— BUREAU OF —
RECLAMATION

American River Group

Monthly Meeting Notes 8/20/20

1) **Action Items**
   - Peggy Manza to share revised Draft Framework for CVP Power Bypasses for Species Mitigation document with ARG; target date: Monday 8/24.
   - Peggy Manza to share new temperature forecasts as soon as they have been run.
   - Levi Johnson will check with CDFW on whether they can share their slides from the Fisheries Management Discussion.

2) **Introductions**
   - **USBR**: Matt Di Loreto, Zarela Guerrero, Levi Johnson, Peggy Manza, Spencer Marshall, Sarah Perrin, Mike Wright, Liz Kiteck, Justin Thompson
   - **Water Forum**: Chris Hammersmark
   - **SMUD**: Ansel Lundberg
   - **PCWA**: Ben Barker
   - **SJWD**: Paul Helliker, Greg Zlotnik
   - **CDFW**: Mike Healey, Jeannine Phillips
   - **SWRCB**: Michael Macon
   - **NMFS**: Barb Byrne
   - **USFWS**: Paul Cadrett
   - **EBMUD**: I-Pei Hsiu
   - **Westlands**: Tom Boardman
   - **WAPA:** Michael Prowatzke
   - **City of Sacramento:** Brian Sanders, Brett Ewart
   - **Sacramento State Aquatic Center:** Dede Birch
   - **Kearns & West**: Terra Alpaugh

3) **Fisheries Update: CDFW, CFS, PSMFC**

   With spawning and juvenile salmonid outmigration season over, CDFW, CFS, and PSMFC did not provide updates.

4) **Operations Forecast**

   a. **SMUD**

   For details on the upper American River SMUD Operations, including precipitation, reservoir storage, releases, and runoff forecast, see page two and three of the handout packet.

SMUD staff explained that since the end of last week the higher releases from Chili Bar visible in the graph could be the result of several factors: the influence of EID releases, the evacuation of space after the completion of work at the upper reservoirs, or simply to fuel the very high generation demands during the heat wave.

b. PCWA

For details on PCWA operations, including reservoir and snowpack storage, power production, and recreation flows, see pages four through six of the handout packet.

PCWA initiated transfer releases to Folsom Reservoir on August 15 and will complete them on September 30, 2020. Staff provided a correction to the handout: the average daily transfer will be about 220 cfs in order to transfer 20 thousand acre feet (TAF) by the end of September.

PCWA staff described the graph on page six, explaining that the temperatures of North Fork inflow into Folsom have decreased about four degrees with the initiation of transfer water. The run hours of PCWA have doubled in order to release the transfer water, since they are not increasing the magnitude of releases per second.

c. City of Sacramento

The City of Sacramento provided an update on their ongoing groundwater substitution transfer. Their total LAR transfer volume for July was 3300 AF, which averaged an extra 60 cfs in the river. They expect those numbers to remain relatively steady over the next few months. The water is being transferred to the State Water Contractors via the Banks pumping plant.

d. Central Valley Operations

For details on August CVO operations, including releases, storage, inflow, accumulated precipitation, and temperature management measures, see pages seven and eight of the handout packet.

5) Central Valley Operations

a. Temperature Management

CVO staff referred to pages nine through thirteen in the handouts in discussing temperature management. CVO staff noted that August days and nights have been very hot, resulting in warming river temperatures. Based on Temperature Schedule 40 (based on the 90% July forecast), CVO is targeting 68^{0} F temperatures at Watt during August (note that reference to Temperature Schedule 35 and the July objective is a carryover from a previous handout). Unlike July, during which temperatures stayed below 68^{0} F all month, August temperatures at Watt have exceeded 68^{0} F on seven non-consecutive days. Cloud and ash cover kept temperatures from rising above the 68^{0} F threshold more recently. Yesterday, temperatures

fell to 67⁰ F which operators hope is a sign that the cold water released from Nimbus is now reaching Watt Avenue. CVO also removed a second middle shutter to keep in-river temperatures below 68⁰ F; staff will attempt to blend the water with warmer releases in order to maintain a consistent temperature in the river.

