

MAY / JUNE 2025

2025 NEXT GENERATION WATER SUMMIT

GREEN FIRE TIMES

News & Views from the Resilient Southwest



ISSUES FACING THE COLORADO RIVER BASIN

WHAT EVERY NEW MEXICAN SHOULD KNOW ABOUT THEIR WATER

ALBUQUERQUE'S WATER SYSTEM: SEPARATING MYTH FROM REALITY

MAIN STREAM NM: RETHINKING REGIONAL WATER PLANNING

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PUBLISHER: GREEN EARTH PUBLISHING, LLC
EDITOR-IN-CHIEF: SETH ROFFMAN
EDITOR@GREENFIRETIMES.COM
ASSOCIATE EDITOR: JAIME CHÁVEZ
ADMIN. ASST. / EXEC. CONSULTANT: THÉRÈSE WILLIAMS
DESIGN: WITCREATIVE
COPY EDITOR: STEPHEN KLINGER

CONTRIBUTING WRITERS: CHASE BARNES, SOMMER BETLEJ, CHRISTINE Y. CHÁVEZ, MIKE COLLIGNON, RICHARD ELLENBERG, ANDREW ERDMANN, NORM GAUME, SARAH GRAHAM, PAUL JAMES, CHRISTOPH LOHR, ED MACKERROW, SETH ROFFMAN, MATT RUSSELL, TOM WILMOTH

CONTRIBUTING PHOTOGRAPHERS: CHRISTIE BODE, SAGE FAULKNER, LEROY GRAFE, VIVIETTE HUNT, ED MACKERROW, ADRIA MALCOLM, SETH ROFFMAN, MIGUEL SANTISTEVAN, CALEB STOTTS

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COVER: FORMER NEW MEXICO STATE ENGINEER MIKE HAMMAN. CORRALES, N.M. PHOTO BY LEROY GRAFE

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Green Fire Times provides a platform for community-based voices—useful information for residents, businesspeople, students and visitors—anyone interested in the history and spirit of New Mexico and the Southwest. GFT’s articles and storytelling aim to document the interrelationship of community, culture, the environment and the regional economy, uniting people from all back-grounds to create innovative and sustainable solutions.

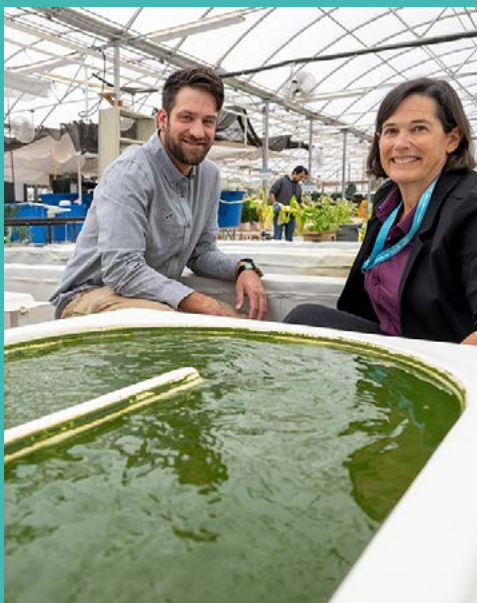
Some people write off GFT as just an “environmental publication.” If you are a regular reader, you know that the environment is but one thread of a unique tapestry that highlights time-honored regional traditions of sustainability, while promoting culturally based economic development. You will also find articles on education, renewable energy, Indigenous solutions, growing a regional food system, and a lot more. You will find thought-provoking ideas, as well as passionate opinions. The wealth of article submissions we receive demonstrates the need for the unique platform that GFT provides.

Green Fire Times is owned by the nonprofit Southwest Learning Centers, Inc. (Est. 1973). Because of the ever-increasing financial challenges of maintaining a quality print/online magazine, it is uncertain how much longer GFT can survive. Many print publications have folded or gone digital. It is important for GFT to maintain the free print copies—still widely distributed from Albuquerque to Taos, including to some rural areas—because many people from rural and tribal communities contribute ideas, articles and images and really enjoy being able to share a hard copy. The print copies also provide exposure to people who wouldn’t otherwise find GFT.



In order for GFT to build on its accomplishments and stay alive, we really need to upgrade our operations. We have reached out to potential funders and foundations, as well as advertisers. Mostly, we receive small donations from devoted readers. We have been operating on a shoestring for a long time—and it’s not sustainable. You can make a tax-deductible donation through this QR code or via PayPal on WWW.GREENFIRETIMES.COM. Or, send a check to Southwest Learning Centers (with a notation “for GFT”) to P.O. Box 8627, Santa Fe, N.M. 87504-8627. Thank you.

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MAIN STREAM NEW MEXICO
RETHINKING REGIONAL WATER PLANNING

NEXT GENERATION WATER SUMMIT 2025
WORKSHOPS • CLASSES • TOURS



Top: Acequias’ “Pala Power” march at the New Mexico capitol, February 2025; San Juan Water Treatment Plant groundbreaking; Next Generation Water Summit 2024; Bottom: Children at a Taos acequia; New Mexico landscape. Photo credits: Seth Roffman, Miguel Santistevan, Christi Bode



MAIN STREAM NEW MEXICO

Promoting a Sustainable Shared Water Future

Main Stream New Mexico is a campaign by the Interstate Stream Commission (NMISC) Water Planning Program. The NMISC is administered by the Office of the State Engineer. Main Stream provides a guide to revitalized regional water planning under New Mexico’s Water Security Planning Act of 2023. As a roadmap for New Mexico’s water future, the Act prioritizes the unique needs of local communities and the use of the best available science and data.

As part of the Act, the NMISC has been gathering public input that highlights critical priorities. The boundaries and number of water planning regions are being evaluated. There are hydrologic, cultural/social and governance considerations that emphasize the need for transparent governance, sustainable resource management and regional collaborations. Effective regional planning requires participation from pueblos, tribes and nations, and from local governments, agricultural users, acequia associations, conservation districts and others.



Main Stream Magazine
<https://mainstreamnm.org/blog/>

During the first phase of its regional water planning in 2024, more than 2,300 New Mexicans participated, including 1,600 online. Online outreach helped reach rural communities. In-person open houses were held at community centers, water district offices and city halls across the state’s 16 water regions. The meetings were accessible to Spanish speakers. While statewide themes emerged, some priorities varied by region. Some notable differences include:

The vitality of our cities, towns, agriculture and ecosystems depend on us planning and taking action today.

- In Northwest New Mexico, participants focused on respecting tribal water rights, preserving acequias and balancing urban-rural water needs.
- In Northeast New Mexico, participants’ concerns focused on agricultural water use and protecting small-scale irrigation systems.

- In Southwest New Mexico, participants prioritized drought resilience and ecological resource management in agricultural regions.
- In Southeast New Mexico, participants valued groundwater, underscoring the need for localized infrastructure and groundwater monitoring projects.

A summary of the open houses and a discussion draft are available at <https://mainstreamnm.org/data-and-reports/>. Formal rules are being promulgated this spring and summer. The final rules and guidelines will be completed later this year. ■

Main Stream Magazine, from the New Mexico Interstate Stream Commission, was created by MediaDesk, a communications and marketing agency. It was edited by Sommer Betej. You can subscribe to Main Stream’s monthly newsletter (in English or Spanish) to receive updates or visit the Get Involved page to engage in planning and taking action (<https://mail.chlmp/b38a389c1d4d/email-sign-up>).



Throughout this issue of *Green Fire Times*, you will find excerpts from some of Main Stream's articles and blogs, each with a QR link to its source, so you can read the full articles. You will also find information about and articles from some of the Next Generation Water Summit 2025's presenters. The summit brings together the building and development community and water reuse professionals to share best practices, learn about innovative water conservation and reuse techniques, and highlight what is happening in the Colorado River Basin. This edition of GFT also features other relevant articles, news and book profiles.



NEXT GENERATION WATER SUMMIT 2025 • JUNE 5–7

National Experts Gather to Explore Water Resilience in a Changing Climate

BY **CHRISTINE Y. CHÁVEZ**, CITY OF SANTA FE WATER CONSERVATION MANAGER

Santa Fe will once again serve as the nexus for groundbreaking water conversations as it hosts the 8th annual Next Generation Water Summit (NGWS) on June 5 and 6. This year's theme, *Increasing Resilience in an Unpredictable Climate*, couldn't be timelier—or more urgent.

Held at the historic Roundhouse, New Mexico's State Capitol (490 Old Santa Fe Trail), the summit will offer both in-person and virtual attendance, making it accessible to participants near and far. In a continued show of commitment to conservation and community engagement, the City of Santa Fe is offering free virtual access to all city and county residents.



The NGWS brings together leading experts, policymakers and innovators from across the country to collaborate on solutions to water challenges in a rapidly changing world. It's also a cornerstone of how Santa Fe continues to lead nationally in water stewardship—by fostering future-focused dialogue and building consensus around sustainable practices.

On June 7, the summit shifts to hands-on, local learning with free public conservation workshops, offering Santa Feans opportunities to dive into water-wise practices at home. Highlights include a guided tour of the new Water Conservation Demonstration Garden at 801 W. San Mateo, a drip irrigation workshop at the Firebird, and a tree selection workshop at Plants of the Southwest. Whether you're exploring native landscaping or refining your watering techniques, these workshops are practical, approachable and

rooted in local expertise. From high-level policy conversations to backyard solutions, NGWS 2025 offers nearly a week of innovation, education and collaboration. All sessions will be recorded and available on-demand to registered attendees, so you can participate on your schedule.

Join us June 5–7 at the Next Generation Water Summit to learn more and be part of shaping the future of water in the Southwest. For the full agenda, workshop details and registration, visit WWW.NEXTGENERATIONWATERSUMMIT.COM. Articles from some of the summit's presenters start on page 27 of this edition of *Green Fire Times*.

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MAIN STREAM MAGAZINE



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Main Stream Magazine
features articles and
interviews with water
leaders in New Mexico.

We hope the insights and
solutions in these pages inspire
possibilities and shed light on
our shared water future.



‘WALKING WATER DROPS’ AN INTERVIEW WITH PHOEBE SUINA

*The Role of Science, Culture and Community
in Stemming New Mexico’s Water Crisis*

“I think in water,” Phoebe Suina says. “I see water everywhere. I look at people, and I’m like, oh, there’s a bunch of big water drops walking around.” (Our bodies are 60 percent water, after all.)

“The history of water planning in New Mexico is in some ways a history of exclusion.” — Phoebe Suina

Avoiding a water shortage will require all of us and a lot of creative solutions.

Suina is a Dartmouth College-trained engineer, a New Mexico Interstate Stream Commissioner and the owner of environmental consulting firm High Water Mark, LLC. She’s also a member of Cochiti and San Felipe pueblos. So, for her, finding balance in nature is a cultural imperative handed down from her elders.

“The history of water planning in New Mexico is in some ways a history of exclusion,” Suina says. Inviting everyone to the table – especially representatives from communities whose New Mexico roots extend back several millennia – will make for a much richer conversation.



*Phoebe Suina
Photo by LeRoy Grafe*

But here in arid New Mexico, where climate change and dwindling water resources are throwing our hydrological cycles out of balance, even Suina says it’ll take more than mathematical models and smart policy to correct our course.



*Suina and son walk along an acequia in Peña Blanca, New Mexico
Photo by LeRoy Grafe*

ancestors lessons in gratitude and humility. Living in the high desert “was meant to be difficult,” Suina says. “But that’s okay because it teaches us not to take things for granted and to always remember to be in that balance.”

Today, thanks to climate change and decades of overuse, New Mexico’s hydrological system is out of balance. Scientists predict a state water shortage of 750,000 acre-feet within the next 50 years. That’s enough water to fill something like six billion bathtubs.

For Suina, it’s the power of community that ultimately will heal the Earth.

Suina and her colleagues are “waving red and yellow flags,” she said. Still, sometimes she feels unseen. “What do I need to do?” she asked. “Do I need to jump on the table, light my hair on fire? That’s what’s happening with climate change now. Mother Nature is on the table, lighting her hair on fire.”

Science can empower policy makers by providing justification for sweeping changes. But for Suina, it’s the power of community that ultimately will heal the Earth.

As “walking water drops,” people are part of our water system, Suina says. And just as a downpour floods a river, a collective change in behavior can transform and shape the future.

Even small changes—like turning off the tap when you’re brushing your teeth, taking shorter showers, or watering plants in the early-morning hours instead of at midday—can help restore balance, so long as we undertake them together. “If you don’t have multiple drops of water participating, it will never happen,” Suina says. “It’s accepting responsibility and acknowledging that we each have our drop of water to contribute to that shift.” ■



2025: A TURNING POINT IN NEW MEXICO’S WATER?

In the face of frequent droughts and wildfires, extreme weather and predictions of tougher times to come, it can feel hard to be optimistic. Hope may spring eternal, but when it comes to climate change, it seems to peek its head out only every once in a while.

