

appendix L

**Sacramento County Groundwater Zones**

## APPENDIX L

There are three groundwater zones (sub-basins) within Sacramento County. These zones consist of the Sacramento North area, South Sacramento area, and the Galt area and generally correspond to the hydrologic boundaries of the three primary groundwater cones of depression. These areas of lowered groundwater levels, developed due to localized intensive groundwater pumping, are located adjacent to McClellan AFB, in the Elk Grove area, and in the Galt area. The hydrologic boundaries separating the groundwater zones include the American River, which serves as the boundary between the Sacramento North area and the South Sacramento area, and the Cosumnes River, which serves as a boundary between the South Sacramento area and the Galt area.

Sustainable yield is the amount of groundwater which can be safely pumped from the groundwater basin over a long period of time while maintaining acceptable groundwater elevations. Sustainable yield requires a balance between pumping and basin recharge and is expressed as the number of acre feet of water per year which can be pumped from the basin on a long-term average annual basis.

Groundwater recharge in the Sacramento area groundwater basin is not a fixed amount but rather is a function of groundwater levels.

In the Sacramento groundwater basin, stream recharge and boundary inflows are major groundwater recharge sources. Because of this relationship sustainable yield is related to the extraction pattern, location of pumps and the amount and variation of extraction rates. Thus in the Sacramento county groundwater basin, recharge is a function of basin pumping and sustainable yield is not a unique fixed number.

Determination of sustainable yield should be dependent on the lowest groundwater levels that can be allowed while remaining within physical and institutional limits.

During the course of the Water Forum negotiations three teams were formed, one of which was the Groundwater Negotiation Team (GWNT).

The GWNT reviewed information gleaned from the Sacramento County Groundwater Model and the Groundwater Yield Analysis Technical Memorandum: Impacts Analysis. The Impacts Analysis contained information on the impacts of establishing sustainable yields for several different pumping amounts.

Recommendations on sustainable yield for the three zones of the Sacramento groundwater basin are:

### SOUTH AREA

The recommended estimated average annual sustainable yield is 273,000 acre feet. This represents the year 2005 projected pumping amount and is 23,000 acre feet more than the 1990 pumping amount. The projected 2005 pumping amount for the South Area took into consideration the cost of delivery of surface water and the impacts which occur due to the lower stabilized groundwater levels. To meet year 2030 demands, a program would be implemented to use the groundwater basin conjunctively with surface water diversions.

### GALT AREA

The recommended estimated average annual sustainable yield is 115,000 acre feet. This represents the year 1990 pumping amount. Conjunctive use would be implemented, dependent upon the availability of surface water, to enhance groundwater levels.

### SACRAMENTO NORTH AREA

The recommended estimated average annual sustainable yield is 131,000 acre feet. This represents the year 1990 pumping amount. To help meet year 2030 demands, a program would be implemented to use the groundwater basin conjunctively with surface water supplies.

In August 1998, the cities of Citrus Heights, Folsom, Sacramento and Sacramento County by a joint powers agreement (JPA) formed the Sacramento North Area Groundwater Management Authority (SNAMGA). This was specified in the Groundwater Management Element contained in the Water Forum Action Plan. These agencies have, in effect, delegated their power to management of the groundwater resources in the northern part of Sacramento County, including maintaining the sustainable-yield recommendation contained in the Element and specified above, to the representatives of all groundwater pumpers in the North Area. Also, the JPA and Groundwater Element specifically provide for coordination of policies and activities in adjacent political jurisdictions. This recognizes that the groundwater basin in the north part of Sacramento County is shared with the counties of Sutter and Placer and the City of Roseville.