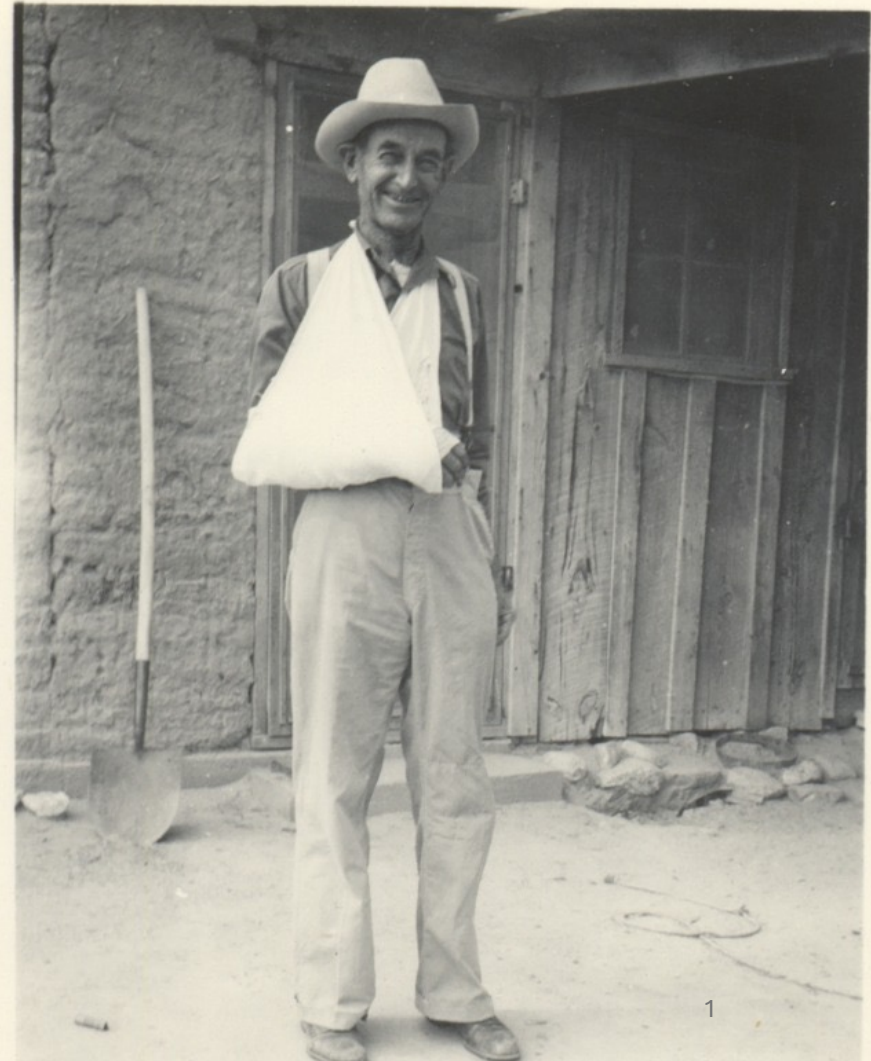


I will present the Plain Truth

- My grandfathers were subsistence farmers at La Union and Garfield. Hatch is my family cemetery
- MSCE (water) from New Mexico State University
- Albuquerque Water Resources Manager, 1990-1997
- NM Interstate Stream Commission Director, 1997-2002
- Consulting Water Resources Engineer, 2003-2014
- Stopped Reclamation/ISC's stupid Gila Diversion Project, 2014-2020, a team effort of five people
- President, NM Water Advocates, 2022-2026

/s/ Norm Gaume, P.E. (ret.), license no. 6969

Eugene Gaume, 1943, Rincon



The Lower Rio Grande is in Water Bankruptcy

Water bankruptcy is "a post-crisis failure state in which human–water systems have exceeded their hydrological carrying capacities, and societies have spent beyond their sustainable hydrological budgets for so long that critical water assets are depleted, some ecosystem damages are irreversible on human time scales, and a return to “normal” is infeasible even with prohibitive economic, social, and environmental costs."

Madani, *Water Bankruptcy: The Formal Definition*, Water Resources Management, 2026
<https://link.springer.com/content/pdf/10.1007/s11269-025-04484-0.pdf>

Elephant Butte Reservoir — End-of-Month Storage, 1915–2026

Red markers = each decade's lowest end-of-month storage • all values in KAF (thousand acre-feet)