And yet in New Mexico, there is cause for hope. “This feels like the moment in some ways,” said Hannah Riseley-White, the director of the New Mexico Interstate Stream Commission (NMISC). “We have a vision and leadership, and we have state and federal funding and good partnerships. People are anxious and willing to show up for the work ahead. I’m super hopeful that we can continue to seize upon that and leverage it for beneficial change.” This is, in part, *because* there is cause for urgency. New Mexicans are putting in the collaborative work to prepare for a future with less water.

There has been significant momentum in Gov. Michelle Lujan Grisham’s office and the Roundhouse, building on the passage of the Water Security Planning Act of 2023 and the 2024 launch of the governor’s 50-Year Water Action Plan. It provides a plan to adapt to a new and drier normal through a combination of conservation, increased supply and stewardship.

The NMISC has been observing increased community engagement in water planning all over the state. Riseley-White and her team kicked off the state’s first regional water planning process in nearly a decade last year in communities across New Mexico. At each stop, she says, they found engaged, committed community members excited to contribute to New Mexico’s water future.

New Mexico’s rural communities have the most at stake in what’s coming. “There are people across New Mexico who are feeling climate impacts right now on the landscapes where they live and work, and on their bottom lines, their income,” said Riseley-White, whose family has a rich ranching heritage in the Pecos Basin. “We should always be thinking, ‘How is this enabling and supporting and empowering communities to implement the solutions that make the most sense to them?’”

NM Interstate Stream Commission Director
Hannah Riseley-White; Farmington, New Mexico photo by LeRoy Grafe



What Every New Mexican Should Know About Their Water

1. All Our Water Comes from Rain and Snow. Then Most of It Evaporates...

Our water sources all begin as precipitation. When it rains or snows in New Mexico, over 96 percent of that water returns to the atmosphere*. Only an estimated 1.6 percent replenishes streams and rivers as runoff and 1.8 percent returns to groundwater. This means that New Mexico’s, surface-and groundwater sources can take a long time to get replenished when they are used.

**17.7 percent evaporates and 78.9 percent is used and released into the atmosphere by plants (transpiration). Together these are called “evapotranspiration”*
(<https://www.youtube.com/watch?v=BNORQ6SQSC&T=2069S>)



Dunbar, Nelia Walker, et al. *Climate change in New Mexico over the next 50 years: Impacts on water resources.* New Mexico Bureau of Geology and Mineral Resources, 2022.

2. Our Future Looks Hotter and Therefore Drier. Much Drier.

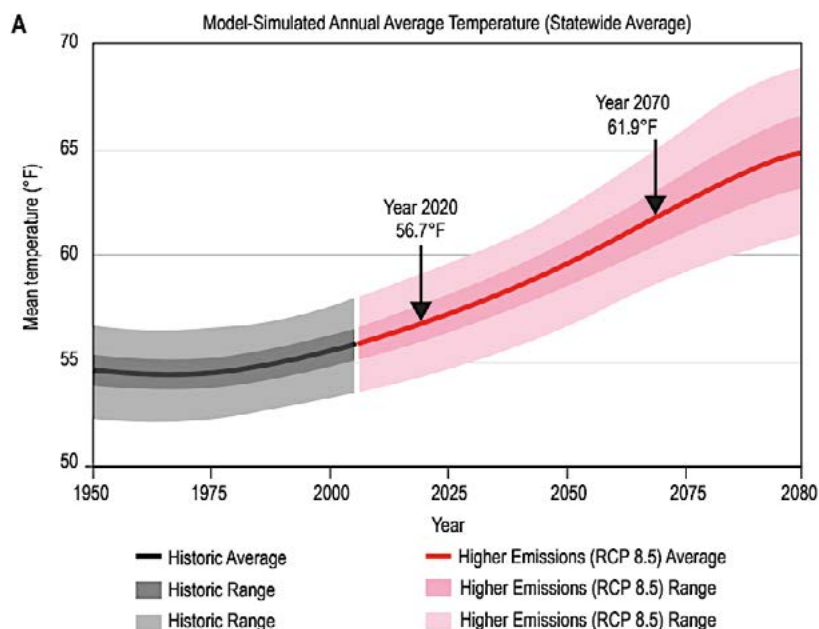
Water supplies in New Mexico are predicted to decline by 25-30 percent (and possibly more) in the coming decades. This prediction is mostly due to increasing temperatures (rather than precipitation trends). Hotter average temperatures will cause increased evaporation of surface waters, lower soil moisture levels, thinner snowpacks and earlier spring melting.

3. Our Rain and Snowfall Is Anyone’s Best Guess.

Unlike temperature, rainfall in New Mexico is all over the map. Over the last hundred years, some years have been good, others not—it is anyone’s best guess. Without a clear increase in precipitation, the hotter conditions lead scientists to confident projections of a drier New Mexico in the decades ahead.

4. New Mexico Will Have Less Water.

When temperatures are hotter, more water evaporates. This is a major concern when we think of the reservoirs that many cities, towns, river flows and industries rely on. As average temperatures increase, evaporation speeds up, and hundreds of thousands more gallons return to the atmosphere to become clouds and then rain for the cycle to continue. Here’s an example: Evaporation from Elephant Butte Reservoir is projected to increase at a rate of about 8 inches per year for every 1.8° Fahrenheit (or 1° C) increase in annual average daily maximum temperature. When we project forward, 50 years from now, New Mexico is expected to



be 5°F to 7°F hotter on average, which suggests that we'll be losing an additional 2-plus feet of water annually to evaporation.

5. We All Need to Use Less to Stay in Balance.

What does all of this mean? Over the next 50 years, the climate of New Mexico will almost certainly become warmer and likely drier than at any previous time in human history. So whether we are turning on a faucet or irrigating a field, we all need to use less to stay in balance. We also need to plan ahead, which is what New Mexico is looking to do now through the Water Security Planning Act of 2023. This is not just about individual effort, it's about community power and planning ahead. ■



UNDERSTANDING GROUNDWATER

Understanding underground water resources is particularly important in a state like ours—where nearly three-quarters of household use annually depends on groundwater and the demand for groundwater is growing each year.

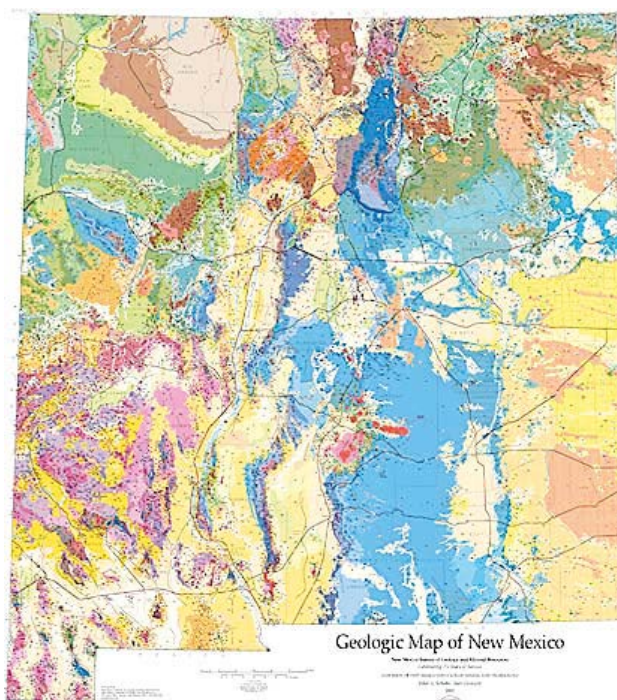
Below is New Mexico's geologic map. It has a beautiful array of colors—blues and pinks, greens and purples—and our fair share of tans, yellows, and browns. When geologists look at a map like this, they see a story about the character of the land and how water moves—not just on the surface, but underground, too. Not every state is so colorful. Geologic maps in some places have less complexity. This means their water situation (at least in geologic terms) is more straightforward. New Mexico, as you can see, is a different story. We're still learning more about what lies under the surface.

“We’re working towards a future where anyone, from researchers and policymakers to concerned citizens, can access the data they need to make informed decisions about our water resources.”

UNDERSTANDING NEW MEXICO'S WATER COMPLEXITY

There are a lot of helpful tools currently available or in the works through the collaborative New Mexico Water Data Initiative (<https://newmexicowaterdata.org>). The Initiative got its start in 2019 with partners that include the New Mexico Bureau of Geology & Mineral Resources, the Office of the State Engineer and Interstate Stream Commission, the New Mexico Environment Department and the Energy, Minerals and Natural Resources Department. Together they are working to consolidate scattered data points into a centralized place for easy and accurate access.

The Initiative recently launched the New Mexico groundwater map, an interactive map that pulls data on groundwater measurements from federal, state and municipal sources, showing where water levels are going up, staying steady, or declining. This map, which is still evolving, is a good example of how the Water Data Initiative is streamlining a wealth of information from various sources into an interactive and accessible tool, all in service to effective water planning.



United States
Geological Survey,
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NEW MEXICO WATER DIALOGUE

30TH STATEWIDE MEETING

ENGAGING NEW MEXICANS IN THE WATER PLANNING PROCESS

STRATEGIZING FOR ACTION

May 15, 2025
8:00 am to 5:00 pm

Indian Pueblo Cultural Center,
Albuquerque, NM

www.eventbrite.com/e/new-mexico-water-dialogues-30th-annual-meeting-tickets-1244085235429

The Dialogue's milestone 30th Annual Meeting will focus on increasing regional engagement in the water planning process. This is a call to action to navigate a new reality requiring informed decisions in a time of increasing hydrologic scarcity and variability.
We need to leverage available tools while identifying and creating new ones to assist with community scale decisions and actions.

WHAT IS ARIDIFICATION?

Over the past 40 years, average temperatures in New Mexico have ticked up by 2.7 degrees Fahrenheit, and scientists project another 5-to-7-degree increase by 2070. This change in our climate means our state's surface water, soil and plants will lose more water to the atmosphere—and that, in turn, will mean less water will flow into rivers or recharge groundwater supplies. In other words, as New Mexico's climate heats up, there will be less and less water to go around.

In the long term, this cycle of higher temperatures and increased evapotranspiration (that is, evaporation of water from the soil combined with transpiration of water from plants) leads to aridification, the process by which an already-arid region becomes even more arid. It's a transformation that promises to impact every aspect of life in New Mexico.

REPERCUSSIONS: WATER AND BEYOND

It's no secret that New Mexico is already an arid state. We get our water in the form of rain and snow, and then 96.6 percent of it returns to the atmosphere. That leaves a mere 3.4 percent (on average 3.2 million acre-feet of water each year) to replenish rivers, streams, reservoirs and groundwater reserves.

So, small changes to New Mexico's average annual temperature have a huge impact on water availability: If warmer days cause an increase in evapotranspiration of just one percentage point, our incoming annual water supply will decrease by nearly one-third. And, in fact, that's exactly what some researchers predict. Studies project a decrease in surface-water flows of between 20 and 40 percent over the next 50 years.

Aside from dwindling water resources, what else will happen as New Mexico becomes more arid? Here are a few impacts researchers expect, provided precipitation continues to follow existing historical patterns:

- Drier soil and lower stream flows will lead to lower agricultural production.
- Some species of plants will struggle to survive in more arid soil.
- Dry fuel (i.e. thirsty vegetation) will mean more frequent, more intense wildfires.
- Rising temperatures, coupled with a lack of vegetation, will prompt some animals to relocate to cooler climates.
- Erosion will accelerate, increasing air pollution and stream sedimentation, and compromising freshwater habitats.

Planning Beyond the Drought

It's easy to blame the Southwest's decades-spanning megadrought for our water-scarcity issues, but experts say aridification is a longer-term threat. Precipitation levels are bound to change year to year, they say, but aridification is only heading in one direction: up.

So without a way to entice the clouds to open their spigots, we're left to find innovative means to collectively conserve what we have—to use less now in order to protect our future, and to plan ahead.

The New Mexico Legislature passed the Water Security Planning Act of 2023 to engage residents in doing just that to solve our water crisis. If you'd like to get involved in planning and taking action for New Mexico's water future, visit <https://mainstreamnm.org/get-involved/>.

DISCOVERING SHARED WATER VALUES AT OPEN HOUSES ACROSS NEW MEXICO

When it comes to water, there may be more that unites us than divides us. At least, that's what we can surmise from preliminary data gathered at 16 water-planning open houses across New Mexico between April and August, 2024. The Interstate Stream Commission organized in-person events—along with an ongoing online open house—in an effort to engage New Mexicans in planning for a future with less water.

More than 2,300 people answered the call, showing up at community centers, water district offices and city halls, or answering questions online. At the in-person events, New Mexicans had an opportunity to learn more about the state's water future, communicate their concerns, and put their water-planning priorities on paper. 73 percent of participants said they prefer hydrology-based divisions over municipal or political boundaries.



NMISC Open House, Moriarty, New Mexico. Photo by Adria Malcolm

A full report summarizing data gleaned from public input will be available in the coming months. You will be able to browse the data and click through tabs near the top of the page to toggle between state, regional and online-only data to learn about how New Mexicans see the future of water in our arid state.

