Fish Lake Valley Groundwater Basin

- Groundwater Basin Number: 6-14
- County: Inyo, Mono
- Surface Area: 48,100 acres (75.2 square miles)

Basin Boundaries and Hydrology

Fish Lake Valley Groundwater Basin underlies a northwest-trending valley located in the eastern parts of Mono and Inyo Counties. The basin is bounded by the White Mountains on the west, the Sylvania Mountains on the south, and the California-Nevada state line on the north and east (DWR 1964; Strand 1967). Fish Lake Valley and its underlying groundwater system extends into Nevada (DWR 1964; Strand 1967).

The California portion of the valley is drained by Cottonwood Creek and several other washes, which drain the White Mountains on the west side of the basin. These washes flow eastward through the valley and eventually into Nevada (DWR 1964; Strand 1967). Average annual rainfall ranges from 4 to 8 inches.

Hydrogeologic Information

Water Bearing Formations

The primary water-bearing unit in the basin is Quaternary alluvium, which includes unconsolidated younger alluvial fan material and underlying semi-consolidated older alluvium. The saturated thickness of the alluvium is about 85 feet (Bader 1969a; DWR 1964).

Restrictive Structures

Faults in the basin may affect groundwater flow (Bader 1969a). The basin is cut by northern part of the Furnace Creek fault zone which parallels the foothills of the White Mountains (Strand 1967). The faults in this zone may form restrictive barriers on the western side of the basin.

Recharge Areas

Replenishment of the basin comes from infiltration of rainfall and percolation of runoff that flows into the valley. Recharge is chiefly by percolation through alluvial fans extending into the valley from the Sylvania and White Mountains (Bader 1969a; DWR 1964).

Groundwater Level Trends

The depth to groundwater ranges from 45 to 88 feet below land surface. Groundwater flows northward into Nevada along a gradient of about 4 feet per mile (Bader 1969a; DWR 1964).

Groundwater Storage

Groundwater Storage Capacity. Total storage capacity was calculated to be 320,000 af (Bader 1969b; DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (Type C)

Groundwater is historically used for agriculture and limited domestic use. Historical average annual groundwater use is about 2,000 af (DWR 1964).

Groundwater Quality

Characterization. Water quality is generally suitable for irrigation, domestic, and livestock use (Bader 1969a; DWR 1964). TDS concentration usually ranges from 220 to 365 mg/L (Bader 1969b). Water samples from a well at the southern end of the basin are characterized as sodium bicarbonate type water with a fluoride concentration of 1.1 ppm. Water samples from wells in the middle of the basin are characterized as calcium bicarbonate or calcium-magnesium bicarbonate type waters (DWR 1964).

Impairments.

References Cited

Bader, J.S. 1969a. *Ground-Water Data as of 1967 South Lahontan Subregion California*. U.S. Geological Survey. Water Resources Division. Open-File Report. 25p.

Bader, J.S. 1969b. *Ground-Water Data as of 1967 California Region California*. U.S. Geological Survey. Water Resources Division. Open-File Report. 32p.

California Department of Water Resources (DWR). 1964. *Ground Water Occurrence and Quality Lahontan Region*. p.135-138.

_____. 1975. *California's Ground Water*. Bulletin 118. 135p.

Strand, Rudolf. ed. 1967. *Geologic Map of California Mariposa Sheet*. Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1:250,000.

Errata

Changes made to the basin description will be noted here.