



## A Race Against Mother Nature: *Is Time Running Out on the Colorado River?*

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### **Introduction**

*There is a history of tension among the states and users of the Colorado River over the distribution and management of its waters. Early on, the concern in Arizona was that California's farmers would fully use the available supplies in the lower part of the basin, leaving little water to meet Arizona's growing needs. More recently, struggles over the River's waters have focused on meeting the needs of the plants and wildlife that depend upon its flows, concerns in Mexico that the poor quality water that reaches its borders would limit farming opportunities, and tribal demands for a share of the over-allocated river. The states, in cooperation with the federal government, have been working their way through these complex and difficult issues.*

*But a new threat has arrived, one that undermines our ability to resolve all the other issues and creates new ones. Recent drought conditions combined with the West's explosive growth have changed the dynamics of what were once well thought-out, long-range water agreements.*

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### **Creating sustainable long-term agreements for water use**

**D**uring the 1990's, Arizona, California and Nevada, collectively the "Lower Basin States," developed and began implementing a plan for the long-term, sustainable use of the Colorado River. Several significant water agreements were reached between the Secretary of the Interior and the

three states. The cumulative goal of the agreements was to reduce California's and Nevada's over-dependence on the River's supplies and guarantee Arizona's ability to get its full allotment.

Arizona's water managers pushed for legal and financial commitments from California's farmers and Metropolitan Water District in Southern California to reduce their over-utilization of the

river by 800,000 acre feet, enough water to meet the needs of more than 4 million people each year.

Nevada's problem centered on the fact that in 1928, when the River's supplies were allocated among the states, no one anticipated that Las Vegas would become the fastest growing city in the country by the end of the 20<sup>th</sup> Century. As a result, Nevada's population is rapidly outgrowing its Colorado River water supply.

After lengthy negotiations, three agreements were reached. The first formally quantifies the water rights of Imperial and Coachella Valleys' farmers thereby facilitating the sale of water to San Diego. The second agreement allowed surplus water to be drawn from Lake Mead for 15 years, while California completes the infrastructure necessary to deliver the farmers' water to San Diego. The third agreement established an interstate banking program that allows Nevada and California to purchase otherwise unused Colorado River water and store it in Arizona's underground aquifers for use at a later date. The water bank will serve as a critical bridge for Nevada while it develops new intrastate supplies to meet the growing demand in the Las Vegas metropolitan area.

These agreements were negotiated at a time when Lake Powell and Lake Mead were nearly full and we had the luxury of releasing additional amounts of water to facilitate them. Unfortunately, Mother Nature had a different plan.

### **Drought has reduced supplies**

As the two primary reservoirs along the Colorado River, Lake Powell and Lake Mead provide essential water storage to meet the demand even when supplies vary. In 1999 these reservoirs were each over 90% full. Today, Bureau of Reclamation data show that Powell is only 43% full and Mead is 54% full. In just five

years, the reservoirs have declined by a combined 24 million acre feet, the equivalent of one full Lake Powell. Considering that 9 million acre feet of water must be delivered from these reservoirs each year to end users in the Lower Basin States and Mexico, tough choices will soon need to be made if the drought continues.

### **Lower reservoirs also threaten the availability of electricity**

Further, the magnitude of these declines now threatens more than just water deliveries. Drinking water quality for the Las Vegas area and power generation may also be affected. For example, Lake Mead's water level has declined by 84 feet in the last five years. As reservoir levels drop, the amount of power that can be generated at Hoover Dam is reduced. The minimum lake level necessary to generate power is estimated to be 1,050 feet above mean sea level. Today, Lake Mead's elevation is 1,127 feet. Similarly, Lake Powell has declined by 107 feet in the last five years and is currently 95 feet above the point at which power generation capacity is expected to be lost.

The drought has already caused California not to receive all the surplus water it had anticipated. And, Nevada has been unable to purchase and store water through the Arizona Interstate Water Bank because any unused water in Arizona's allocation has been purchased by SRP, among others, to reduce the impact of drought conditions on the Gila River system.

### **Reducing dependence creates flexibility**

Although the hydrologic conditions that allowed these agreements to be reached have radically changed, a critical framework has been put in place that allows for better management of the Colorado River system. Both California and Nevada are continuing their plans to develop internal water supplies that will reduce their dependence on the Colorado River as well

as create more flexibility in its management. More importantly, these agreements set the stage for continued cooperation among the states for solving the problems that confront them.

Now it is a race against Mother Nature's clock. Should the drought continue, the Bureau of Reclamation anticipates that normal deliveries to the Lower Basin States could be reduced within two years. As the lowest priority user in the Lower Basin, water deliveries through the Central Arizona Project are likely to be reduced. By how much we don't yet know, this remains to be agreed upon.

When CAP supplies are reduced, deliveries to Arizona's non-Indian farmers are the first to be cut. Any additional shortfalls will be shared between municipal and Indian users.

But because the Arizona Water Bank was

established, more than 2.1 million acre feet has been stored for CAP municipal subcontractors. This, and other stored water will be used to mitigate the impact of drought on Arizona's largest cities.

### **It's no more business as usual**

Although the impacts of the current drought will eventually subside, we cannot afford to return to "business as usual." Increased demand, primarily from population growth, has eliminated historic unused supplies in the Lower Basin. And assuming that each of the Lower Basin States fully utilizes their annual entitlements, there will be less water available to replenish the reservoirs, reducing the size of any cushion against drought in the future.

It is clear that conservation, cooperation and careful planning must continue to be the hallmarks of Colorado River management.

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