

BAY-DELTA MODELING FORUM
PROPOSED TECHNICAL WORKSHOP

EVALUATION OF X2: SALINITY-FLOW RELATIONSHIPS IN SUISUN BAY AND THE WESTERN DELTA

Date: One (full!) day Mid February 1994

Purpose: Provide an open forum to discuss technical aspects of the EPA-proposed X2 standard, especially of the models involved in its evaluation prior to final adoption of standard. The emphasis would be on constructive technical discussion evaluating the standard and the tools available for designing and implementing it. Particular questions of interest include:

- (1) What is the technical basis of the standard?
- (2) What information do planning models need to accurately assess the effects of the standard on water project operation?
- (3) What are the potential technical (i.e. not policy) problems with the standard? i.e., what are the operational and hydrodynamic constraints to controlling salinity in this region?
- (4) What is the state of understanding (derived from models and observations) of the response of the salt field in Suisun Bay and the Western Delta to tides and freshwater flows?
- (5) What is the state of our ability to model using statistics and/or hydrodynamics the salt field in this region? What should we be doing to improve these models in order to make them more accurate (useful, certain) ?
- (6) What kind of linkage between operations, data (esp. real time) and modeling will be needed to make the standard workable?

Workshop structure (time allotments to be determined):

A. Introduction: The X2 standard itself

- (1) The standard - its basis and design (EPA - Bruce Herbold)
- (2) Comments on the standard (SWRCB)

B. Observations and modeling of salinity-flow relations in SSB and WD (paying particular attention to questions above, and, in the case of presentations about models, making clear assumptions, limitations, and calibration/verification involved)

- (1) Historical overview (CCWD-Greg Gartrell)
- (2) ASCE Hydraulics task committee on flow-salinity relations (CCWD-Richard Denton)
- (3) Field measurements of salinity 1992-93 Suisun Bay Salt Balance experiment (USGS - Jon Burau)

- (4) FDM/statistical model of salinity-flow relations (DWR, CCWD)
- (5) Depth-averaged transport modeling of salinity in Suisun Bay (USGS - Jon Burau)
- (6) 3D modeling of salinity in SSB and WD (UC Davis - Ian King, USGS - Ralph Cheng)
- (7) Operating project facilities for a salinity standard (DWR)
- (8) Linking planning models with salinity models (DWR)

C. Panel discussion: (In light of the above) What do we need to know (what models need to be built, what data needs to be collected, what physical processes must be understood) to make a salinity standard practical from the perspective of planning and operations?

Results:

- (1) The result of the panel discussion should be a short report prepared by the panel after the workshop presenting consensus conclusions about salinity flow-relations and the models used to represent them in light of the proposed X2 standard, and making recommendations for future modeling and data collection efforts.
- (2) An important question that should be addressed by the BDMF in moving forward with this workshop would be how to share and synthesize information presented by participants. Are a set of papers by each of the presenters appropriate (feasible)? How can this information be made available to the EPA in a timely fashion?