

Tasks to be performed by a consultant on southern Delta salinity issues:

Provide a report to the State Water Resources Control Board (SWRCB) addressing the following items:

1. Review existing literature relating to the quality of irrigation water necessary to support a variety of crops. This review would include all literature used to support the southern Delta salinity objectives in the 1978 Water Quality Control Plan and any relevant new studies published since that time. The report must include a comprehensive list of references.
2. Review the relative merits and deficiencies of the “steady state” versus the “transient state” models for determining the suitability of water to irrigate crops in the southern Delta. This review should include a clear explanation of the assumptions upon which the different models operate and why they produce different results.
3. Based upon the literature review, identify significant gaps or uncertainties in existing information and recommend future studies that could be performed to fill the information gaps identified.
4. Using the General Soil Map from the most recent San Joaquin County soil survey, determine the approximate area of drainage-impaired soils within the study area (yet to be determined). Estimate the leaching fraction required for drainage of the impaired soils identified. Estimate the effectiveness of local rainfall in providing leaching, thereby reducing soil salinity within the study area. Provide guidance on whether a greater level of detail is needed for the soil analysis.
5. Provide a recommendation to the SWRCB as to a salinity objective that would provide full protection of the most salt sensitive crop type on drainage-impaired soils in the study area. Provide the most up to date information on the rate at which crop yield declines with increasing irrigation water salinity.

Tasks to be performed by others:

1. Review current and past cropping patterns within the study area. This review should be presented in a GIS format showing acreage and location of various crop types.
2. Hydrologic modeling performed by DWR. (See proposed modeling scenarios)

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