

BIG PIVOTS

ENERGY *and* WATER *transitions in Colorado and beyond*

October 7, 2026 BigPivots.com

How a century-old pricing system has emptied the Colorado River

An absurdity of the Colorado River crisis is the role of heavy government subsidization of agricultural water use

by Daniel M. Frey

While fighting over water rights and priorities might take decades, the federal government can start aligning what agriculture pays for federal delivery with what municipal users already pay — without waiting for a new compact or a courtroom fight over title.

We are told that nothing can be done about the Colorado River water crisis while officials allow powerful agricultural interests to keep using more of the river for hay and alfalfa than all cities and other industries in the basin combined.



In the Lower Basin, agricultural water districts pay roughly 6% of what municipal utilities pay at wholesale. That pricing perpetuates waste and low-value irrigation, discourages conservation, and undermines any real chance of restoring the river's supplies.

Part I of this series (see [“Absurdity of the Colorado River crisis,”](#) Big Pivots, Aug. 30, 2026) showed that nearly half the water put to human use in the Colorado River Basin goes to growing feed for cattle — alfalfa, hay and silage — while 40 million people depend on the same river for drinking water.

That is not a hydrology problem. It is a political one, built on the doctrine that the oldest water right always wins, no matter how the world around it has changed.

This installment goes one layer deeper, into the accounting. The story of the Colorado River is not only about who has the legal right to water. It is

about how government pricing, contracts, and cost-shifting have supported overuse on low-value crops.

The volumes restated

Forage crops — mostly alfalfa and hay grown to feed livestock — consume close to half of all water used by people across the Colorado



Headwaters for the Colorado River lie in Rocky Mountain National Park.

River Basin. In 2023, two separate studies by the Western Agricultural Economics Association and the Arizona Department of Agriculture (see Sources) concluded that in the Lower Basin's desert valleys, a substantial share is shipped overseas: up to 30% of Imperial Valley alfalfa and more than a fifth of Arizona's hay.

In the Upper Basin, including Colorado, forage crops make up roughly 90% of agricultural irrigation, more than three times what Upper Basin households, businesses and industries consume combined. The degree and complexity of irrigation and infrastructure vary across the upper and lower basin. There are small farms and communities that have closely and carefully integrated water with highly efficient and effective irrigation.

It should also be understood that many farms and ranches in the Colorado River Basin,

particularly in the Upper Basin, do not depend upon federal-financed infrastructure. This essay is not about them. Rather, it is about both farms and cities who benefit from federal infrastructure. Cities that are home to millions of people are asked to justify every toilet flush and lawn sprinkler while a crop with a modest market value drains the river. That imbalance might be easier to defend if the irrigators paid a market price. Instead, Lower Basin irrigation districts pay about 6% of what cities pay at wholesale.

How the government built — and then discounted — this system

Almost none of the infrastructure that makes Southwestern irrigation possible was built or paid for by farmers alone. The dams, canals, and reservoirs of the Colorado River system were constructed and financed by the U.S.



The Colorado River in De Beque Canyon

Bureau of Reclamation, a Department of the Interior agency that has spent more than a century as the largest wholesaler of water in the country.

Under federal reclamation law, the government fronts the capital, and the beneficiaries — irrigation districts, cities, power customers — are supposed to pay it back over time.

Political power derailed equitable pricing during this past century. Reclamation law splits repayment onto two tracks. Municipal and industrial water is repaid over roughly 40 to 50 years — with interest. Irrigation costs are repaid over the same window — interest-free.

Congress wrote the interest-free exemption into the original Reclamation Act of 1902 to spur Western settlement. Homesteaders on arid land had no way to finance dams and canals themselves. Lawmakers reasoned that irrigated farms would eventually generate enough tax base and repayment to justify the up-front public investment.

Cities were not part of that original calculation. Municipal and industrial water became an authorized Reclamation purpose only in 1939, and it was placed on the standard interest-bearing track. The exemption made sense when the goal was populating an unsettled frontier. It has been revisited many times since — always to

loosen it — but never ended for a basin now serving forty million urban residents.

That alone would be a meaningful subsidy. It gets larger. Reclamation law also lets irrigation districts apply for “ability to pay” relief. That economic review can cut a district's repayment obligation below its actual share of construction costs if the government decides the district cannot afford the full amount or that the land is not productive enough to justify full-cost pricing. When those obligations go unpaid, the shortfall does not vanish. It is folded into what other customers pay — chiefly hydropower sales and, on some projects, municipal and industrial **users**. Cities are not just paying full freight for their own water. On many federal projects, they and power customers are backstopping agriculture's unpaid balance, too.

