

## **River Report**

**Winter 2001-2002**

### **What's Awash in the Wash?**

#### **A Look at the Effort to Clean-Up the Colorado River's Biggest Source of Effluent**

**By S. Joshua Newcom**

Las Vegas. A city of lights. If you've ever taken a plane flight into Las Vegas at night, those lights can be dazzling. And though their illumination appears to stretch on forever, if you look carefully from the sky, you can see where the unfolding light ceases and pitch-black darkness begins. This is because Las Vegas is a city in the middle of a desert.

To support an exploding population in the middle of the desert, you must have a water source and for Las Vegas, the primary supply (88 percent) is a 26 million acre-feet holding pen for the Colorado River located 15 miles to the east: Lake Mead. This year, for the first time ever, Nevada will use its full 300,000 acre-feet apportionment of the river but has laid plans for increased future supplies via water banking deals with Arizona.

Predictably, the challenges for water supply and water disposal go hand in hand. A greater number of people tend to correlate directly with a greater amount of water consumption. Likewise, greater water use correlates to a greater amount of wastewater and urban runoff. More toilets are being flushed. More showers are being taken. More lawns are being watered. Given the geographic location of Las Vegas and the fact its population is booming, the situation begs the question: where does all of Las Vegas' discharge go? Their treated wastewater? Their run-off? The flow from winter storms gushing along the curbs? In other words, where's the drain for Las Vegas?

Though positioned in an arid climate like urban giant Los Angeles, Las Vegas does not have the Pacific Ocean at its doorstep for wastewater disposal. For Las Vegas, the primary solution is to return the excess water from whence it came – Lake Mead. But instead of using a pipe to transport the water as it does in deriving its supply from Mead, the region uses the Las Vegas Wash (wash).

Leading 12 miles from the city to Lake Mead, the wash formed in the past 25 million years -- the result of eroding mountains in the valley. Today the wash is a rutted stream, hundreds of feet wide in some points, and serves as the drain for the entire 1,600-square-mile Las Vegas region. As a result, Las Vegas is the largest direct discharger to the Colorado River -- discharges that show no signs of diminishing anytime soon.

Construction of Hoover Dam in the early 1930s kicked off the first population boom in the region and since that time, the population has continued to grow at unprecedented rates. The population in Las Vegas currently hovers around 1.5 million and continues to escalate monthly. And as water consumption has increased to correspond with the growing population, so has the amount of effluent discharged to the wash.

To keep up with its ever expanding population, in July 2001, Las Vegas' wastewater treatment agencies were allowed to increase the maximum discharge permitted to the wash from 176 million gallons a day (mgd) – about 197,000 acre-feet a year -- to about 244 mgd, or over

273,000 acre-feet per year. Officials say the increased discharge rate will be ramped up over numerous years. However, Nevada also has adopted Total Maximum Daily Loads (TMDLs) – a provision under the federal Clean Water Act requiring states to set standards for pollutants that impair waterways – for phosphorous and nitrogen – both found in the wash.

The Southern Nevada Water Authority (SNWA), water purveyor for the region, along with the three major dischargers for the region (city of Henderson, city of Las Vegas and Clark County Sanitation District, dubbed the “Clean Water Coalition”) have grappled with water quality issues for some time. The national spotlight was thrust onto Las Vegas after a 1994 cryptosporidium outbreak was linked to the deaths of 32 people.

Since that time, SNWA has spent millions of dollars to improve its water quality by upgrading treatment plants, promoting water conservation and water recycling, and conducting numerous studies. Its biggest challenge to improve its water quality may be its effort to clean-up the wash.

“The wash is upstream from our intake so we’re the first recipient of anything that goes into the wash,” said Pat Mulroy, general manager for SNWA. “It’s in our own best interest to clean up the wash and it’s something that needs to be done for the whole river system.”

Though flows from the wash constitute less than 2 percent of the water found in Lake Mead, they have impacted a much larger segment of Colorado River users. Over 17 million southern Californians and over 3 million Arizonans located downstream from Lake Mead are dependent on the Colorado River for their supply. Concurrently, there is concern about wash water quality, especially with regard to findings that the Las Vegas Wash is supplying the Colorado River with perchlorate, an oxidizer for rocket fuel that has been shown to cause thyroid problems in humans.

“We’re always concerned when we see a contaminant in our water,” said Marshall Davis, a laboratory analyst with Metropolitan Water District of Southern California (MWD), who traced findings of perchlorate back to the wash in July 1997. “Metropolitan has been closely following the clean up effort in the Las Vegas Wash and it is best for southern Nevada and the downstream users to have the perchlorate contamination cleaned up.”

Other issues persist for the wash as well. Over the decades, increased discharges to the wash from both stormwater and water treatment plants have scoured away much of the wetland ecosystems that not only provide habitat for various animal species but combine to act as natural filtration systems for wash flows. Erosion has created serious sediment loading in Las Vegas Bay, the arm of Lake Mead where the wash empties. Other water quality issues such as algae blooms, increased fecal coliform and endocrine disrupters all pose hurdles for the Las Vegas region.

Never has the Colorado River had such a large, and continually growing, urban discharger to the river. How is this discharge being dealt with? What solutions are being offered? This issue of *River Report* examines the problems facing the Las Vegas Wash, their relation to the Colorado River and what steps are being taken to remedy those problems.