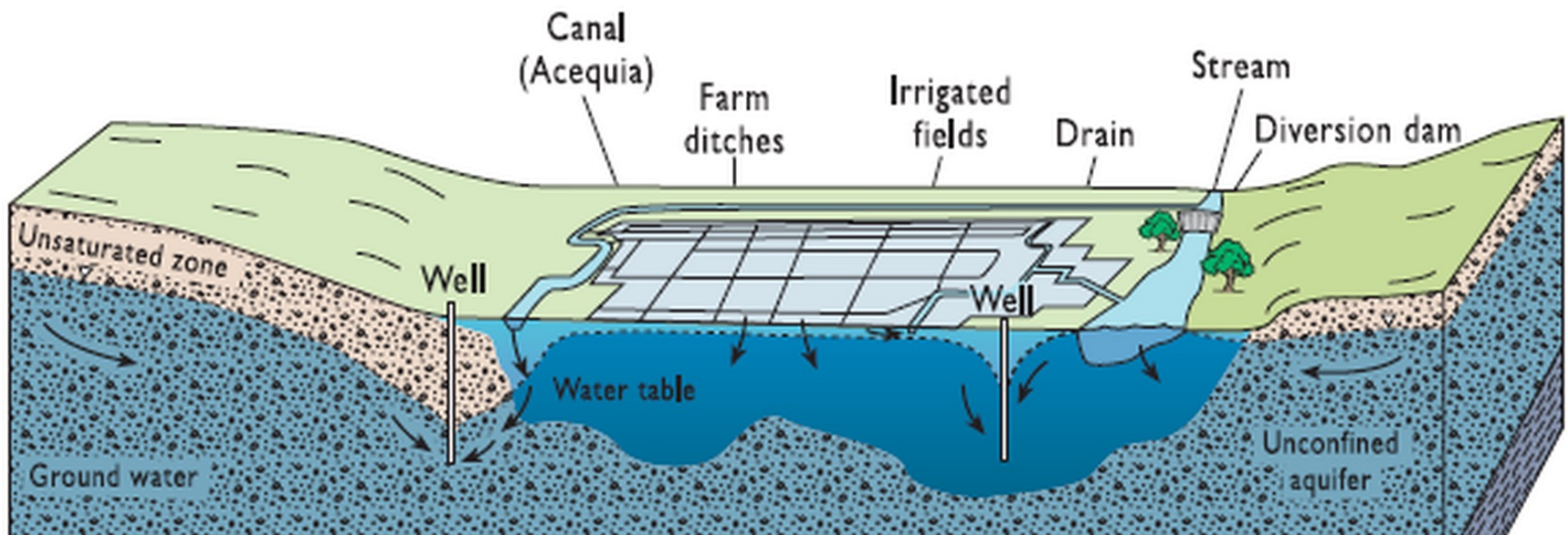


Data source: Reclamation Hydrodata database (water.usbr.gov) — daily reservoir storage, 1915–2026

