

Colorado River water rights of the past, present, and yet to come

The Colorado River provides water to roughly 40 million people yearly! However, because of overestimation and drought, the current way in which it is managed and distributed is bound for big changes. Originally, the water rights to the Colorado River were established in the form of the Colorado Compact. The need for water protection sprung from the Gold Rush, when hoards of people headed west in search of a fortune. They often wound up setting in the middle of the deserts, where their demand for water quickly surpassed what was locally available.

The Colorado Compact establishes how much water from the Colorado River System is promised to seven states across the Southwest, the greediest state being California who is guaranteed 4.4 million acre feet (approx. 1,400,000,000,000 gallons) of the total 15 million acre feet. The law governing these water rights is called prior-appropriation, which says the first person to take water for industrial, agricultural, or household use gets to continue using that amount of water. In other words, the early bird gets the worm—and in this case one of the early birds was California, as its population boomed early on.

As the agreement was forming there were a few hiccups. There are 22 Native American tribes that live in the region and were not accounted for. Mexico, being towards the end of the river, wanted less water taken out, not only for its people to use, but also for water quality benefits. So, Mexico was promised 1.5 million acre feet. California and Arizona had a conflict that was resolved by Arizona agreeing to give California its water before any other state and California agreeing to vote for federal funding of the Central Arizona Project (to build infrastructure like dams and diversions).

The final hiccup was not that there was no established policy on what to do with too much water. Instead, it soon became clear that there would be a larger issue with what to do when there is too little. One reason there has been less water than expected is that the year the Colorado Compact was established, 1922, was a year with high flow. Meaning that on an average year the water is over-promised and overdrawn. Another reason for low water years is the changing climatic conditions. During the drought between 2000 and 2005, the reservoirs were more than half empty. There was an obvious need for additional policy.

While the Colorado Compact is still the main document establishing water rights, in 2007 the states involved had to come back together and form the Record of Decision, a temporary guideline for dealing with shortages. They came to a consensus fearing a more uncertain alternative—control being handed over to the federal government. The result of their coordinated decision sets cutbacks for the



Source: Justin Sullivan, Getty Images

Lower Basin (which includes California, Nevada, and Arizona) based on the lake level of the two largest reservoirs along the river, Lake Powell and Lake Mead. As someone who works in the field of ecology, I am pleased this plan also puts conservation efforts as a priority. So, agricultural uses will be restricted before household uses and before further degrading the river and associated environments.

Because the Record of Decision is temporary, it is clear the future will bring big changes to Colorado River water policy. Climate change is expected to increase temperatures and reduce rainfall in the Southwest. Drought will likely become more commonplace and more extreme. In fact, the current drought might push decision makers to institute cuts as early as next January. A second change to come may be that California will finally have a “fair” share of the cutbacks. From rain and snow, Colorado contributes over half of the water that trickles down into the river system and California contributes absolutely nothing! Yet, California’s thirsty pipeline sucks out much more of the water than Colorado. And, while the cutbacks established through the Record of Decision reduce the allowances to Arizona and Nevada, California is immune, receiving its guaranteed 4.4 million acre feet. There is a push to reduce this by 10% during periods of drought. Other ways of dealing with the drought could include adding more dams, water recycling, or leaving everything up to the free market. We don’t know yet what is in store for the Colorado River System, but like a raft in the rapids, it won’t remain the same for long and it’s going to take teamwork to work around big obstacles.