HERE ARE A FEW HIGHLIGHTS:

- From Albuquerque to Artesia and Roswell to Ruidoso, 53 percent of participants said they want to protect above- and below-ground water resources while ensuring enough water is available for future generations. In short, New Mexicans want balance. We value conservation, stewardship and the right to responsibly use what we have.
- When it comes to how our regions are drawn, most participants think nature knows best. The boundaries of New Mexico's water regions are being reexamined. When asked how we might redraw the lines, 73 percent of participants said they prefer hydrology-based divisions over municipal or political boundaries. That means they want water regions that are based on the location of watersheds, rivers and aquifers. As it stands, regional boundaries follow a combination of political, cultural and hydrological borders.

SO, WHERE DO WE GO FROM HERE?

Public input is the heart of New Mexico's water-planning process, and the Interstate Stream Commission will return to gather more feedback at various stages in this process. These insights will inform everything from regional boundaries to conservation strategies to funding priorities. Navigating our water future is a complicated task, and that's why we need your help. Together, we can find the balance and security we all value.



NMISC Water Planning Managers at an Open House in Moriarty, New Mexico.
Photo by Adria Malcolm

HOW DATA CAN INSPIRE ACTION: A LOOK AT WATER USE BY CATEGORIES

*A fascinating glimpse into the state's water use
as we plan for a water-scarce future*

Water demands are expected to grow, while scientists predict at least 25 to 30 percent less available water in New Mexico over the next 50 years, thanks in large part to human-caused climate change. That is why it is so important for us to do our part and only take what we need—no more.

New Mexico's farmers have made the most of scant resources for thousands of years. Since 2000, farmers have flexed their conservation muscles, reducing their use from 3.2 million acre-feet to 3 million acre-feet. Some of that reduction has not been voluntary. "New Mexico is working hard to find ways to compensate farmers for doing things like fallowing their fields, for example, but most of the reduction in use comes from involuntary conservation," says Paul Harms, a water resources specialist at the Water Use and Conservation Bureau. "When there's less water coming in, districts have less water to send to farmers. And we'll probably see more and more of that in the future."

A few other insights from the Water Use by Categories Report:

- Nearly 7.5 percent of New Mexico's total water use in 2020, or 283,000 acre-feet (1 acre-foot is enough water for around 3-4 households for a year), can be attributed to evaporation from the surface of the state's largest reservoirs. This is likely to increase as temperatures rise statewide.
- New Mexico used about the same amount of groundwater as surface water in 2020. That's a change from 2000, when about 55% of our water came from surface water. That extra groundwater use puts a strain on aquifers, which can be slow to recharge.
- The commercial, industrial, mining, power and livestock industries together used 6 percent of the state's water in 2020, or about 226,000 acre-feet.

Now that the Water Security Planning Act of 2023 has been fully enacted, water stakeholders, empowered through Regional Water Planning Councils across New Mexico, are getting to work to plan for a drier future. They will use the report's water usage and population data to help prioritize projects. They'll also likely use the New Mexico Water Data Initiative (<https://newmexicowaterdata.org>), a collaboration of several state agencies, including the Interstate Stream Commission (NMISC), that have a stake in water planning. The site consolidates water data into a centralized repository.



MAY 16-18, 2025



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Cristina Rivera Garza, Miranda July,
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and many more

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WHY BOUNDARIES MATTER

Where Water Planning and Infrastructure Projects Begin: Water Regions

Water resources vary a lot across a state as large and diverse as New Mexico. What works in the arid southwest looks different than what works in the mountainous northeast or on sovereign tribal land. That's why water plans and infrastructure projects in New Mexico need to start from the ground up. They come from within each community and through New Mexico's water regions.

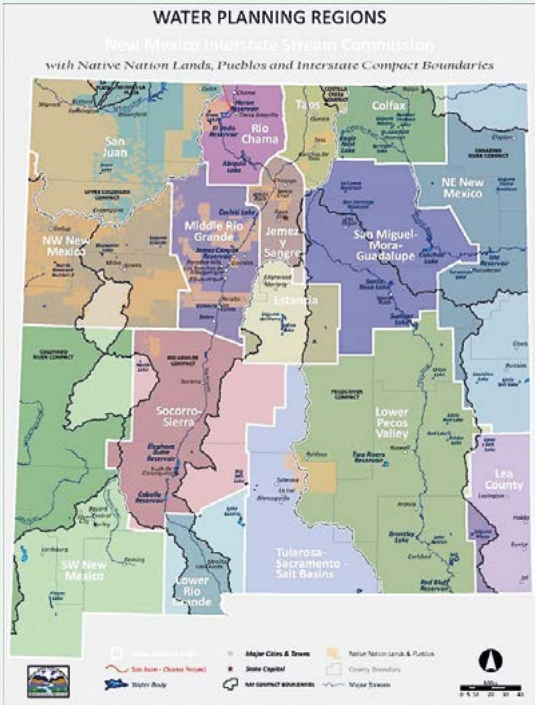
Boundaries are important—especially when it comes to New Mexico's water

Angela Bordegaray, a seasoned water planner and native New Mexican with over 20 years of experience in desert water systems, suggested imagining water regions like mini-governments; they are often composed of a mix of elected officials and water or community leaders who work together to make decisions that directly impact people and communities on the ground. She explained, "Regions guide... They create the plan, make decisions about what is needed, and pursue and receive funding for projects that help meet those needs."

New Mexico's 16 regions were drawn up decades ago. In most cases, they follow political boundaries (counties, cities, etc.) or watersheds and rivers. Political boundaries are useful when it comes to project funding, facilitating federal and state funds for localized water projects. Watersheds and rivers, on the other hand, create intuitive borders based on natural resources.

When describing today's water regions, Angela noted: "Like any map, it will never match the territory, and when it comes to water, there are not only political and natural resource considerations; there are cultural dimensions. She emphasized, "Culture plays a significant role in water management, particularly in New Mexico, where various stakeholders have significant influence." Effective water regions need

to consider the values, norms and traditions of the communities they represent alongside political and hydrological factors.



New Mexico's water planning regions with Native Nation lands, Pueblos and Interstate Compact Boundaries (2024)

TRADING WATER POLICY MEETINGS FOR TRACTOR RIDES

An Interview with Former State Engineer Mike Hamman

Mike Hamman's first lessons in water management took place along a Taos acequia when he was 15 years old. When the time came to irrigate his parents' large property, Hamman's father would send him out to the ditch. "I had to figure out a way to negotiate with folks and to make sure that when it was our time, we were able to get the water," Hamman says. "I called it 'ditch bank politics.'"

Those early negotiations drove a lesson home for Hamman that he has carried with him throughout his career: The water business is really a people business. From his early work on water infrastructure projects to the office of the state engineer and, now, to the two-acre plot that he farms in retirement with his wife and adult children, he's realized that water is about connection and compromise and working together to make something precious last.

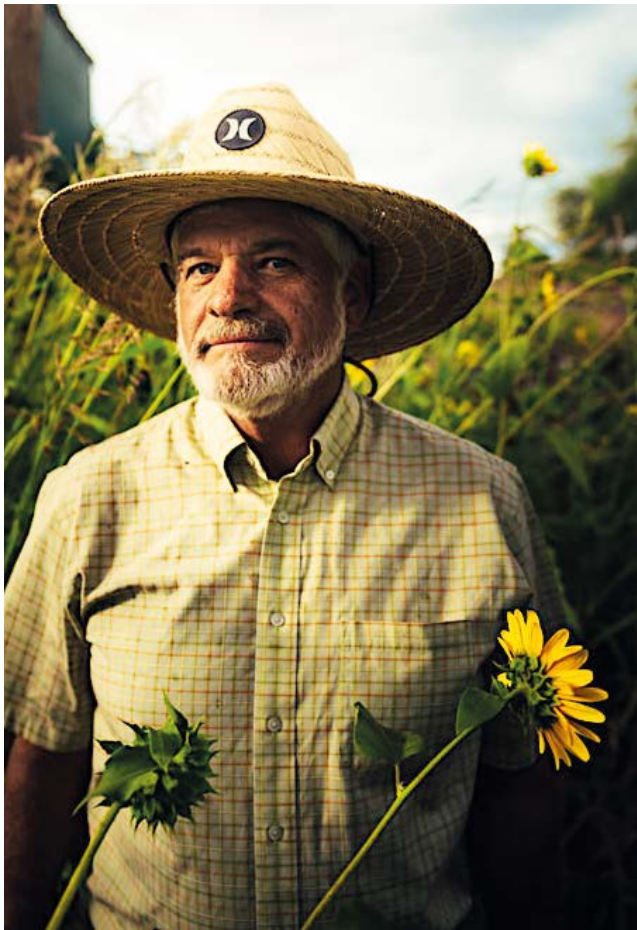
Water is about connection and compromise and working together to make something precious last.

He grows berries, melons, corn and chile and watches stone fruits ripen in the orchard. Hamman knows water is not a resource to squander, so he's set up what's called a conjunctive-use agreement (www.watereducation.org/aquapedia/conjunctive-use) on his property. Think of it as a promise to balance your use of groundwater and surface water in the most responsible way possible. In times of drought or when surface water dwindles late in the season, you reserve the right to draw on groundwater. In times of plenty, you use surface water instead, giving aquifers a chance to replenish.

Conjunctive-use agreements are good for the planet, but they can be time-consuming and expensive to set up. They require permits and infrastructure improvements and the use of multiple water systems, including wells, rainwater catchment and ditches and canals. Hamman knows farmers need access to reliable water sources, especially in the face of a worsening climate crisis, but a solution isn't viable if it's too expensive for most farmers to implement.

As state engineer, Hamman advocated for New Mexico's family farmers, pushing for solutions that make it easier to weather times of scarcity—things

Farmers need access to reliable water sources, especially in the face of a worsening climate crisis, but a solution isn't viable if it's too expensive for most farmers to implement.



Former New Mexico State Engineer Mike Hamman.
Corrales, N.M. Photo by LeRoy Grafe

like farm-to-farm leasing programs that allow water rights owners to lease unused water to neighbors or borrow from neighbors when they're in need.

"We have to fundamentally change our agricultural policies, both from a climate- and carbon-footprint perspective and also in thinking about food supply as the water situation becomes more dire," Hamman says.

Farmers need other options, too, he says. Grant money shouldn't only be available to "the big dogs" who have the time and resources to apply. Hamman also points to the federal Agricultural Conservation Easement Program, which protects land for agricultural use and pays farmers to implement more conservation measures such as letting marginal cropland lie fallow to improve soil quality and crop yield. The solutions, Hamman says, are there. It's just a matter of building awareness and increasing access. That, he says, is where regional planning will make all the difference. ■



GLOBAL WATER STRESS

From the World Resources Institute

Globally, half of the world's population is exposed to extremely high water stress at least one month a year. By 2050, that number could be closer to 60 percent. The most water-stressed regions are the Middle East and North Africa, where 83 percent of the population is exposed to extremely high water stress, and South Asia, where 74 percent is exposed.

What is causing global water stress? Across the world, water demand has more than doubled since 1960 and is projected to increase by 20 percent by 2050, while the number of watersheds facing high year-to-year variability, or less predictable water supplies, is expected to increase by 19 percent.

Increased water demand is often the result of growing populations and industries such as irrigated agriculture, livestock, energy production and manufacturing. At the same time, lack of investment in water infrastructure, unsustainable water-use policies and increased variability due to climate change can all affect the available water supply.

Water stress, the ratio of water demand to renewable supply, measures the competition over local water resources. The smaller the gap between supply and demand, the more vulnerable a place is to water shortages. A country facing "extreme water stress" means it is using at least 80 percent of its available supply. "High water stress" means it is withdrawing 40 percent of its supply.

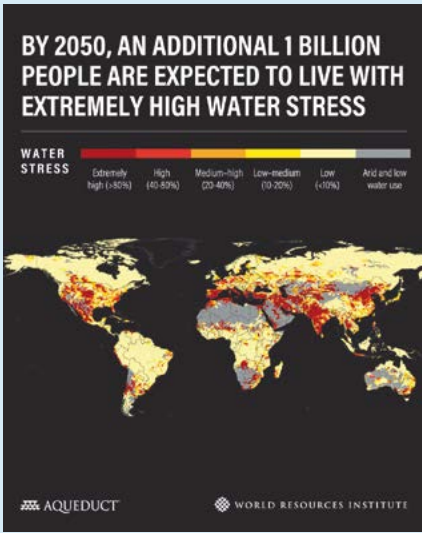


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NEW MEXICO'S WATER DEBT

New Mexico's water debt is moving ever closer to noncompliance with the Río Grande Compact. That could mean another costly legal battle over the interstate agreement intended to keep the peace with downstream Texas and upstream Colorado. The state engineer estimates that this year, the state will owe 123,000 acre feet of water; an acre foot is the volume needed to cover an acre with a foot of water. New Mexico will be in violation of the compact if that debt exceeds 200,000 acre feet. With a dry year expected, it may be difficult for the state to meet its obligations.