Unit: 1 KAF = 1,000 acre-feet $\approx$ 326 million gallons

The Lower Rio Grande Hydrology, Plainly

The river and the groundwater are one connected system

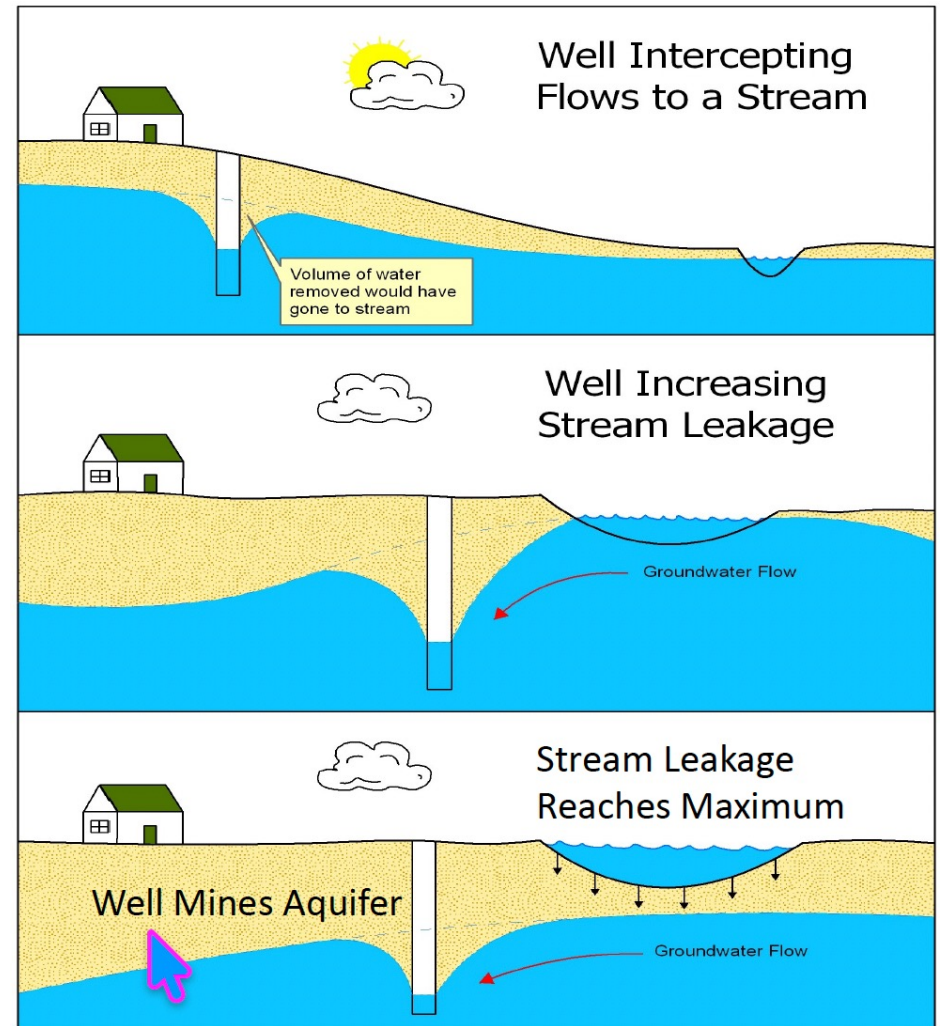


Source: "A Primer on Water: Ground Water, Surface Water and Its Development," Peggy Johnson, New Mexico Bureau of Geology and Mineral Resources, 2003.

Generalized Cross-Sectional Diagrams showing well pumping effects

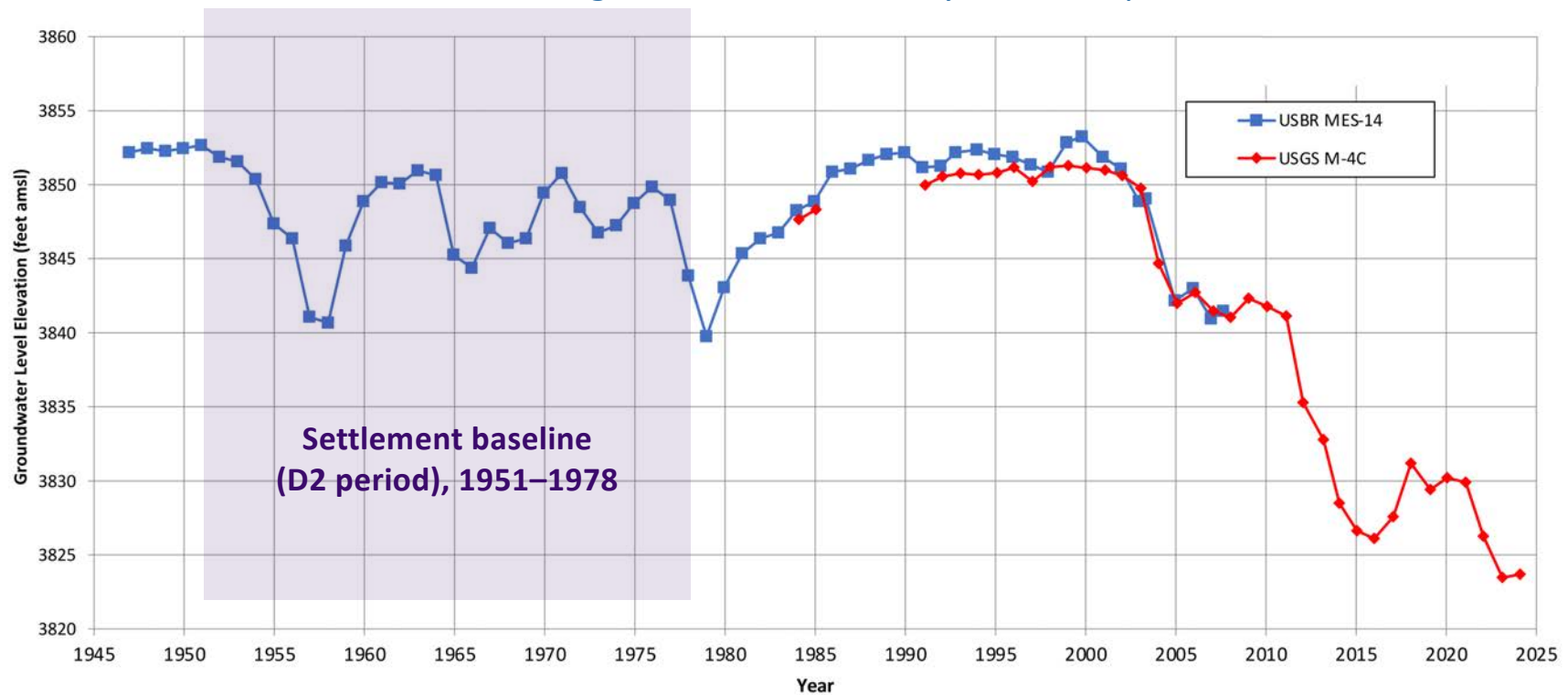
“Groundwater pumping
can intercept
groundwater that had
been heading for a
stream or actually pull
water out of a stream.”

