

## **Sacramento River Temperature Task Group (SRTTG) Meeting**

February 27, 2020 | 1:00 – 3:00 pm

### Meeting Summary

#### ***Participants***

Craig Williams, SWRCB  
Kristal Davis-Fadtke, CDFW  
Diane Riddle, SWRCB  
Garwin Yip, NMFS  
Howard Brown, NMFS  
Jim Earley, USFWS  
Jim Smith, USFWS  
John Hannon, USBR  
Johnathan Williams, CDFW  
Josh Israel, Reclamation

Ken Kundargi, CDFW  
Liz Kiteck, Reclamation  
Matt Brown, USFWS  
Matt Johnson, CDFW  
Mike Harris, CDFW  
Mike Wright, Reclamation  
Miles Daniels, NMFS  
Randi Field, Reclamation  
Stephen Maurano, NMFS  
Vadim Demchuk, SWRCB

### **Key Discussion Topics with Summary of Outcomes and Agreements**

#### Action Items:

1. Randi Field – 4<sup>th</sup> Monday of the Month – Provide the Temperature Modeling to Miles Daniels.
2. Miles Daniels – 4<sup>th</sup> Wednesday of the Month – Finish the Salmon Temperature-Dependent Mortality Modeling Meeting Materials for the SRTTG meeting.
3. Randi Field – March – Email SRTTG members to see if members can host in the identified months and request interest in the summer tour to Trinity and Whiskeytown Reservoirs.
4. John, Elissa, Josh Israel – Provide Randi estimates of mortality based on model runs in the Anderson and Martin models. Present modeling information and consider creating a subteam for evaluating the modification of model parameters.
5. Miles Daniels – Draft temperature-dependent mortality modeling output to share with SRTTG. Examples of model output based on one month from last year. Talk to Josh Israel, Randi, and Ken.
6. Randi – Clarify the starting and ending of the temperature management plan. Consider making an operations management table that meets the Tiering requirements and reaching out to NMFS Southwest Fisheries Science Center to discuss default temperature modeling scenarios in Tier 2 and Tier 3 years.
7. Randi – Add Livingston Stone Hatchery Update to the Fishery Distribution agenda item. Add steelhead update including estimates to Fish Distribution agenda item.
8. Josh Israel – Draft USBR Guidance document to clarify requested information on fish distribution and forecasting for collection by field biologists with CDFW and USFWS who

will figure out how to get that information.

9. Randi – Flesh out ideas in USBR guidance documents on relationships between SRTTG and other groups including Clear Creek Group, Spring Pulse Flow Team, and Rice Decomposition Smoothing Group.

### ***Meeting Purpose and Objectives***

Members of the Sacramento River Temperature Task Group (SRTTG) provided status updates on Sacramento River seasonal temperature targets and anticipated performance.

The Sacramento River Temperature Management Plan is developed and monitored as part of State Water Board Order 90-5, the 2019 Proposed Action of the Coordinated Long-Term Operation of the CVP and SWP, and NMFS Biological Opinion Reasonable and Prudent Measures.

Reclamation’s objective is to solicit feedback from agencies on the Sacramento River temperature management and operations.

### ***2020 Meeting Logistics***

#### *SRTTG Meetings*

Randi Field proposed a schedule for SRTTG meetings including:

- Monthly 4<sup>th</sup> Thurs. of each month from February through October 2020.
- Rotating meeting locations hosted by SRTTG members.
- July or August tour of Trinity and Whiskeytown reservoirs

Randi requested the group members email her feedback on the proposed schedule, their availability for hosting, and interest in attending Trinity and Whiskeytown tour.

#### *Modeling Runs*

The proposed modeling schedule takes into account processing time for the inputs and outputs of the model. Randi reviewed the schedule for modeling runs which depends on the following sequence 1) Bulletin 120, 2) Operations Outlook, and 3) Modeling Runs.

To support the SRTTG, Josh Israel offered that USBR could:

- Run the following Anderson and Martin models
- Develop analyses on Background Mortality and Duration of the critical incubation period, which would require sharing the daily temperatures and known location of redds, to estimate egg survival.
- Set up a time to do a WebEx for participants to watch and learn the assumptions, steps, and inputs for the modeling.
- Provide model run results.
- Provide input files to test the model runs with different critical period lengths.

Some group members expressed an interest in running both the Martin and Anderson models. They did not choose to schedule any modeling WebEx’s or model runs at this time.

### ***Overview – Long Term Operations Implementation***

Randi provided an overview of the Long-Term Operations Implementation (SRTTG Handout p.4). Randi reviewed the potential decision points and thresholds in the Decision Tree for Shasta Reservoir Temperature Management (SRTTG Handout p.5). The crux is determining whether the SRTTG needs to convene early to discuss intervention in extreme (Tier 4) conditions.