Hydrologists and Texas know groundwater used for flood irrigation in New Mexico depletes surface flows south of Elephant Butte, which is Texas' water. That's why Texas sued New Mexico.

The federal government's position is that groundwater pumping is not sustainable at levels currently enjoyed by Southern New Mexico's alfalfa, cotton and pecan farmers. Hatch also gets a portion of the water for chile.

In 2024, in a 5-4 decision, the U.S. Supreme Court struck down a water-sharing agreement hammered out over a decade between New Mexico and Texas, with Colorado's acquiescence, over the compact. In April, New Mexico went through another round of mediation in a Texas lawsuit over the compact. Mediation is ongoing; a trial is scheduled to start on June 9.

A fact sheet produced by the Office of the State Engineer explains the ripple effects of another lawsuit, which could happen this year. "A compact violation could trigger curtailment and/or costly litigation that may result in severe and unpredictable shocks to the economy and water supply for agricultural and municipal users in the middle and lower Río Grande." The document advocates for more water management in the Middle Río Grande and additional resources.



The Río Grande in New Mexico

WATER OVERUSE AND LEGAL CRISIS AHEAD

We Need to Change the Trajectory of Compliance with the Río Grande Compact in the Middle Río Grande.

1. We are likely at the beginning of a record dry year for the Río Grande in New Mexico. The Bureau of Reclamation's February 2025 Río Grande Annual Operating Plan projects extensive dry river conditions from Albuquerque south.
2. The Interstate Stream Commission (ISC) staff report presented in March said the feds will store record amounts of water for Pueblo prior and paramount uses. There may not be enough runoff to meet the storage goal.
3. We must deliver 57 percent of the native water runoff at Otowi to Elephant Butte. Is this possible if the runoff peak is stored and consumed to meet prior and paramount water rights?
4. Río Chama snowpack water equivalent began setting historic record lows in April. New minimum record lows are being set daily. Meanwhile, the Upper San Juan snowpack is at 3 percent. San Juan-Chama Project water deliveries will be at record lows—less than half of the “firm yield” we planned for in the 1990s.
5. New Mexico's Río Grande Compact accrued water delivery debt increased to minus 124,000 acre-feet. Accrual of another 76,000 acre-feet of debt will cause a new compact violation and a new Texas lawsuit before the U.S. Supreme Court. We are in dangerous territory.
6. The state engineer's Río Grande Compact compliance fact sheet for the Legislature said, “A compact violation could trigger curtailment and/or costly litigation that may result in severe and unpredictable shocks to the economy and water supply for agricultural and municipal users in the Middle and Lower Río Grande.”
7. The Legislature didn't fund the governor's modest \$0.5 million increase to the state engineer's budget to prevent the pending violation.
8. The Legislature didn't pass the state engineer's bill providing for effective administrative enforcement against illegal water use.

A CALL TO ACTION

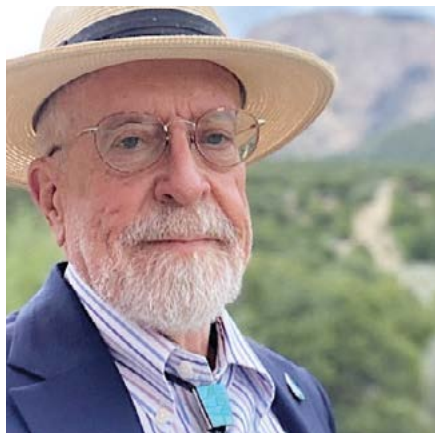
Reinstating compact compliance staff cut from the budget request must be a top priority. The state engineer cannot meet this challenge without them. This crisis can't wait until the Legislature reconvenes in January. Two critical avenues remain.

1. Engage the Legislative Interim Committees.
 - Urge committee chairs—especially Legislative Finance and Water and Natural Resources—to hold hearings on compact compliance.
 - Provide clear presentations connecting snowpack and flow data to our legal obligations.
 - Emphasize the stakes and costs of not confronting the crisis.

2. Press State Agencies to Act Now.

The ISC and Office of the state engineer already have:

- Statutory authority to confront and manage this crisis
 - Clear legal obligations to deliver compact water and enforce priorities, and
 - Substantial human and budget resources
- They Must Immediately:**
- Declare an emergency
 - Declare compact compliance a top priority
 - Publicly assess delivery risk and publish a response plan
 - Communicate and coordinate with all water users to reduce depletions
 - Implement the Active Water Resource Management framework now ■



Norm Gaume, P.E., former director of the Interstate Stream Commission, is president of New Mexico Water Advocates.
[HTTPS://MRGWATERADVOCATES.ORG](https://mrgewateradvocates.org)

ACEQUIA DAY AT THE CAPITOL

Acequia leaders from across New Mexico gathered at the state capitol on Feb. 11, Acequia Day, with a call to action for clean water and recurring infrastructure funding for land grants, acequia projects and disaster recovery. The day included a Pala (shovel) Power march around the capitol and a program of speakers and performers in the rotunda.

“Acequias are vital to our future. We are supporting the local agricultural economy and our cultural heritage,” said Harold Trujillo, president of the New Mexico Acequia Association (lasacequias.org). The acequias' budget priorities included building capacity for the New Mexico Acequia Commission to be an effective policy advisory body on acequia-related matters. They also advocated for legislation to create a surface-water permitting system to fill a gap in federal clean water protections. That bill made it through the Legislature and was signed by the governor, but a separate appropriation into a trust fund of at least \$5 million each for land grant-merced and acequia infrastructure project funds did not pass.



“Pala (shovel) Power” march at the Roundhouse, February 2025; Center: New Mexico Attorney General Raul Torrez speaks in support of acequias; Bottom: NM Acequia Association President Harold Trujillo. Photos © Seth Roffman



Top: Legislators Leo Jaramillo, Bobby Gonzales and Joseph Sanchez; NM Acequia Association executive director Paula García; written hopes from acequia communities; “Pala Power” march; Bottom: NM Acequia Commission Chair Mary Mascareñas; Rep. Pete Campos.
Photos © Seth Roffman

2025 NEW MEXICO WATER LEGISLATION

New Mexico’s waters achieved some major victories in the 2025 state legislative session. Governor Michelle Lujan Grisham signed the following bills into law:

House Bill 137, also known as the Strategic Water Supply Act, a key component of the governor’s 50-year Water Action Plan to protect the state’s freshwater, is a \$40 million grant program to treat and reuse brackish aquifer water. The measure gained broader support after a provision allowing the reuse of fracking wastewater was removed. The governor, however, said that she isn’t willing to give up on the reuse of “produced” water. HR 137 also secures \$19 million for aquifer mapping and funding for local projects.

A 2023 U.S. Supreme Court decision took away federal protections for intermittent streams and wetlands, which resulted in 95 percent of New Mexico’s water being left unprotected.

Senate Bill 21 allows the state to take over administration of discharge permits to protect surface waters from the U.S. Environmental Protection Agency. It gives New Mexicans control over the quality of surface water and creates a new program to clean up legacy contamination. It means that clean water can flow into the Río Grande so that communities can have water for irrigation and habitat can be protected.

House Bill 212 places state regulations on PFAS (“forever chemicals”) and seeks to phase out certain products containing the chemicals. It also shifts cleanup costs from taxpayers to polluters, while exempting certain “critical” industrial applications.

Senate Bill 37 cemented improvements to the Strategic Water Reserve. The reserve, created in 2005, allows the Interstate Stream Commission (ISC) to acquire water or water rights through voluntary transactions. This water can be kept in New Mexico’s waterways to meet the state’s obligations under interstate compacts and benefit threatened or endangered species. The bill also adds aquifer recharge, an essential use that supports healthy groundwater levels. Lastly, it allows the ISC to prioritize transactions that benefit supplementary uses, like recreation or cultural uses.



Governor Michelle Lujan Grisham signs legislation

NEW MEXICO WATER QUALITY CONTROL COMMISSION'S PRODUCED WATER RULE

The New Mexico Water Quality Control Commission is about to adopt a rule prohibiting the discharge of “produced water” to New Mexico’s ground and surface waters. Produced water is a waste byproduct of oil and gas operations (fracking) that contains hundreds of known and unknown chemicals, many of which are toxic to human health and the environment.

The commission, however, carved out an exception to the prohibition that would allow “pilot projects” to discharge up to 84,000 gallons per day of treated produced water to groundwater. There was no evidence presented to the commission that a discharge to groundwater of such a magnitude will not contaminate aquifers. It is unclear why the New Mexico Environment Department’s (NMED) representative on the commission voted against the recommendation of five NMED scientists.

The NMED petitioned the commission in December 2023 to adopt a rule to prohibit all discharges of produced water to ground and surface waters. NMED based its petition on the best available science. The state of New Mexico does not have surface water quality standards for at least 180 potentially toxic chemicals in produced water.

The New Mexico Oil and Gas Association opposed the discharge ban, although one of NMOGA’s experts testified that produced water discharge at scale is premature.

The commission will review the final rule language at its May 13 meeting before final adoption.

THE 9TH ANNUAL RÍO CHAMA CONGRESO

Collaboration Amid Change

BY ED MACKERROW

The 9th Annual Río Chama Congreso took place on Feb. 27, 28 and March 1, 2025 at Ghost Ranch near Abiquiú, New Mexico, drawing together land and water managers, farmers and ranchers, community members and conservationists focused on the health of the San Juan–Chama watershed.

The Río Chama watershed is the largest tributary basin to the Río Grande in New Mexico. The San Juan Chama Project diverts water from the San Juan River basin across the Continental Divide via tunnels and siphons into the Río Chama, supplying 70-75 percent of Albuquerque’s and 50 percent of Santa Fe’s drinking water. This has reduced both cities’ reliance on groundwater, securing their long-term water supplies. Preventing forest fires and the subsequent post-fire debris flows in these source watersheds is crucial for New Mexico’s water security.

Both opportunities and challenges marked this year’s Río Chama Congreso. Amidst drought conditions and below-average snowfall over the winter, water supply and wildlife forecasting for the upcoming summer showed a disturbing outlook for the region and downstream water users. Congreso presentations showed how local efforts in forestry and stream restoration projects are strengthening watershed resilience, while federal workforce reductions are impacting stewardship and planning for safeguarding vital watersheds.

KEY THEMES AND HIGHLIGHTS

- The central focus was on riparian health and river restoration within the Río Chama watershed, a crucial tributary of the Río Grande that supplies water for drinking and agriculture across New Mexico.
- The event was run in partnership with the 2-3-2 Partnership, a collaborative effort among agencies and organizations aimed at restoring natural fire regimes, promoting resilient landscapes, and supporting the economic and cultural vitality of the region’s communities.
- The recent federal workforce reductions underscored the importance of cross-sector collaboration and the resilience of local and state partners in sustaining watershed initiatives.

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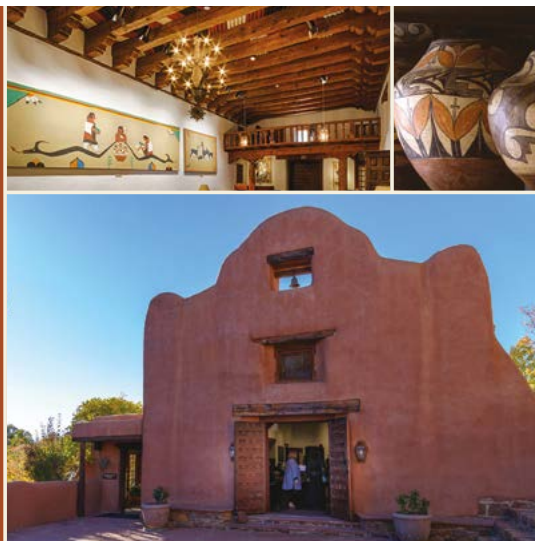


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The Río Chama winds 130 miles from its headwaters in Colorado’s southern San Juan Mountains to its confluence with the Río Grande north of Española, New Mexico—nourishing ranchlands, farms, sacred sites and vibrant wildlife habitats along its journey.
(Photo by Ed MacKerrow)



Left: 2025 Río Chama Congreso attendees listen to Steve Vrooman of Keystone Restoration Ecology demonstrating one of the restoration projects aimed at improving riparian areas in the Río Chama Watershed. (Photo by Caleb Stotts, Chama Peak Land Alliance) Right: District Forester Joe Carrillo presents the 2025 Fire Season Outlook, which predicts a concerning fire season due to the current drought (Photo by Sage Faulkner, CPLA)

PROGRAM HIGHLIGHTS

- Former New Mexico State Engineer Mike Hamman was among the featured speakers, offering insights on water management and policy in the region.
- Joe Carrillo, district forester for the New Mexico Forestry Division in the Chama District, presented the water and fire outlooks for 2025, including their inherent uncertainties.
- The Congreso included field tours of restoration projects, providing a firsthand look at ongoing efforts to improve stream and riparian ecosystems.
- A panel of landowners near Hernández discussed impacts and responses to the extreme 2024 flood, which changed the course of the Río Chama and destroyed several houses and agricultural operations.
- A screening of the docuseries “Thinking Like Water: Episode 1 – Willing to Try Things” highlighted the innovative, nature-based restoration work pioneered by Bill Zeedyk. ■

Ed MacKerrow is a professional nature photographer. [HTTPS://INLIGHTOFNATURE.COM](https://inlightofnature.com)

Resources

Río Chama Congreso: WWW.SANJUANCHAMA.ORG/RIO-CHAMA-CONGRESO-SUMMARY

San Juan-Chama Project: WWW.USBR.GOV/PROJECTS/INDEX.PHP?ID=521

Río Chama Watershed: WWW.OSE.NM.GOV/BASINS/RIOCHAMA/INDEX.PHP

2-3-2 Partnership: <https://232PARTNERSHIP.ORG>

District Forester for the New Mexico Forestry Division:

WWW.EMNRD.NM.GOV/SFD/CONTACT-US/FIND-A-DISTRICT-OFFICE/CHAMA/

Bill Zeedyk: [HTTPS://QUIVIRACOAITION.ORG/INDUCED-MEANDERING/](https://QUIVIRACOAITION.ORG/INDUCED-MEANDERING/)



9th Annual Río Chama Congreso participants on a field visit to a forest thinning project done by NM State Forestry on private land in Canjilón, N.M. (Photo by Caleb Stotts, CPLA)

COLORADO RIVER FLOWS SUPPORT TENS OF MILLIONS OF PEOPLE

More than 40 million people depend on the Colorado River. The river supports economies such as agriculture, cities and industries. It also supports energy production across the Upper Basin states and generates hydropower that serves tribes, military bases and rural communities, as well as protecting the entire Western electric grid.