Peggy Barroll, 2024



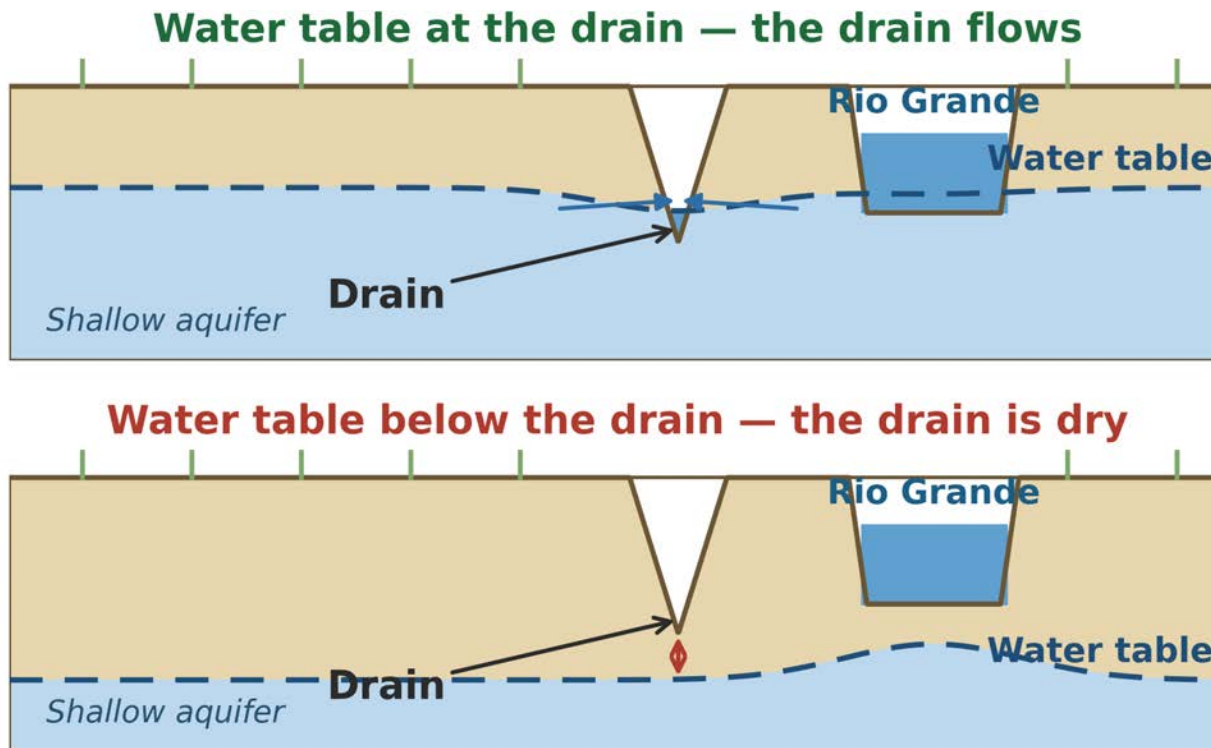
Before 2000, the Aquifer Refilled After Every Drought. Since 2002, Aquifer Water Levels have Dived.

*Middle of the Mesilla Valley, a few miles south of Las Cruces —
Reclamation's original well, continued by a USGS replacement*



Reclamation well MES-14, continued by replacement USGS well M-4C at the same site. Data compiled by the New Mexico Office of the State Engineer (P. Barroll), July 2024.

The Drains Have Gone Dry



Schematic cross-section — a drain cut near the Rio Grande. Concept after USGS Circular 1139 and Barroll (2024).

Drain returns were once a large part of the flow that reached El Paso.

