American River Group

Monthly Meeting Notes 10/15/20

1) **Action Items**
    - Regional Director Conant will make a decision on the power bypass proposal; USBR staff will share the final decision with the ARG as soon as they have it. If a power bypass is approved, CVO will begin to implement the associated flow schedule immediately.

2) **Introductions**

    - **USBR**: Will De Grush, Zarela Guerrero, Levi Johnson, Peggy Manza, Spencer Marshall, Sarah Perrin, Liz Kiteck, Ian Smith, Thuy Washburn
    - **Water Forum**: Chris Hammersmark, Lilly Allen
    - **SMUD**: Ansel Lundberg
    - **PCWA**: Ben Barker
    - **PSMFC:** Cory Starr, Logan Day
    - **SJWD**: Paul Helliker, Greg Zlotnik
    - **CDFW**: Mike Healey, Jason Julienne, Morgan Kilgour, Beth Lawson, Duane Linander
    - **NMFS**: Barb Byrne
    - **USFWS**: Craig Anderson, Paul Cadrett
    - **SWRCB:** Reza Ghasemizedeh, Michael Macon
    - **EBMUD**: I-Pei Hsiu
    - **WAPA:** LaTisha Saare
    - **Westlands**: Tom Boardman
    - **City of Sacramento:** Anne Sanger
    - **Cal State Sacramento**: Dede Birch
    - **Friends of the River:** Ron Stork
    - **Kearns & West**: Terra Alpaugh
    - **Independent**: Rod Hall

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

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

BUREAU OF RECLAMATION

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 of the handout packet.

SMUD also reported that the 2.9 MW South Fork American Powerhouse, just before Slab Dam, has been officially commissioned and is now running. It will generate power from minimum flows. The new powerhouse does not support SMUD's service area; instead it is connected to ISO and PG&E to provide power to outside service areas.

b. PCWA

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

c. Central Valley Operations

For details on September CVO operations, including releases, storage, inflow, accumulated precipitation, and temperature management measures, see pages five and six of the handout packet.

The middle and upper shutters on Units 2 and 3 have been raised. Bottom shutters on Unit 1 have been raised. Unit 3 is currently out on annual maintenance. Last week, the water was all coming from the upper and middle shutters; now it is largely being released through the middle shutter on Unit 2 with a small amount of lower shutter water from Unit 3 (which is operating as spin no load). Next week Unit 3 will be back online and Unit 1 will go out for annual maintenance; Unit 3 will have all shutters raised so it will be an exact replacement for Unit 1.

According to the ARG's agreed upon plan, CVO is now (10/15) targeting 65^{0} F at Watt. CVO intended beginning to release bottom shutter water for this purpose on Tuesday, but the crews were not available to pull the shutter until Wednesday morning. There will be a three day lag time until the effects of the colder water releases at Folsom can be seen in the Nimbus Dam release. CVO expects to see impact of colder water release at Watt likely starting Saturday or Sunday. . If the current blend does not result in temperatures of 65^{0} F, CVO will increase the amount of cold water from the bottom shutters to achieve 65^{0} F, but with a cold front forecasted next week, they are testing whether they can reduce temperatures with primarily middle shutter water. Water Forum noted that if the current releases do not reduce temperatures enough and CVO has to adjust the blend, it will be six days before target temperatures are met at Watt.

CVO also advised the ARG to look at USGS gage temperatures rather than those posted on CDEC; CDEC measurements do not apply a correction factor and thus read too high.

NMFS asked why, if FMS flows for October were around 820 cfs, CVO had set releases at 1,500 cfs for the month. CVO noted that the FMS flows are minimum flows. Because there was higher storage than anticipated approaching the end of the water year, CVO proposed higher flows to provide more temperature protection for salmon migrating back toward the American; they refer to these as "attraction flows." While there is no fall attraction requirement, operators try to maintain the best possible fishery conditions in the LAR. CVO reported that the change in flows from the previous forecast were made specifically for fishery purposes, not driven by Delta needs. .

There is currently higher storage (395 TAF) than anticipated. All inflow is from SMUD and PCWA releases since there has been no precipitation.

5) Central Valley Operations

a. Temperature Management

CVO staff referred to pages seven through eleven in the handouts in discussing water temperature management. There were several temperature exceedances in September (Sept 4-7). In October, temperatures have stayed below 67 ⁰ F but have not fallen much further due to ongoing warm air temperatures.

The water temperatures taken in six profile locations in the reservoir show that the surface has cooled to around 72⁰ F. The middle shutters are drawing from elevations of around 340 feet, which is measuring 64-65⁰ F.

The isothermobath diagram on page 10 reveals that there is still a range of cold water between 52 and 65⁰ F that can be tapped into for temperature management. 53.2 TAF of the reservoir is still less than 58⁰ F. The temperature at the penstock is recorded as 64.3⁰ F, though CVO staff believe that number should be lower; there could have been a mismeasurement due to a change in where operators took the temperature.

b. **Exceedance Forecasts**

For the 90 and 50 percent exceedance forecasts, refer to page 12 of the handouts. CVO did not complete the entire forecast but provided the forecasts through December. CVO reminded the ARG that October, November, and December forecasts are all based on historical averages and exceedances; they have no hydrologic basis for forecasting this early in the water year.