The Colorado River is divided into two basins—upper and lower. The mountainous headwater states of Colorado, Wyoming, Utah and New Mexico are the upper, and the drier states of Nevada, Arizona and California, particularly Southern California, are the lower. The seven states hammered out sharing agreements and signed the Colorado River Compact in Santa Fe in 1922. It became known as the Law of the River. Remarkably, it has held together for over a century, but the Southwest megadrought that began 25 years ago has put the fragile compact at risk.

More than 90 percent of the river flow comes from the annual snowpack, which occurs almost entirely in the Upper Basin. Warming temperatures are making river flows increasingly volatile and uncertain. Annual hydrologic variability forces the Upper Basin states to manage uses with the means of the river, which hinders their ability to develop their full compact apportionment. Each year, water managers shut off water users when flows are low in order to respond to actual hydrology and the rights and obligations under the 1922 compact.

The Bureau of Reclamation, overseen by the Department of the Interior, now led by former North Dakota Gov. Doug Burgum, has imposed a September 2026 deadline for the seven states to solve the problem that the river does not—and never will have—enough water to meet the promises of the 1922 agreements.

Anne Castle represented the United States as its commissioner on the Upper Colorado River Commission. Castle, a water attorney for over 40 years from Boulder, Colo., was also assistant secretary of the Interior in the Obama administration for water and science. The Trump administration demanded her resignation. Her Jan. 20 resignation letter stated: “Edicts imposed from outside the Basin, such as recent proclamations concerning California water, based on an inadequate understanding of the plumbing and motivated by political retaliation, upend carefully crafted compromises, create winners and losers, and unnecessarily spawn the potential to adversely affect the lives of millions of people as well as the ecosystems on which they depend.”

Castle passionately advocated for 30 sovereign tribal entities dependent on the river who were blatantly ignored in 1922, two years before Native Americans were granted United States citizenship. At least until Jan. 20, they were at the table asserting their senior water rights.

BOOK PROFILES

LIFE AFTER DEAD POOL LAKE POWELL'S LAST DAYS AND THE REBIRTH OF THE COLORADO RIVER

BY **ZAK PODMORE**

TORREY HOUSE PRESS, 2024

Through a mix of science and storytelling, *Life After Deadpool* explores the West's relationship with a place that has been profoundly impacted by water management policies and our relationship with the Colorado River, the ecosystems it supports and the communities that rely on it.

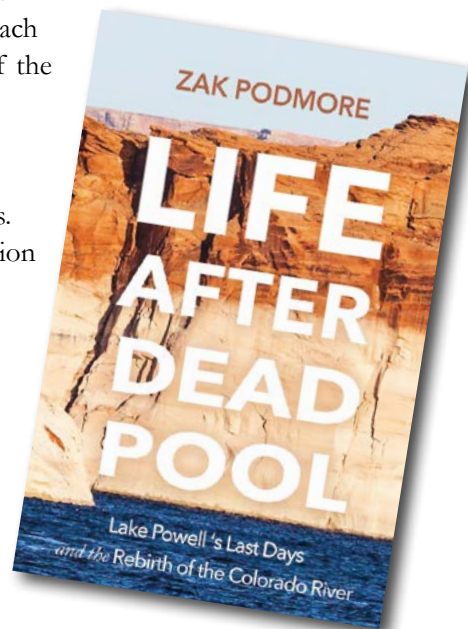
Despite the mounting challenges of climate change and uncertain hydrology, award-winning journalist Zak Podmore offers a clear-eyed assessment of the potential restoration of Glen Canyon, a future where the river flows freely once again. The book comes at a pivotal moment, as states in the upper and lower Colorado River basins remain deeply divided on proposals to reduce water usage before current rules expire in 2026.

A captivating vision of regional transformation

The book highlights the tremendous amount of water lost from Lake Powell due to evaporation and seepage. It's in an incredibly hot environment and a porous sandstone formation, not ideal for a reservoir. In the Upper Basin, these losses are accounted for under the Upper Basin Compact, directly affecting how much water the Upper Basin is entitled to. With a basin already over-allocated by two-to-four million acre-feet, and that number increasing each year, this loss represents almost a quarter of the basin-wide shortfall.

Lake Powell's plummeting elevation is approaching "dead pool" levels, Podmore says. Below this threshold, hydroelectric production would stop at Glen Canyon Dam, the lake's remaining water would be trapped, and the reservoir would fill with a glacier of mud. Downstream impacts on other waterways would be devastating. But instead of declaring a crisis, Podmore treats falling water levels as an opportunity to undo the "atrocities" of the original dam. He proposes that the dam be demolished and the reservoir drained to expose submerged canyon walls, restore native ecosystems and begin land reparations.

In addition to detailing the history of the dam's creation, the book includes fascinating descriptions of the canyon's rebirth as the waters have receded, noting the re-emergence of petroglyphs and other artifacts. A biologist declares the shoreline that resurfaced 20 years ago as "the most intact native ecosystem I've ever seen"; a research ecologist observes that each tributary canyon hosts a distinct microecosystem; and a desert-soils specialist celebrates the return of biocrust communities that slow erosion, hold moisture and support plant growth. That restoration, however, is under threat as the Bureau of Reclamation and the state strive to refill the reservoirs.



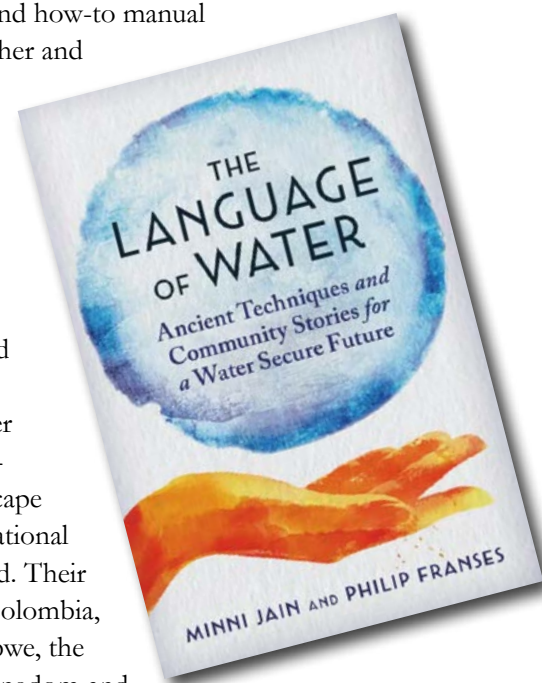
THE LANGUAGE OF WATER ANCIENT TECHNIQUES AND COMMUNITY STORIES FOR A WATER SECURE FUTURE

BY **MINNI JAIN AND PHILIP FRANCES**

SYNERGETIC PRESS, 2025

Water flows through every ecosystem, every culture and every story of regeneration. *The Language of Water* is an inspiring call to action, offering insight and solutions needed to understand water, reshape our relationship with the Earth and restore balance and sustainability.

In this practical storybook and how-to manual for addressing extreme weather and climate change, authors Minni Jain and Philip Frances draw from decades of experience with community-led management of droughts and floods using simple, low-cost traditional methods to hold the rain and recharge the land. They aim to replenish the world's water bank by facilitating local collective action utilizing landscape regeneration skills and educational models that can be replicated. Their case studies—drawn from Colombia, India, Burkina Faso, Zimbabwe, the United States, the United Kingdom and beyond—demonstrate how a rejuvenated groundwater supply can cool the atmosphere, revive local economies, restore local food sources and allow women and children greater access to education.



The Language of Water is a message of hope for everyone invested in the future of this planet, from the urban dweller who turns on the tap without thinking twice to rural dwellers whose entire livelihood, health and wellbeing can be transformed. In an era when many villages and cities are overdrawing from aquifers, directing water from floods into the sea, and relying on desalination for drinking water, this book argues that human survival will not be ensured by new, complicated hydrologic engineering and technologies, but by reviving Indigenous knowledge. With ancient methods like leaky log dams and rainwater harvesting using diversion and water-holding structures, we can intercept, slow, store and filter our water, collectively slowing global warming in the process.

Many are disconnected from their local watersheds and feel helpless to address mounting ecological crises. Healing the planet and ourselves go hand in hand. *The Language of Water* gives us a glimmer of hope that by taking effective steps to bring the Earth back to balance, we really can resolve our most pressing climate challenges.

WATER BODIES
LOVE LETTERS TO THE MOST
ABUNDANT SUBSTANCE ON EARTH

EDITED BY LAURA PASKUS
TORREY HOUSE PRESS, 2024

As the climate crisis simultaneously pinches water supplies and exacerbates flooding, some of the West’s most thoughtful journalists, poets and writers remind us that water isn’t just a natural resource to manage or a commodity to sell – nor do humans live out their lives at the scale of interstate river compacts, inter-basin transfers or 30-year projections. Rather, water is a force that’s

beguiling and seductive and a creature whose knowledge and will supersedes our own.

Contributing writers include Aaron A. Abeyta, Christi Bode, CMarie Fuhrman, Sarah Gilman, Ruxandra Guidi, Maria Lane, Chris La Tray, Desiree Loggins, Regina Lopez-White-skunk, Michelle Otero, Laura Paskus, Daniel Rothberg, Luke Runyon, Kate Schimel, Santana Shorty, Leanna T. Torres and Fatima van Hattum. This diverse group shares intimate stories of rivers and snow patches, swimming holes and ephemeral streams. The writers also explore how waters shape our landscapes and our consciousness as they consider what becomes endangered when we lose sight of the power of water.



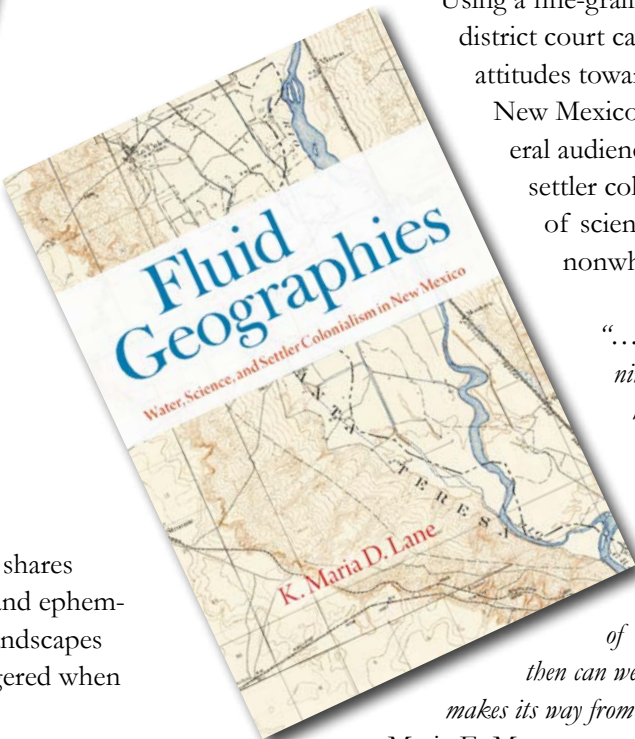
FLUID GEOGRAPHIES
WATER, SCIENCE AND SETTLER
COLONIALISM IN NEW MEXICO

BY K. MARIA D. LANE
UNIVERSITY OF CHICAGO PRESS, 2024

An unprecedented analysis of the origin story of New Mexico’s modern water management system

Maria Lane’s *Fluid Geographies* traces New Mexico’s transition from a community-based to an expert-led system of water management during the pre-statehood era. To understand this major shift, Lane carefully examines the primary conflict of the time, which pitted Indigenous and *Nuevomexicano* communities, with their long-established systems of irrigation management, against Anglo-American settlers, who benefitted from centralized bureaucratic management of water. The newcomers’ system eventually became settled law, but water disputes have continued throughout the district courts of New Mexico’s Río Grande watershed ever since.

