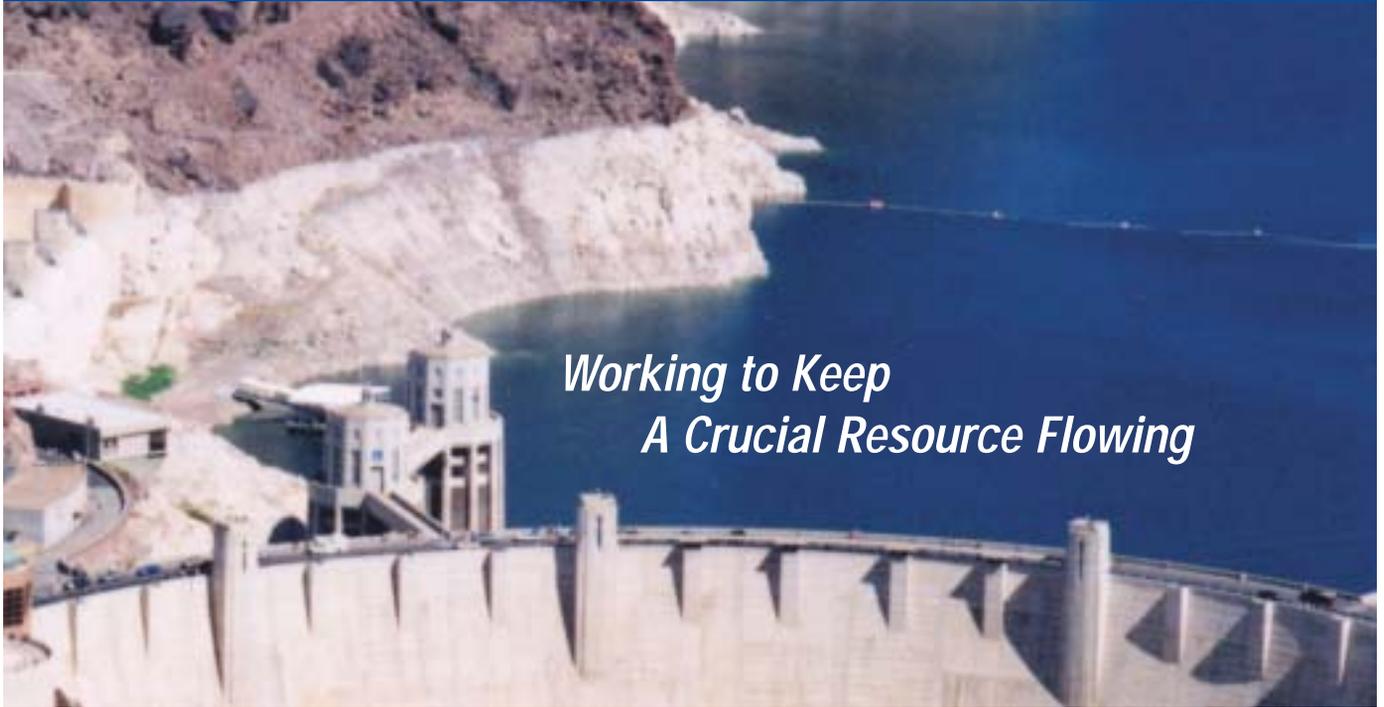


Southern Nevada Water Authority



Working to Keep A Crucial Resource Flowing

Deep beneath the valleys of east-central Nevada rests a water resource that is essential to both the Las Vegas Valley's future and the state's continued economic prosperity. Regularly fed by spring snowmelt and seasonal rain, these remote, expansive valleys hold large quantities of unused groundwater – groundwater that is critical to maintaining the reliability of our community's water supply during droughts or future shortages on the Colorado River, as well as to meeting future demands in our area.