90 percent runoff exceedance outlook: CVO staff noted that the release numbers in the original handout were wrong and should be corrected to 1,500 cfs, 1,250 cfs, and 1,250 cfs respectively for October, November, and December. CVO is operating to the 90 percent forecast.

50 percent runoff exceedance outlook: The end of December storage forecast (426 TAF) would only be achievable with average inflow. Without precipitation, the storage at that point will be closer to the 90 percent forecast (314 TAF).

c. **Temperature Schedules**

CVO's temperature run uses the 90 percent outlook with manually entered targets. The run targets 65⁰ F at Watt from 10/15 through 10/31, or until an alternative power bypass proposal is submitted and approved. It then targets 57⁰ F at Hazel starting November 1. The model shows that the system can achieve 56.7⁰ F the week ending in 11/4 and 56.3⁰ F the week ending in 11/11. The second half of the month, the model shows temperatures less than 56⁰ F. However, CVO cautioned that the model assumes median climatology developed in 1999, so it could be harder to meet these targets if the weather is warmer.

NMFS asked whether CVO ran the model as usual to see what ATSP schedule the model would propose; CVO stated that, at this point in the year, the temperature schedules generated by the model will not be optimal.

6) Discussion

Hatchery Issues
CDFW reported large numbers of steelhead deaths in the Nimbus raceways at the beginning of October. About 25 thousand fish died. CDFW acted quickly to install four aerators and source medicated feed, which reduced deaths into the single digits daily. It is not clear exactly what percentage of the total steelhead run died, but CDFW still expects to meet its production targets.

The Nimbus Dam gate 18 was opened last year to address stagnant warmer water at the Hatchery intake, but that was not possible this year because of construction on the hatchery fish ladder directly downstream of the gate. NMFS asked if that would be an ongoing issue. Reclamation shared that it would consider utilizing the gate 18 bypass if steelhead deaths continue. It would potentially impact the construction contractor, but the option is still on the table if needed.

Power Bypass Proposal
For a detailed description of the power bypass proposed by the fisheries agencies, please refer to the "Revised American River Bypass Proposal_October 2020." The bypass is intended to improve spawning and egg incubation temperatures – with a target of 56°F at Hazel as of 11/1—for fall-run Chinook salmon spawning.

The proposal presents two scenarios:

- The first scenario assumes implementation of the "Current Reclamation Temperature Plan," which targets 65° F from October 15 through October 29 and

then targets 56° F from October 30 through November. Since modeling suggests that remaining cool water released from the shutters cannot drive temperatures down to 56° F until ambient air temperatures also cool mid-month, the proposal requests a 500 cfs bypass from October 29, 2020 through November 25, 2020 or until a target temperature of 56°F at Hazel Avenue Bridge can be achieved and maintained without a power bypass.

- The second scenario calls for a "CoolOct Base" baseline scenario, which utilizes bottom shutter water to gradually decrease temperatures through October and achieves temperatures of just below 58° F in early November, at which point the proposal implements a bypass to further cool temperatures to the 56° F November 1 target.

As their first choice, the fisheries agencies are advocating for implementation of a power bypass on top of the CoolOct Baseline, which could be executed as soon as USBR provides approval. However, CDFW stressed that the fisheries agencies do not want to implement a Cool Oct baseline *unless* it is accompanied by the subsequent bypass.

Water Forum staff noted that the costs in the proposal assume a four week, 500 cfs bypass, but 56° F would likely be achieved much earlier in the month, so the bypass could be tapered off and the total cost would be significantly less.

NMFS also noted that they set the floor of the models at 56° F; they did not want to model the biological effects of 54° F if in reality they would end a bypass as soon as 56° F could be maintained.

SMUD voiced appreciation for effort that the agencies put into the proposal and the robust support they provided in the text and appendices.

CVO stated that if a power bypass is approved, staff will need to increase cold water releases immediately. The decision will hinge on Reclamation biologists' evaluation of the benefits to the fishery and then the Regional Director's final decision. Reclamation requested that fisheries staff be available for follow-up questions in the coming days.

NMFS asked whether it would be appropriate for the ARG to make a consensus recommendation on the bypass proposal, since the cover letter is signed by the fisheries agencies and the Water Forum. SMUD noted that they are a member of the Water Forum, which has broad membership. WAPA voiced appreciation for the fact that the proposal executes the bypass in November when there will be less lost value from foregone power generation. Kearns & West asked if there were any outstanding concerns about the proposal that should be shared for Reclamation's consideration; none were voiced. Reclamation observed that they do not necessarily look for a "consensus" recommendation but do value that the ARG has reviewed and provided feedback on the proposal without objections.

CVO shared that once a decision has been made on the bypass proposal, staff attention will turn to finalizing the bypass decision-making white paper. Once staff have incorporated the latest comments into that document they will share with their management and the ARG.

7) **Next ARG Meeting:** Thursday, November 19, 2020 from 1:30 PM – 3:30 PM