

"PLANNED PLUS TREATMENT FOCUS"				
1. Controlled Timing of Salinity Discharges^(RTM)				
Northwest	East Valley Floor [^]	Grassland Drainage Area	Grassland Bypass*	Other
ASSUMPTIONS: It is assumed that some irrigation districts in the Northwest and Grassland Drainage Area subareas, through the use of existing facilities, have the capability to withhold some of the discharge of saline drainage to the LSJR depending on water year. It is also assumed that small riparian areas would not hold back their discharges.				
POST-PROCESSING APPROACH: The modeling of controlled timing of saline discharges will be handled through post-processing of WARMF simulated results. Assumptions regarding timed discharges will be based upon communications with individuals in charge of facility operations. Any assumptions used in post-processing of WARMF simulated results regarding locations and held drainage volumes for existing facilities will be documented in the Task 4 Technical Memorandum.				
2c. Reduce Point Sources - Existing Industrial/Food Processing Sources Control and/or Pretreatment				
Northwest	East Valley Floor [^]	Grassland Drainage Area	Grassland Bypass*	Other: Cities of Modesto and Turlock
ASSUMPTIONS: The cities of Modesto and Turlock are the only municipalities in the region that discharge treated effluent to the LSJR. As a sensitivity analysis, a 3% reduction in POTW loads is assumed. This is neither a projection of expected reductions nor a statement on future reductions that should be required.				
MODELING APPROACH: WWTP discharges are included in WARMF. Input values for WWTP salinity loading will be reduced by 3%.				
3a. Reduce Nonpoint Sources - Reduce Application of Salts in Fertilizers and Soil Amendments				
Northwest	East Valley Floor [^]	Grassland Drainage Area	Grassland Bypass*	Other
ASSUMPTIONS: As a sensitivity analysis, a 10% reduction in the application of nitrogen-based fertilizers in select subareas is assumed. No change in the type or formulation of fertilizer is assumed. This is neither a projection of expected reductions nor a statement on future reductions that should be required. Soil amendments are not anticipated to decrease in their application in the project area.				
MODELING APPROACH: Fertilizer application is included in WARMF. The input value for nitrogen-based fertilizer usage in the identified subareas will be reduced by 10%.				
8b. Water Conservation - Optimize Existing Irrigation Efficiency				
Northwest	East Valley Floor [^]	Grassland Drainage Area	Grassland Bypass*	Other
ASSUMPTIONS: It is assumed that any water conserved by an irrigation district or individual grower will be used by the entity who conserved the water or will be sold to another entity in the project area who will use the water. It is also assumed that any incremental decreases in salt loading to the SJR will be small and will result in insignificant changes in ambient river concentrations.				
MODELING APPROACH: No change in baseline modeling assumptions.				
9a. Installation of New High Efficiency Irrigation and Delivery Systems (increase retention of soluble salts)				
Northwest	East Valley Floor [^]	Grassland Drainage Area	Grassland Bypass*	Other
ASSUMPTIONS: Similar assumptions as indicated for 8b.				
MODELING APPROACH: No change in baseline modeling assumptions.				
10b. Sequential Reuse and Volume Reduction - Salt Accumulation Area (SJRIP)^(RTM)				
Northwest	East Valley Floor	Grassland Drainage Area	Grassland Bypass	Other
ASSUMPTIONS: There currently exists one salt accumulation area project (SJRIP) in the Grassland Bypass Project (GBP) area within the Grassland Drainage Area. There are no other sequential reuse and volume reduction projects planned for the project area within the bundle's planning period (5-10 years). It is assumed that the SJRIP project will continue its operation and sequester salts as predicted, resulting in zero discharge of salts from the GBP area.				
MODELING APPROACH: WARMF includes inputs from the GBP area. San Luis Drain flows will be set to zero (0) in WARMF so the Grasslands Bypass will not contribute any flow or loading to the San Joaquin River.				
12a. Drainage Water Recirculation - Tailwater Recovery^(RTM)				
Northwest	East Valley Floor	Grassland Drainage Area	Grassland Bypass*	Other
ASSUMPTIONS: Tailwater can be blended with irrigation supply to result in reduction in tailwater discharge and usage of fresh irrigation supply water. Planned tailwater recovery projects, as reported by irrigation districts and water quality coalitions, will be simulated in WARMF.				
MODELING APPROACH: Water "savings" (in AFY) resulting from use of recovered tailwater will be modeled in WARMF as a reduction in fresh irrigation water that is applied to those subareas and a corresponding net increase in irrigation efficiency where irrigation districts or water quality coalitions report planned tailwater recovery projects to the LSJRC that will occur within the bundle's planning period (5-10 years).				
12b. Drainage Water Recirculation - Tilewater Recovery^(RTM)				
Northwest	East Valley Floor	Grassland Drainage Area	Grassland Bypass	Other
ASSUMPTIONS: Tilewater can be reused directly or blended with irrigation supply to result in volume reduction of tilewater and of fresh irrigation water supply. Planned tilewater recovery projects, as reported by irrigation districts and water quality coalitions, will be simulated in WARMF.				
MODELING APPROACH: Water "savings" (in AFY) resulting from use of recovered tilewater will be modeled in WARMF as a reduction in fresh irrigation water that is applied to those subareas and a corresponding net increase in irrigation efficiency where irrigation districts or water quality coalitions report planned tilewater recovery projects to the LSJRC that will occur within the bundle's planning period (5-10 years).				
5a. Water Treatment - Regional Treatment Facility				
Northwest	East Valley Floor	Grassland Drainage Area	Grassland Bypass	Other
ASSUMPTIONS: Flows from Mud Slough, Salt Slough and the Gustine Area will be diverted at two locations (Mud Slough and Salt Slough) to a proposed RO treatment facility located in the Grassland Drainage Area. Flows will be treated to remove salts and low TDS water will be discharged back to Mud Slough and Salt Slough. Approximately 20% of flows removed from the three drainage sources will be lost in the concentrated brine that is proposed to be disposed of via the proposed Central Valley Brine Line.				
MODELING APPROACH: Diversions to and returns from a proposed RO treatment facility will be added to WARMF. Points of diversion from Mud Slough (also containing flows from the Gustine Area) and Salt Slough will be added to the WARMF model just upstream of where each joins the San Joaquin River. Inputs will be added to the model at Mud Slough and Salt Slough just downstream of the diversion points to represent where low TDS water will be returned to these water bodies.				

Red text indicates those subareas where an implementation action is assumed to occur.

RTM = Real Time Management

[^] Includes Stevinson Minor Subarea located in the East Valley Floor

* WARMF inputs from the Grassland Bypass Project will be set to zero (0) under implementation actions 10b and 12b and are not explicitly considered under the current implementation action.