

Central Valley Salinity Alternatives for Long-Term Sustainability Development of a BPA for Salt and Boron in LSJR

MODELING APPROACH FOR PLANNED BUNDLE

Below are implementation actions (IAs) included in the Planned Bundle that were identified during the 23 October 2014 LSJRC meeting for further discussion with the LSJRC. This document reflects the communications to date with the LSJRC including the follow up conference call on 14 November 2014.

IA 12a. Drainage Water Recirculation – Tailwater Recovery

IA 12b. Drainage Water Recirculation – Tilewater Recovery

Recommended Modeling Approach: The LWA Team recommends to only model the effects of planned tailwater and tilewater recovery projects (to be constructed within the next 5 to 10 years in the project area) using WARMF based on information regarding such planned projects reported to the LSJRC by irrigation districts and water quality coalitions. The purpose of modeling these implementation actions is to take credit for any changes in salinity in the LSJR that will occur as a result of implementing these planned projects. The LWA Team has been working on identifying the planned projects and must have the final project list and associated information ASAP.

IA 8b. Water Conservation – Optimize Existing Irrigation Efficiency

IA 9a. Installation of New High Efficiency Irrigation and Delivery Systems

Recommended Modeling Approach: The LWA Team recommends making no change in the baseline modeling assumptions already implemented in the WARMF baseline modeling simulation (performed under Task 2b) for these two IAs. This approach is recommended because it is believed that optimizing irrigation efficiency and/or installing new high efficiency irrigation and delivery systems won't change the amount of salt being applied in the project area, as water saved will be used elsewhere in the project area. It is also believed that any incremental decreases in salt loading to the river will be small and will result in insignificant changes in ambient river concentrations. In addition, establishing the assumptions needed to model IAs 8b and 9a would be a challenging effort and, given the inherent uncertainties in the assumptions, the LWA Team believes that the results from a modeling effort would raise questions that would be difficult to resolve.

IA 1. Controlled Timing of Salinity Discharges

Recommended Post Processing Approach: The LWA Team had a conference call with Nigel Quinn on 5 November 2014 to further discuss how best to incorporate the controlled timing of salinity discharges in the Planned Bundle. As previously stated, this IA will not be modeled within the WARMF model simulation. Rather, it will be handled as part of the post-processing of WARMF simulated results. It was determined that only **existing** facilities (e.g. Patterson Irrigation District drainage detention pond, for example) should be considered as having the ability to temporarily hold saline discharges for release to the LSJR. Assumptions regarding timed discharges will be based upon communications with individuals in charge of the facility operations. Since this IA is not part of the critical path to modeling the Planned Bundle in WARMF, the LWA Team will address and document the assumptions regarding locations and held drainage volumes for existing facilities providing timed releases in the Task 4 Technical Memorandum.