Water Consumption in Southern Nevada

By Paul Conyers

Overview

With its massive hotels, casinos, restaurants, and dramatic architecture it can be easy to forget that Las Vegas resides in the middle of a desert receiving just 4.5 inches of rain per year. Its population has grown immensely to nearly 2 million as of 2012 and that is without including the more than 30 million tourists visiting every year. With this growth more and more water is needed to keep yards and golf courses green, to keep the fountains of Bellagio flowing, to support restaurants, and dramatic architecture. With its massive hotels, casinos, and dramatic architecture it can be easy to forget that Las Vegas resides in the middle of a desert receiving just 4.5 inches of rain per year. Its population has grown immensely to nearly 2 million as of 2012 and that is without including the more than 30 million tourists visiting every year. With this growth more and more water is needed to keep yards and golf courses green, to keep the fountains of Bellagio flowing, to support restaurants, and dramatic architecture.

Questions

1. How has the growth in population and tourism put a strain on the area’s water supply?
2. How has the drought exacerbated the problem?
3. What steps are being taken to conserve the ever shrinking water supply?
4. Besides Lake Mead, what alternative water sources are being considered?

Problems

- Situated in the middle of the Mohave Desert, the City of Las Vegas and the surrounding area receive an average of just 4.49 inches per year
- The construction of some 4,700 wells through the 1970s has severely depleted the massive Las Vegas Aquifer, there is nowhere near enough water to supply the valley
- Lake Mead is dependent on snowmelt from the mountains of Utah and Colorado, no amount of conservation can make up for a lack of snowfall
- Lake Mead is currently at just 56.75% of full-pool capacity
- There are no other nearby sources of water large enough to replace Lake Mead
- Several million people are dependent on a single source of water

Conservation Efforts

- Formation of the Southern Nevada Water Authority in 1991 to oversee water use
- Turf and watering regulations, new grass is prohibited, restricted, and/or strongly discouraged, grass can only be watered on certain specified days
- The use of recycled water to water golf courses, schools, and parks
- Coupons, rebates, and tax-incentives for pool covers, super-efficient irrigation systems, and removal of grass in place of desert fauna
- Installation of drip irrigation systems
- Leak detecting sensors in intake and irrigation pipes
- Controlled water pricing to control demand and penalties for excessive water usage
- Formation of the Water Efficient Technologies (WET) Program in 2001

Possible Long Term Solutions

- A third intake pipe will allow the valley to continue drawing water from Lake Mead through 2021 even if drought worsens
- A water pipeline to draw from the groundwater of the sparsely populated White Pine County in Northern Nevada
- Purchasing water from the Imperial Valley in Southern California
- Cloud seeding to encourage additional rainfall

Conclusions

A record breaking drought and an explosion of growth have strained the water resources of Southern Nevada to their limits. Despite this challenge Las Vegas has taken great strides in rising to the occasion, its water system has become one of the most efficient in the nation. Many worry that Las Vegas has reached its limit, but ever increasing conservation along with new public works projects will ensure that the city will continue to thrive into the foreseeable future.

References

4. www.calculatedriskblog.com; original source: Las Vegas Convention and Visitors Authority (Sept. 2012)