

Mission Valley Groundwater Basin

- Groundwater Basin Number: 9-14
- County: San Diego
- Surface Area: 7,350 acres (11.5 square miles)

Basin Boundaries and Hydrology

The Mission Valley Groundwater Basin underlies an east-west trending valley, which is drained by the San Diego River. The basin is bounded by the contacts of alluvium with the semi-permeable San Diego and Poway Formations and the impermeable Lindavista Formation (DWR 1967). The southwestern boundary is the San Diego Bay. Average annual precipitation ranges from 7 to 11 inches.

Hydrogeologic Information

Water Bearing Formations

The principle water bearing deposit is the Quaternary age alluvium consisting of medium to coarse-grained sand and gravel. This alluvium has an average thickness of about 80 feet and a maximum thickness of about 100 feet (SDCWA 1997). The average well production is about 1,000 gpm and the average specific yield is about 15 percent (SDCWA 1997). The San Diego Formation is found within this basin and is generally less than 100 feet thick east of the Rose Canyon fault system. West of the Rose Canyon fault, the San Diego Formation becomes thicker, reaching a maximum thickness of about 1,000 feet (Huntley and others 1996).

Restrictive Structures

The San Diego Formation thickens westward across the Rose Canyon fault zone, it is unknown what effect this fault has on groundwater movement in this basin.

Recharge Areas

The primary source of recharge for this basin is infiltration of stream flow from the San Diego River.

Groundwater Level Trends

Groundwater Storage

Groundwater Storage Capacity. The DWR (1975) estimated storage capacity to be 42,000 af for this basin. San Diego County Water Authority (1997) estimated a total storage capacity of about 40,000 af.

Groundwater in Storage.

Groundwater Budget (Type A)

San Diego County Water Authority (1997) estimated that about 500 af/yr of groundwater are pumped from the basin.

Groundwater Quality

Characterization.

Impairments. Magnesium and sulfate are high for domestic use. Chloride and TDS concentrations are high for domestic and irrigation use. Seawater intrusion is suspected (DWR 1975).

Well Characteristics

Well yields (gal/min)		
Municipal/Irrigation	Range:	Average: 1,000 gal/min
Total depths (ft)		
Domestic	Range:	Average:
Municipal/Irrigation	Range:	Average:

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
Department of Health Services and cooperators	Groundwater levels	
	Miscellaneous water quality	
	Title 22 water quality	

Basin Management

Groundwater management:

Water agencies

Public City of San Diego, San Diego County Water Authority.

Private

References Cited

- California Department of Water Resources (DWR). 1967. *Ground Water Occurrence and Quality: San Diego Region*. Bulletin No. 106-2. 235 p.
- _____. 1975. *California's ground water*. Bulletin 118. 135 p.
- Huntley, D., Biehler, S., Marshall, C.M. 1996. *Distribution and Hydrogeologic Properties of the San Diego Formation, Southwestern San Diego County*. San Diego Formation Task Force, Report of Investigation. 65 p.
- San Diego County Water Authority (SDCWA). 1997. *Groundwater Report, June 1997*. San Diego, California.

Additional References

- California Department of Water Resources (DWR), Southern District. 1986. *San Diego Region Ground Water Studies, Phase III*. Memorandum Report 213 p.
- Izbicki, John A. 1985. *Evaluation of the Mission, Santee, and Tijuana Hydrologic Subareas for reclaimed Water use, San Diego County, California*. U.S. Geological Survey Water-Resources Investigations Report 85-4032. 99 p.

Errata

Substantive changes made to the basin description will be noted here.