

## Upper Ojai Valley Groundwater Basin

- Groundwater Basin Number: 4-1
- County: Ventura
- Surface Area: 3,800 acres (5.9 square miles)

### Basin Boundaries and Hydrology

The Upper Ojai Valley Groundwater basin is bounded by the Ojai Valley Groundwater Basin on the north, the Topatopa Mountains on the east, Sulfur Mountain on the south, and near impermeable rocks of the Santa Ynez Mountains elsewhere. The valley is drained westward by Lion Canyon into San Antonio Creek and eastward by Sisar Creek to Santa Paula Creek. Average annual precipitation ranges from 24 to 28 inches.

### Hydrogeologic Information

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

Groundwater in the basin is found chiefly in Holocene and Pleistocene age alluvium that averages about 60 feet thick and reaches a maximum of about 300 feet thick near Sisar Creek (CSWRB 1953). The average specific yield of the alluvium is estimated at 8 percent (CSWRB 1953). Minor groundwater is found in fractures in the Tertiary sediments underlying the alluvium.

#### ***Restrictive Structures***

A surface and groundwater divide is found in the eastern part of the basin the separates groundwater flow westward toward San Antonio Creek and eastward toward Santa Paula Creek.

#### ***Recharge Areas***

The chief source of recharge in the basin is derived from percolation of precipitation (Panaro 2000). Other minor recharge contributions include irrigation return and underflow from the fractured rock beneath the basin (Panaro 2000).

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

Hydrographs show groundwater levels that fluctuate seasonally by about 10 to 20 feet during 1992 through 1999. The groundwater levels return to about the same elevation every year, consistent with a small basin recharged chiefly by annual precipitation. Groundwater in the eastern part of the basin moves eastward toward Sisar Creek and in the western part of the basin moves westward toward Lion Canyon.

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

**Groundwater Storage Capacity.** The total storage capacity is estimated to be 6,000 af (DWR 1975) and 5,681 af (Panaro 2000).

**Groundwater in Storage.** The basin is estimated to have been 70 percent full in 1999 (Panaro 2000), suggesting about 3,980 af of groundwater in storage.

### Groundwater Budget (Type A)

Natural recharge into the basin is estimated to be 400 af/yr (DWR 1975). Recharge into the basin is estimated to be 320 af/yr from return irrigation flow and about 600 af/yr from underflow (Panaro 2000). Pumping in 1999 was estimated to be less than 700 af (Panaro 2000).

### Groundwater Quality

**Characterization.** Groundwater character is calcium-sodium bicarbonate in the western part of the basin and calcium sulfate in the eastern part of the basin. Analyses of water from 12 wells sampled during 1951 and 1952 show an average TDS content of 707 mg/L with a range of 438 to 1,249 mg/L (DWR 1959). Water from one public supply well shows a TDS concentration of 500 mg/L.

**Impairments.** High boron concentrations are found in groundwater in the southern part of the basin (DWR 1959). Locally, sodium chloride waters with TDS concentrations ranging from 2,000 to 3,000 mg/L are found in the eastern part of the basin (DWR 1959). High nitrate, sulfate, iron, and chloride concentrations have been reported for groundwater in the basin (Panaro 2000).

### Water Quality in Public Supply Wells

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

<sup>1</sup> 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).

<sup>2</sup> Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

<sup>3</sup> 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	Range: 10 – 200 gal/min	Average: 50 gal/min (CSWRB 1953), 20-50 gal/min (Panaro 2000)
Total depths (ft)		
Domestic	Range:	Average:
Municipal/Irrigation	Range:	Average:

## Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
Ventura County Water Resources Department	Groundwater levels	4
Department of Health Services and cooperators	Title 22 water quality	1

## Basin Management

Groundwater management:

Water agencies

Public	Ventura County Public Works Agency
Private	Southern California Water Company

## References Cited

- California Department of Water Resources (DWR). 1959. *Water Quality and Water Quality Problems, Ventura County*. Bulletin 75. Two Volumes. 195 p.
- \_\_\_\_\_. 1975. *California's ground water*. Bulletin 118. 135 p.
- California State Water Resources Board (CSWRB). 1953. *Ventura County Investigation*. Bulletin 12. Two Volumes.
- Panaro, D. 2000. Fox Canyon Groundwater Management Agency: Written Communication to R.R. Davis (DWR), March 21, 2000.
- Southern California Water Company (SCWC). 2001. *Water Quality Report*. <http://www.aswater.com/2kWQRpts/Ojai.PDF> (March 2002).
- Ventura County Public Works Agency (VCPWA). 1996. *Ventura County Groundwater Quality Assessment Report*. 57 p.
- \_\_\_\_\_. 2002. "Ventura County Groundwater Basins." <http://www.ventura.org/vcpwa/wre/wrd/pages/BASINS.htm> (March 2002).

## Additional References

California Department of Public Works, Division of Water Resources (DPW). 1933. *Ventura County Investigation*. Bulletin 46.

Leason F. P. & Associates. 1959. *Upper Ventura River Valley and Ojai Valley Sewerage Study*. Pasadena, Calif.: The Associates.

Richardson, H. E., and others. 1968. *Ventura River Project Extensions, Feasibility Study, Ground-Water Geology and Resources Appendix*. United States Bureau of Reclamation (USBR): unnumbered Report.

Turner, J. M. 1971. *Ventura County Water Resources management Study, Geohydrology of the Ventura River System*. Ventura County Department of Public Works, Flood Control District: unnumbered Report.

## Errata

Changes made to the basin description will be noted here.