

February 8, 2011



Ms. Kari Kyler
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Re: Nov 2010 South Delta salinity Response

Dear Ms. Kyler:

On behalf of the State Water Contractors (“SWC”), this letter sets forth to the State Water Resources Control Board (“State Board”) our comments on the on the process to consider amendments to the southern Delta salinity objectives that have been established for the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

The water quality objectives for protection of South Delta agriculture and their program of implementation have remained relatively unchanged for 16 years. Since that time, new studies have demonstrated that changes in the numerical objectives are warranted and that the program of implementation was based on an incomplete understanding of the causes of and cures for salinity degradation between Vernalis and the three interior South Delta compliance locations.

Irrigation Season Objectives

The State Water Contractors (“SWC”) believes that the State Board has now received sufficient data to establish revised South Delta salinity objectives that will provide reasonable protection for agricultural beneficial uses. The report prepared by Dr. Glenn Hoffman entitled *Salt Tolerance of Crops in the Southern Sacramento-San Joaquin Delta* (Hoffman, 2010) presents ample evidence that an in-channel salinity objective of 1.0 E.C. (or even slightly greater) will provide 100 percent protection to the most sensitive crops grown in the area in virtually all years. Thus, as the State Board proceeds with its decision making process for the three interior South Delta compliance locations, the 1.0 E.C. in-channel salinity target should be used to develop the irrigation season WQCP requirements and the associated program of implementation.

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Currently, the WQCP establishes a common salinity objective for the San Joaquin River at Vernalis (station C-10) and the three interior stations: San Joaquin River at Brandt Bridge (station C-6); Old River at Middle River/Union Island (station C-8); and Old River at Tracy Road Bridge (station P-12). The irrigation season (April through August) salinity objective at each station is 0.7 millimhos per centimeter (mmhos/cm) electrical conductivity (EC). The SWC believes, and the State Board's "Draft Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives" ("Draft Technical Report") seems to verify, that having a single salinity objective for all four stations was a flaw in the earlier WQCPs for the South Delta that should not be repeated.

The Draft Technical Report states that:

Salinity levels in the southern Delta are affected primarily by the salinity of water flowing into the southern Delta from the SJR at Vernalis and evapo-concentration of salt diverted from and discharged back into southern Delta channels for agricultural purposes. (p.69)¹

This second factor, evapo-concentration of salts, along with probable natural drainage from adjacent saline groundwater sources, creates a salinity degradation gradient downstream of Vernalis that may not be controllable as long as irrigated agriculture continues on the Delta islands. The tables at pages 70 and 71 of the Draft Technical Report properly depict this consistent degradation pattern.

The SWC believes this degradation reality needs to be recognized in the new WQCP, which, in our view, argues for retaining a 0.7 E.C. objective at Vernalis in order to create the best opportunity to provide a 1.0 E.C. salinity level during the irrigation season at the three internal Delta monitoring stations. The tables on pages 70 and 71 of the Draft Technical Report indicate that a 0.3 E.C. differential should achieve a 1.0 E.C. salinity level at Brandt Bridge and at Old River at Middle River, but would possibly, at times, result in E.C. levels at Old River at Tracy Road Bridge exceeding that objective. The SWC believes that localized conditions near the Tracy River Bridge compliance station now, and in the future will, render it difficult to predict what salinity levels will be consistently experienced at this station. Therefore, we recommend that the State Board use caution when it sets the Tracy Road Bridge objective and describes its implementation strategy for this location. More investigation on the sources and causes of salinity buildup at Tracy Road Bridge seems warranted before the State Board completes its planning effort.

¹ This statement is followed by: "Additionally, point sources of salt in the southern Delta can have a minimal overall salinity effect." While as a comparison with the other sources this statement may be valid for the South Delta as a whole, the SWC questions the conclusion when one looks at localized impacts of these discharges.

