Broadwell Valley Groundwater Basin

- Groundwater Basin Number: 6-32
- County: San Bernardino
- Surface Area: 92,100 acres (144 square miles)

Basin Boundaries and Hydrology

Broadwell Valley Groundwater Basin underlies a north trending valley in south-central San Bernardino County. Elevation of the valley floor ranges from about 2,600 feet on the west to 1,296 feet above mean sea level at Broadwell (dry) Lake. The basin is bounded by nonwater bearing consolidated rocks of the Cady Mountains on the north and west, the Bristol Mountains on the north and east, the Bullion Mountains on the south, and a surface drainage divide on the southwest. The Cady Mountains attain elevations exceeding 4,600 feet (DWR 1964).

Average annual precipitation ranges from 3 to 5 inches. Runoff from the surrounding mountains drains towards Broadwell Lake in the north central part of the basin (Rogers 1967).

Hydrogeologic Information

Water Bearing Formations

Quaternary alluvium forms the major water-bearing unit within the basin. Included in this unit are the unconsolidated younger alluvial deposits and the underlying unconsolidated to poorly consolidated older alluvial deposits. Maximum thickness of the alluvium is at least 1,600 feet (DWR 1964).

Recharge and Discharge Areas

Recharge of the basin is mainly from the percolation of runoff through alluvial fan deposits at the base of the Bullion and Cady Mountains and from infiltration of precipitation that falls to the valley floor. Groundwater in the younger and underlying older alluvium moves in the direction of Broadwell Lake. From Broadwell Lake, groundwater likely moves north through alluvial deposits between the Cady Mountains on the northwest and the Bristol Mountains on the northeast into Soda Lake Valley Groundwater Basin (DWR 1964).

Groundwater Level Trends

Of the few wells known to exist in the basin, most are dry. Groundwater was encountered at a depth of 785 and 1,084 feet in a well located at Ludlow in the southern part of the basin in 1883. Another well located along the westside of Broadwell Lake, measured water at a depth of 101.6 feet in the spring of 1979.

Groundwater Storage

Groundwater Storage Capacity. Total storage capacity is estimated at about 1,220,000 af (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (C)

Groundwater budget information is not available.

Groundwater Quality

Characterization. Unknown.

Impairments. TDS was reported to be about 473 and 554 mg/L at depths of 785 and 1,084 feet, respectively, at a well in Ludlow (DWR 1964).

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	1	1
Radiological	0	0
Nitrates	1	0
Pesticides	1	0
VOCs and SVOCs	1	0
Inorganics – Secondary	1	0

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).
[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.
[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Production Characteristics

	Well yields (gal/min)	
Municipal/Irrigation		
	Total depths (ft)	
Domestic		
Other	100-1,084	430 (of 24 wells)

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	1

Basin Management

Groundwater management:

Water agencies

Public

Private

References Cited

California Department of Water Resources (DWR). 1964. *Ground Water Occurrence and Quality Lahontan Region.* Bulletin No. 106-1. p. 437-439.

_____. 1975. *California's Ground Water.* Bulletin No. 118. p. 82-83.

Rogers, T. H. 1967. *Geologic Map of California: San Bernardino Sheet.* Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1: 250,000.

Errata

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