

Big Ag Is Draining Arizona Dry

The American West is facing a water crisis, compounded by climate change, a history of bad policy, and a refusal to stand up to Big Agribusiness. Despite a wet winter in early 2023 providing a short-term respite, a long-term megadrought persists across the region, as groundwater storage is being depleted after decades of over-withdrawals.¹ Corporate farms remain unfazed by this fact, continuing to drain Arizona's dwindling water supplies for enormous pecan groves, and to prop up factory farms that, in turn, worsen the climate crisis and associated drought. The West is ground zero for Big Ag's assault on our water and climate future, and states must halt the expansion of these mega-farms and reallocate water for truly beneficial uses.

Bad Policy Threatens Colorado River Supplies

The Colorado River is one of the most regulated rivers in the world, due in no small part to its famous interstate water agreement: the Colorado River Compact.² Established in 1922, the Compact theoretically distributes 16 million acre-feet of water annually to seven states and Mexico. The Upper Basin states of Colorado, New Mexico, Utah, and Wyoming are obligated to deliver 7.5 million acre-feet to the Lower Basin states of Arizona, California, and Nevada, and the Upper Basin can only take its shares from what remains.³ Arizona receives around 19 percent of the Colorado River's allocations, equaling 2.85 million acre-feet.⁴

The Colorado River Compact formed during a period of abnormally wet rainfall, resulting in an agreement that allocated 15 million acre-feet annually between the states. Yet in recent decades, only 12 to 13 million acre-feet have flowed through the river each year, further exacerbated by a treaty guaranteeing Mexico 1.5 million acre-feet.⁵ The Compact relies on fixed numbers, leaving little room for declining supplies and potentially leaving Upper Basin states unable to fulfil their obligations to the Lower Basin.⁶ Reservoirs along the Colorado River have reached record lows in the past few years, forcing the U.S. Bureau of Reclamation to begin curbing supplies to Lower Basin states.⁷

Arizona has seen its shares of the Colorado River slashed during these shortages. In 2021, the Bureau of Reclamation cut Arizona and Nevada's supplies by 18 and 7 percent, respectively.⁸ Due to Western water law principles of seniority, other Basin states such as California are last in line for mandatory cuts.⁹

These reductions have proved insufficient, however, forcing the federal government to continue to push for further cuts. Following months of dispute, Lower Basin states came to a tentative agreement in May 2023, promising voluntary reductions of 3 million acre-feet by 2026. Reductions

come with a call for the federal government to pay out \$1.2 billion to irrigation districts, cities, and American Indian tribes for their temporary water reduction.¹⁰

This agreement only lasts until 2026 and is insufficient to meet the scale of this crisis. According to experts, the Basin states need to cut four times as much annually for the reservoirs to recover.¹¹ Radical changes are needed in how Arizona approaches water rights and allotments, with a long-term crisis requiring a long-term solution.

Growing Water Scarcity in Arizona

Arizona's climate has warmed around 2.5 degrees Fahrenheit over the past century. The number of extremely hot days and nights are on the rise, hitting record after record over the past decade. Phoenix has seen a 430 percent increase in heat-related deaths since 2014. Meanwhile persistent drought conditions mean that water shortages are only projected to increase.¹²

Rising temperatures and drought also threaten Arizona's natural environment. The iconic saguaro cacti are already struggling to survive present droughts, with many dropping arms or toppling over altogether.¹³ Saguaro are particularly vulnerable to heat stress when young, with a National Park Service survey showing that only 70 of the 10,000 studied were under 15 years old, putting their future development in jeopardy.¹⁴

The Colorado River supplies the Central Arizona Project (CAP), a complex and controversial project begun in the 1970s to ensure that Arizona can sustain future growth. Through a system of tunnels and diversions, the CAP moves 1.4 million acre-feet of water annually away from the Colorado into Central Arizona to support residential and agricultural users, allowing sustained population growth in the area. However, for the project to pass, Arizona renounced its water rights from senior to junior, putting the state first in line for the deepest cuts once shortages hit.¹⁵

