

CVCWA Central Valley Clean Water Association

Representing Over Sixty Wastewater Agencies

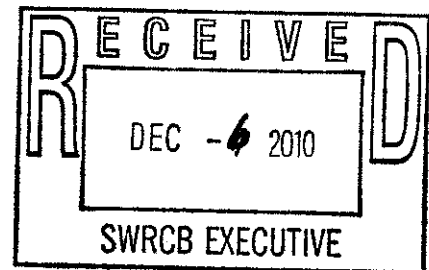
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Via Electronic Mail to commentletters@waterboards.ca.gov

December 6, 2010

Ms. Diane Riddle
Senior Environmental Scientist
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
driddle@waterboards.ca.gov



SUBJECT: Draft Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives

Dear Ms. Riddle:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to review and provide comments on the draft technical report entitled, "Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives," dated October 29, 2010 (Draft Technical Report). CVCWA is a nonprofit association of local public agencies providing wastewater collection, treatment, and water recycling in the Central Valley. Our members are keenly interested in the proper implementation of state and federal laws and regulations in waste discharge requirements and NPDES permits issued by the Central Valley Regional Water Quality Control Board (Regional Water Board). As such we are participating in the reevaluation of flow and salinity standards by the State Water Resources Control Board (State Water Board) and CV-SALTS, an effort to develop salinity objectives and a long-term, sustainable implementation plan(s) in the Central Valley.

The State Water Board is reevaluating both the San Joaquin River flow objectives and the Southern Sacramento – San Joaquin Rivers Delta (Southern Delta) salinity objectives. The Draft Technical Report is a presentation of the tools that the State Water Board will utilize in the final assessment of the appropriate San Joaquin River flow and Southern Delta salinity objectives. We have reviewed the Draft Technical Report and offer the following comments:

The Draft Technical Report states the Hoffman Report will serve as the basis for evaluating the proper salinity objectives for the protection of agricultural irrigation beneficial uses

within the Southern Delta. As the State Water Board is well aware, selection of the appropriate model and the proper input parameters are critical to determine the appropriate salinity objectives. The transient modeling approach should be utilized in the evaluation of the salinity objective. Transient models can accurately replicate irrigation practices and crop responses to more robustly calculate the proper salinity objective than steady-state models. Since the release of the Hoffman Report, work has continued to verify available transient models. The State Water Board should reevaluate the available transient models as the insufficiencies noted in the Hoffman Report may well have been addressed. The steady state models calculate more conservative salinity requirements due to the fact that they cannot account for the natural variations that occur in the growing cycle. In the event the State Water Board determines the use of a steady state model is necessary for the current salinity objective evaluation, the specific model should be carefully selected. The Hoffman Report lists large variability in ability to replicate validation tests (depending on conditions, either greatly overestimating or greatly underestimating salinity requirements) of the 40-30-20-10 model used in the Ayres and Westcott United Nations study which served as the basis for the current salinity standards. The exponential model developed by Hoffman and van Genuchten has replicated validation data reasonably well.

In using the selected model to evaluate the salinity objective, the leaching fraction should be representative of the irrigation practices in the Southern Delta. As noted in the Hoffman Report, the measured leaching fraction in the Southern Delta for the critical summer crop, beans, ranged from 0.21 to 0.27 as a result of furrow irrigation employed in the region. Additionally, it need not be necessary to apply a 100% yield to the irrigation requirements for all water years to be protective of the irrigation use on the whole. Notwithstanding, the Hoffman Report demonstrates that using the exponential model and a conservative leaching fraction of 0.20, there would be no loss in bean yield due to irrigation water salinity for even the lowest rainfall amount recorded over the period 1958 through 2008 for an irrigation water of 1,000 $\mu\text{S}/\text{cm}$.

The irrigation water salinity requirements determined in the Hoffman Report reflect the growing season average. The ultimate standards proposed by the State Water Board should acknowledge the proper averaging period, as shorter averaging periods add unnecessary conservatism to the objective.

The secondary MCLs are annual average values designed to protect consumer acceptance. The Draft Technical Report should acknowledge the annual averaging period for the municipal and domestic supply objective.

In reference to the 2007 VAMP salmon tracking study (page 57), the Draft Technical Report states there were "...unexplained mortality near Stockton of a sizeable number of test fish..." The City of Stockton, California Department of Fish and Game, Central Valley Regional Water Quality Control Board, Robertson-Bryan, Inc., and the San Joaquin River Authority Group all investigated the mortality of salmon near Stockton and found there was no link to treatment plant discharges or local water quality. The transmitters stopped downstream of bridge piers, a known holding area for predatory fish, and there were indications of predation. Furthermore there was predation at other sites. CVCWA respectfully requests the language in the document be changed replacing the words "unexplained mortality" with the words "predation based mortality".

In conclusion, CVCWA supports a critical review of the San Joaquin River flow and Southern Delta salinity objectives. CVCWA urges the State Water Board to select a transient model to evaluate the agricultural salinity objective. If a steady-state salinity model is to be selected CVCWA would support the exponential model developed by Hoffman and van Genuchten due to the superior performance as compared to alternatives. A conclusions section should be added to the Draft Technical Report summarizing the findings of the report.

CVCWA appreciates the opportunity to review and provide comments on the Draft Technical Report. We look forward to participating in the process as it moves forward.

Sincerely,



Debbie Webster
Central Valley Clean Water Association
Executive Officer

cc: Pamela Creedon – CVRWQCB (via email)

