

## Hoopa Valley Groundwater Basin

- Groundwater Basin Number: 1-7
- County: Humboldt
- Surface Area: 3,900 acres (6 square miles)

### Basin Boundaries and Hydrology

The Hoopa Valley Groundwater Basin occupies a small alluvial valley of the Trinity River extending north from the southern boundary of the Hoopa Valley Indian Reservation. The basin is bounded on the east, south, and southwest by Upper Jurassic marine sedimentary and metasedimentary rocks of the Western Jurassic Belt of the Klamath Mountains (Wagner 1989; Strand 1962). The basin is bounded to the northwest by undifferentiated Pre-Cretaceous metamorphic rocks and to the north by Pre-Cretaceous metasedimentary rocks. The valley is drained by the Trinity River. Tributary streams include Mill, Supply, Hostler, and Socktish Creeks. The valley floor measures about three quarters of a mile in width and about 5 miles in length. Groundwater supply is considered dependable (DWR 1965). Annual precipitation ranges from 59- to 63-inches.

### Hydrogeologic Information

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

The primary water-bearing formation in the basin is Quaternary alluvium.

**Holocene Alluvium.** Holocene alluvium within the basin includes alluvial fan deposits, terrace deposits, and stream channel deposits. The floor of the valley is underlain by unconsolidated alluvium ranging in thickness from a few feet at the valley margins to a maximum of 60 feet along the terraces bordering the Trinity River. The fan deposits are located along the principal streams that enter the valley and are composed of poorly sorted sand, gravel, and angular to subangular cobbles and boulders. The river channel and terrace deposits are well sorted consisting of subrounded gravel, cobbles, and boulders. The deposits are moderately to highly permeable but are not continuous across the valley. (Poole 1961)

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

The upper surface of the zone of saturation averages about 20- to 30-feet below ground surface. Published information regarding groundwater level trends is not available.

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

**Groundwater Storage Capacity.** The storage capacity for the basin is estimated to be 19,200 acre-feet based on a saturated thickness of 30 feet, a surface area of 3,200 acres, and a specific yield of 20 percent (DWR 1965).

#### ***Groundwater Budget (Type B)***

Estimates of groundwater extraction are based on a 1996 survey conducted by the California Department of Water Resources. The survey included landuse and sources of water. Groundwater extraction for agricultural use is

estimated to be 56 acre-feet. Groundwater extraction for municipal and industrial uses is estimated to be 260 acre-feet. Deep percolation of applied water is estimated to be 220 acre-feet.

**Groundwater Quality**

**Characterization.** Calcium-magnesium bicarbonate is the predominant groundwater type in the basin. Total dissolved solids concentrations range from 95- to 159-mg/L and average 125 mg/L (DWR unpublished data).

**Impairments.** Groundwater in the basin has locally high iron concentrations.

**Well Characteristics**

**Well yields (gal/min)**

The maximum well yield is estimated to be 300 gpm (DWR 1975).

**Total depths (ft)**

Domestic	Range: 20 - 110	Average: 58 (32 Well Completion Reports)
Irrigation		71 (1 Well Completion Report)

**Active Monitoring Data**

Agency	Parameter	Number of wells / measurement frequency
	Groundwater levels	NKD
DWR	Miscellaneous water quality	4 wells biennially

**Basin Management**

Groundwater management: No known groundwater management plans, groundwater ordinances, or basin adjudications.

Water agencies

Public

Private

## Selected References

- California Department of Water Resources. 1975. California's Ground Water. California Department of Water Resources. Bulletin 118.
- California Department of Water Resources. 1965. North Coastal Hydrographic Area. Volume 1: Southern Portion. Bulletin 142-1.
- Strand RG. 1962. Geologic Map of California, [Weed Sheet]. Scale 1:250,000. California Division of Mines and Geology.
- Poole JL. 1961. Water-resources Reconnaissance of Hoopa Valley, Humboldt County, California. USGS Water-Supply Paper 1576-C.
- Wagner D.L. 1989. Geology of Del Norte and Siskiyou Counties and Adjacent Portions of Humboldt, Shasta, and Trinity Counties. California Geology.

## Bibliography

- Bailey EH. 1966. Geology of Northern California. California Division of Mines and Geology. Bulletin 190.
- California Department of Water Resources. 1980. Ground Water Basins in California. California Department of Water Resources. Bulletin 118-80.
- Dickinson WR, Ingersoll RV, Grahm SA. 1979. Paleogene Sediment Dispersal and Paleotectonics in Northern California. Geological Society of America Bulletin 90:1458-1528.
- Irwin WP. 1960. Geologic Reconnaissance of the Northern Coast Ranges and Klamath Mountains, California. California Division of Mines and Geology. Bulletin 179.
- Pessagno EA, Blome CD. 1990. Implications of New Jurassic Stratigraphic, Geochronometric, and Paleolatitudinal Data from the Western Klamath Terrane (Smith River and Rogue Valley Subterranean). Geology.
- Planert M, Williams JS. 1995. Ground Water Atlas of the United States, Segment 1, California, Nevada. USGS. HA-730-B.
- Wagner DL, Saucedo GJ. 1987. Geologic Map of the Weed Quadrangle, California, Regional Geologic Map Series 4A. California Division of Mines and Geology.

## Errata

Changes made to the basin description will be noted here.