

San Onofre Valley Groundwater Basin

- Groundwater Basin Number: 9-03
- County: San Diego
- Surface Area: 1,250 acres (2.0 square miles)

Basin Boundaries and Hydrology

This groundwater basin underlies San Onofre Valley in northwestern San Diego County. The basin is bounded by the Pacific Ocean on the west and elsewhere by semi-permeable Tertiary marine sedimentary rocks (DWR 1967). The valley is drained westward to the ocean by San Onofre Creek. Average annual precipitation ranges from 11 to 15 inches.

Hydrogeologic Information

Water Bearing Formations

The principal water bearing deposit is the Quaternary age alluvium that consists of sand, gravel, silt, and clay (DWR 1967) that reaches about 55 feet thick and averages about 25 feet thick (SDCWA 1997). The Pliocene age San Mateo Formation consists of deposits of marine sand, gravel, silt, and clay that are locally water-bearing (DWR 1967).

Recharge Areas

Recharge is derived from percolation of runoff from rainfall and treated wastewater effluent (SDCWA 1997).

Groundwater Level Trends

Groundwater level information is available until about 1988 with hydrographs showing that water levels vary with wet and dry weather cycles, generally recovering during wet periods. In the upper part of the San Onofre Valley, a hydrograph for one well shows declines of 25 to 35 feet per dry cycle, but overall long-term stable behavior. In the lower San Onofre Valley, hydrographs show water levels generally rising from 4 to 12 feet during the 1950s through the 1980s.

Groundwater Storage

Groundwater Storage Capacity. The total storage capacity for this basin is estimated to be 6,500 af (DWR 1975; SDCWA 1997).

Groundwater in Storage. Unknown.

Groundwater Budget (Type A)

The historical average groundwater production is about 750 af/yr and average recharge of reclaimed water is about 500 af/yr (SDCWA 1997).

Groundwater Quality

Characterization. Groundwater in the basin is chiefly characterized as calcium-sodium bicarbonate-sulfate (DWR 1967). TDS content of water ranges in from 250-1,000 mg/L, and in from 500 to 750 mg/L the San Mateo Formation (DWR 1967). A more recent report indicates that TDS content of

the groundwater ranges from about 600 to 1,500 mg/L (SDCWA 1997). Water in the basin is generally rated suitable for both domestic and irrigation uses, though groundwater in alluvium may be rated marginal for irrigation locally (DWR 1967).

Impairments.

Well Characteristics

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

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
	Groundwater levels	
	Miscellaneous water quality	
Department of Health Services and cooperators	Title 22 water quality	2

Basin Management

Groundwater management:

Water agencies

Public

Private

Camp Pendleton Marine Corps Base

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.

San Diego County Water Authority (SDCWA). 1997. *San Diego County Water Authority Groundwater Report June 1997*. Water Resources Department. San Diego California.

Additional References

Rogers, Thomas H. 1965. *Geologic Map of California, Santa Ana Sheet*. California Division of Mines and Geology. Olaf P. Jenkins Edition. Scale 1:250,000.

Errata

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