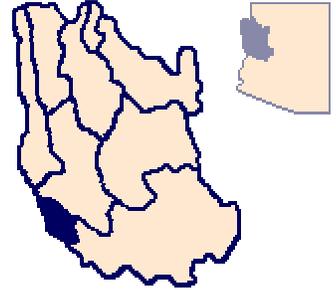


LAKE HAVASU BASIN

The Lake Havasu basin covers approximately 275 square miles and is bordered on the east by the Mohave Mountains and on the west by the Colorado River (Figure 13). The area is in the Basin and Range province. Elevations in the basin range from a high of 5,100 feet above mean sea level in the Mohave Mountains to a low of 450 feet above mean sea level at Parker Dam. The Colorado River runs along the west side of the basin and is dammed at the southern end by Parker Dam.



The Lake Havasu basin contains stream and basin-fill alluvium consisting of sand, silt, and gravel which overlie the Bouse Formation and a conglomerate unit (Metzger and Loeltz, 1973). These deposits decrease in thickness toward the basin margin and are bordered by impermeable consolidated rocks. After closure of Parker Dam in 1938 and subsequent filling of Lake Havasu, groundwater levels in the vicinity of the lake rose 25-75 feet and established a new base level. Groundwater occurrence and movement is now controlled by the lake elevation (groundwater levels fluctuate in response to changes in lake elevation); however, the lake is usually maintained within five feet of the regulating gates. Groundwater withdrawals have minimal effect on water levels because large amounts of water infiltrate from the lake (Metzger and Loeltz, 1973).

Groundwater development has been small and only 3,400 acre-feet per year were pumped from the basin in 1985 (Arizona Department of Water Resources, 1988). Most wells only penetrate the upper 100-200 feet of the basin-fill deposits and can achieve yields of over 500 gallons per minute (Metzger and Loeltz, 1973). Recharge comes mainly from the Colorado River with only a small amount contributed from other sources such as mountain-front recharge. Groundwater discharge to surface-water supplies is estimated to be 480 acre-feet per year (Owen-Joyce, 1987). The amount of groundwater in storage is unknown.

Due to the direct hydraulic connection between the river, lake, and groundwater in this basin, most groundwater withdrawals require contracts with the U.S. Bureau of Reclamation. Lake Havasu City was allocated an additional 4,379 acre-feet to the existing 14,801 contract and will have a contract for 19,180 acre-feet of Colorado River water. Havasu Water Company's contract for 943 acre-feet has also been increased to 1,420 acre-feet.