The Colorado River, which now provides nearly 90 percent of Southern Nevada's water supply, is fully allocated to seven states and the country of Mexico. As the last six years have shown, the river is also susceptible to drought. It is time for Southern Nevada to implement resources other than the Colorado River that are available within our region's water portfolio. Among the existing holdings of the Southern Nevada Water Authority (SNWA) are water rights to the Virgin and Muddy rivers, which flow into Lake Mead approximately 100 miles northeast of the Las Vegas Valley. These water rights are considered separate from the Colorado River and could add more than 100,000 acre-feet of water each year to the municipal supply. The SNWA has also applied for and been granted groundwater

rights that are within Clark County but outside the Las Vegas Valley. Perhaps the most important of the non-Colorado River resources, however, is the unused groundwater located in east-central Nevada.

Sixteen years ago, the SNWA reserved the right to access some of this unused groundwater by filing applications with the State of Nevada. A few years ago, as our community neared the completion of the major capital improvement projects needed to fully utilize our Colorado River supply, regional water managers began the planning, hydrological and environmental work required to support the development of Southern Nevada's in-state water applications. Bringing this unused groundwater to Clark County requires a rigorous permitting process under Nevada state law, as well as

an environmental permitting process mandated by the federal government. Although it may be another decade before the first of this water arrives, Southern Nevada needs to work now to protect the state and local economy by ensuring our community's long-term water resources.

Long before the onset of the drought that has plagued the Colorado River, Southern Nevada's water agencies recognized that Nevada's groundwater supplies were largely unused. Unlike the arid southern tip of the state, the high-elevation mountain ranges of east-central Nevada receive a tremendous amount of winter snowfall. The U.S. Geological Survey has estimated that 2 million acre-feet – approximately 650 billion gallons – of precipitation fall each year in Snake Valley alone, one of the groundwater basins in which the SNWA has applied for water rights. While much of the snowmelt drains and evaporates or rushes through time-worn paths as mountain streams, a substantial amount soaks into the earth and is held in an aquifer, or water-bearing layer of rock. A small portion of this "annual recharge" is used by ranchers and the few small towns that dot the rugged landscape. Most, however, is left untapped and is available for use by anyone in the state once the Nevada State Engineer grants approval.



SNWA is committed to protecting the environment and preserving sufficient water resources to maintain existing uses while also serving the needs of Southern Nevada's families.



The large underground water supply in east-central Nevada can provide additional water to meet Southern Nevada's future water needs.

Most people agree that a state's unused groundwater, regardless of where it is, should be used where it is needed. If Nevada has unused groundwater, Southern Nevada should be able to use it. Indeed, under Nevada water law, unused groundwater belongs to the people of Nevada. It can be allocated upon request, but only through a rigorous permit process that includes significant safeguards designed to protect other water-rights holders. The concept underpinning this century-old law is called "prior appropriation," which holds that the state's water should be put to "beneficial use" on a first-come, first-serve basis. Nevada water law also includes provisions that allow water to be physically moved between groundwater basins, of which there are more than 200 in the state.

"Interbasin transfers have been absolutely essential to economic development in Nevada," explained SNWA General Manager Patricia Mulroy. "For more than 125 years, communities – predominantly in Northern Nevada – have relied upon water supplies drawn from other areas. Without the ability to move water to where it is needed, towns such as Carson City, Tonopah, Lovelock or Wendover might not even exist today."

When Southern Nevada filed for much of east-central Nevada's unused water in 1989, there was some consternation in neighboring counties about Southern Nevada applying for "their" water. That position, however, is in direct conflict with Nevada water law, which does not recognize county lines when granting water rights.

The real issue is actually not the transfer of water from one area to another, but how much water these remote valleys can sustainably yield. If, as the SNWA believes, there is sufficient natural recharge to both maintain existing uses such as ranching and serve the needs of Southern Nevada's families, there is no basis for denying the applications. The process of determining how much water will be granted, and the ongoing responsibility for protecting existing water users, falls to the Nevada State Engineer.

Within the next year, the SNWA intends to request a hearing for its groundwater applications. That will set in motion a process during which the SNWA will demonstrate why it believes its applications should be permitted. Those who oppose the applications will then have an opportunity to request information, present evidence or testify before the Nevada State Engineer. The State Engineer's process will then determine how much water Southern Nevada may be granted, while protecting existing water rights already in use by communities and ranches.

