



NOTES: Water Supply Working Group #2

Meeting Held: 07.11.18

Notes prepared by Consensus Building Institute

Next Meeting: August 29 10:00a-1:00p @ Sonoma County Water Agency in Santa Rosa

Meeting in Brief

The Water Supply Working Group approved its working objectives meant to guide the group toward its charge.

PG&E presented the operating rules at Scott Dam per the FERC license and the RPA/Biological Opinion requirements.

The Modeling Sub-Group is developing baseline and evaluation metrics for potential modeling scenarios and recommends selecting model scenarios iteratively; each round of analyses will inform selection of the next round of model scenarios. The Modeling Sub-Group will present the baseline modeling results and any progress on the first round of modeling scenarios at the next meeting.

An Environmental Flows Sub-Group will develop recommendations on environmental flow conditions that support fish passage to inform modeling scenarios (e.g., run-of-river scenario).

Action Items

Bryan	7/18	Send CBI the DWR doc (Eel & Russian Rivers Streamflow Augmentation Studies) to share with the Working Group
David / CBI	7/18	Share Fish Flows EIR demand assumptions and identify page / comment number for SWRCB's comments on the demand assumptions
Modeling Sub-Group/CBI	8/16	Send draft template of model results summary for Working Group feedback (consider also presenting template to Fish Passage Working Group on Aug 16)
Josh / CBI	8/8-8/15	Organize sub-group to develop recommendations on environmental flows to support fish passage and provide to the Modeling Sub-Group for Run-of-the-River scenario. Participants: Josh Fuller (NOAA), Darren Mierau (Cal Trout), David Manning (SCWA), Paul Kubicek (PG&E), Allan Renger (CDFW), Damon Goodman (US FWS), Craig Addley (Cardno), and Scott McBain (RVIT).

Water Supply Working Group Objectives Approved

Objectives

- Address water supply needs and demands across both basins
- Consider future hydrographs
- Articulate existing constraints (costs)
- Maximize benefits of coordinating operations, timing, and flow regimes along with biological considerations for timing, quality, and temperature
- Evaluate a small number potential scenarios that consider fish passage to inform Ad Hoc decision making

Previously, the Water Supply Working Group gave permission for Working Group Chair Don Seymour (SCWA) and CBI to craft preliminary objectives based on the Working Group's May 11th meeting discussion. The Ad Hoc Committee briefly discussed the objectives at its May 30th meeting.

The Water Supply Working Group approved the preliminary objectives as working draft objectives. These objectives will guide and help the group track progress as it fulfills its charge.

Understanding Scott Dam Operating Rules

View PG&E's [Scott Dam Operating Rules Presentation](#)

Michelle Lent (PG&E) provided an overview of the project-required flow operations under the Potter Valley Project FERC License and the Biological Opinion.

Compliance Points and Classifications

E-11 at Van Arsdale Reservoir (Cape Horn Dam) is the major driving compliance point of the Eel River. E-16 includes diversions for both East Branch Russian River (EBRR) required releases and Potter Valley Irrigation District (PVID) deliveries. Compliance Point E-2 below Lake Pillsbury (Scott Dam) likely is not an active constraint on the system (PG&E must release a combined E-11+E-16 releases at E-2/Scott Dam).

Each compliance point has a different trigger date during the year where the Cumulative Inflow to Lake Pillsbury (CLP) sets the water-year classification regimes. These regimes set the level of flows at each compliance point. The "Critical" and "Restricted" regimes are very rare based on historical record of the past 96 years.

Working Group members noted that the trigger point classification regimes are substantially offset across E-2, E-11, and E-16 (e.g., it is possible to have a "Dry" regime at E-11, but a "Normal" regime at E-16).

Release Obligations

E-11 flow releases are meant to mimic the natural hydrograph (i.e., flows concentrated in the fall through the spring). Conversely, EBRR and PVID releases follow water demand (i.e., increase in summer and growing season). PG&E tracks CLP throughout the year and may adjust flows under certain parameters (e.g., E-16 has a "Dry Spring," or PVID requests additional water for frost protection).

