

## Colorado River Basin agriculture is under stress

As the Southwest keeps getting hotter and drier, people who rely on the Colorado River and its tributaries for their livelihoods are facing the prospect of having to make do with less water. The impacts of reduced supplies will play out differently in different parts of the basin, but they will touch everyone.

Despite the attention desert cities get for their golf courses and fountains, agriculture is by far the biggest user of water in the Colorado River Basin. The future of the region's agriculture is closely entwined with the future of the river. In the lower basin states of California and Arizona, farms grow most of the country's winter lettuce, as well as lots of alfalfa and cotton. In the upper basin states of Colorado, Utah, New Mexico and Wyoming, rivers sustain orchards, vineyards, corn and vegetable fields, with larger acreages in hay and pasture grass for cattle.

Thanks to large reservoirs upstream and the 1922 compact that divided rights to the basin's water, lower basin water users have enjoyed steady access to their water allocations for decades. Upper basin farmers and ranchers are more at the mercy of nature. Without large, multi-year storage reservoirs upstream, dry years frequently mean smaller crops and selling cows.

Now, as Lake Mead approaches a level that would trigger delivery reductions in the lower basin, Arizona farmers with junior claims are for the first time facing the likelihood of cuts. This has prompted discussions about how to soften the blow for them. In the upper basin, the impacts of drier conditions depend on details of location and water source. Since shortages are routine, there's been no broad discussion about how to soften the blow.

Don Schwindt farms in southwestern Colorado, one of the areas most affected by the current drought. However, he describes this year as not catastrophic for him, since he is receiving a little more than two-thirds of his normal water allocation. Schwindt's water is supplied by the Montezuma Valley Irrigation Company, which benefits from McPhee Reservoir. McPhee had good inflows in the winter before last, leaving water leftover in the reservoir to supplement the meager inflows from this past, very dry winter. Nearby farmers on other systems are devastated, however, receiving less than 50 percent of their normal supply.

Paul Kehmeier raises hay on the southeast side of Grand Mesa. He has access to a small reservoir that filled only to about one-third of its capacity this year. It usually spills. He'll get by this year, partly because he can lease his reservoir water to some orchards and the town of Orchard City. Bad water years tend to bring higher prices, since everyone's production goes down.

In the Grand Valley, Mel Rettig farms with water from the Orchard Mesa Irrigation District. His supply is fine, and he said he's never run out of water. His father didn't either, although they came close in 1939. OMID has senior rights on the Colorado River and storage in Green Mountain Reservoir upstream.

Both Schwindt and Kehmeier noted that upper basin agricultural producers are used to variability. They have systems in place to adapt and plan ahead. However, if the mix of good and bad years tilts more towards the bad years, new strategies might have to be added. No single strategy will work for everyone, though.

More efficient irrigation systems can help individuals make better use of a meager supply, and in the OMID system, they have increased the reliability of the whole system. But in situations like Kehmeier's, where downstream neighbors pick up any runoff from upstream fields, the benefits are more limited.

More options for water leasing might help some complete crops and others stay financially afloat to farm another year. Switching to crops that bring in more dollars per drop is another possibility. During California's recent drought, many producers switched from hay to almonds and strawberries. New crops come with risks, though. Kehmeier notes that the agricultural landscape is littered with get-rich-quick schemes that didn't work out. For a new crop to work, new growing techniques have to be mastered, and markets, processing facilities and distribution networks have to fall in place.

Just as lower basin farmers are facing the fact that the supplies they have come to rely on can't be guaranteed, upper basin farmers may find that the strategies that have gotten them through past droughts may not be enough to weather future challenges. It is in the public interest to support adaptation strategies, because ultimately, everyone who eats is an agricultural water user.

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