Using a fine-grained analysis of legislative texts and nearly 200 district court cases, Lane analyzes evolving cultural patterns and attitudes toward water use and management in a pivotal time in New Mexico’s history. Illuminating complex themes for a general audience, *Fluid Geographies* helps readers understand how settler colonialism constructed a racialized understanding of scientific expertise and legitimized the dispossession of nonwhite communities in New Mexico.



“...The arrival of American politicians and engineers in the nineteenth century replaced Indigenous and community-based knowledge about how to manage water in a high-desert environment, with their scientifically based knowledge. This transition was essential to the successful completion of the settler colonial’s project of controlling the state’s most precious resource: water. Anyone in the Southwest and West who turns on their tap to get a glass of water or to nourish their garden must read this book. Only then can we understand the complex and tortured route of how water makes its way from high up in the mountains and into our homes.”

– Maria E. Montoya, author of *“Translating Property: The Maxwell Land Grant and Problem of Land in the American West”*

INDUSTRIAL AGRICULTURE
AND THE COLORADO RIVER BASIN

A recently released report from Food & Water Watch alleges the use of “staggering amounts” of Colorado River water by certain agribusiness sectors, particularly alfalfa and mega-dairies. The report says that thirsty crops are being grown to feed animals on factory farms, leaving less water for communities.

According to FFW’s report:

- In 2024, alfalfa farms consumed an estimated 2.15 trillion gallons of water across all seven basin states. Forty percent of those farms are 1,000-plus acres. That amount could supply those states’ 40 million

- people with water for three-and-a-half years.
- In 2022, mega-dairies consumed an estimated 82 billion gallons of water across six of the seven basin states. That is enough to supply over 5.3 million people with their annual indoor water needs.
 - In basin states, the average acre-feet of water applied per acre of agricultural land is 70 percent higher than the U.S. average.

In New Mexico:

- In 2024, alfalfa farms consumed an estimated 122.6 billion gallons of water. A quarter of that was on large farms (1,000-plus acres). That is a 17 percent increase from 2022.
- The average acre-feet applied per acre of agricultural land is 2.1 AF/acre, 36 percent higher than the U.S. average.

THE HEADWATERS REPORT

An authoritative source on tribal water law

In March, on World Water Day, the Native American Rights Fund (NARF) reaffirmed its commitment to protecting water, a sacred resource. NARF introduced a new, one-of-a-kind document from its Tribal Water Institute. *The Headwaters Report*, a digital blog site, bulletin and source for tribal water law information and resources, provides legal and policy insights to support tribal water sovereignty. As challenges to water access grow, the report is intended to equip tribes with tools to protect their rights.

For decades, Native nations have fought to secure the water that rightfully belongs to them. In 1908, the U.S. Supreme Court affirmed that Indian tribes are entitled to enough water to sustain their homelands. Yet, in state after state, non-Indian interests have claimed and developed water resources, often leaving tribes without the water necessary for survival. Federal inaction and policies favoring outside development have only deepened these injustices.

With growing populations, shrinking water supplies and the accelerating effects of climate change, tribal water rights are more critical than ever. Recognition, respect and collaboration with tribal governments are essential for sustainable water management.

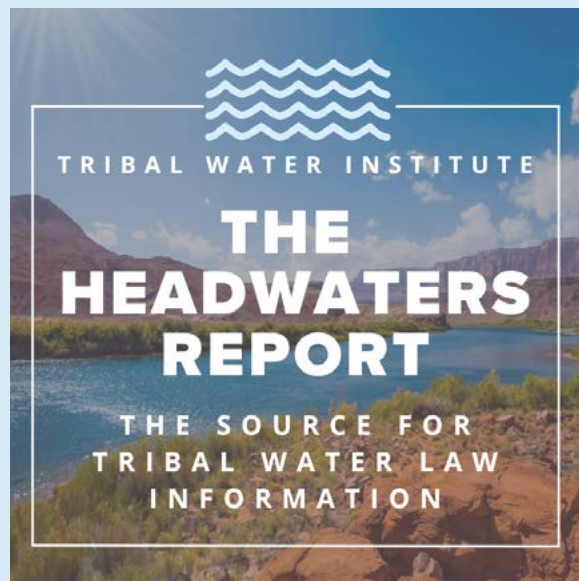
That's why NARF launched the Tribal Water Institute—to build legal expertise, advocate for policy reforms and strengthen tribal sovereignty over water resources. A key part of this initiative is the Headwaters Report ([HTTPS://NARE.ORG/HEADWATERS-REPORT/](https://nare.org/headwaters-report/)).

WATER IS LIFE

*From the Indigenous
Environmental Network*

For Indigenous peoples, protecting water means protecting entire ecosystems, languages and ways of life. When our waters thrive, so do our lands, our relations and our languages—because biodiversity and linguistic diversity are deeply connected. Colonial systems and corporations continue to threaten what our ancestors have always safeguarded, but our people remain steadfast in protecting this source of life of living relatives.

On World Water Day, we honor all water protectors who defend our sacred waters as well as the Indigenous language warriors that carry forward and protect our knowledge systems so they too can thrive and flow just like our waters.



Groundbreaking of the San Juan Water Treatment Plant, a crucial part of the Navajo Gallup Water Supply Project

THE NAVAJO-GALLUP WATER SUPPLY PROJECT

Forty percent of Navajo Nation households don't have running water. The Navajo-Gallup Water Supply Project (NGWS), a \$2.2 billion infrastructure project, will convey a reliable water supply from the San Juan River to 43 chapters in the eastern region of the Navajo Nation, the majority of which are in New Mexico. It will also supply the southwestern portion of the Jicarilla Apache Nation and the city of Gallup.

The Bureau of Reclamation project is part of a water rights agreement between the Navajo Nation and the U.S. government. In January, an allocation of \$120 million from Reclamation's water settlements fund was announced. That was on top of \$267 million released in August. Both allocations were for the San Juan Lateral segment. The Cutter Lateral was completed in 2021. It provides water to eight chapters—approximately 6,200 people and the Jicarilla Apache Nation. The San Juan Lateral is six times larger than the Cutter. It carries water from Shiprock to Gallup.

The project has two separate water transmission systems. Reclamation is building the main pipelines, pumping plants and water treatment plants. The Navajo Nation, Jicarilla Apache Nation and the City of Gallup are building the community connections. Reclamation and the Navajo Nation are also building electric transmission lines to power the pumping plants and treatment facilities. Those power lines will also likely facilitate commercial and industrial economic development.

The NGWS project is one of the largest Reclamation has ever funded and constructed. The projected cost was reduced by about \$70 million when the bureau was able to purchase a water system from the San Juan Generating Station, which has been decommissioned. As of mid-January, the project, which is to be finished by December 2029, still needed about \$600 million. New Mexico has put up \$50 million. Because Gallup and the Jicarilla Apache are not part of the settlement, they are paying part of the cost.

There have been archaeological, cultural resources discovered along the pipeline's route, which have required finding new routes in order to protect those sites.

SOUTHWEST TRIBES REVIVE CHALLENGE TO HIGH VOLTAGE TRANSMISSION LINE

Courthouse News Service

On March 27, a Ninth Circuit panel appeared likely to reverse the dismissal of a challenge to construction of a high voltage power line through Indigenous historic and cultural sites. The SunZia transmission line, approved for construction in 2023, would constitute the largest renewable, clean-energy project in U.S. history, running wind energy 550 miles from central New Mexico to southern Arizona and California. But directly in its path through central Arizona lies the San Pedro Valley—the ancestral home of the Tohono O’odham, Zuni, Hopi and Western Apache tribes.

Two of those tribes and others told the three-judge panel that the Bureau of Land Management (BLM) manipulated the statute of limitations to avoid judicial review of the agency’s study of the historic and cultural sites throughout the valley.

Joined by the Center for Biological Diversity and archeology Southwest, the Tohono O’odham and San Carlos Apache tribes sued the BLM in 2024, accusing the federal agency of violating the Administrative Procedures Act and the National Historic Preservation Act by incorrectly finding no adverse effects to historic sites to be caused by the impending transmission line construction.

A federal judge dismissed the claim, finding that the plaintiffs missed the 6 year statute of limitations. The judge said that while the construction was approved to move forward in 2023, the BLM considers the 2015 approval of the route to be the “final agency decision,” which therefore must be the subject of the plaintiffs’ challenge.

The plaintiffs’ attorney said that they didn’t sue in 2015 because the agency’s programmatic agreement with SunZia included the possibility of an alternate route to be considered based on the results of National Historic Preservation Act consultation, which wasn’t completed until much later. Because the agency implied that the route wouldn’t be finalized until consultation was completed, the plaintiffs awaited a more definite decision.

The Ninth Circuit panel seemed to agree and remanded the case to allow the plaintiffs to amend the complaint and avoid the statute of limitations.

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Gail Russell Photo Artist

Images of Light, Life and the Spirit of the Southwest



Taos Pueblo, New Mexico

Grandfather's Corn

11x14" Photograph



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Separating Myth from Reality in Albuquerque's Water System

If you live in Albuquerque, there's a good chance some of the water flowing from your tap journeyed quite a ways. It started out as snow that collected on the slopes of the San Juan Mountains in southern Colorado. In early spring, your future tap water dripped and trickled its way into tributaries of the Colorado River, building speed as it joined larger flows along the way.

Then, about 25 miles outside Chama, New Mexico, it found its way beneath the towering mountains of the Continental Divide near the Colorado-New Mexico border, rushing through a series of downhill tunnels. This engineering marvel, known as the San Juan-Chama Project, is a kind of Route 66 for water—a fast track to the high desert. Constructed in the 1960s and '70s, it delivers essential water resources, which otherwise would have emptied into the Pacific Ocean or the Sea of Cortez, to people in cities, pueblos and rural areas in parched Northern New Mexico.

Of course, this is just one of the ways water journeys to your tap. Albuquerque, like other large Western cities, can't rely on a single source—especially as climate change promises to reduce both surface water and groundwater supplies.

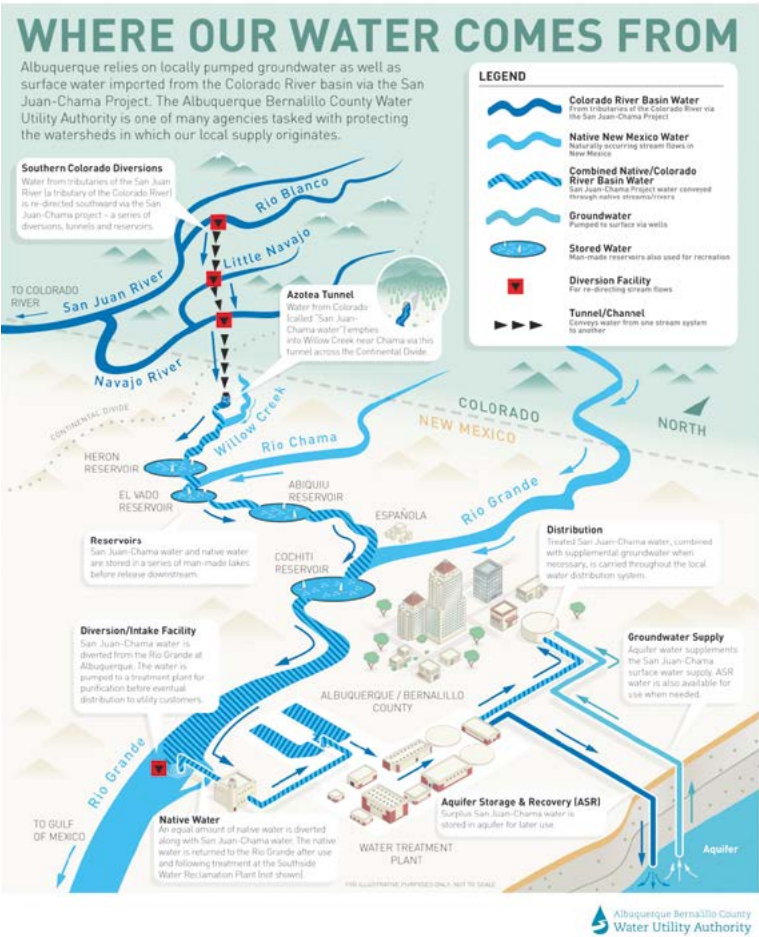
THE TRUTH ABOUT ALBUQUERQUE'S AQUIFER

Today, more than half of Albuquerque's drinking water comes from the San Juan-Chama Project, and the rest from underground. However, until 2008, the Duke City relied entirely on its legendary aquifer. In the mid-20th century, geologists and city planners thought it held as much water as Lake Superior. And so, Burqueños consumed it as such, flushing high-flow toilets with abandon and watering enough lawns to transform Albuquerque into a veritable high-desert oasis. In the words of then-Mayor Martin Chavez, "If you think you have an infinite resource, using all you want is not wasteful."