SNWA Resources Director Ken Albright noted that one of the critical misperceptions about the water-right permitting process is the idea that a groundwater permit equates to an unrestricted license to pump an aquifer. Water-right permits are limited in volume, he said, and usually come with monitoring requirements.

"The State Engineer determines how much water can be safely withdrawn each year," Albright said. "The pumping is carefully monitored. One of the advantages of this

multi-basin system is that if there is a localized drought in one basin that temporarily reduces its natural recharge, we can stop pumping there and let the aquifer replenish. It gives us tremendous flexibility, which in turn helps us ensure the water table is protected."

Another concern raised by some is the environment, but the process also takes that into account. The federal government conducts an Environmental Impact Statement to determine potential impacts on the environment, and the SNWA is required to comply with the National Environmental Policy Act and the Endangered Species Act. These efforts, along with nearly five decades of reports by the U.S. Geologic Survey, SNWA's own ongoing studies of the area and SNWA's commitment to the environment, provide protection for both senior water-rights holders, rural areas and the environment.

The impetus for this project can be found both in the flows of the Colorado and in the legal construct known as the "Law of the River," which severely restricts Nevada's use of Lake Mead's water. Represented by a multitude of agreements and legal decisions, the Law of the River – which dates back to the 1920s – divides the Colorado's waters among seven Western states and the country of Mexico. Written in an era dominated by agriculture, its apportionment naturally favored those interests.

"When the Colorado River Compact was written," explained Mulroy, "we had no system for drawing water from the river. The irony is that we're the only major metropolitan area along the Colorado River, yet we're entitled to only a sip of its water."

On its face, the original compact seems equitable. The four "upper basin" states – Colorado, New Mexico, Utah and Wyoming – were allocated 7.5 million acre-feet of water each year, while the three "lower basin" states – Arizona, California and Nevada – were given a like share. It was when the lower basin states divided up their portion that the Silver State got the smallest amount. Under that agreement, California is entitled to 4.4 million acre-feet per year. Arizona receives 2.8 million acre-feet, leaving Nevada only 300,000 acre-feet annually.

While some have argued that Nevada should appeal for a greater allocation from the Colorado, the political complexities of the issue make that difficult. The six other Colorado River Basin States and the federal government would have to agree to allow Nevada to use a larger share of the river's waters, likely at the expense of another state's allocation. In a separate accord, Mexico was granted 1.5 million acre-feet per year. Again, the driver was agriculture.

"The idea that people use a lot of water is a misconception," Mulroy said. "Keeping plants alive in the desert, whether it's a fescue lawn or a field of alfalfa, is what requires water. Although millions of Californians rely on the Colorado River's water, about 80 percent of California's Colorado River allocation is actually used to grow crops. That's not a criticism of agriculture, but rather an acknowledgment that water use in the West is predominantly a function of irrigation, not population."

Nothing has underscored that truth more than Southern Nevada's unprecedented success in the area of water conservation, driven largely by turf conversions, watering schedules and new landscaping codes. By the start of the new millennium, Nevada was nearing the limits of its 300,000 acre-foot Colorado River allocation. Water officials were prepared, however, having accounted for that eventuality by negotiating an agreement under which Nevada could draw as much Colorado River water as it needed through 2016. The only condition? The availability of "interim surplus" water is contingent upon the health of the river system, as determined by water levels in Lake Mead – a reservoir literally filled to the brim at that time.

It was then that Mother Nature struck the Colorado River system with a drought

of epic severity. The mountain passes of Wyoming and Colorado, normally blanketed in snow, became patchy and barren. An off year of snowmelt in the Rocky Mountains became two ... and then plummeted to a level previously thought inconceivable. In 2002, inflows to the Colorado River were one-fourth of normal – a shortfall representing trillions of gallons of water. Up-river from Lake Mead, Lake Powell's water line dropped as though someone had pulled the bathtub plug. Even with its upstream neighbor protecting it, Lake Mead's shoreline began to recede.

