

DEPARTMENT OF WATER RESOURCES

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SENT VIA E-MAIL: james.brownell@waterboards.ca.gov

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Comment Letter – February Draft Report and Proposed Basin Plan Amendment to Establish Salinity and Water Quality Objectives in the Lower San Joaquin River

The California Department of Water Resources thanks the Central Valley Regional Water Quality Control Board for the opportunity to review and comment on the February 2017 Draft Staff Report and Proposed Basin Plan Amendment to Establish Salinity Water Quality Objectives in the Lower San Joaquin River. We appreciate the efforts that have gone into compiling this report and for the outreach and coordination you have done with the Lower San Joaquin River Committee and the Central Valley Salinity Alternatives for Long Term Sustainability (CV-SALTS) initiative. We have a few suggestions for additional information that would be helpful in determining the potential impacts in the Lower San Joaquin River and downstream of the river reach.

WARMF Model

In reviewing the proposed amendment and supporting documentation, DWR staff was unable to find any quantification of the level of accuracy of the forecasts to predict the attainment of the proposed water quality objectives under the three modeled management alternatives described in Chapter 5: Water Quality Objectives. DWR, separate from the CV-SALTS process, has been actively involved over the past four years in supporting and implementing the WARMF model to model the watershed of the San Joaquin River from Vernalis to the Merced River. This includes awarding Proposition 204 funds for model refinement along with participating in modeling forums and having staff trained in the model operation. Our experience has been that the model is a reasonable tool that is well suited for modeling watersheds. The model has been quite capable of providing a good approximation of baseline conditions in the San Joaquin River; however, we have encountered difficulties in attempting to forecast future conditions for the purpose of determining assimilative capacity. We were able to overcome this issue with the assistance of the model developer, but the solution was too cumbersome to serve as a permanent fix. Because of this, there are difficulties in determining the accuracy of forecasts in general. We suggest that clarification and

additional information be provided concerning the level of accuracy of forecasts provided in this amendment.

EC limits at Maze and impacts to Vernalis

The proposed amendment mentions that WARMF modeling outputs for all modeled management alternatives resulted in EC values at Crows Landing below 1,550 micro Siemens, with peaks near 1,500 micro Siemens during the months of August and September for below normal, dry, and critical water years. However, missing were modeled outputs for the same conditions for the station at Maze Road. This is significant considering that the EC results at Maze Road, which is downstream of Crows Landing, would be critical to determining the volume of releases from New Melones to achieve the EC objective at Vernalis. Given the uncertainties associated with the modeled results of WARMF, it is difficult to assess the accuracy of the forecast that the peaks of EC at Crows Landing will be below 1,500 micro Siemens.

Quantification of Water Quality Degradation at and Downstream of Airport Way Bridge near Vernalis

The proposed changes in the proposed Basin Plan Amendment are complex. To analyze the impacts of these proposed changes, DWR recommends that simulation and modeling studies be conducted to quantify the impacts on salinity in the Delta. These studies would use hydrologic conditions and appropriate operational criteria¹ to determine the Basin Plan Amendment's impact. Such studies would also generate a time series of baseline and simulated data that could be used in further downstream locations in the Delta. These studies would assess the level of salinity increase or decrease as compared to a base/ historical condition and provide a quantification of salinity degradation (if it occurs). Although an objective of the proposed Basin Plan Amendment was to meet the salinity objective at Airport Way Bridge near Vernalis, without further information, the actual downstream impact on municipal drinking water intakes and agricultural uses due to a possible increase in salinity over historical conditions cannot be determined from the current report.

Connection to State Water Resources Control Board Water Quality Control Plan (WQCP) Update

We request that additional information be provided on the potential effects on the Basin Plan Amendment of the proposed changes in the WQCP Phase 1 flow and southern

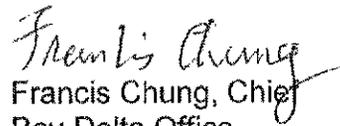
¹ Simulations of the complex California water system normally require operational criteria that include system objectives and constraints (e.g. meeting a regulatory requirement). Objectives are prioritized or weighted and diversions, reservoir releases and routing of water to meet those objectives are optimized. (CalSim II is a model that uses operational criteria).

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Delta salinity objectives and how the Basin Plan Amendment could potentially affect the WQCP update.

In conclusion, DWR appreciates the effort made by the Regional Board and its staff to protect the beneficial uses in the Lower San Joaquin River. Please contact Joseph Tapia, (559) 230-3365, Joseph.Tapia@water.ca.gov, for any assistance or clarification of comments.

Sincerely,


Francis Chung, Chief
Bay-Delta Office