The paragraph above assumes that the State Board will continue to maintain the three interior stations as irrigation season compliance monitoring locations. However, a credible argument can be made that the three interior stations should be dropped in favor of using Vernalis as the single compliance location. Currently, the SWC is not aware of any existing programs within the southern Delta that in Delta agricultural water users are implementing to improve salinity conditions. Thus, at this time, salinity within the southern Delta is primarily controlled through reservoir releases from Dams and control of discharges occurring within the San Joaquin River basin. Accordingly, it may therefore be difficult to establish an equitable and implementable program of implementation for the interior locations. However, if the State Board does retain the interior compliance locations, the SWC believes that the program of implementation should send the matter back to the regional board for consideration of local discharge related actions which, by default if the Vernalis 0.7 E.C. objective is being met, are the source of the failure to meet a 1.0 E.C. objective.

Non-Irrigation Season Objectives

The SWC would also recommend maintenance of the 1.0 E.C. objective at Vernalis for the non-irrigation season (September through March), but is not convinced that a non-irrigation season objective is needed for any monitoring station other than Vernalis. Once again, no water operation strategies appear to be available to cure any degradation that occurs downstream of Vernalis. Further, with the Grasslands Bypass Project in place, there are unlikely to be significant water quality issues during these months that would require intervention in the South Delta when Vernalis water quality is maintained at the levels historically experienced.

Program of Implementation

With respect to implementation of the South Delta objectives, the SWC believes that DWR has clearly shown that SWP Delta operations do not have the ability either to cause a violation of the salinity objectives at the three interior South Delta compliance stations or, when the objectives are exceeded, to lower salinity concentrations at those locations through its Delta operations. Although salinity within the southern Delta may be fundamentally controlled by San Joaquin River flows and quality, factors that influence salinity levels at the compliance location are broader and include San Joaquin River flows and quality, as well as wastewater and agricultural discharges within the southern Delta. With respect to the San Joaquin River compliance locations, all of them are upstream of the Banks Pumping Plant and Jones Pumping Plant. The State Board's narrative description of the South Delta and its hydrology and hydrodynamics should clearly describe these facts and the program of implementation should avoid the flaws of the past that imposed impossible compliance obligations on the SWP.

The program of implementation also should not direct any actions related to temporary or permanent barriers in the South Delta. The barrier program was initiated many years ago to resolve water *level* issues related to SWP/CVP pumping operations. As an incidental benefit, the barriers were capable of improving circulation in certain South Delta channels. However,

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contrary to what has been suggested in several prior State Board orders, they were not intended to improve South Delta water quality or to mitigate any impacts of SWP/CVP Delta operations on water quality.

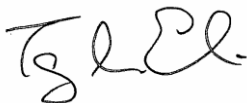
A fair amount of misinformation concerning the barriers and so-called null zones has been provided to the State Board in these and earlier proceedings. However, a review of the DWR DSM2 runs shows that null zones would exist today even in the absence of SWP/CVP pumping. They occur when local South Delta irrigation diversions exceed the inflow from the San Joaquin River. In addition, contrary to popular belief, diversions in excess of San Joaquin River inflow are not a recent phenomenon brought about by export pumping and/or increases in upstream tributary storage or diversions. A review of the classic Bulletin 27, published in 1931, reports on Delta diversions in excess of San Joaquin River inflow in the 1920s, about 90 years ago.

The SWC urges the State Board to work with DWR to develop additional DSM2 or similar model runs as needed to demonstrate the existence and movement of null zones with and without export pumping. The SWC would welcome the opportunity to work with the State Board, DWR, and other interested parties to develop the data needed to show how the barriers relate or do not relate to the ongoing process of developing a reasonable program of implementation.

Finally, with respect to the Vernalis objective, the State Board should continue to recognize, as have all prior WQCPs, that the SWP has no facilities on the San Joaquin River and its operations do not have a measurable impact on San Joaquin River flows or water quality. The program of implementation to meet a 0.7 E.C. Vernalis objective should not include any reference to the SWP.

The SWC appreciates this opportunity to comment on the State Board's planning process and looks forward to continuing our effort to develop reasonable water objectives for the protection of all beneficial uses.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Erlewine', with a stylized flourish at the end.

Terry L. Erlewine
General Manager