

Jeffrey R. Weaver

Year of Birth: 1975

Profession: Civil Engineer

Specialization: Water Resources

Key Qualifications

Mr. Weaver has 10 years of experience performing hydrologic and hydraulic analyses for water supply and hydropower projects in California. He has participated in a variety of water resources projects with an emphasis on hydrology, hydraulics, and reservoir and systems operations of both the Central Valley Project and State Water Project. He also has an extensive background in the analysis, modeling, and optimization of hydropower generation of the CVP/SWP system. In addition, he has extensive experience in operations of the Yuba River Project, through his work supporting both the 2000 SWRCB Lower Yuba River Hearings and the development and examination of the proposed Lower Yuba River Accord.

Education and Professional Status

B.S., Civil Engineering, University of California, Davis, 1997

Professional Civil Engineer, California, 2001

Employment Record

2002-to date MWH Americas, Inc.

1998-2002 Bookman-Edmonston Engineering, Inc.

Relevant Experience**Lower Yuba River Accord and Supporting Efforts, Yuba County Water Agency, California**

Assisted in formulation and negotiation of the Lower Yuba River Accord (LYRA) as a settlement for the Lower Yuba River Hearings. Was later the Modeling Lead in charge of developing models used to evaluate LYRA alternatives for flows on the lower Yuba River, water transfers, and Delta export operations. The Yuba River model simulated the operations of the Yuba River Project for instream flows, in-basin deliveries, and water transfers. He also developed the North Yuba Index, a hydrologic index used to determine flow requirements on the lower Yuba River under LYRA. In addition, formulated methodologies and procedures for determining and updating the North Yuba Index after implementation. In supporting LYRA negotiations, developed prediction tools incorporating reservoir storage with precipitation and snow gages to make an initial determination, and updated plans for hydropower operations at New Bullards Bar Reservoir. Also developed temperature prediction models and hydropower generation models used in assessing environmental impacts associated with LYRA.

Lower Yuba River Hearing, Yuba County Water Agency, California

Provided modeling support for the 2000 SWRCB Lower Yuba River Hearings. Provided modeling output and analysis to witnesses testifying in the hearings about Yuba River flows, New Bullards Bar Reservoir operations, and YCWA deliveries. Used the modeling output to determine impacts associated with the different flow requirements, levels of development, and power operations on deliveries and shortages to in-basin users and impacts to the ability of YCWA to transfer water to the Environmental Water Account or State Water Contractors.

Oroville Facilities FERC Relicensing, California Department of Water Resources, California

Coordinated operations modeling efforts for flows and temperature management on the lower Feather River, supporting DWR's Federal Energy Regulatory Commission (FERC) application and subsequent settlement negotiation between DWR and interested stakeholders. Developed the strategy for alternatives modeling with DWR management, and directed the modeling team in its implementation. Operations models used included CalSim-II, a local operations model simulating the Oroville Facilities, and a temperature model simulating the facility reservoirs and the Feather River from Lake Oroville to its confluence with the Sacramento River. Also led local operations modeling, which was used to optimize hydropower generation for the Oroville Facilities.

Shasta Lake Water Resources Investigation, Bureau of Reclamation, California

Mr. Weaver was Modeling Lead for evaluation of enlarging Shasta Dam under the CALFED Bay-Delta Program (CALFED) integrated storage investigations. Worked with project leadership to define the modeling alternatives, including various combinations of enlargements of Shasta Dam, anadromous fisheries operations, and Sacramento Valley conjunctive management operations, and then directed the implementation of alternative model simulations. Developed reporting metrics and evaluation criteria used for alternatives comparison, including assessing impacts to CVP/SWP system-wide water supply, fishery conditions in the Sacramento River, conjunctive management operations in the Sacramento Valley, Delta flow conditions, and hydropower generation.

Review and Modification of the CalSim Yuba River Basin Model, Yuba County Water Agency, California

Project Engineer for review and modification of the CalSim-II Yuba River Basin Model. Collaborated with DWR's personnel in adapting and testing the DWR CalSim model of the YCWA HEC-5 model of the Yuba River. Features such as carryover storage and power purchase contracts were included. CalSim performance was tested using a wide range of hydrologic conditions and instream flow requirements. Additionally, hydrology used in the model was updated from 1992 to 1999 using the DWR COMP and Consumptive Use models.

Delta Water Quality Assessment, Contra Costa Water District, California

Participated in examination and enhancement of Contra Costa Water District's (CCWD) G-Model water quality prediction model. Work included updating the original model with up-to-date inputs and assessing model performance over a longer time period. Periods of significant discrepancy between model output and measured values were closely examined, and Delta hydrology was used to determine the sources of the discrepancies. Enhancements were suggested to increase model performance during periods of anomalous Delta conditions. The work also included supporting CCWD in its negotiations with SWRCB on water quality compliance issues.

New Don Pedro Reservoir 1997 Flood Litigation Defense, Turlock Irrigation District, California

Developed a reservoir flood routing model for New Don Pedro Reservoir on the Tuolumne River to simulate operations according to the USACE Reservoir Operations Manual. Model development included hydrologic analysis of the Tuolumne River Basin, development of the reservoir operations model, calibration of the river routing model, and hydraulic analysis of the reservoir outlet works. Derived historic inflow hydrology and developed reservoir

operation decision protocols based on available weather forecasting data for use in flood control operations modeling.

Flood Control Feasibility Study, Colusa Basin Drainage District, California

Mr. Weaver was Modeling Lead for a flood control feasibility study of foothill reservoirs on the western edge of the Sacramento Valley. The modeling work was used to assess the impacts of multiple small dams on reducing the effects of a flood wave on the Colusa Basin Drain and downstream communities. Performed hydrologic analysis of the Colusa Basin Drainage and hydraulic analysis of the upstream reservoir systems. Also developed the reservoir routing methodology for each reservoir, and the approach for evaluating the cumulative effect of multiple reservoirs on flows within the Colusa Basin Drain.

Big Rock Ranch Site Development, Lucasfilm, LTD, California

Mr. Weaver was Staff Engineer for the Big Rock Ranch site development in Marin County, California. Work included the development of design storms, watershed hydrology, outlet works hydraulic design and ultimately, the construction permitting of a small single-purpose dam, in addition to development of reservoir operations protocols. Additional civil work included water system design, road design, site grading, and site drainage design.