



Eastern San Joaquin Groundwater Basin Groundwater Management Plan

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Copies of the Groundwater Management Plan may be purchased for \$50 from:
San Joaquin County Department of Public Works
P.O. Box 1810
Stockton, California 95201

Make checks payable to: San Joaquin County Department of Public Works

Table 2-3 Simplified Groundwater Balance for Eastern San Joaquin County		
Groundwater Flow Component	Average Value	Explanation
<i>Inflows (af)</i>		
Deep Percolation/Recharge	608,400	Net infiltration from rainfall, irrigation, canal leakage etc.
Gain from Streams	198,170	Net inflow from streams to groundwater system
Lateral Inflow	98,000	Net of subsurface inflows and outflows.
Total Inflows	904,577	
<i>Outflows (af)</i>		
Groundwater Pumping	867,600	Net agricultural, municipal and industrial pumping
Loss to Streams	108,898	Net outflow from groundwater system to streams
Lateral Outflow	35,300	Subsurface Outflows
Total Outflows	1,011,815	
<i>Groundwater Overdraft (af)</i>		
Mined Aquifer Storage	107,238	Total Inflows minus Total Outflows
Estimated Saline Intrusion	42,000*	Lateral Saline Intrusion into the Stockton Area
Total Estimated Overdraft	150,700	Sum of Mined Aquifer Storage and Saline Intrusion
Notes		
Source: San Joaquin County Water Management Plan Volume I		

2.3.7 Saline Groundwater Intrusion

Groundwater flow in the Basin now converges on the depression with relatively steep groundwater gradients eastward from the Delta toward the cone of depression as depicted in Figures 2-3 and 2-4. The eastward flow from the Delta area is significant because of the typically poorer quality water now moving eastward in the Stockton area. Increased lateral inflow from the west is undesirable, as this water is typically higher in TDS and chloride levels and causes the degradation of water quality in the Basin. Figure 2-9 illustrates the approximate location of the 300 mg/L isochlor as measured in 2000. Projections indicate that the rate of eastward migration of the saline front is approximately 150 to 250 feet per year. Figure 2-9 also shows the projected 2030 location of the 300 mg/L isochlor under no-action conditions.

Degradation of water quality due to TDS or chloride contamination threatens the long-term sustainability of a very important water resource for San Joaquin County, since water high in TDS and/or chloride is unusable for either urban drinking water needs or for irrigating crops. Damage to the aquifer system could for all practical purposes be irreversible due to saline water intrusion, withdrawal of groundwater from storage, and potentially subsidence and aquifer consolidation. The saline intrusion problem is not well understood by the Authority. Further studies and monitoring methods are necessary to ensure the problem is addressed and monitored adequately. Section 4 discusses further the current groundwater monitoring program and future actions to be undertaken by the Authority and its member agencies.