

# The Colorado's uncertain future

**R**ESIDENTS OF Las Vegas and its surrounding areas are all too familiar with them. Residents of other Southwestern states who rely on the Colorado River might be familiar with them sooner than they think.

They're water restrictions.

Even though there aren't mandatory widespread restrictions in states such as Utah, Colorado and Arizona, water authorities and landscape contractors are keenly aware of how the precious resource is used. They are taking steps to educate their customers.

"It's only a matter of time before regulations and standards for irrigation are implemented in the residential market," says Jason Isenberg, owner/landscape designer of Tucson-based Realm (formerly Urban Organics Landscaping). He adds that some restrictions and guidelines in the commercial sector in Tucson exist already. "It horrifies me ... the situation we're in and how far we let it go."

"Even though we have a lot of extra water in Mesa

Contractors in the Southwest are changing how they work with landscapes, thanks to a drought stricken Colorado River.

BY JOHN WALSH

Consult, which offers advice and assistance to water agencies about water development programs.

Though regulations vary from city to city, drought restrictions in Nevada, for example, include:

- ▶ Assigned watering days and seasonal watering restrictions;
- ▶ Limits on decorative fountains and driveway car washes;
- ▶ Development codes prohibiting turfgrass in front yards and restricting it in back yards; and
- ▶ Incentive programs that rebate money to people who make other water-efficiency improvements.

County, there's a lot of associations pushing conservation," says Dan Komlo, partner and landscape manager of Brookcliff Gardens, Grand Junction, CO. "We need to teach the public about conservation today and down the road."

"Limits on water will increase, and there will be conversion from traditional landscaping," predicts Bob Johnson, an affiliate with Loveland, CO-based Water

## Colorado River at a glance

- ▶ 1,450 miles long
- ▶ Begins in the Rocky Mountains and flows into the Gulf of California in Mexico.
- ▶ Supplies water to more than 25 million people, and irrigates about 3.5 million acres of farmland.
- ▶ More water is exported from the Colorado River's basin than any other river basin in the world.
- ▶ Flows through Utah, Wyoming, Colorado, New Mexico, California, Arizona and Nevada. All of these territories have rights to the river under the Colorado River Pact of 1922.
- ▶ Approximately 87% of the water leaving Colorado flows out of the Colorado river basin toward the Pacific Ocean. The remaining 13% flows out of the Missouri, Arkansas and Rio Grande river basins toward the Atlantic Ocean. The Colorado River accounts for 25% of the stream flow leaving the state.



### A little bit of logic

To be effective, restrictions need to make sense, asserts Doug Bennett, conservation manager of the Southern Nevada Water Authority in Las Vegas.

"Dictating the time you can water doesn't make sense, because different systems deliver water differently," Bennett says. "When people create laws and policies that are hard to enforce, it drives me nuts. They are knee-jerk reactions. Then things go away, and people try something else."

Those "knee-jerk reactions" can be avoided, he adds, by working with people in the Green Industry.

"The Green Industry has the biggest stake in water conservation," Bennett says. "People need to understand their choices."

Since 2002, the Las Vegas Valley has reduced its overall water consumption by about 20.5 billion gallons, despite the arrival of 400,000 new residents and almost 40 million annual visitors. Landscape contractors can, and should, use the regulations to sell other services. After all, they are equipped to lift the burden of water restriction compliance from their customers.

### Understanding the river

People in California, New Mexico, Utah, Colorado, Nevada and Arizona depend on the Colorado River, which has suffered historic drought the past nine years (two-thirds its normal average), Johnson says. Arizona and Nevada, both of which have led population growth in the U.S., are more dependent on the river than Utah and Colorado, which haven't used their allotments.

The Colorado River, which nourishes Lakes Powell and Mead, has two basins: The Upper Basin includes Utah, Colorado, Wyoming and New Mexico. The Lower Basin includes Nevada, Arizona, California and Mexico. The Colorado River Compact, which was made in 1922 and ratified by Congress in 1928, divided the Lower and Upper basins equally, each receiving 7.5 million acre-feet of water

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4. Soil preparation
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5. Water-efficient plant material
7. Appropriate maintenance

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per year. In 1944, Mexico was allocated 1.5 million af. The Lower Basin states can't buy from Upper Basin states.

"That has been debated for years," Johnson says. "Some want to allow it; others are vehemently against it."

The average flow of the river during the past 100 years has been 15 million af, but 16 million af have been allocated, Johnson says. Other studies, using tree growth, indicate the average amount of water annually during the past 500 years is 12 million to 14 million af. But no matter the study, they all conclude there's less water.