Then, in August 1993, the United States Geological Survey published a study that changed everything. Not only was Albuquerque's aquifer much smaller than originally thought, the city was using water 2-3 times faster than the aquifer could recharge, resulting in drastic drop-offs of the aquifer's level—140 feet in some areas—in just a few years' time. "That was an aha moment," says Mark Kelly, water resources division manager for the Albuquerque-Bernalillo County Water Utility Authority. "We realized we needed to get more serious about conservation, and we needed to diversify our portfolio of water sources."

The answer was staring the city in the face. The San Juan-Chama Project had come online in 1971. At the time, many folks in Albuquerque considered the project a boondoggle. With such a vast aquifer, why did the city need more water? In 2004, construc-

In the mid-20th century, geologists and city planners thought ABQ's aquifer held as much water as Lake Superior.



tion began on the San Juan-Chama Drinking Water Project, a \$450 million infrastructure investment that delivered San Juan-Chama water from the Río Grande to an Albuquerque water treatment facility.

Since the project came online in late 2008, Albuquerque's aquifer has recovered by 40 feet in some places. "We're doing really well," Kelly says. "We're only 84 feet below pre-development levels after 100 years of pumping, and we're on the rise. The goal now is to utilize our aquifer within our working parameters."



The Río Grande flows through Albuquerque. Photo courtesy VISITALBUQUERQUE.ORG



Albuquerque-Bernalillo Water Authority

A LEADER IN THE WEST

But additional availability alone can't save Albuquerque's water future. Conservation and planning are equally critical. Despite a slow start in the aftermath of that shocking 1993 USGS report, Albuquerque residents and city leaders have risen to the occasion. In 1995, the city set a goal of reducing per-capita water consumption from about 250 to

175 gallons per capita per day (GPCD). In the nearly 30 years since, the city has met and exceeded that goal, decreasing consumption to about 125 GPCD. "We've conserved very well," Kelly says. "If you look at our GPCD, we're a leader in the West, and that's all thanks to the customers and the efficacy of our conservation program."

Kelly admits it's getting harder and harder to find ways to reduce our use, in part because ongoing outreach campaigns and rebate programs that incentivize swapping out high-use appliances for greener models have been so effective. "A lot of the low-hanging fruit has already been picked," he said. "It's hard to find a high-flow toilet to replace anymore." The Water Authority's current goal is to reach 110 GPCD by 2037. To get there, the Authority is working hard to promote xeriscaping and the elimination of "nonfunctional" turf grass—that is, grass that's purely ornamental.

In 2016 the Water Authority developed Water 2120, a plan that envisions Albuquerque's water future. In a bid to ensure a stable availability of water despite an uncertain future, the plan prioritizes ongoing conservation and education, water reuse, and Aquifer Storage and Retrieval (in which unused surface water is stored below ground for future use). The plan is set to be refreshed next year to account for updated climate-change modeling and population-growth projections.

For Kelly, Water 2120 is both a reminder of the need to conserve and evidence of the Water Authority's commitment to a sustainable future. It should serve as both a call to action and a comfort—because the idea that our water outlook is dire simply isn't true. "The public has worked hard to conserve water," he says. "And yes, we should be concerned about drought and climate change, but no one needs to stop showering or any-

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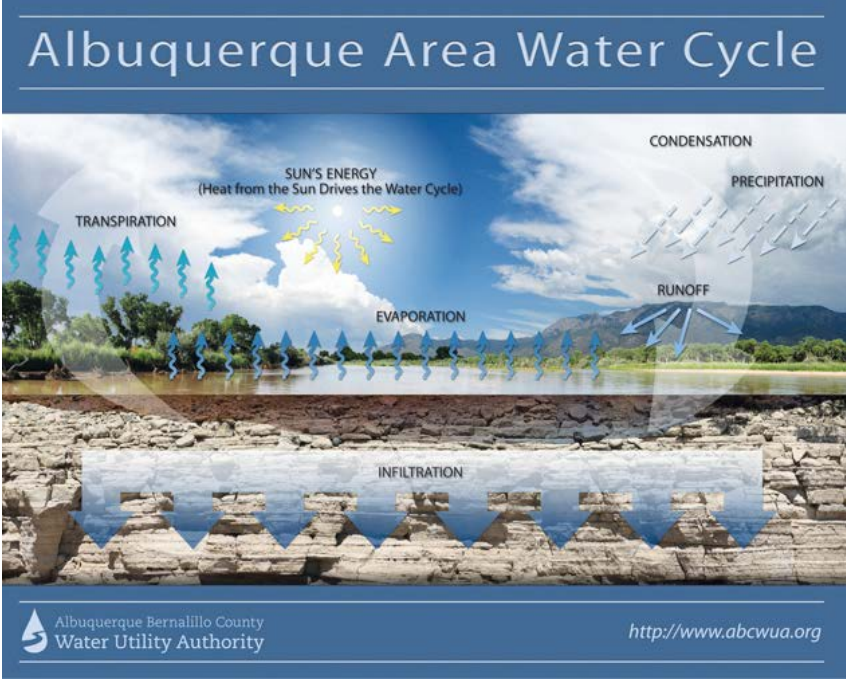
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thing like that. We want to make sure the public trusts us and realizes we do have a good plan for utilizing our water resources." ■

FROM CRISIS TO CONSERVATION LESSONS LEARNED IN SANTA FE WHEN THE WELLS (ALMOST) RAN DRY

During the spring of 2002, Santa Fe faced a mounting crisis. After decades of groundwater overuse and years of intense drought, the city's water supply was dwindling, and fast. As officials rushed to enact restrictions on water use, residents bickered about whether or not to follow them, pointing fingers at golf courses and neighbors with thirsty lawns. Times were tense, and no one knew when—or if—summer storms would roll in to wash away their fears.

“I remember at that time my mom was showering standing in buckets so she could keep her garden alive,” said Jesse Roach, a Santa Fe native who today serves as the director of the city's publicly owned water utility.

But in the two decades since that crisis—and likely, in part because of it—Santa Fe's water reality has changed substantially. Despite 25 percent population growth since 1995, the city has reduced total water use by 30 percent, making Santa Fe a national story of success in water conservation. “For better or for worse, going through that period of scarcity and contention and anger—we came out the other side with a very powerful ethic of water conservation,” Roach said. “We have a population who buys it because many of them lived through that crisis.”

Acequias and Well Fields

The story of how Santa Fe arrived at that crucial moment in 2002 mirrors the story of water in many Western U.S. cities. Over the decades, as populations swelled, water use began to outstrip supply.

Since time immemorial, populations in the area have relied on the Santa Fe River. In the 1700s, acequias were built to divert water for domestic and agricultural purposes. And then in the 20th century, as the city grew, engineers dammed the river to build two reservoirs in the Sangre de Cristo Mountains. For a while, water seemed plentiful.

Building that conservation ethic was something that occurred because we went through a really tough time.

Then came the boom years. Between 1940 and 1990, Santa Fe County's population more than tripled, from 30,000 to nearly 100,000, and water demand increased on a “classic exponential growth curve,” Roach said. By the time the drought hit in the early 2000s, city water lines drew from those two (fast-depleting) reservoirs and from 21 wells located in and around the city. As the drought progressed, water



levels fell to frightening lows. “There was almost no water in the river,” Roach remembered. “The wells had been mined and overdrafted for the previous decade, and it was suddenly very difficult for the utility to keep up with demand.”

The Santa Fe Watershed Association is working to build a thriving, resilient watershed through collaboration, stewardship and education. [HTTPS://SANTAFEWATERSHED.ORG](https://santafewatershed.org)

The city has reduced total water use by 30 percent, making Santa Fe a national story of success in water conservation.

Ten Thousand Toilets

Something had to change, so officials set to work, enacting restrictions that limited when and how frequently residents could water their landscapes—and purchasing 10,000 low-flow toilets. Toilets made before the 1990s often used three times more water than newer low-flow models. By retrofitting existing homes and incentivizing builders to install efficient toilets in new construction, Santa Fe officials reduced daily use. The city now incentivizes efficiency in other appliances, too.

“Your cheapest next gallon of water is always figuring out how to better use what you already have.”



Southside Santa Fe houses and landscape © Seth Roffman

“Your cheapest next gallon of water is always figuring out how to better use what you already have.”



Nichols Reservoir at the Santa Fe Municipal Watershed. Photo courtesy City of Santa Fe



Tierra Contenta, an area conserved by the Santa Fe Conservation Trust

Then, in 2007, Santa Fe Water initiated another forward-thinking solution: a two-tiered rate structure. In other words, more water use equaled higher per-gallon rates. “Once you hit that second tier, we’re going to send a strong signal that says, ‘You’re using a lot of water, and you’re going to pay for it on your bill,’” Roach said. He credits those two steps—incentivizing lower-use appliances and implementing a tiered rate structure—along with the strong conservation ethic established during the drought, with helping Santa Fe’s water system come back into balance.

Saving for ‘A Not-So-Rainy-Day’

Today, aquifer levels have bounced back, and the city’s wells mostly serve as a savings account for “a not-so-rainy day,” Roach said. Still, there’s more to be done to prepare the city for a dry, hot future. Experts anticipate New Mexico will have at least 25 percent less water in 50 years, and Roach said Santa Fe is already experiencing shortages as a result of aridification. Still, he remains optimistic about the future, and is committed to using the city’s existing supply strategically. “Your cheapest next gallon of water is always figuring out how to better use what you already have,” he said.

One long-sought-after solution is a plan to get credit for reclaimed water. About two-thirds of the water the city diverts from the Colorado River Basin winds up back in the water treatment plant. Permitting is underway to allow the city to return this treated water back into the river in exchange for credits for more water. If enacted, this plan will stretch a substantial portion of the city’s water three times further than before.

Roach views the project, known as the San Juan-Chama Return Flow Project, as critical to shepherding Santa Fe through the double-edged sword of climate change and prolonged drought. Environmental groups and some downstream residents worry about reduced water flows, and the quality of the treated wastewater being returned to the Río Grande.

In Search of Solutions

In some ways, Santa Fe’s success might be hard to replicate. It’s uncommon for a city of its size to have so many water sources (Santa Fe River water, diverted Colorado River Basin water and groundwater from two well fields). Santa Fe is also unique in that it is not home to water-heavy industries like large-scale agriculture or manufacturing.

Though there are stories of success in Santa Fe, Roach reminds us that much of the city’s progress came from struggle. “Building that conservation ethic was something that occurred because we went through a really tough time,” he said. “I don’t wish that on other communities.”



Avoiding those tough times will take all of us. New Mexico’s geology is varied, and there’s no one-size-fits-all solution. That means individual communities will need to come together in search of tailor-made solutions that will work for them. ■



**CITY OF SANTA FE WATER:
A MODEL FOR STEWARDSHIP**

BY **CHRISTINE Y. CHÁVEZ**

City of Santa Fe Water continues to set the standard for water conservation. Thanks to decades of sustained community commitment, the city maintains one of the lowest per capita water demands in the Southwest, earning national recognition for its efforts.

The city’s approach is inclusive, transparent and forward-looking. Community engagement tools like the Water Conservation Scorecard and participatory planning processes ensure that programs reflect both science and shared community values.

Now, Santa Fe is taking its next bold step: developing a new 10-Year Water Conservation Plan to work in tandem with the long-range Santa Fe 2100 Water Supply Plan. For the first time, these plans are being crafted in alignment, connecting near-term goals with long-term resilience to secure the city’s water future.

Innovation and Real-Time Data: A Smarter Path Forward

To support this vision, City of Santa Fe Water has invested in a new suite of science-based tools and real-time data systems. These include advanced metering infrastructure (AMI), the EyeOnWater app, the City Water Resources Indicator, the STEWARDS model and integrated Demand and Water Resources dashboards.

These innovations offer a new level of transparency and precision, empowering residents and planners alike to make informed decisions. They also allow the city to model complex scenarios—supply, demand, vulnerability—so that water planning is proactive, not reactive. With these tools, Santa Fe is laying the

groundwork for a sustainable, secure water future—one that ensures our most vital resource is managed wisely for generations to come.

Christine Y. Chávez, City of Santa Fe Water Conservation Manager



WHAT IS STORMWATER POLLUTION?

