Colorado River crisis accelerates as water use negotiations stall

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The Colorado River Water Users Association (CRWUA) concluded its annual convention last week in Las Vegas, Nevada amid a severe crisis facing the water supply in the American Southwest. The Colorado River Basin, which supplies water to 40 million people and hundreds of thousands of acres of farmland, is suffering through a more than 20 year "mega-drought," the worst in 1,200 years.

After decades of inadequate management and amid the growing impact of climate change, the two largest reservoirs in the United States, Lake Mead and Lake Powell, are at dangerously low levels. Both reservoirs are at record low levels, with Lake Mead at 28 percent capacity and Lake Powell at 23 percent capacity.

The water supply in the Colorado Basin is declining so rapidly that water managers are concerned about the potential for "dead pool," the condition where the water level is so low that water cannot pass through the dam to produce electricity or supply downstream users. Lake Mead currently sits at an elevation of 1,044 feet, with a dead pool of 895 feet. Lake Powell is at 3,526 feet, with a dead pool of 3,490 feet.

At the current rate of decline, Lake Powell may reach dead pool by 2024 if nothing is done to reduce water use. According to the Bureau of Reclamation's most probable water level projections, Lake Mead will reach an elevation of 1,025 feet by June 2023, the elevation that triggers a Tier 3 shortage cut, the maximum level of cuts to water users.

The rapid rate of decline in the nation's two largest reservoirs is a serious challenge for water managers and has created vast concern in the southwest about water conservation challenges.

In 2021, the Bureau of Reclamation imposed the first ever Tier 1 shortage, cutting hundreds of thousands of acre-feet of water, primarily affecting Arizonan users. An acre-foot of water is enough to flood one-acre of land one-foot deep, or enough to supply two households for a year.

The Bureau imposed the next tier of cuts earlier this year for 2023. However, despite understanding the severity of the situation, the Bureau only imposes cuts based on predictions made in August of what the water level in Lake Mead will be on January 1 of the next year, not on what current conditions or long-term projections indicate.

The necessity for greater conservation efforts is urgent. The Colorado River Compact, a 1922 agreement between the Colorado River Basin states to divide the river's flow among them, allocates 15 million acre-feet of water to seven states (Upper Basin: Colorado, Utah, Wyoming, New Mexico; Lower Basin: Nevada, Arizona, California). But climate change, overuse and cyclical changes in water supply have reduced the annual flow to just 13.4 million acre-feet, meaning that water users in the basin are using far more water than nature provides, draining Lake Mead at an alarming rate.

The 1922 compact is due for renegotiation, and officials have been meeting to hash out how to divide the river under the reduced flow conditions. While the meetings have been held behind closed doors, reports from the negotiations indicate a complete impasse among the states.

John Entsminger, general manager of the Southern Nevada Water Authority, said in a letter to Department of the Interior officials that "despite the obvious urgency of the situation, the last 62 days produced exactly nothing in terms of meaningful collective action to help forestall the looming crisis."

Reportedly, the negotiators are nowhere close to the 2-4 million acre-feet of water that the Bureau of Reclamation says need to be conserved in the coming years.

A similar theme followed the CRWUA convention, where water users and managers from around the country met at Caesar's Palace on the Las Vegas Strip to talk about how bad the problem is and failed to reach any coherent solution. So far, the closest thing to a plan produced by the basin states has been a five-point plan issued by the four upper basin states that promises to investigate conservation methods, not commit to them. The plan was criticized as "gibberish" and "planning to make a plan."

The lower basin states have failed to put forward any combined plans and reports indicate that a deal between all

seven states is a long way off.

Central to the issue is the fact that all users are desperate to maintain their water supply and are unwilling to take the first step towards conservation. This zero-sum game runs from the smallest farm to the largest city, all the way up to the state level.

Indicative of this mindset were the comments of Democratic Senator Mark Kelly of Arizona, who gave an unannounced speech to the CRWUA convention calling for plans "like large-scale desalination plants and importing water from other basins." Kelly added that "these are ambitious ideas, I get that, but they are no more ambitious than the Hoover Dam or the Glen Canyon Dam when they were conceived."

Desalination is a common source of water for millions of people around the world, but the process is incredibly energy intensive and there is no reliable or safe method for disposal of the toxic brine waste. Importing water from other basins, with the Great Lakes and the Mississippi River the major targets, has been proposed for decades and is a symptom of the irrational profit system, which drives the over-exploitation of the Colorado River. The capitalist class would rather spend hundreds of billions of dollars to move water thousands of miles than change the current methods of production.

These same capitalist profit interests are what drove the initial over-allocation of the Colorado River 100 years ago. When the Colorado River Compact was first negotiated it allocated water based on flows measured during an unseasonably wet period--so wet that the original plans for Hoover Dam were drafted with flood control in mind.

It is commonly but mistakenly asserted that the drafters of the compact worked with the information they had, and that they could never have foreseen the drier periods ahead. The reality, however, is that the negotiators, and the Congress that approved the plan, ignored the science that was presented to them about the real flow of the Colorado River.

The Compact divides 15 million acre-feet across the seven states based on measurements of annual flow in the river during the early 1900s. But E. C. la Rue, a leading hydrologist at the time for the Bureau of Reclamation and US Geological Survey, conducted research on the river that determined that average flows in previous periods were significantly lower than the prevailing conditions at the time.

His research and that of others was presented to the compact negotiators and Congress, but was ignored in favor of allocations that would promote the greatest pace of development in the western states.

Water in the western US is allocated based on private ownership and seniority of rights. With more water to legally allocate, the states along the Colorado could distribute more rights to more users, stimulating economic growth of agriculture and mining, and encourage the migration of people from the eastern cities to the west. Whether the river could handle the demands placed upon it was rarely considered.

Today, every drop of water that falls on the Colorado basin is accounted for. The river that once flowed to a delta on the coast of the Gulf of California now barely makes it past the US-Mexico border.

The crisis facing the Colorado River is extreme and requires immediate, coordinated action. But while billions of dollars are made available for war, little money and effort are afforded to saving the water source for 40 million people and some of the most productive agricultural land in the country.

Much attention at the Las Vegas convention was placed on improving distribution systems and reducing domestic use, but ultimately the most critical area to conserve water is agriculture. Farming accounts for the vast majority of water consumed from the Colorado River and is one of the primary economic beneficiaries of water infrastructure.

The Imperial Irrigation District in California is allocated 2.6 million acre-feet of water a year, which it uses to produce $1.8 billion in farm goods a year, as one of the country's leading producers of vegetables and cattle feed.

Such economic interests are powerful and desperate to maintain their share of the river's water in the short term. The long term survival of the river, or the ability of the rest of the basin to produce food is of little concern.

As long as the Colorado River is allocated privately, and the economic forces that use that water are held in private ownership, there is little hope for a resolution to the environmental catastrophe unfolding in the Southwest.