E-11 minimum flows follow a calculated Index Flow (which is calculated as 70% of the estimated unimpaired flow at Van Arsdale/Eel River); however, the minimum flows must stay between a cap and floor for each classification.

Target Storage Curves & Discretionary Flow

PG&E can only release additional or “discretionary” flow to EBRR when storage in Lake Pillsbury is above the threshold “Target Storage Curve.” On average, PG&E might send out discretionary flows during mid-December to March, which often equates to a set flow regime during the summer.

Insights from Background Reading

Required pre-meeting reading for Working Group discussion:

- Chapter 3 - Draft EIR Fish Flow Project Background and Project - [view](#)
- Russian River Hydrologic Modeling for the Fish Habitat Flows and Water Rights Project - [view](#)
- Lake Mendocino Water Supply Reliability Evaluation Report - Term 17 - [view](#)

PVP Discretionary Flows and Lake Mendocino Storage

Participants observe a mismatch between the Russian River minimum instream flow requirements (set in the 1980s before E-5 constraints and more water transfers existed) and Lake Mendocino management requirements. If discretionary flows out of Lake Pillsbury are cut off in early March, then additional late-spring flows (above release-obligations) cannot be released to Lake Mendocino, which is designed to accept that water. SCWA is currently applying for deviations in storage to address this mismatch.

The Working Group briefly discussed possible benefits for sending additional water in spring to Lake Mendocino then reducing releases to the East Branch of the Russian River in the summer. This strategy might slow the depletion rate of Lake Pillsbury, fill Lake Mendocino with colder and better quality water, and serve as a near-term, interim solution.

Working Group members indicate that exploring reoperations could support the two-basin solution and recommend modeling this scenario to better understand the benefits and drawbacks. A Working Group member caution that modeling and management actions need to consider impacts on East Branch Russian River water users, including those with appropriate water rights.

Water Quality/Turbidity

One Working Group member previously sent pictures of the river turbidity and habitat conditions above and below Scott Dam, noting stark differences in particle distribution sorting, channel form, etc. Several water quality studies are currently underway; however, the study results may not be ready to inform this process. The Working Group may consider water quality and turbidity issues when possible in this process.

Baseline (Existing Conditions) Recommendations and Evaluation Metrics for Potential Modeling Scenarios

View the Modeling Sub-Group’s 6/28/18 [Meeting Summary](#)

At the previous meeting, the Water Supply Working Group tasked a Modeling Sub-Group with developing recommendations on the modeling approach. Sub-group participant Chris Delaney (SCWA) shared the Modeling Sub-Group's progress to date.

Modeling Approach

SCWA will lead model development and run simulation scenarios.

SCWA is developing the PVP ResSim model, which builds off a model SCWA used in the past. The ResSim model refinements aim to better simulate PVP operations (e.g., daily discretionary water diversions and gate closure dates).

The sub-group decided not to simulate drought variances in the model due to high year-to-year variance and no guarantee FERC will approve drought variance requests. Omitting drought variance also better supports scenario comparisons and can help highlight needs for operations modifications.

Working Group members noted the model currently covers the Eel River up to Cape Horn Dam and up to Jenner on the Russian River. The model currently does not include more of the Eel River due to data availability, which can be added at a later date (e.g., accretion hydrology and flow data).

A Working Group member identified a document on how flows in the Eel River affect stratification in cold-water pools - [view document](#).

Modeling Results Performance Metrics

The sub-group will continue to work on performance metrics once the baseline scenarios are finalized. Additional primary locations of interest are along the Russian River and Lake Mendocino.

Working Group Discussion

- Model reports should indicate the relative range of uncertainty (e.g., Dry Creek low flow and fish bypass).
- Consider how to package the model results for the Ad Hoc that is clear and succinct. The Modeling Sub-Group plans to circulate a draft template for summarizing model results.
- Consider examining the Russian River consumptive water demand calculations; the demand assumptions may lead to overestimating current and projected demand. Refer to SWRCB's comments on the Fish Flow EIR demand calculations.

