

Lavic Valley Groundwater Basin

- Groundwater Basin Number: 7-14
- County: San Bernardino
- Surface Area: 102,000 acres (159 square miles)

Basin Boundaries and Hydrology

This groundwater basin underlies Lavic Valley in central San Bernardino County. The basin is bounded by nonwater-bearing rocks of the Cady Mountains on the north and east, of the Bullion Mountains on the south and east, of the Lava Bed Mountains on the southwest, and by the Pisgah fault on the west (Rogers 1967). Parts of the eastern and northern boundaries are drainage divides. The southern part of this basin lies within the Twenty-nine Palms Marine Corps Base. In the northern part of the basin, surface drainage is toward Hector Siding and in the southern part of the basin, surface drainage is toward Lavic (dry) Lake. Average annual precipitation ranges from 4 to 6 inches.

Hydrogeologic Information

Water Bearing Formations

Groundwater in the basin is found in Quaternary alluvial and lacustrine deposits. Holocene age alluvium consists of unconsolidated, well-sorted, fine- to coarse-grained sand, pebbles, and boulders with variable amounts of silt and clay deposited in washes and alluvial fans (DWR 1967). Pleistocene age deposits are composed of gently tilted, unconsolidated to moderately consolidated, moderately well bedded gravel, sand, silt and clay (DWR 1967).

Restrictive Structures

The southwest-trending Pisgah fault is the northwest boundary of the basin, and water levels appear to drop eastward across the fault, which indicates that this fault is likely a barrier to groundwater flow. The Lavic Lake fault cuts through the southern part of the basin, but it is not known whether or not this fault is a groundwater barrier.

Recharge Areas

Recharge to the basin is from percolation of runoff from surrounding mountains through alluvial fans and washes (DWR 1967). Subsurface flow from adjoining basins may also contribute to recharge (DWR 1967).

Groundwater Level Trends

In the northern part of the basin, groundwater flows toward Hector Siding. In the southern part of the basin, groundwater flows toward Lavic Lake. Groundwater may flow eastward out of the basin beneath a surface drainage divide.

Groundwater Storage

Groundwater Storage Capacity. The total storage capacity is estimated to be 270,000 (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (Type C)

Natural recharge is estimated at about 300 af/yr (DWR 1975).

Groundwater Quality

Characterization. Water from a well in the southern part of the basin near Lavic Lake sampled in 1917 was sodium sulfate in character with a TDS content of 1,680 mg/L (DWR 1967; DWR 1954). Water from a well in the northeastern part of the basin sampled in the 1950s was sodium sulfate in character with a TDS content of 1,721 mg/L. Water from a well in the northwestern part of the basin near Hector Siding sampled in the 1950s was calcium-sodium bicarbonate in character with a TDS content of 278 mg/L.

Impairments. Water at one well in the basin exceeds drinking water standards for sulfate, chloride, and TDS content (DWR 1967, 1975).

Well Production characteristics

| Well yields (gal/min) | | |
|-----------------------|---------------|------------------------|
| Municipal/Irrigation | Range: to 140 | Average: 80 (DWR 1975) |
| Total depths (ft) | | |
| Domestic | | |
| Municipal/Irrigation | | |

Active Monitoring Data

| Agency | Parameter | Number of wells /measurement frequency |
|---|-----------------------------|--|
| | Groundwater levels | NKD |
| | Miscellaneous water quality | NKD |
| Department of Health Services and cooperators | Title 22 water quality | 0 |

Basin Management

Groundwater management:

Water agencies

Public

Private

References Cited

- California Department of Water Resources (DWR). 1954. *Ground Water Occurrence and Quality, Colorado River Basin Region*. Water Quality Investigations Report No. 4. 59 p.
- _____. 1967. *Water Wells and Springs in Bristol, Broadwell, Cadiz, Danby, and Lavic Valleys and Vicinity. San Bernardino and Riverside Counties, California*. Bulletin No. 91-14.
- _____. 1975. *California's Ground Water*. Bulletin 118. 135 p.
- Rogers, T. H. 1967. *Geologic Map of California, San Bernardino Sheet*. Single Map Sheet, Scale 1:250,000.

Errata

Changes made to the basin description will be noted here.