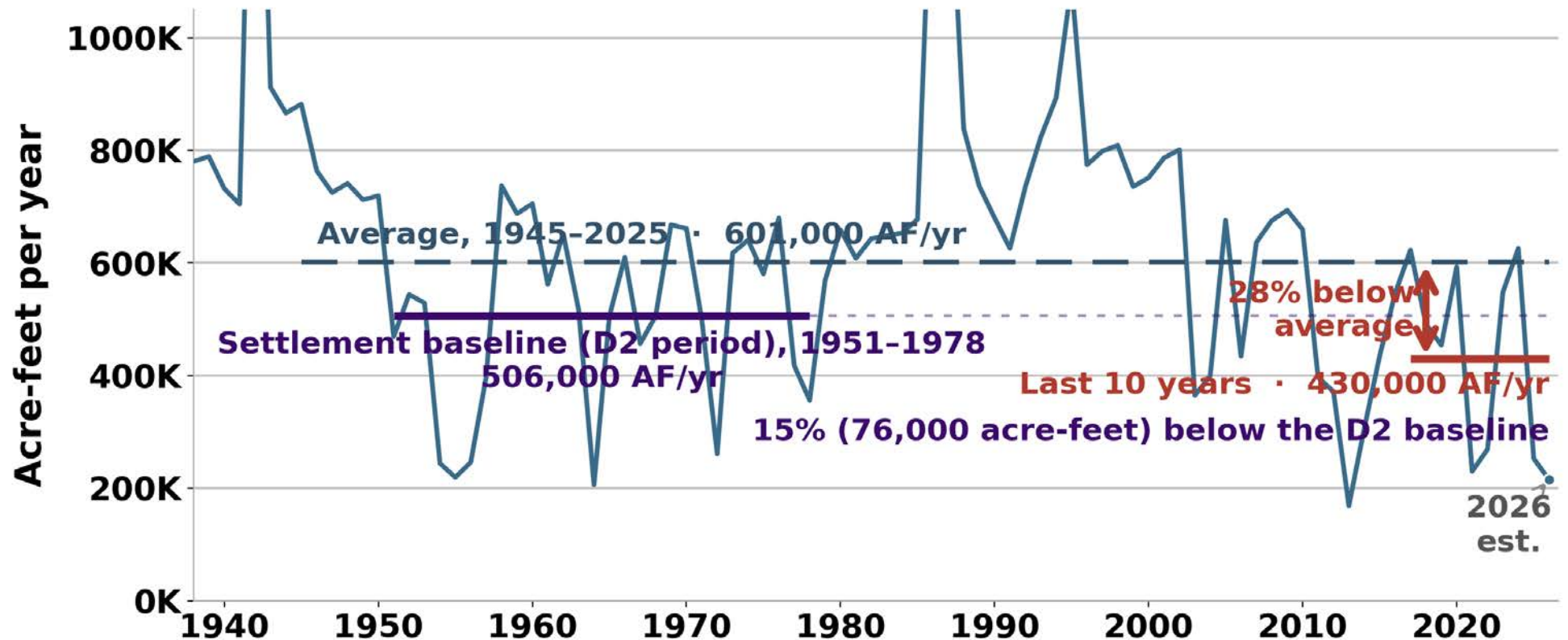
Today only the southernmost Mesilla drain still runs.

Shallow-aquifer storage is now about

185,000 acre-feet
below its 1945 baseline.

Balleau Groundwater and Erik Fuchs, from measured water levels.

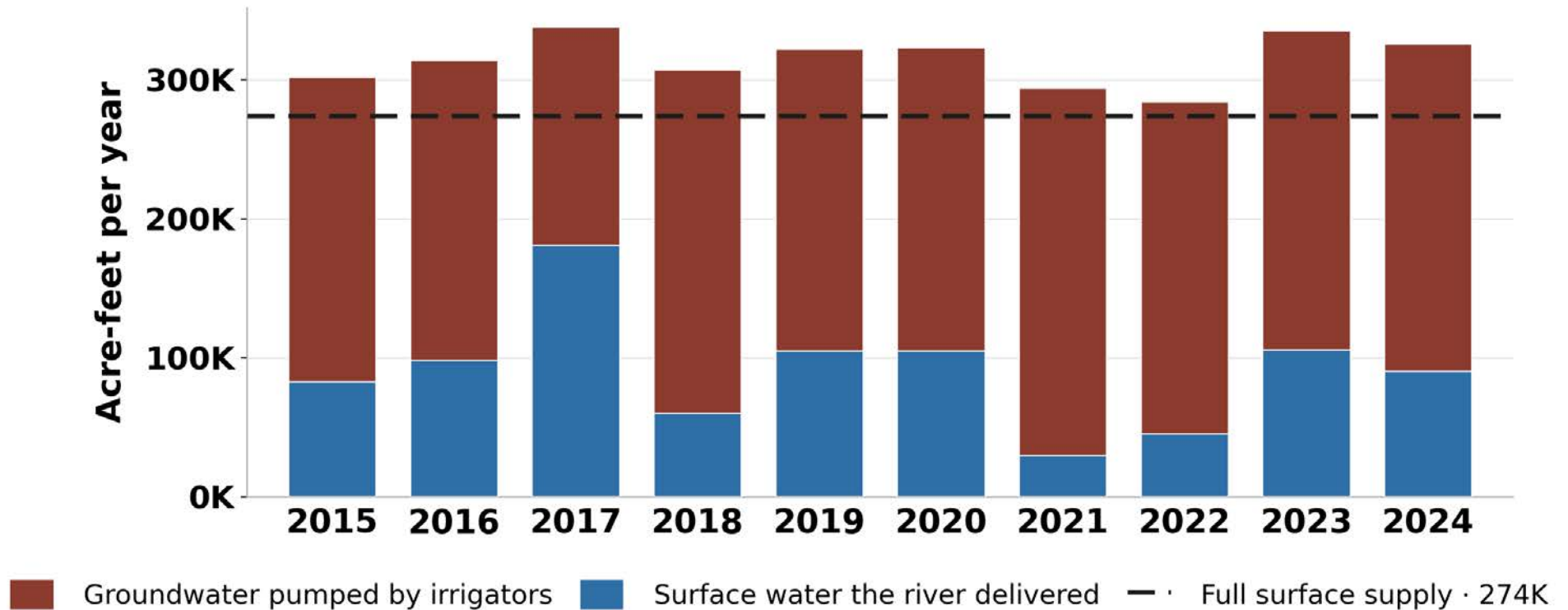
Caballo Dam Releases: The Last Decade Averages 76,000 Acre-Feet Below the Settlement Baseline Average



