The system is not losing storage yet, but it is not growing. Some snowmelt is coming into Trinity Reservoir.
- Reclamation will need to reduce Trinity River diversions, which will have impacts for the Trinity River and Clear Creek.
- Folsom Reservoir is carrying most of the system in the forecast.
- This past January and February combination was the driest on record.

Perspectives and questions shared by subgroup members included:

Update on Coordination with the California Nevada River Forecast Center (CNRFC)

CNRFC provided an update on their coordination efforts with Reclamation.

- Reclamation has been working with CNRFC and SRSC to include their forecasts into Reclamation's activities.

- CNRFC can run Reclamation’s pulse flow scenarios through stream flow forecasts for the Upper Sacramento System. This will be most effective for active weather scenarios.
- CNRFC has not run any spring pulse flow scenarios this year because it has been so dry. They are working to establish the workflow to run scenarios soon.

Perspectives and questions shared by subgroup members included:

- How common are late-season (April) precipitation events that a spring pulse flow can piggyback on?
 - Reclamation stated that late-season precipitation events are less common. The Northern Sierra Precipitation 8-station index average for April is 8.3 inches, which is a significant drop off from March.
- Are there any other creative options to implement a pulse flow, such as using water transfers?
 - Reclamation stated that water transfers are generally delayed until later in the season (i.e., fall) to maintain the coldwater pool (CWP) as long as possible. It does not seem like there are other creative solutions this year.

2022 Spring Pulse Flow Process

Reclamation and the SWFSC provided working group member updates.

- A spring pulse flow was not implemented in Water Year 2021. However, the USST utilized the spring pulse flow meetings to walk through the spring pulse flow process using historical data from a year when a pulse flow would have been possible. A spreadsheet of the process is established that looks at single or multiple pulse flows at different times of year.
- Reclamation is working with the SWFSC and partners to model Temperature Dependent Mortality (TDM) for different pulse flow scenarios. Much of this work is on hold since it is unlikely that it will be used soon but can be moved up quickly if needed.
- SWFSC explained that pulses haven’t been considered after early June because they do not line up well with the life cycles of the various runs of Chinook. After June, a pulse flow may help fish in the Sacramento River, but lower in the Delta temperatures are too warm for conditions to be favorable for fish.

Subgroup members discussed the spring pulse flow subgroup coordination process for Water Year 2022.

- The group agreed that there should be USST Spring Pulse Flow meetings in late March and April to coincide with the availability of the forecast data. **[ACTION ITEM]**
- Suggestion to do a dry run (e.g. desktop analysis) pulse flow scenario using existing data.
 - Reclamation and SWFSC will discuss the feasibility of conducting a March or April **test run of the process** that would be required to analyze pulse flow scenarios (e.g., running survival and travel time scenarios, projecting TDM, taking a recommendation through SRTTG and WOMT). **[ACTION ITEM]**