With this project in place, the Colorado supplies 36 percent of Arizona's water supply, and many of its largest cities are extremely dependent on these resources.¹⁶ In 2023, the Tier 2 shortage cut off 21 percent of the state's allotment.¹⁷ Should cuts again be decided by seniority in the future, Arizona stands to lose nearly all of Phoenix's water supply,¹⁸ and CAP agricultural districts will be put at serious risk for cutoffs from their surface water supplies.¹⁹

Alfalfa and Pecan Production Drain Arizona's Water

Agriculture uses 75 percent of the state's water, more than half of it from surface water.²⁰ Most irrigation takes place in southern Arizona, where Colorado River diversions are the main source of water. The three counties that receive agricultural water from the CAP — Maricopa, Pima, and Pinal — hold around 50 percent of the state's irrigated and harvested cropland and 50 percent of hay crop production.²¹ But as reservoir levels in Lake Mead continue to fall, the agricultural users pulling from the CAP are increasingly impacted.²²

Food & Water Watch estimates that Arizona's alfalfa production sucked up more than 374 billion gallons of water in 2022, equivalent to 40 percent of the state's Colorado River allocation.²³ Large farms (those with over 1,000 acres) account for 60 percent of total alfalfa water use.²⁴ This is all consumptive use, defined as water that is lost through evaporation or transpiration and unavailable for future reuse.²⁵ Since Maricopa, Pima, and Pinal counties account for around half of the state's

hay production,²⁶ a sizable portion of this water likely comes from the Colorado River. However, if cuts continue to hit Arizona the hardest, farmers may be forced to switch to unregulated and overstrained groundwater supplies, further imperiling Arizona's water future.²⁷

Arizona is also facing a growing nut crop industry, spurring water-intensive pecan production. The state has seen a nearly 50 percent growth in pecan acreage over the past seven years and is home to the country's largest pecan grove.²⁸ Food & Water Watch estimates that Arizona's current pecan acreage uses around 45 billion gallons of water each year; if the state's future growth projections come to pass, this could exceed 60 billion gallons annually.²⁹

Mega-Dairies Threaten Arizona's Water Security

Yet another water-intensive industry is on the rise in Arizona: mega-dairies.^a These are also sucking water from the Colorado River, as Maricopa and Pinal counties have seen huge growth in mega-dairies over the past few decades. In 2017, the two counties alone housed more than 160,000 dairy cows, while in 1990, there were not even 100,000 in the entire state.³⁰ Food & Water Watch estimates that the cows on Arizona's mega-dairies require around 7 billion gallons annually just for hydration and washing — enough to supply more than 175,000 households with their annual indoor needs.³¹ This is only likely to worsen as companies continue to relocate to Arizona to take advantage of the state's lax groundwater management.³²

Lax Regulation Is Shipping Water Overseas

This problem is exacerbated by foreign enterprises and investment groups seeking to use Arizona's water and land for their own profits. Primary among these is the Saudi Arabian Almarai Company and its subsidiary Fondomonte, which owns 10,000 acres in Arizona. The company farms alfalfa (mainly irrigated by groundwater) to ship back to Saudi Arabia, which banned alfalfa cultivation in 2018 in an effort to conserve water.³³

As of May 2023, Arizona rescinded permits for Fondomonte's deepest wells.³⁴ But this is too late for some nearby residents, who already face dry wells as companies like Almarai move in to suck up their water supplies.³⁵ And as water from the Colorado River dries up, Phoenix may become dependent on the same groundwater supplies currently being sucked up to farm Almarai's alfalfa fields — if there is any left to use.³⁶

Conclusion

Big Ag's water abuses are endangering communities and ecosystems across Arizona, creating scarcity and crisis in its wake. Arizona must radically transform how it allocates water and halt the expansion of alfalfa, pecan, and mega-dairy operations. One way to achieve this goal is to strip alfalfa of its protected beneficial use status, thereby removing much of its water allocations.³⁷

Arizona is beyond easy solutions and must be willing to take bold action to secure a safe and livable future.

^a In this piece, mega-dairies refer to operations with 500 or more cows, as this corresponds with data categories in the 2017 U.S. Department of Agriculture Census of Agriculture, which does not provide information on confinement and waste management.

Endnotes

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