Annual release, Rio Grande Below Caballo Dam (USBR gage 08362500), 1938–2026. Average excludes the 1941–42 floods. 2026 estimated.

New Mexico Water Advocates | Norm Gaume | July 23, 2026

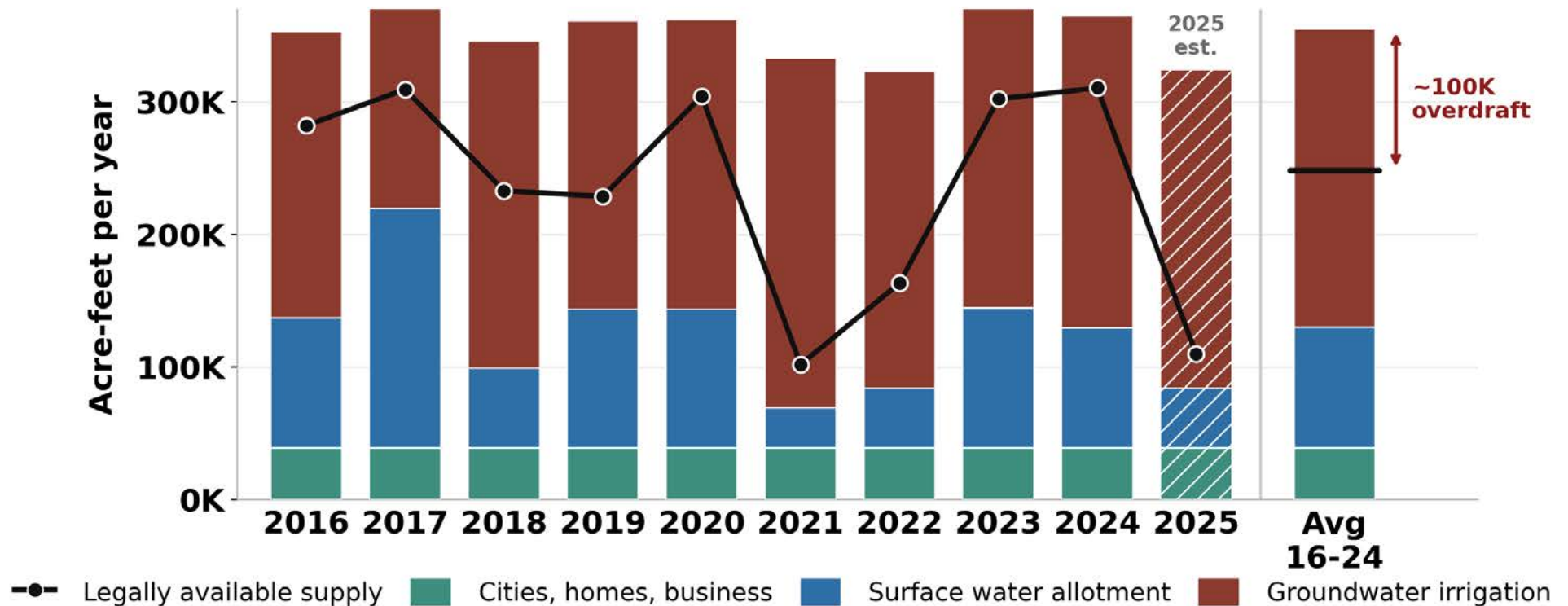
Every Year, Irrigators Divert More Than a Full Surface Water Supply



Data: Lower Rio Grande Water Master 2024 Annual Report, Figure 3 · New Mexico Office of the State Engineer

New Mexico Water Advocates | Norm Gaume | July 23, 2026

Water Use Exceeds New Mexico's Legally Available Supply Every Year



Diversions: EBID surface allotment + irrigation groundwater (OSE Water Master) + non-agricultural pumping. Legally available supply = Caballo release less the El Paso delivery obligation. 2025 estimated.

