

Delta Modeling

D-005652

D-005652

Stein Buer
The Resources Agency
Pm 1148

Memorandum

Date : March 6, 1997
To : Stein Buer, CalFed

Francis Chung
Delta Modeling Section
Modeling Support Branch

From : Department of Water Resources
Subject: Model Studies of CalFed Alternatives

Per your request, six preliminary Delta alternatives, as described in **CalFed Bay-Delta Program Draft Delta Conveyance and Storage Component** dated January 30, 1997, have been analyzed with the DWR's Delta Simulation Model (DWRDSM1). With the first five alternatives, hydrodynamics (flows, velocities, and stages) and the transports of mass injected at three key locations (Freeport, Vernalis, and Columbia Cut) were investigated Deltawide. For the last alternative, often called as Chain-of-Lakes Alternative, the analysis was confined to the hydraulics of siphons and pumps connecting the eight open water bodies. The analysis focus of the Chain-of-Lakes Alternative was to determine the number of 18-foot diameter siphons to allow the maximum flow of 15,000 cfs.

To better understand the utilities of two different modes of Delta model applications, i.e., 19-year mean tide versus real tide simulations, model studies for the five alternatives were conducted both ways. Some useful insights may be obtained through a careful observation of the model results.

These studies are by no means complete: Not all CalFed components were modeled, nor were the details of the component descriptions faithfully depicted. What has been done and included in the attached report are:

- Preliminary hydraulic and mass transport analysis on those alternatives for which geometry and operational data are readily available.
- Develop and present sample output formats which might be useful for the component refinement and programmatic EIR/EIS preparation process.

For these reasons, the work reported herein should be viewed as a progress report subject to changes, corrections, and additions. Further refinements in geometry and subsequent analysis will continue along with other types of analysis--salt transport or drinking water quality analysis. The timely completion of the attached report was possible with the extraordinary effort of my staff including Bob Suits, Mohammad Rayej, and Sanjaya Senevirantne.

These model results as well as future model outputs will be posted on a WWW page, <http://wwwdelmod.water.ca.gov/CalFed>. If you have further questions, please call me at 916-653-5601 or Bob Suits at 916-653-4603.

Attachment
cc: George Barnes, Kathlin Johnson

Francis Chung
JAN 6 1997