The water temperatures taken in two profile locations in the reservoir are almost identical and show nearly complete stratification, with the cooler water confirmed to the bottom half of the reservoir and the top quickly warming.

The isothermobath diagram on page 12 also reveals that the top of the lake has continued to warm considerably but the bottom of the lake remains cooler. Only 102.3 TAF of the reservoir is still less than 58⁰ F, so CVO staff warned that they will be very careful about how that cold water is deployed. The temperature at the penstock is 54.8⁰ F, which is still quite cool, so when they do ultimately open the bottom shutters they will deliver relatively cold water to the river.

b. **Exceedance Forecasts**

For the 90 and 50 percent exceedance forecasts, refer to page 14 of the handouts. CVO staff said that current hydrologic conditions are better reflected by the 90 percent outlook.

90 percent runoff exceedance outlook: CVO staff noted that the storage forecast is slightly better than it was in July with higher end-of-September and December storage volumes. A Water Forum representative noted that the end of December storage is 363 TAF; given that it is significantly higher than the minimum 300 TAF CVO usually aims for, he asked if some of that water could be considered for additional fall releases. CVO staff was not sure what criteria the forecaster was using to determine those storage volumes.

50 percent runoff exceedance outlook: The 50 percent outlook shows higher releases throughout the rest of the year than the 90 percent outlook; the forecast is still dry enough that none of those late fall releases are mandated by the flood control curve.

CVO staff did not have time to execute a temperature run but will proceed with running one after the meeting and distributing it as soon as possible. She noted that the maximum temperatures included under the various temperature schedules can reach as high at 72⁰ F. The schedules were designed to spread the burden of undesirable conditions across multiple species' needs.

6) Discussion

Annual Report
USBR staff shared an outline for the annual report, noting that it is very similar to last year's organization, and provided a proposed schedule for drafting and review. The outline is still pending review by BDO and LTO implementation team to ensure consistency with other

LTO reporting requirements if applicable. Unlike last year, there is not a hard due date for these reports, so there is flexibility to extend the timeline if the group needs more time for review and comment.

ARG members provided the following feedback, including:

- NMFS asked to remove all references to "RPM" (in sections 2.2 and 4.4) and replace them with "summary of Proposed Action elements."
- SJWD asked for more detailed discussion of the impact of Delta operations on Folsom management, especially temperature management and end-of-year storage. Ideally this would include more detail on tradeoffs to improve readers' understanding of the context of decisions being made on the American.
- NMFS emphasized that they wanted a thorough description of the fall 2019 power bypass discussion. USBR observed that power bypasses are mentioned in multiple places throughout last year's report, so there are plenty of places that information could be included.
- NMFS offered to help with drafting if needed.

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Fisheries Management Discussion Recap

In February, USBR and the fisheries agencies scheduled an additional, smaller meeting outside of the regular ARG meeting to cover technical details. They covered detailed scientific information at length and decided that was a more efficient forum to cover technical material in depth than trying to fit it into a regular ARG meeting.

They scheduled a follow-up meeting for last week. CDFW presented on the best available science on temperature thresholds and pre-spawning mortality. Ways in which this science could be used to evaluate a power bypass this year were also discussed. For instance, they discussed the option of using the SacPas website (http://www.cbr.washington.edu/sacramento/grow/index.html), which allows users to implement an egg mortality model to generate estimated emergence timing and egg-to-fry survival based on temperatures. It also allows users to select from multiple egg mortality models, which could be used to generate bookend scenarios.

USBR will check with CDFW to see if they can share the slide deck that was used to guide the discussion. The group is having a follow-up discussion next week to discuss available models, surveys, and other tools. NMFS has also recommended a brown bag on temperature modeling as a future topic. If ARG members want to be included in these more focused conversations, they should reach out to Levi, Spence, or Terra.

CVO staff reported that she is still integrating feedback into the Draft Framework for CVP Power Bypasses for Species Mitigation and will circulate the redline version next Monday. Further discussion of the power bypass will be added to the agenda as a standing item for the fall.

7) **Next Meeting:** Thursday, September 17, 2020 from 1:30 PM – 3:30 PM