

## Carson Valley Groundwater Basin

- Groundwater Basin Number: 6-6
- County: Alpine
- Surface Area: 10,700 acres (17 square miles)

### Basin Boundaries and Hydrology

Carson Valley is at the eastern base of the Sierra Nevada and straddles the California-Nevada state line in northern Alpine County. The California portion of the basin is about 10,700 acres. The Carson River West Fork flows north through the Carson Valley basin and is the confluence of many streams draining the east slopes of the Sierra Nevada. The West Fork continues to flow north into Nevada and eventually drains into Nevada's Lahontan Reservoir. Scott Creek and Indian Creek flow through Diamond Valley, which is in the southern portion of the basin.

Elevations within the basin range from 1,500 feet in the valley to above 9,000 feet at the headwaters of the Carson River. Average annual precipitation in the basin ranges from 8 inches to 40 inches, increasing from north to south.

### Hydrogeologic Information

#### ***Water Bearing Formations***

Description of the Carson Valley basin hydrogeology is limited. The principal source of groundwater in the Carson Valley basin is from basin-fill deposits. Unconsolidated deposits beneath the basin, which range from clay to boulders, are present in thickness as great as 5,000 feet (Bevans et al 1998). Division of Mines and Geology map, Walker Lake Sheet, indicate alluvium in the northwestern and Diamond Valley portions of the basin. The southeastern portion and the southern apex of the basin are primarily Pliocene volcanics and Pleistocene nonmarine. Most water wells drilled in the basin are completed in basin-fill deposits (DWR unpublished data).

#### ***Groundwater Level Trends***

Groundwater elevation changes are directly related to changes in groundwater storage. No published groundwater data was found for the Carson Valley Basin.

#### ***Groundwater Storage***

No published groundwater storage data was found for the Carson Valley Basin.

#### ***Groundwater Budget (Type C)***

Due to lack of groundwater budget data, inflows, including natural, applied, and artificial recharge and outflows including urban and agricultural extraction have not been included.

### Groundwater Quality

**Characterization.** Water composition is variable. Carson Valley groundwater tends to be dilute and contain calcium and bicarbonate ions as the major dissolved constituents (Bevans et al 1998).

**Impairments.** No published information was found for the Carson Valley Basin.

### Well Production Characteristics

Well yields (gal/min)		
Municipal/Irrigation	Range: Unknown	Average: Unknown
Total depths (ft)		
Domestic:	Range: 40-447	Average: 211 (20 wells) (well completion reports)
Municipal/Irrigation	Range: NA	Average: 215 (2 wells) (well completion reports)

### Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
	Groundwater levels	No wells monitored at this time
	Miscellaneous water quality	No wells monitored at this time
Department of Health Services and cooperators	Title 22 water quality	No wells monitored at this time

### Basin Management

Groundwater management:	None identified
Water agencies	
Public	Alpine County Water Agency
Private	

### References Cited

Bevans, H.E., Lico, M.S., and Lawrence, S.J. 1998. Water Quality in the Las Vegas Valley Area and the Carson and Truckee River Basins, Nevada and California, 1992-96, U.S. Geological Survey Circular 1170.

### Additional References

Jennings, O.P. and Koenig, J.B. 1963. Geologic map of California: California Division of Mines and Geology, Geologic Map Series Walker Lake Sheet, scale 1:250,000.

Covay, K.J., Banks, J.M., Bevans, H.E., and Watkins, S.A.. 1996. Environmental and Hydrologic Settings of the Las Vegas Valley area and the Carson and Truckee River Basins, Nevada and California: U.S. Geological Survey Water-Resources Investigations Report 96-4087, 72 p.

California Department of Water Resources. 1991. Carson River Atlas: Sacramento, Calif., 128 p.

*Note: Request for approval of Amendment I to Contract No. CC2000-09 (Agreement for Monitoring of Surface Water, Groundwater and Soils in Alpine County) by and between the County of Alpine and Desert Research Institute. – Board Of Supervisors, County Of Alpine, State Of California, Tuesday April 17, 2001*

## **Errata**

Changes made to the basin description will be noted here.