Why 18,200 Acre-Feet Is Just a Start

The Settlement mandates cutting groundwater pumping by **18,200 acre-feet per year within ten years** — 9,100 within five — through **State acquisition and retirement** of groundwater rights. **\$150 million** is allocated.

But public data available to me, summarized above, show the gap to close is **three to six times this mandate.**

And that refills nothing. Restoring drain flow — and the river's delivery efficiency — requires raising the shallow water table, which requires refilling the shallow aquifer.

The Effective El Paso Index — How the Obligation Works

Beginning in **2027**, New Mexico must deliver the Texas and Mexican treaty shares of each year's Caballo Dam releases to the El Paso gage — set by a Settlement formula expected to average about **43% of the release**.

The index-delivery formula

Index Delivery [y] =

- Streamflow at the El Paso gage [y]
- + Texas Mesilla agricultural depletions [y]
- + Texas Mesilla DCMI depletions [y]
- Delivery to Mexico at the Acequia Madre [y]
- Excess flow [y]

[y] = in year y

How shortfalls accrue

Yearly shortfalls are capped but do New Mexico no favors:

- **112,500 acre-feet** in the first five years
- **90,000 acre-feet** from the sixth year onward

A year worse than the cap still counts only up to it.

Note: The ratio of the El Paso #1 Irrigation District irrigated area to the total Rio Grande Project irrigated area is **43%**

My Professional Conclusion

New Mexico's compliance will be driven by the **rapid accrual of annual water-delivery shortfalls over the next five years** — not by the Settlement's groundwater stabilization and recovery provisions

Effective El Paso Index (EEPI) departures — the Settlement's accrued debit controls

- Accrued underdeliveries limit: **150,000 acre-feet** for the first five years, **120,000 acre-feet** thereafter — **penalty water is assessed if exceeded for three years.**
- Allocation transfer from EBID to EP1 once accrued negative departure exceeds **80,000 acre-feet** — and EBID expects to be paid for the transfer under the Settlement.
- Priority or Alternative Administration by the State is an option to paying EBID for allocation transfers.

Unaffordable Penalties — The Settlement’s “or else”

If New Mexico exceeds accrued underdelivery limits (**150,000 / 120,000 acre-feet**) for multiple years, it must deliver penalty water and take other actions in addition to paying its accrued water delivery debt

Exceed the limit three consecutive years:

deliver **12,000 acre-feet extra** for each year over the limit — **36,000 acre-feet**, with three years to deliver it.

Exceed the limit four or more consecutive years:

deliver **15,000 acre-feet** for each additional year beyond four, the year after.

Years in which the Caballo release is less than 200,000 acre-feet are excluded.

The Only Way Out

Priority administration doesn't work — **except as motivation**. The consequences are too ugly. **That seems to be its only value.**

Alternative Administration — The only way out is a negotiated water-sharing agreement

Nothing today constrains irrigation pumping in recognition of this huge problem. **2026 will add substantially to the 1.5 million acre-foot hole in the groundwater, because EBID farmers will continue to pump more than a full supply.** See slide 10.

“When you find yourself in a hole, stop digging.”

Resources the State Requires to Do Its Job

- The Legislature has passed good water laws this century — **the appropriations to implement them have been miserly.**

- **2004 Active Water Resources Management**

The NM Supreme Court in 2012 unanimously upheld the 2003 authorizing legislation and the State Engineer's implementing rules

- **2019 Water Data Act** (passed unanimously)
- **2023 Water Security Planning Act** (passed unanimously)

- **OSE and ISC** desperately need **modernization** and **capacity** - the staff, information technology, and funding to administer, regulate, meter, model, and plan — and to publish the data the **2019 Water Data Act** already requires be available to the public online.
- **NMBGMR**, the state's water-science agency, needs sustained capacity to produce the science all of this rests on — and to continue its excellent work implementing the Water Data Act.

Water Quantity Management and Planning Requires State Funding

1. Modernization

A major investment is essential to provide **modern information technology**. It's essential to **get the water agencies' water data online** and comply with the 2019 Water Data Act. **Digital business processes** must replace paper-based work. Staff capacity must be capable of handling the critical workloads they face, specifically including the **dire compact compliance emergency in the Middle Rio Grande**.

2. Active Water Resources Management

Requires devoted management attention, district-specific rules, water bank rules, and sufficient **watermaster** personnel and support to implement governance of New Mexico's water, or else NM won't have a viable future.

3. Water Supply Planning for Improved Resilience

The State must **implement the Water Security Planning Act** as soon as possible in all nine regions. ISC water planning staff numbers must be increased. The current ISC plan involves three cohorts of three regions, addressed sequentially. Each region requires a significant budget so that **water planning is a workable problem-solving tool**.

