

Executive Summary

The magnificent Colorado River drains a watershed spanning a quarter of a million square miles in the United States and Mexico. In addition to serving populous and important urban communities, the Colorado River provides all or part of the water for 5 million acres of irrigated farmland in nine states. The Colorado River also provides drinking water to over 36 million people, supports a \$26 billion water-based recreation economy and sustains 30 endemic fish species. The Colorado River Basin's climate problems are twofold. First, a century ago's decisions overallocated the river's water, promising more to the region's farms and growing cities than the river could deliver even under a stationary climate subject to decadal-scale variability. Second, climate change has magnified the problem—21st-century flows are 20% below the already inadequate 20th-century average, with a substantial portion of that reduction attributed to climate change and with continued declines predicted.

Additionally, several historical, cultural, and social aspects of maintaining a healthy river system must be addressed. The Colorado River provides water for one-third of the Hispanic/Latino population in the United States; Hispanic/Latinos make up the bulk of agricultural workers harvesting the produce from the river waters. There are also 30 tribal nations that span the Basin, many of which hold senior water rights.

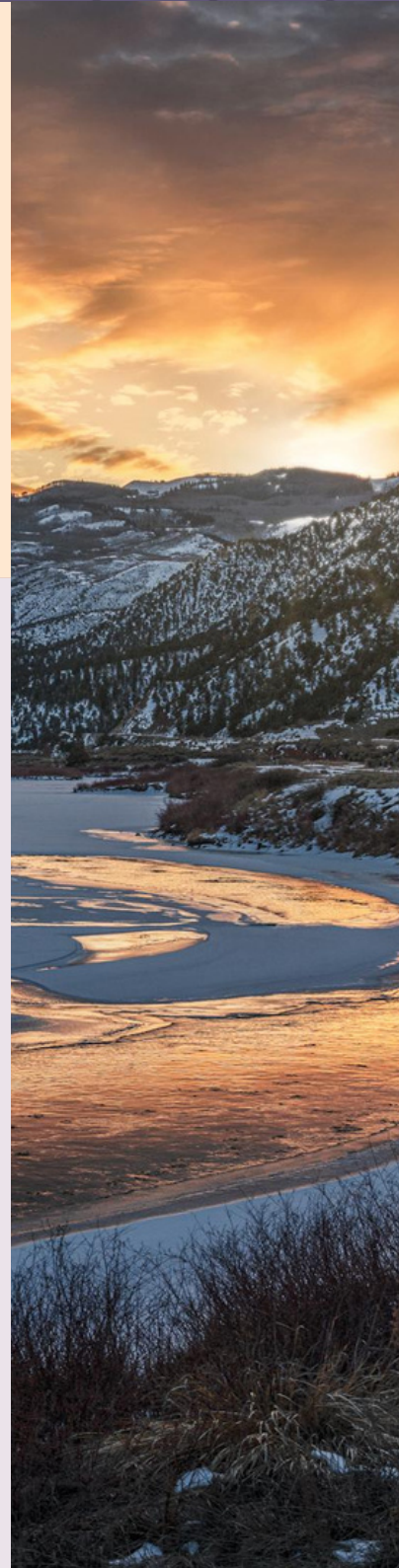
Challenge

The year 2021 witnessed unprecedented water supply challenges on the Colorado River. The U.S. federal government made the river's first formal "shortage" declaration, flipping the "on" switch to trigger the first of what appeared likely to be an escalating series of pre-planned reductions in consumptive water use indexed to water levels in the declining Lake Mead. On the water supply side, the reservoirs behind the river's two largest dams—including Hoover Dam, the icon of a generation of such facilities capable of reconfiguring entire river basins—dropped to the lowest levels since being built in the 20th century. Communities that depend on the river's water, especially farmers and cities in the U.S. state of Arizona, prepared for cuts in the available supply in 2022 and engaged in feverish discussion about the risks of deeper cuts.

The Colorado River is governed by a complex set of laws, court rulings, and agreements known as the Law of the River. The cornerstone of the Law of the River is the Colorado River Compact of 1922. The Compact allocates 7.5 million-acre feet (maf) of water to the Upper Basin States — Colorado, New Mexico, Utah, and Wyoming — and 7.5 maf to the Lower Basin states of Arizona, California, and Nevada. The Compact apportions water for 22 tribes. Mexico's allocation of 1.5 maf was established through a separate 1944 treaty between the U.S. and Mexico, bringing the Colorado River's total apportionments to 16.5 maf.