The group reviewed and interpreted the Tiered Temperature Management Strategies (SRTTG Handout p.6). The group discussed clarifications between the tiers, their related temperatures, criteria, and timing. Specifically, the group discussed clarifications around timing and criteria for transitions to different temperature targets and the end of temperature management implementation. Reclamation clarified that it will decide the tier based on modeling capability or cold-water pool.

Randi took an action item to clarify the language and the beginning and end of the temperature operations plan in relation to the Tiers.

### ***Interagency Team Guidance Documents***

An interagency team is developing implementation guidance for each of the technical teams on operationalizing the Proposed Actions throughout this management season to protect water supply and salmon. Currently, the interagency team is finalizing a draft Guidance Document which will include the timeline and SRTTG's role. It could be finalized by the March SRTTG meeting.

### ***Coldwater Pool Management Plan Implementation***

The proposed process and schedule for drafting and operating to the Coldwater Pool Management Plan is like the past process:

- Starting in April and no later than end of May – Draft for the Temperature Management Plan
- May 15 or when winter-run Chinook salmon begin to spawn (whichever is later)– Start implementation of Temperature Management.
- May – October – Provide monthly updates and adjustments to the Temperature Management Plan, as necessary.
- Oct. 31 or 95% of winter-run Chinook salmon have emerged (whichever is earlier) – end Temperature Management implementation.

### ***SWRCB 90-5***

Diane Riddle, SWRCB, said that SWRCB and USBR need to meet to discuss 90-5 and SWRCB expects to send a letter about coordination on 90-5. The 90-5 process will be separate from the Temperature Management Plan implementation process for the Proposed Action.

### ***Hydrology Update***

Randi provided an overview of the hydrology (SRTTG Handouts).

### ***Operations Update and Forecasts***

### *Storage / Release Management Conditions*

Randi reviewed the storage / release management conditions highlighting the following:

- Dry conditions persist.
- Reclamation can't isolate the middle gates/use upper gates exclusively, which affects Reclamation's ability to meet temperature performance for the rest of the season.

See additional links to the Resources section of the website for people to check out on their own time.

### *CVP Northern System Operation Outlooks: Draft February 2020*

Randi pointed out that:

- Shasta reservoir elevations are estimated to only reach over 1035 ft. for just over a month's period April – May. Reaching 1035 ft. elevation is the crux for storage conditions high enough to meet multiple objectives.
- The need for increased Keswick releases to meet Delta outflow requirements will likely persist. There may be increased releases in March due to increasing depletions in the system.
- From Feb 21 – 23, the other major reservoirs made releases to meet the Delta outflow requirements.

### *Structure of D-1641*

Liz Kiteck explained that the structure of 1641 depends on the X2 position and determination of the 8 station index. In Feb. we needed the full month with outflow of 11,400 cfs, which resulted in increased releases from all of the CVP and SWP reservoirs and decreases in pumping. We estimate for March that could be between 5-10 days. If we need even 5 days, it's better to keep it going at increased releases, and then decrease them later in the month.

### ***Temperature Management***

Randi Field reviewed temperatures, trends, Lake Shasta cold water pool volume, TCD configuration, and Lake Shasta isothermal baths.

### *Shasta TCD Configuration*

Reclamation is currently making releases from all upper and middle gates. They are hoping for an opportunity to close the middle gates to better optimize coldwater pool management, but can't do that given the current reservoir elevation.

### *Model Runs*

Randi reviewed two model runs (SRTTG Handout) to characterize and rule out possibilities rather than characterize likely operations and their outcomes. See SRTTG Handout p. 21-22 for model assumptions and analyses.

The 25% historical meteorology is conservative for the temperature planning. It assumes month after month skew to a warmer condition, which is conservative.

### *Hydrology*

The dry conditions are getting into a threshold that is of significance for the management objectives.

- State's hydrology is trailing at 40% of the historic average.
- Precipitation projections show poor precipitation, suggesting Below Normal conditions.
- Air temperature probability is below and mostly normal temperatures for the Shasta drainage.
- The stable polar vortex with a strong Jetstream causes the dry conditions.

***River Fish Monitoring: carcass surveys, redd counts, stranding and dewatering surveys and sampling at rotary screw traps***

*River Fish Monitoring*

Matt Johnson will be the new CDFW Region 1 point of contact. Ryan Revnak is moving on to steelhead monitoring. Please direct questions to Matt Johnson, CDFW. Matt Johnson, CDFW, reported on river fish monitoring:

- Crews are marking shallow late fall-run redds. It hasn't been a very large run this year.
- Currently, there are no observed stranded fish. If it does start raining again, CDFW will revisit potential stranding sites.

