



# United States Department of the Interior

BUREAU OF RECLAMATION  
Mid-Pacific Regional Office  
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Sacramento, California 95825-1898

IN REPLY  
REFER TO:  
MP-700  
ENV-8.00

VIA ELECTRONIC MAIL AND US MAIL

Mr. Joseph Simi  
Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive, Suite 200  
Sacramento, CA 95670

Subject: March 2010 Draft Report – Salt Tolerance of Crops in the Lower San Joaquin River  
(Stanislaus to Merced River Reaches)

The Bureau of Reclamation, Mid-Pacific Region, reviewed the subject report and attended the Central Valley Salinity Coalition (CVSC) Technical Advisory Coalition meeting on March 11, 2010. The Regional Water Quality Control Board (Regional Water Board) is to be commended for the significant amount of work that is reflected in this draft report.

Reclamation understands this report is one of many technical documents to support the analysis of salinity and boron objectives upstream of Vernalis on the Lower San Joaquin River. We also understand the Regional Water Board plans to transition this effort to the CVSC salinity and nutrient-management planning effort. Based upon this understanding, we are submitting comments (enclosed) for discussion and consideration within the CVSC process.

Reclamation has long been engaged in San Joaquin Basin salinity issues. We look forward to continuing our work with the CVSC and the Regional Water Board, and obtaining a viable solution regarding these concerns.

If you have any questions, please feel free to contact Gene Lee, Regional Water Quality Coordinator at 916-978-5092, or Lisa Holm, Program to Meet Standards Project Manager at 916/-978-5078.

Sincerely,

Michelle H. Denning  
Regional Planning Officer

Enclosure

cc: MP-115 (PArroyave), SCC-100 (MJackson), CVO-100 (PFujitani) w/encl to each

**Reclamation Comments on the  
Salt Tolerance of Crops in the Lower San Joaquin River (Stanislaus to Merced River  
Reaches) Draft Report, March 2010**

**Comments on the Context of the Draft Report**

1. The January 5, 2010 *Crop Salt Tolerance in the Southern Sacramento-San Joaquin River Delta* by Dr. Glenn J. Hoffman (Hoffman Report) analyzes the agricultural beneficial use needs with respect to salinity and boron of the Southern Delta. Irrigators in the Southern Delta which hold riparian rights or senior appropriative rights have a single water supply: their nearby Delta channels.
2. Salinity is regulated in the South Delta and the Lower San Joaquin River solely for the protection of agricultural beneficial uses. Drinking water is protected as a beneficial use in the western Delta at Delta intakes, at a higher salinity than the most protective existing agricultural standards. (Note, the Rock Slough chloride standard was set to protect a historic industrial beneficial use, and remains as a surrogate for bromide). There are no existing drinking water uses of the South Delta or Lower San Joaquin River, which would require permission from the California Department of Public Health.
3. The management of salinity in the San Joaquin basin should not be approached merely from a traditional Clean Water Act, one pollutant loading perspective. Water supply, environmental regulations, beneficial use needs, and especially economics should be fully determined and analyzed for the benefits, costs, and trade-offs of salinity regulation. CVSC should also consider the impacts/benefits of proposed actions on dissolved oxygen in the Delta.
4. Unlike many other constituents, salinity impairment is neither permanent nor irreversible. The water supplies of the San Joaquin basin are prioritized to provide water supplies and to meet other environmental flow and water quality objectives. Periodic wet years already flush out these salts, and the system could be operated/regulated (through the WQCP process) to make salinity regulation a higher priority if important beneficial use protection is needed in the future.

**Comments on the Draft Report**

5. In Section 1.1, the report identifies a list of water agencies that utilize San Joaquin River water. Unlike in the Hoffman Report, this report identifies water agencies that most likely have access to multiple water supplies. Because of the potential economic and environmental impacts, any regulation should carefully identify what actual water rights exist and under what circumstances those rights can be exercised. This information is crucial to interpreting this Draft Report. Existing water rights should not be expanded to include stored water as a result of salinity regulation.
6. In regards to riparian water rights on the Lower San Joaquin River, protections against crop yield reductions during drought years (low precipitation) are not warranted if the only source of flow during these time periods is stored flows. The precipitation value should be selected based on the conditions at which flow is available to riparian water right holders. These water right holders may have obtained other water supplies to improve their supply reliability. In general,

Subject: Comments on the Draft Salt Tolerance of Crops in the LSJR Report 3-2010

protections against crop yield reductions during drought periods are not warranted if all crops within the region are suffering from drought conditions.

7. This Draft Report only models the application of Lower San Joaquin River water to crop types. How does the periodic use of other (higher quality) water supplies on the same crops effect their long-term yields?
8. Cropping patterns in general are most likely driven by economic factors, and not water quality factors.
9. The information in Section 3.13.2 is base on a two year study with limited sample size (1-3). Using this data to calculate leaching fraction and to draw conclusions about irrigation management is a premature. Given the uncertainty in the leaching factor assumption, and the significance of this assumption in determining water quality objectives, CVSC should consider funding studies to reduce this uncertainty.
10. Similar to the existing salinity and boron TMDL, a more adaptively managed approach should be considered in any regulation. Given the sensitivity to precipitation, objectives that vary with precipitation levels could be explored, in order to minimize unnecessary impacts on water supplies.
11. Again, the Regional Water Board and CVSC should carefully consider the economic underpinnings of salinity regulation. For example, should salinity regulations be established to protect water-intensive crops in a region with low water supply reliability, and who should bear the risk/cost of that decision?
12. On page 67, the last sentence of the third paragraph, "If the salt concentration ...full crop productivity" is repeated in the following paragraph.