In the Colorado River Basin alone, the federal government has put more than \$8 billion, in unadjusted dollars, into three programs: Hoover Dam and the All-American Canal, the Colorado River

Storage Project and the Central Arizona Project. Compounded at 4.6%, roughly what cities have paid to borrow over the past century, \$8 billion would be worth more than \$75 billion today. The power and municipal shares of those costs carry interest; the irrigation share does not. The financing model was never hidden. The Storage Project — Glen Canyon, Flaming Gorge, Navajo, and the Aspinall Unit — was promoted in the 1950s on the promise that power and municipal features would be repaid with interest and irrigation would not. Hydropower revenue from those dams still covers irrigation costs judged to be beyond farmers' ability to pay.



At that rate, repaying a construction cost interest-free over 50 years wipes out about 60% of its value compared with what municipalities pay. Add debt forgiveness, stretched repayment periods and “ability to pay” relief, and the discount grows: economist Richard Wahl found that once interest was counted, irrigators repaid only about fourteen cents of every dollar of irrigation construction costs.

What this looks like in dollars

The gap is not subtle. A December 2025 report from the UCLA Institute of the Environment and Sustainability and the Natural Resources Defense Council analyzed 217 water transactions across the Lower Basin states. The report found that agricultural water districts pay a weighted

average of about \$30 per acre-foot, while municipal utilities pay about \$512.

An acre-foot is 326,000 gallons, enough to supply two to three households for a year. Under this system, a hay farmer's district pays about \$30 and a utility serving a

family in Phoenix or San Diego pays roughly \$500 — before treatment and local delivery. That is seventeen times as much for the same unit of a scarce public resource.

Federal repayment terms are only one reason for that gap. Under Western water law and most federal contracts, the water itself is essentially free; prices reflect the cost of storing, moving, and treating it, and city systems carry heavier pumping and treatment costs. However, the federal subsidy is part of the gap the public has



Gigantic quantities of cabbage and other vegetables are grown during winter months in the area near Yuma, Ariz., as well as across the Colorado River in California's Imperial Valley. Even more impressive, perhaps, are the quantities of hay grown in those places, a substantial amount of it for export.

financed directly — and the part of Washington can most readily change.

Some agricultural districts, including California's Imperial Irrigation District, the single largest holder of Colorado River water rights, pay the Bureau of Reclamation nothing at all for the water itself. Their contracts do not require payment for the raw supply. When the federal government paid for that same district in 2023 to leave water in Lake Mead, the contract rate was about \$776 an acre-foot. The district had asked for as much as \$840. Everyone involved already knows what the water is worth.

Who holds the cheap water — 20 large corporate farms

A 2023 ProPublica and Desert Sun investigation found that just twenty large farming entities in California's Imperial Valley received roughly one-seventh of the entire lower Colorado River's flow in 2022. That is more water than Wyoming, New Mexico, or Nevada each use in a year.

The water right itself is held by the Imperial Irrigation District, a public agency. Those entities are the largest users of that right, not its owners. As a whole — historic farm families, outside investors, institutional landholders and at least one foreign hay company receives 97% of IID's water. Every home, school and business in the county combined receives 3%.

Cheap irrigation water is not propping up the rural economy. Imperial County sits on some of the most heavily and cheaply irrigated farmland in the country, yet its per capita income in 2021 was about \$19,000 — half the national figure of about \$38,000, according to Census Bureau estimates. It posted the highest unemployment rate in California that year.

A 2024 peer-reviewed study of agricultural water productivity across the Colorado River Basin found that the least economically productive counties consume 25% of the Basin's agricultural water to generate just 3% of its crop revenue. Heavily discounted water is not building broad rural prosperity. Where it produces high value, as in Imperial County, that value is concentrated in a small number of landholders; where it does not, it props up low-value production.

Run the counterfactual. If those same operations paid municipal-scale wholesale rates — \$300 to \$500 an acre-foot instead of \$20 to \$30 — the economics of growing export-bound cattle feed in a desert would collapse on their own, without a single acre-foot needing to be fought over in court. Water would move toward higher value uses because it would finally cost what it is worth. That is what a functioning price signal does. Right now, the federal government is underwriting the draining of the river for cheap crops and powerful agricultural interests.

Immediate action does not require new water-rights litigation

The most common argument against fixing this is that it would take years. Because water rights are property, this argument holds, any change must move through negotiation, buyouts, and courts.

That is true if the goal is changing who legally owns the water. It is not true if the goal is changing who pays for the infrastructure that delivers it.

Cost allocation is an administrative and budgetary process, not a property right. The Bureau of Reclamation and the Interior Department already have the statutory tools to reassess “ability to pay” determinations on a going-forward basis, to stop extending new construction-cost discounts to districts irrigating low-value forage crops, and to fully enforce the Reclamation Reform Act's full-cost pricing for large landholdings. Congress, which wrote the interest exemption into law, can require interest-bearing repayment in new and renegotiated contracts.

Those are the same terms municipal and industrial users already face. Existing repayment contracts cannot simply be rewritten in midstream; they run until they expire or are mutually amended. None of that touches a single farmer's decreed water right. It stops asking cities and power customers to keep underwriting the next generation of discounts for overuse on low-value crops.