Jim Smith, USFWS, reported on rotary screw traps at the Red Bluff Diversion Dam:

- USFWS rotary screw trapping for juveniles are still ongoing for last year's winter-run cohort. At this point, there are not very many juveniles.
- Juvenile winter-run Chinook salmon fish passage estimates at 3.8 million, which is a good number. A small number of fish will continue to move downstream.
- Adult winter-run Chinook salmon trapping at Keswick Trap for Livingston Stone National Fish Hatchery broodstock has just started, but the numbers of trapped fish are not available at this point.

Jim requested adding updates on the Livingston Stone Hatchery Brood Stock Trapping to the regular SRTTG agenda.

***Fish Distribution / Forecasts: Estimated percentage of the population upstream of Red Bluff Diversion Dam for steelhead, winter-run and spring-run Chinook salmon.***

The agencies are planning to collect more updates on fish distribution and forecasts from the different technical groups. This is an opportunity for tributaries to provide their input to SRTTG as well.

The group discussed clarifications and additions to the Fish Distribution agenda item:

- This update will address juvenile fish only, surrounding temperature management, and timing of fish spawning.
- USBR to clarify in its guidance document its requests for information including parameters for field biologists.

- SRTTG to address steelhead status and estimated percentage fish distributions in future updates.

### *Seasonal Topics*

This is an opportunity for an update and discussion of seasonal concerns and activities affecting temperature management. This could include potential habitat restoration projects, needs, and their effects on fish in the river. For example, in spring, SRTTG talks about ACID's dam installation in high flow years.

### *Discussion Topics*

#### *New Paradigm*

The group discussed that Reclamation is taking on this new paradigm and Randi Field is learning how to manage with the new ruleset and developing communication processes to coordinate. There is a lot of information that Reclamation and agencies are still sorting out.

There is an interagency team that has been talking about how to structure the different teams, metrics, and objectives to meet the BiOp. They are just starting discussion under this new management paradigm.

The SRTTG discussed the following areas that need more clarification:

- Tier Temperature Management Plan guidelines, assumptions, priorities, decision points, and potential operations.
- Reclamation Guidance Documents for components of the Proposed Action and relationship to groups
- Organizational Structure of groups - Relationship between SRTTG and other technical groups related to Sacramento River and its tributaries' temperature management and salmon fishery including:
  - Clear Creek Working Group
  - Spring Pulse Flow Team / Scheduling Team
  - Fall Smoothing Group / Rice Decomposition Group

#### *Guidance Documents*

The interagency team is working on guidance documents that addresses the relationships and roles of these different groups in relation to the components of the Proposed Action.

Guidance Documents are focused on the implementation of the flow and non-flow actions and not necessarily the roles of each technical groups. Each technical group might address four different guidance documents for related actions.

#### *Organizational Structure*

The various technical groups will either need to update their 2009 Charters or develop a new Charter to identify: the participants, objectives, and process. The goal of this effort is to make these multiple groups coordinated, transparent, formalized, and predictable.

### Clear Creek Working Group

Currently, there is a separate team for Clear Creek but the SRTTG has continued to talk about Clear Creek temperatures. The guidance documents should clarify which group addresses which elements of Clear Creek.

There is a coordinated Reclamation operation between Clear Creek, Shasta, Trinity, which calls for coordination between SRTTG and Clear Creek Working Group. Randi has participated in Clear Creek meetings for focused operations discussions. It can be a little off topic in the Clear Creek Working Group meetings. The operations in relation to temperature on Clear Creek could be a separate discussion.

### Spring Pulse Flow Team / Scheduling Team

Currently the Spring Pulse Flow Team is separate from SRTTG and though there are a lot of crossover in participants, the Spring Pulse Flow Team includes participants from the NMFS-Southwest Fisheries Science Center. The Pulse Flow Team could become a subset of the SRTTG. The Spring Pulse Flow Team considers the Proposed Action component to propose the timing, magnitude, and shape of the spring pulse flow.

The Proposed Action component includes a spring pulse flow or flows of up to 150,000 af. The action also requires that the Spring Pulse Flow not impose on temperature management for the rest of the season and cannot result in a change in Tiers. Given the current hydrology, Reclamation is not likely to release a spring pulse flow in spring 2020.

There is a balance between releasing additional flow during spring and consequences for later summer temperature management that calls for coordination between the Spring Pulse Flow Team and the SRTTG. The SRTTG could be responsible for shaping the timing and duration for the pulse flow once Reclamation provides the necessary model runs and evaluations from the BiOp and Voluntary Agreement.

### Fall Smoothing / Rice Decomposition Group

The Fall Smoothing or Rice Decomposition Group could also coordinate with SRTTG on shaping fall flows and their relation to temperature and cold-water pool management.

### ***Review Action Items***

Julie Leimbach reviewed the meeting Action Items and the group added some additional action items.

### ***Next Meeting Scheduling***

The next SRTTG meeting will be held on the 4<sup>th</sup> Thursday of next month, March 26 at Reclamation's Joint Operations Building, 3310 El Camino Ave, Room 302, Sacramento.