Facing a drought the likes of which hadn't been seen for perhaps 500 years, the SNWA implemented a community-wide drought response plan. It initiated mandatory watering schedules, pushed for new landscaping restrictions, and raised the stakes on its Water Smart Landscapes rebate program. The results speak for themselves. Between 2002 and 2004, even as the community's population increased by nearly 170,000 people, Southern Nevada's annual water consumption decreased by approximately 20 billion gallons. To date, residents and businesses have removed enough grass through the Water Smart Landscapes program to lay a roll of sod more than one-third of the way around the earth. New landscaping codes on commercial and residential developments limit how much grass can be installed, making new properties far more water-efficient than their predecessors. Albright cautioned, however, that this success doesn't mean the community has fully tapped its conservation potential.

"Our achievements with regard to conservation clearly demonstrate its potential as a sustainable water resource," he said. "The key to its long-term effectiveness will be our ability – our willingness – to embrace life as a desert community. Our future is well positioned in that regard. If people want to build a business complex or a house, they don't have the option of installing wall-to-wall turf. Local ordinances now mandate water-efficiency by limiting the amount of grass allowed at new properties. Beyond these restrictions, we are seeing fundamental changes in residential development – what some have called the Manhattanization of Las Vegas. High-rise multi-family developments, which consume far less

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water than rows of single-family homes because they have very little outdoor water use, are beginning to reshape the Valley's skyline. If this trend continues, we will be able to support far more people with much less water."

Our past, Albright said, is a different story.

"There is still a lot of turf in places it really does not belong, such as in the parking lots of business complexes. I understand that companies have invested in their landscapes, but between the rebate and the water savings, converting to a water-effi-

cient landscape will pay for itself in a fairly short time frame. More importantly, it will demonstrate to residents – and to their customers – that their business is committed to the sustainability of this community."

Even as the vision of a water-efficient Las Vegas Valley becomes a reality, however, water officials recognize that conservation alone is not enough to ensure that Southern Nevada's economic engine will continue to hum. Having nearly maximized our use of the Colorado River, the SNWA must now draw upon Nevada's untapped

resources, which also include both the groundwater stores and water rights to the Virgin and Muddy rivers.

Southern Nevada's continued economic prosperity isn't just a local concern; it is critical to all Silver State residents. "Although some don't realize it, our local economies are intertwined. Clark County is the economic engine of this state; as we go, so goes Nevada," Mulroy said. "That economic engine depends upon a reliable water supply. As an agency, we supply water that sustains 1.7 million residents and 37 million tourists, 850,000 jobs at 33,000 businesses. We have an obligation to not put that investment at risk.

"This can be a mutually beneficial project for the entire state, as well. We have an agreement with Lincoln County to share some of the water. We're hopeful that we can reach an agreement that also reflects the interests of the people of White Pine County, and we are committed to protecting the rural lifestyle."

Mulroy said the SNWA's role in this process is to ensure the community has sufficient water resources to meet its needs, both by acquiring new supplies and managing the existing water resources, while being fiscally responsible.

"As a public agency," Mulroy said, "we have a responsibility not just to get the job done, but to do it in an efficient manner. When we added the in-state resources to our portfolio, we recognized that it might take a decade or more to build the infrastructure and be able to use the resources. It didn't make sense economically to begin developing those resources while we still had plenty of Colorado River water, because they are more expensive to deliver. Conditions on the river have changed, and updated projections show the demand will increase, so it's time to move forward with in-state water resource projects."

"The bottom line is that our job is to make sure this community has enough water to meet its needs. We have been successful in accomplishing that by looking several decades ahead and utilizing a strategy that gives us maximum flexibility. The community has really stepped up in terms of supporting conservation, which helps us both practically and politically when negotiating with other basin states and the federal government. I believe this partnership is critical to our continued prosperity." ■

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Southern Nevada Water Authority member agencies: Big Bend Water District, the cities of Boulder City, Henderson, Las Vegas and North Las Vegas, the Clark County Water Reclamation District and the Las Vegas Valley Water District.