Approach to Modeling Scenarios

View the Modeling Sub-Group's proposed [scenario evaluation strategy](#)

The Working Group concurs with the iterative approach to modeling scenarios, in which the group will look at several scenarios and then use the results to select the next round of scenarios. To save time, the group will run climate change scenarios a bit later in the simulations on those scenarios that have merit, but not so much later to miss key insights. One member recommended inviting in some climate experts to

advise. A small group will meet to identify environmental flows to inform a run-of-the-river scenario.

Proposed Approach

Sub-group participant Scott McBain (Round Valley Indian Tribes [RVIT]) presented the sub-group's recommendation for the modeling approach and possible model alternatives.

The sub-group estimates that, by late fall, the group can examine a maximum of 20 scenarios of 360+ possible scenarios. The Working Group supports the sub-group's proposed iterative approach for scenario selection:

1. Pick 2-4 scenarios initially.
2. Obtain feedback/guidance from the Ad Hoc Committee.
3. Run scenarios and provide brief reports.
4. Discuss and identify additional priority scenarios based on previous reports.
5. Repeat as time allows.

Creating linkages with the fish passage scenarios / options is critical to advance the two-basin solution.

Several Working Group members supported incorporating climate change later in simulations. The Sub-Group may revisit this approach after the first round of model simulations. A Working Group member voiced concern with incorporating climate change later, as hydrology will change scenario conditions (e.g., snowpack elevations and flashier floods). He suggested inviting climate change experts to help guide analyses. Another helpful tool might be a flow chart for the criteria and logic for baseline scenario selection.

Scenario Selection

The sub-group developed a matrix of alternatives to inform which scenarios to model. Bookend scenarios might be insightful to explore in the first round of simulations. Scenarios would need to be "extreme" while also satisfying the needs for both basins. Two scenarios were suggested: "PVP Decommission + Lake Mendocino FIRO (Full)" and "Run-of-River diversions (existing cap.) + Russian River Baseline." (See diagram.)

Several Working Group members supported bundling obvious scenarios as appropriate. One suggestion included bundling one of the "FIRO" alternatives with "Raising Coyote Valley Dam."

A Working Group member suggested the group review a document with a **Scott Dam elevation storage curve** before developing models scenarios - [View document](#). For example, will removing 10 feet off the top of the dam make fish passage more feasible, and does that outweigh the cost of lost water storage?

The group agreed to defer to the Modeling Sub-Group to develop recommended scenarios for the initial round of simulations.

		Russian River / Lake Mendocino Alternatives				
		Baseline / Current Ops	Lake Mendocino FIRO (Full)	Lake Mendocino FIRO (Hybrid)	Fish Flow EIR Ops	Raise Coyote Valley Dam
PVP Alternatives	Baseline / Current Ops	X				
	PVP Decommission		Bookend?			
	PVP Revised Ops (TBD)					
	Lowered Scott Dam					
	Run-of-River Diversions (existing capacity)	Bookend?				
	Run-of-River Diversions (increased capacity)					

Environmental Flows Sub-Group

The group decided an Environmental Flows Sub-Group should meet to develop recommendations for the model scenarios on flow conditions that support fish passage (e.g., typical block water operations and minimum flow needed at Van Arsdale). These recommendations will help develop appropriate model scenarios, particularly the “run-of-river diversions.” The sub-group can vet recommendations at the August 16th Fish Passage Working Group meeting.

Next Steps

- SCWA will finalize the PVP ResSim model.
- Cardno will finalize the historical hydrology for the baseline scenarios.
- The Environmental Flows Sub-Group will develop recommendations on flows for fish passage, and then send recommendations to the Modeling Sub-Group (due approximately between Aug 17th and Aug 22nd).
- SCWA will finalize and run baseline model scenarios, then discuss results with the Modeling Sub-Group.
- At the next Water Supply Working Group meeting, the Modeling Sub-Group will report findings from the baseline simulations and any other modeling results or recommended priority scenarios to simulate.

Next Steps and Future Agenda Items

At its next meeting on August 29th, the Water Supply Working Group will discuss the following topics:

- Review Baseline Scenario and any other Modeling Results
- Confirm Additional Scenarios and Technical Approach