"Some people say the water amount in the 100-year study was unusually high," he says. "Modeling scientists say climate change will reduce flows. Reservoirs are at 50% of capacity, which is 60 million af. The system is half-full now. The Upper Basin hasn't developed its allotment. It has used only 4 million or 5 million af."

Some people are optimistic about water levels; some worry what will happen if the droughts continue. Others say climate change is having a negative impact on the river.

"We should take a conservative approach and say it won't get better," Bennett says.

### Implementing restrictions

Any regulations put on end users would come from water entities in the basin, Johnson says, adding that municipi-

palities and water districts have a responsibility for water management. How aggressive they are with end users in urban areas is up to them.

When it comes to restricting water use, landscape is one of the first because it's not a health or human safety issue, Bennett says.

"It's considered a luxury, and will make a sacrifice before other industries do," he says, adding that about 75% of all the water from the Colorado River goes to agriculture. "There are many rules and regulations that dictate who gets what and when in urban areas. Agencies can shut off water if there are chronic violators. The property owner is responsible."

Unlike Las Vegas and Phoenix, Grand Junction, CO, in Mesa County is lucky to have two major drainage systems flow through it: the Gunnison and Colorado rivers.

"We do have an incredible water supply," Komlo says. "We're blessed. Denver envies us. Our annual rainfall ... if we can get 9 in. a year, it's a wet season. Without a river flowing through here, we'd have unusable landscape."

There are other sources of water other than the Colorado River in Mesa County, of course. There are huge aquifers in the Front Range, and 0.05% of the water in the county comes from wells, which are expensive to drill.

### Contractors step in

More homeowners and commercial properties will be converting to desert landscaping because of water-use concerns, and that's a boon to landscape contractors, Johnson says. Some landscapes were designed 30 or 40 years ago and need to be redesigned.

Bennett recommends contractors work with water authorities to make it easier for customers to get rebates and understand laws and policies.

Isenberg agrees. "From a design standpoint, we consider water with every step we make," he says. "Design is the first important step in water conservation. The use of invasive and non-invasive plants, how to make space usable, how water moves through a space, minimizing erosion and pooling ... these are the things we think about."

In the commercial sector, there are standards for new construction in Tucson — and similar standards are in the works for the residential sector, Isenberg says.

"Water is a central issue, yet people don't take a conservation approach to water because it's been taken for granted for so long," he says. "Now we don't have a choice. People are resistant to limit water use. The city of Tucson

could pull in revenue by fining people who misuse water."

Many people may still think of xeriscaping as just cactus and rock, but that's not so, Isenberg says.

"That's the biggest hurdle for us," he says. "We usually say xeriscaping isn't a style, it's a tactic, an approach. For example, our xeriscaping award project (see photos) is a super-modern, chic landscape with concrete, glass and steel. It didn't fit the typical model of xeriscaping. You can apply xeriscaping tenets to any landscape."

"The key is that the water conservation efforts and landscape can't be bohemian," he adds. "It has to be approachable and appropriate. It needs to have sex appeal."

### Technology

There's a lot of smart technology that can save homeowners money on their water bills and protect their landscape investment, Eisenberg says. Envirotranspiration (ET) clocks with in-ground sensors in which soil moisture dictates

watering is an example.

"We need to divert water to where it's needed, and capture water to save it for later use," he says.

Komlo cites match precipitation, drip irrigation, smart clocks and two-wire systems for better computer control as examples of technology that will help guide the Green Industry toward the future of water conservation.

"There's always innovation with turf and shrubs and plants for drought tolerance," he adds.

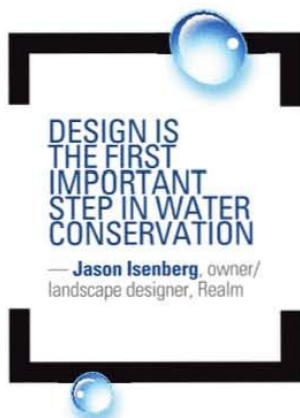
### The river ahead

Most cities in the Southwest will continue to grow, so there will be more pressure on water sources. In addition to the Colorado River, other water sources exist. Aquifers are an example, but they tend to be located in unpopulated areas and are distant from demand. Many predict that water will become more expensive, too.

"Water rates in Vegas have increased 500% since 1990," Bennett says. "Landscape contractors need to understand their customers' water sources and rates."

Water conservation needs to be a national effort, Komlo says, adding that drip irrigation, which has been used since the 1980s, has been a big turnaround for the Green Industry.

"Before that, we were watering (flower and shrub) beds like lawns," he says. "It started in California. Rain Bird, Toro, Ewing and Hunter worked to help contractors conserve water and make money." ■■■



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