Upper Kingston Valley Groundwater Basin

- Groundwater Basin Number: 6-22
- County: San Bernardino
- Surface Area: 177,000 acres (277 square miles)

Basin Boundaries and Hydrology

Upper Kingston Valley Groundwater Basin (DWR 1975), formerly referred to as the Shadow Valley Groundwater Basin, underlies a northwest-trending valley in northeast San Bernardino County. Surface elevation of the valley floor ranges from about 5,000 feet above mean sea level along the southern margins, to about 3,000 feet near Kingston Wash in the northwest part of the basin. The basin is bounded by nonwater-bearing consolidated rocks of the Mesquite Mountains on the north, the Ivanpah and Clark Mountains on the east, the Shadow Mountains on the west, and Teutonia Peak on the south. Elevations in the Clark Mountains exceed 7,900 feet; whereas, Teutonia Peak attains a maximum elevation of 5,710 feet (DWR 1964).

Annual precipitation ranges from 5 to 10 inches. Runoff from the surrounding mountains flows north to Kingston Wash, which discharges to the west into Valjean Valley (Jennings and others 1962).

Hydrogeologic Information

Water Bearing Formations

Quaternary alluvium forms the principal water-bearing unit within the basin. This includes unconsolidated younger alluvial deposits and underlying unconsolidated to poorly consolidated older alluvial deposits. Maximum thickness of the alluvium is at least 400 feet (DWR 1964).

Recharge Discharge Areas

Replenishment of the basin is chiefly from the percolation of runoff through alluvial fan deposits at the base of the Ivanpah and Clark Mountains. Groundwater in the younger and underlying older alluvium moves northward towards Kingston Wash and probably discharges as subsurface outflow to the Valjean Valley (DWR 1964).

Groundwater Level Trends

Groundwater levels for most of the basin remained mostly stable with little change during 1953 through 1984. Water levels at one well near the central part of the basin fluctuated a maximum of 5.3 feet during this period. Another well in the southern part of the basin, showed water level changes of 3.6 feet between 1979 and 1982; although, water levels in this well had reportedly dropped by as much as 45 feet since 1953. Other well records; however, show little change in groundwater levels.

Groundwater Storage

Groundwater Storage Capacity. Total storage capacity is estimated at about 2,130,000 af (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (C)

Groundwater budget information is not available.

Groundwater Quality

Characterization. The character of the groundwater varies within the basin, but the most often occurring cations are sodium and calcium with bicarbonate and sulfate as the predominate anions (DWR 1964).

Impairments. In general, the quality of groundwater is ranked marginal to inferior for domestic use because of elevated concentrations of fluoride, which average about 1.4 mg/L, and TDS, which average about 592 mg/L (DWR 1964).

Well Production Characteristics

	Well yields (gal/min)
Municipal/Irrigation	Range: to 24 (DWR 1975)
	Total depths (ft)
Domestic	
Municipal/Irrigation	

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	5

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. 439 p.

_____. 1975. *California's Ground Water*. Bulletin No. 118. 135 p.

Jennings C. W., John L. Burnett, and Bennie W. Troxel. 1962. *Geologic Map of California: Trona 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.