

## Las Vegas Faces Water Challenges

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Seventy percent of Nevada's 2.7 million residents live in or around Las Vegas. By 2026, the state's population is expected to rise to over 4.3 million, of which 3.3 million will be in Clark County, which includes the city of Las Vegas. But isn't Las Vegas in a desert? Where is it going to get enough water to support its burgeoning and thirsty population?

Water conservation efforts are not enough to keep southern Nevada from finding new sources of water to meet growing demand. Las Vegas is dependent on water, and due to current drought conditions, the Colorado River is not expected to provide any relief in the foreseeable future. Lake Mead, the source for most of Las Vegas's water needs, is at its lowest level since the 1960s. One dire study by the Scripps Institution of Oceanography in San Diego forecasts a 50% chance the lake will dry up within 15 years.

Since the completion of the Hoover Dam in 1935, Lake Mead has been the panacea for any water ills surrounding the Colorado River Compact. In 1922, seven western US states came to an agreement concerning the governing of the river's water and divided the river basin into two areas, the Upper Basin (comprising Colorado, New Mexico, Utah, and Wyoming) and the Lower Basin (Arizona, California, and Nevada). Both regions were expected to receive an equitable division of water based on historical rainfall pat-

terns, with the Upper Basin delivering water at a rate of 7.5 million acre-feet per year based upon a 10-year average. An additional 1.5 million acre-feet per year of Colorado River water was allocated to Mexico. In recent years, however, these allotments have proven to be unacceptable.

Three states in particular—California, Colorado, and Arizona—control the lion's share of water consumption. In the Upper Basin, Colorado enjoys 51.75% of its region's water intake. In the Lower Basin, California and Arizona—at 58.7% and 37.3%, respectively—make Nevada's share, at 4.0%, look like a pathetic afterthought.

Although far from being a perfect solution (Arizona did not ratify the Compact until 1944), the agreement did end many years of dispute. Now, with precious Lake Mead water evaporating and consumption among southwestern cities growing, the call for more water has been sounded. In December 2007, the US Secretary of the Interior signed a set of interim guidelines on how to allocate the Colorado River water during times of shortages; however, this falls far short of any long-term remedy.

Nevada has been forced to find alternative sources of water. With Lake Mead drying up and neighboring states unwilling to renegotiate water allotment shares unchanged since 1928, the Southern Nevada Water Authority is looking to northern Nevada to supply its growing number of thirsty residents. And groundwater in southern Nevada being in short supply, Las Vegas is determined to secure water rights to groundwater in over 30 basins across the state's rural areas. Applications to obtain approximately 100,000 acre-feet from six basins—Cave Valley, Coyote Val-

ley, Delamar Valley, Dry Lake Valley, Snake Valley, and Spring Valley—are expected to procure enough water to supply 350,000 homes, or about 1 million people, cutting southern Nevada's dependence on the Colorado River by 60%. All that is needed is a 250-mile pipeline with an asking price of approximately \$3.5 billion.

Southern Nevadans have found ways to conserve water. Strict water use regulations have been adopted by the Las Vegas Valley Water District. Grass yards are being converted to desert landscaping at an increasing rate. Lawns can only be watered between specific times on certain days, depending on the season. More efficient toilets, showers, and washers are becoming the norm.

Despite the Upper Basin states not fully using their allotted 7.5 million acre-feet per year, Las Vegas appears at first to be against odds to meet the challenge of its water shortfall. After all, Nevada is the most water-resource-poor state in the country, garnering an average of less than four inches of rainfall per year. Maintaining a delicate balance of growth and sustainability through difficult economic times may seem like a curse to most cities, but in Las Vegas, where non-stop rapid growth has been a constant, the city has a history of rising to challenges, economic and otherwise.

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