4. Aquifer Mapping Program by New Mexico's Water Science Agency

Plus expanded aquifer monitoring and stream gaging improvements. Water measurement and monitoring programs have been declining for decades. Federal agencies that New Mexico depends on have been forced to cut back.

Prevent This Path from Recurring in the Middle Rio Grande

A plain violation of New Mexico's compact delivery obligations, protracted interstate litigation, a Supreme Court decree. **That is the LRG path and you have heard the consequences tonight.**

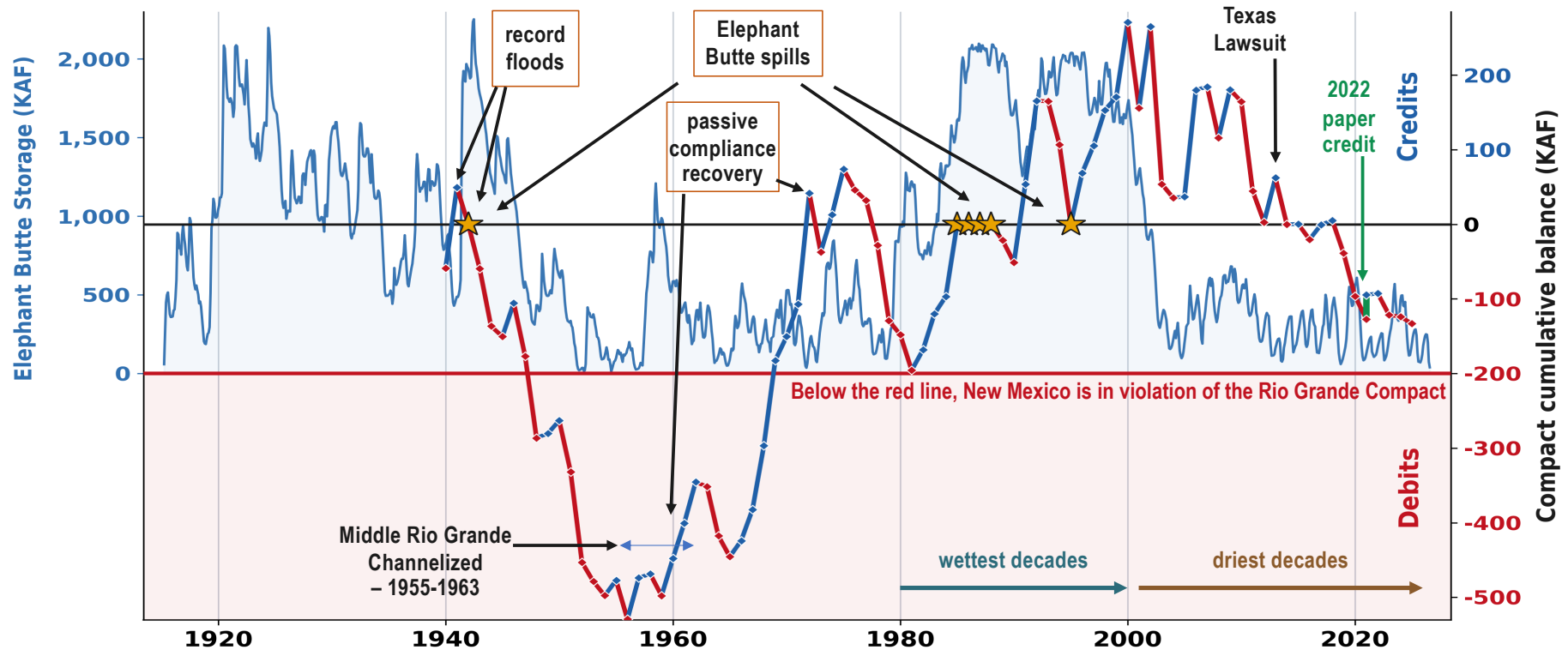
The first step in the Lower Rio Grande was a metering order, in 2004. **The Middle Rio Grande metering order still has not issued. It may be too late for the Middle Rio Grande to avoid a new Compact violation.**

The Governor and Legislative Appropriators (Rep. Small & Sen. Muñoz and the finance committees) must recognize these dire situations. New Mexico's water problems have been neglected; now they are acute. The Legislature must generously fund credible, sound solutions. It's literally existential.

**Water is Life. Without Water, There Is Nothing.
Everyone Must Do Their Part,
Especially Our Top State Elected Officials**

Rio Grande Compact History - Middle Rio Grande

Cumulative Credits & Debits Record Superimposed over Elephant Butte Storage



Data: Reclamation Hydrodata (Elephant Butte daily storage) · Rio Grande Compact Commission cumulative departure, 1940–2025 · 1 KAF = 1,000 acre-feet = 326 million gallons