When the Compact was signed nearly a century ago, it was assumed that there would be an ample annual flow of 16.4 maf per year. The people who made that assumption didn't realize their data was based on measurements made during some of the wettest years in the historical record. We know now that the Colorado River's annual flow was actually 10 percent lower than originally estimated. Since the turn of this century, flows have continued to drop to 12.4 maf during the 19-year drought that took hold of the Basin. As flows have decreased, the river's two major reservoirs — Lake Mead and Lake Powell — have drawn down to historically low levels. Operations at these reservoirs are critical to water management across the entire Basin.

By 2007, drought caused Lake Powell to drop to a third of its capacity. The Department of the Interior and the seven Basin states responded by developing the 2007 Interim Guidelines, a plan for operating Lake Mead and Lake Powell in coordination to stave off dramatic drops in water levels at either reservoir.



40%

The capacity at which Lake Mead, the Lower Basin's primary reservoir, has fallen below

3,525 FT

The level at which, if Lake Powell falls below, will start affecting hydropower production

22

The number of tribes that rely on the Colorado River- tied to the Colorado River Compact



Solution

The seven Colorado River Basin states developed the DCP to promote water conservation. For years, the states have recognized that they'd need Congressional support to move the plan forward. Thanks to Congress authorizing the plan as part of H.R. 2030, water conservation at the necessary scale can now proceed. Unfortunately, certain aspects of today's Law of the River disincentivize water conservation.

It is now up to the states to implement water conservation measures outlined in the DCP. This effort begins with state water plans outlining conservation measures and municipal and agriculture use incentives. Hispanic/Latino communities need to be a part of these processes to ensure that water rights in their respective districts are preserved and provide a healthy environment for future generations.

The 2007 Guidelines helped manage water levels as a united system. However, they were still unable to prevent Lake Mead, the Lower Basin's primary reservoir, from dropping to below 40 percent of its capacity. Once the water level reaches below 1,075 ft., a "shortage" condition is triggered. Arizona and Nevada will face allotment cuts if water drops below this level. As Lake Mead falls further, the cuts get bigger. (Under the 2007 Interim Guidelines and the Law of the River, California would not be obligated to make those same cuts.)

Despite the best efforts of water managers and users, the water levels at Lake Mead have hovered perilously close to 1,075 ft. Luckily, the seven Basin states have come together at the negotiating table to create a collection of voluntary water conservation agreements collectively known as the Drought Contingency Plan. Through the DCP, the Basin states have agreed to water conservation measures that will help keep reservoirs at stable levels. The agreements work differently in the Upper and Lower Basins based on how the major reservoirs in each Basin — Lake Powell and Lake Mead, respectively — are managed.

The Upper Basin states have developed two strategies to ensure more water reaches Lake Powell: a short-term response and a long-term plan. The first element of the Upper Basin's DCP is an emergency response measure that will only take place if levels at Lake Powell get to a dangerously low point. The states determined that if Lake Powell drops below an elevation of 3,525 ft., normal hydropower production and water releases are at risk. If the reservoir reaches that critical elevation, the Upper Basin states and the Bureau of Reclamation will meet to develop a coordinated strategy to send down water from upstream reservoirs to increase water levels at Lake Powell.

The Lower Basin states' DCP commitments include new water conservation measures that will reduce the amount of water withdrawals from Lake Mead. By reducing the water they take from Lake Mead through in-state conservation measures, the Lower Basin states will avoid never-before-seen shortage conditions that would trigger more dramatic cuts. To meet new commitments under the DCP, Arizona and California are developing their own intrastate agreements to define which water users will undertake voluntary conservation measures to implement these cuts. In a significant step for water conservation, California agreed to accept water cuts under the DCP, even though the state did not have to accept any cuts under prior agreements.

Policy Recommendations

- Support local and state initiatives in line with H.R. 2030 and other elements of the Drought Contingency Plan.

Glossary

- Colorado River Basin: The drainage basin area of the Colorado River of about 246,000 square miles including all of Arizona, and parts of California, Colorado, New Mexico, Nevada, Utah, and Wyoming as well as Northern Mexico.
- Drought Contingency Plan: A set of agreements designed to protect the Colorado River system through voluntary reductions and increased conservation. The agreements were developed through a collaborative process amongst the federal government, states, water users and Mexico.
- Hoover Dam: A concrete arch-gravity dam in the Black Canyon of the Colorado River, on the border between the U.S. states of Nevada and Arizona.
- Lake Mead: A reservoir formed by the Hoover Dam on the Colorado River located in the states of Nevada and Arizona, 24 mi east from Las Vegas which is the largest reservoir in the US in terms of water capacity.
- Lake Powell: An artificial reservoir on the Colorado River in Utah and Arizona known as a major vacation spot visited by approximately two million people every year.
- Law of the River: A complex set of laws, court rulings, and agreements between U.S. States, tribal nations and Mexico in the
- Million Acre Feet (maf)



HISPANICS ENJOYING CAMPING,
HUNTING, AND THE OUTDOORS