That change would not resolve the Colorado River crisis itself. But it would start doing what a century of “first in time, first in right” has never done: make the cost of water reflect its scarcity. It would let price — not another emergency federal curtailment —



What little that remains of the Colorado River after it enters Mexico is quickly and efficiently diverted, leaving this as the riverbed.

begin moving water toward its most essential uses.

Why hasn't it happened?

The authority sits with the Department of the Interior and the Bureau of Reclamation, which set repayment terms and administer ability-to-pay determinations under reclamation law. Legislative jurisdiction belongs to the House Natural Resources Committee's Subcommittee on Water, Wildlife and Fisheries and the Senate Energy and Natural Resources Committee's Subcommittee on Water and Power. Reclamation's annual budget is funded through the Energy and Water Development appropriations subcommittees in both chambers — not the Interior-Environment subcommittees, whose jurisdiction excludes the Bureau of Reclamation.

The last time Congress meaningfully touched this structure was the Reclamation Reform Act of 1982. Even that act left interest-free repayment and ability-to-pay intact while expanding the size of farms eligible for subsidized water. Since then, as reservoirs have fallen toward dead pool and the federal government has spent billions on emergency conservation payments and drought relief, no bill addressing the underlying interest-free, cost-shifted pricing structure for Colorado River irrigation has reached a committee markup, let alone the floor of either chamber. A review of Congress.gov and GovTrack through August 2026 found none.

The leverage is not confined to a handful of committee chairs in Washington. It runs through the states that depend on the river. Of the 14 U.S. senators representing the Basin's seven states, seven sit on the Senate

Energy and Natural Resources Committee, which has direct jurisdiction over the Bureau of Reclamation and reclamation law:

Sen. John Barrasso (R-Wyo.); Sen. John Hickenlooper (D-Colo.), also on the Water and Power Subcommittee; Sen. Mike Lee (R-Utah), committee chairman; Sen. Martin Heinrich (D-N.M.), ranking member; Sen. Ruben Gallego (D-Ariz.), also on Water and Power; Sen. Catherine Cortez Masto (D-Nev.), also on Water and Power; and Sen. Alex Padilla (D-Calif.), also on Water and Power.

In the House, 11 basin-state representatives sit on the Natural Resources Subcommittee on Water, Wildlife and Fisheries: Chair Harriet Hageman (R-Wyo.), Tom McClintock (R-Calif.), Lauren Boebert (R-Colo.), Celeste Maloy (R-Utah), Jeff Crank (R-Colo.), Melanie Stansbury (D-N.M.), Dave Min (D-Calif.), Adam Gray (D-Calif.), Luz Rivas (D-Calif.), Julia Brownley (D-Calif.) and Joe Neguse (D-Colo.). Jared Huffman (D-Calif.), ranking member of the full committee, serves ex officio.

Four basin-state members — Ken Calvert (R-Calif.), Celeste Maloy (R-Utah), Mike Levin (D-Calif.), and Susie Lee (D-Nev.) sit on the House Appropriations Subcommittee on Energy and Water Development, which writes Reclamation's budget every year.

According to the same review, none of these lawmakers, of either party, has introduced legislation addressing the interest-free, ability-to-pay repayment structure at the center of this piece. The people with the most direct stake in the outcome — whose constituents are either the cities paying full price or the districts paying a fraction of it — already hold seats on every committee with the authority to change it.

The hard conclusion

This complicated system of senior rights and subsidies, built and protected for a hundred years, leads to an unavoidable conclusion. Under the banner of property rights and support for agriculture, we have allowed a small number of large, politically connected agricultural users to capture much of the water that forty million people depend on.

Almost half of the water put to human use across seven states, from the high Rockies to California, has been turned to private benefit for irrigation of low-value crops, to the detriment of everyone else in the region. Having secured water rights at no cost and federal infrastructure at a steep discount, those same users are demanding to be paid top dollar — more than \$800 an acre-foot — to leave that water in the river.

None of this is a call to end Western agriculture or to strip farmers and ranchers of property they hold in good faith. It is a call to stop asking the public to underwrite, at steadily mounting costs, a pricing structure that a small number of landholders have had a century to defend and a well-organized lobby to protect. The technical authority to change the next round of contracts and ability-to-pay reviews already exists inside agencies Congress funds every year. Using that authority still takes political will the basin's own delegation has not yet shown.

Taking on powerful agricultural interests requires action from representatives of the forty million people who need a sane and sustainable water policy.

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Note: Committee chairs, ranking members, and subcommittee rosters reflect the 119th Congress (2025-2026) as of this writing and are subject to change with reassignments, retirements, or a new Congress. The claim that no relevant bill has reached committee markup reflects a review of the sources above and standard legislative trackers (Congress.gov, GovTrack) as of late August 2026, not an exhaustive search of every bill introduced in the 119th Congress; readers relying on this claim for further reporting should verify independently. All committee membership and pricing figures should be verified at their original sources before publication or reproduction.