



To promote the economic, social and environmental viability of Northern California by enhancing and preserving the water rights, supplies and water quality of our members.

October 13, 2010

Armin Munevar
CH2M Hill
402 W. Broadway, Ste. 1450
San Diego, CA 92101

Re: BDCP Flow Modeling

Dear Armin:

We received your September 29, 2010 transmittal with the DVD containing the Draft Physical Modeling Results. We have asked MBK Engineers to provide their expertise to help us understand how flows from areas upstream of the Delta are being considered in this process. We are forwarding a memorandum from MBK that we hope will provide further detail on the information that we are seeking and which we believe will help us more fully understand how this process will affect areas upstream of the Bay-Delta.

Thank you for your attention to this matter.

Sincerely yours,

David J. Guy

cc: Stuart Somach, Dan Kelly
Paul Cylinder
Laura-King Moon
Jerry Johns



Water Resources • Flood Control • Water Rights

MEMORANDUM

DATE: October 9, 2010

TO: David Guy

FROM: Walter Bourez

SUBJECT: BDCP modeling

Pursuant to your request we have reviewed the modeling results provided by BDCP modelers. The information on the CD is very limited and it is not possible to fully understand how BDCP alternatives may affect conditions in the Sacramento River Basin. Output from the water operations model, CalSim II, includes 16 output variables to describe operations in the Sacramento River basin upstream of the Delta. The Table below contains a list of all variables provided from CalSim II that were provided for four BDCP alternatives. Although these outputs are for key locations in the system, it is certainly not possible to understand potential effects of the BDCP alternatives with this limited information.

CalSim II Variables

North of Delta

Trinity R blw Lewiston
Trinity Export
Clear Cr blw Whiskeytown
Sacramento R @ Keswick
Sacramento R @ Red Bluff
Sacramento R @ Wilkins Slough
Feather R blw Thermalito
Feather R @ Confluence
American R blw Nimbus
American R @ Confluence
Sacramento R @ Hood
Yolo Bypass
Trinity Storage
Shasta Storage
Folsom Storage
Oroville Storage

Delta Flows and Diversions

Banks
Banks SWP
Banks IF
Banks TD
Banks CVP
Tracy
Tracy IF
Tracy TD
NBA
CCWD
Net DICU (non-project)
North Delta (non-project)
Required outflow
Surplus outflow
Mokelumne R
San Joaquin R d/s Calaveras

South of Delta and Deliveries

Total SWP & CVP SOD Deliveries
SWP SOD Deliveries
Table A (Incl. Article 56)
Article 21
Article 56*
CVP SOD Deliveries
CVP SOD Deliveries thr. Exports
CVP SOD Deliveries thr. James B.
SOD Losses**
SOD Canal Losses
CVP SL Storage
SWP SL Storage
San Luis Evaporation

Sacramento River Temperature Modeling

Changes in Sacramento River temperature are important for estimating effects to salmon spawning habitat. Output is provided for key compliance points on the upper Sacramento River as follows:

- Keswick
- Balls_Ferry
- Jellys_Ferry
- Bend_Br
- Red_Bluff
- Hamilton_City

Changes in temperature are driven by changes in operations or changes in temperature control device operations, it is difficult to determine what is causing temperature changes without having the models; including the input data and assumptions.

DSM2

Although MBK does not run DSM2, we have worked with experts that do. MBK has been responsible for developing input to DSM2 and interpreting results for various projects. As with CalSim II and the Sacramento River temperature model output, it would be very helpful to have DSM2 inputs and outputs; the model should be available at DWR's website.

In order to efficiently review and evaluate the BDCP modeling we recommend NCWA request all the models used for the BDCP analysis including inputs, tools used to develop inputs, full outputs, output processors, and any available documentation. We believe this will avoid us drawing incorrect conclusions and spending limited funds in an inefficient manner.