From Santa Fe County Public Works

Stormwater pollution is any material that could wash down drains or road-sides into arroyos, ditches or drains. Stormwater is not treated at a waste-water plant. In Santa Fe, it flows downhill and downstream into the Santa Fe River. Trash and pollutants that end up in streets, ditches and arroyos will likely end up in the river. Every year, significant amounts of time and money are spent on street sweeping, maintaining stormwater structures and installing/improving infrastructure that removes pollutants—but this only goes so far. It is much more effective to stop pollution at the source. Pollutants that affect stormwater quality don't just come from industri-

It is much more effective to stop pollution at the source.

al activities but also from our daily activities, such as leaked automobile fluids, pet waste and litter. Santa Fe County's current population is approximately 155,000 residents. Because of this, what we do every day has a collective impact on the water quality in the river. Weather patterns appear to be experiencing long-term changes. The general rainfall pattern in the Southwest is changing to fewer storms per year with larger, more intense



events when they do occur. This can lead to greater amounts of pollution building up in our community between storm events that is washed into the river with a single large storm. In addition, with longer periods between storms, soils can become drier, making them hydrophobic (water repelling). This intensifies the amounts of water and pollution that run off and travel to the river.

ATMOSPHERIC WATER HARVESTING

BY MATT RUSSELL

Global warming and the increased variability and intensity of natural disasters, such as floods, droughts and wildfires, are a continuing concern in regard to their impact on water supplies. Any of these natural disasters can impact municipal supplies for weeks or months.

Atmospheric water harvesting (AWH) can condense water vapor to provide water for communities during emergencies. However, when condensed, atmospheric particles and gases can enter the captured water. For AWH to serve as drinking water, it is necessary to understand the resulting water quality and to determine to what extent water quality varies by location of harvesting. Currently, there is a knowledge gap regarding the relationship between particulate matter concentrations in the air and subsequent water quality of AWH.

Air quality is influenced by meteorological factors such as temperature, wind speed and humidity, as well as by emissions of trace gases and aerosols. The U.S. EPA classifies and measures outdoor air pollution by six criteria: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb) and particulate matter (PM) pollution, which may be most likely to influence the chemical makeup of AWH water quality.

Particulate matter can be formed through combustion or atmospheric reactions from emissions sources such as traffic, industry and burning. These particles grow through coagulation with water vapor and other constituents. Filtering the air to remove PM before harvesting or water treatment could make it safe to drink.



Matt Russell, a recent UNM Water Resources graduate, is an intern for the Next Generation Water Summit.

Countdown to 100 Years PRESERVING SANTA FE SINCE 1926

In 2026, the Old Santa Fe Association will turn 100 years old! Through history education, community service and historic preservation advocacy, we continue to promote Santa Fe's unique distinction that combines culture, tradition, and environment — the priceless assets of our region.

Join us for events this year, and in 2026, that celebrate Santa Fe's cultural and architectural heritage. We are excited to welcome new members and to reconnect with old friends.

Visit www.oldsantafe.org to get involved.



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Next Generation Water Summit 2025 Overview

JUNE 5–6, NEW MEXICO STATE CAPITOL
JUNE 7, ONSITE EVENTS

Keynote talk by Former Secretary of the Interior Deb Haaland

BY MIKE COLLIGNON

The Next Generation Water Summit (NGWS) brings together the building and development community, water reuse professionals and water policymakers in a collaborative setting to share best practices and learn about innovative conservation and reuse techniques that comply with water conservation restrictions spreading across the Southwest.

Former Secretary of the Interior Deb Haaland will kick off the 8th annual summit on June 5 at 9 a.m. Her keynote speech will be one of many featured events during an almost weeklong focus on water issues facing the Colorado River Basin. The New Mexico native will address coalition building and water policy as we enter a very uncertain time.

Santa Fe will once again host the NGWS. This year's theme is *"Increasing Resilience in an Unpredictable Climate."* The summit offers both in-person and virtual participation options. In-person attendees will convene at the Roundhouse, New Mexico's State Capitol building, 490 Old Santa Fe Trail.

Figuring out how to sustainably manage water resources while dealing with climate change and administration changes is a shared problem to solve. From hands-on workshops to national policy discussions, the NGWS offers an opportunity for attendees to learn, share and collaborate. The summit will focus on both regional and national water challenges. There will be two national tracks on June 5 and 6. A New Mexico-focused track joins the agenda on June 6. In total, the NGWS will offer over 25 sessions, including the first-ever two-part interactive experience.

Session topics will include:

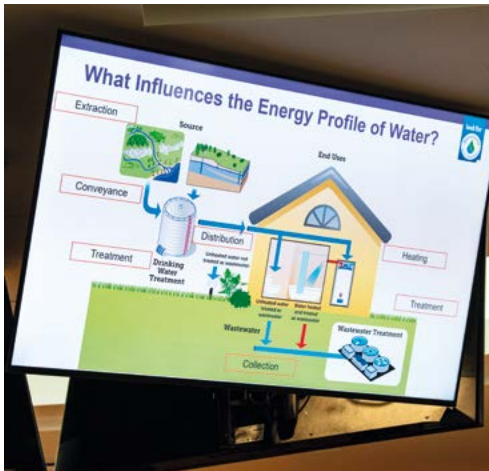
- IAPMO's New Commercial Water Auditor Program (International Association of Plumbing and Mechanical Officials)
- EPA Pilot Study: Saving Water, Saving Energy, Saving Money
- Overcoming Barriers to Graywater Adoption
- Santa Fe's Updated Residential Green Building Code
- Water Conservation Initiatives: Voluntary to Mandatory
- Funding for Water Conservation

Mary Ann Dickinson, director of Land and Water Policy at the Lincoln Institute of Land Policy, will provide the keynote on June 6. She will offer an honest assessment of the industry and what she would do to improve it.

All sessions will be available on-demand for registrants. In support of Santa Fe's established leadership in water conservation, the City of Santa Fe is offering *free* virtual access to all residents of Santa Fe and Santa Fe County. The Santa Fe community has responded to the call to conserve water, helping Santa Fe achieve one of the lowest gallons per capita usage rates in the country for indoor use.

There will also be a variety of free, in-person events for local and out-of-state guests. A training class will precede the summit, and community events will follow the educational sessions on Saturday, June 7.

Water Efficiency Rating Score (WERS)® multifamily training is open to existing water auditors and WERS verifiers. This course, on June 3 and 4, is for those who would



Panel discussions and events at the 2024 Next Generation Water Summit. © Seth Roffman



A conference that inspires and promotes innovative thinking

like to conduct WERS verifications on multifamily projects, or assist in the decision-making process alongside builders, developers and architects. This training is free with a paid, in-person summit registration, and is offered in conjunction with Triconic, a company that is “redefining homebuilding with innovative validation systems.”

Post-event workshops on June 7 include:

- The Santa Fe’s Water Conservation Office will have tables from local vendors. Meet with the city’s water conservation staff.
- How to Maintain a Drip System, with Kelley Nace at The Firebird
- How to Select the Right Tree in a Changing Climate

Hosts of the Next Generation Water Summit are the City of Santa Fe; Santa Fe Green Chamber of Commerce; Green Builder® Coalition; KUELwater, and the Santa Fe Area Homebuilder’s Association. The education partner is Triconic, LLC. The national media partner is Green Builder® Media. The regional media partner is *Green Fire Times* and the local media partner is *The Santa Fe New Mexican*.

For more information on the summit, educational workshops and tours, and to register, visit WWW.NEXTGENERATIONWATERSUMMIT.COM . ■

Mike Collignon is an author and executive director and co-founder of the nonprofit Green Builder Coalition.



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*Photos from the 2024 Next Generation Water Summit
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How Graywater Irrigation Increases Landscape Yield

BY PAUL JAMES

This article is a comparative analysis of traditional water conservation techniques, such as infrequent deep irrigation, versus the practice of daily irrigation using soapy graywater.

Traditional Irrigation Water Conservation Practices

Traditional landscape irrigation practices during drought conditions are well known:

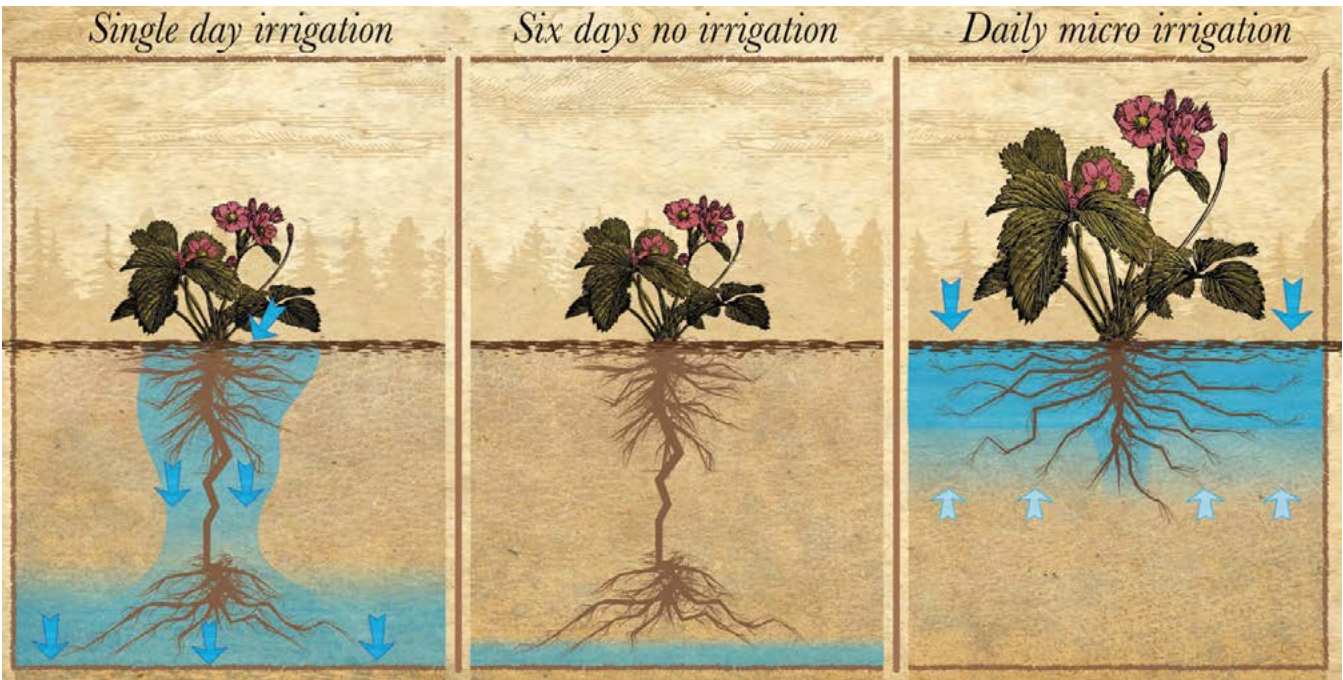
- **Promote deep root growth:** This ensures plants have the best chance of surviving with minimal irrigation during severe droughts.
- **Infrequent watering:** During water scarcity, irrigation is typically done every two weeks, with an almost worst-case scenario of one inch of water per month.

This method forces roots to grow as deep as possible, prioritizing survival over growth. However, the soil becomes very dry between irrigation sessions, leading to hydrophobic conditions where the soil repels water. To counteract hydrophobia, water is applied heavily so that gravity pulls it down through the soil. Unfortunately, gravity doesn't stop at the root zone, causing excess water to continue downward, eventually reaching an aquifer and being lost from the landscape. Combined with surface runoff, evaporation, and potential wind loss

The power of soapy water capillary irrigation

during spray irrigation, the total water loss can be around 50 percent, depending on irrigation restrictions.

Another significant impact of deep roots is the lack of nutrients for the plant. After the initial growth spurt from hand-applied fertilizer during planting, surface-applied fertilizer is dragged down to the lower root level. However,



CAPILLARY EFFECT IN SOIL

Soil behaves similarly. In addition to trapping moisture in the topsoil, the capillary effect also draws moisture up from below. The result is a 'moisture blanket' in the top 3-6 inches of soil, which feels cooler than normal soil but is not wet to the touch.

I observed a remarkable capillary effect in Melbourne, Australia. My front lawn, sloping upwards 30 percent to the sidewalk, was irrigated with graywater dripperline. Despite no irrigation to the curb strip, which itself was elevated another foot, the grass thrived in 105°F temperatures and 10 percent humidity. This demonstrated the power of soapy water capillary irrigation, with moisture moving 6 feet sideways and 1.5 feet upwards.

Graywater and micro-irrigation can lead to sustainable water conservation and vibrant landscapes.

infrequent irrigation often results in the loss of about half of the fertilizer, as roots typically do not spread sideways extensively. This not only slows plant growth but also contributes to algae growth issues downstream of the local aquifer. There is a partial solution to avoiding hydrophobia in landscape beds—water retention pellets, about 1/4" long and 1/8" thick, spread liberally within the topsoil. This was a common technique in Australia during the severe drought of the 2000s. As a side note, severe water restrictions in Australia can mean no more than 10 gallons water use per person, per day for indoor and outdoor use! A little-known fact is the water retention pellets were just industrial soap—I will go into further soap and detergent detail in the graywater section of this article.

Overall, the best solution for landscape and water conservation is daily micro-irrigation, except for plants like grapevines and artichokes, which require consistently dry soil.

Human tendencies towards overindulgence apply to landscape irrigation as well. This is the primary reason water conservation educators are hesitant to promote micro-irrigation, despite its water-saving benefits.

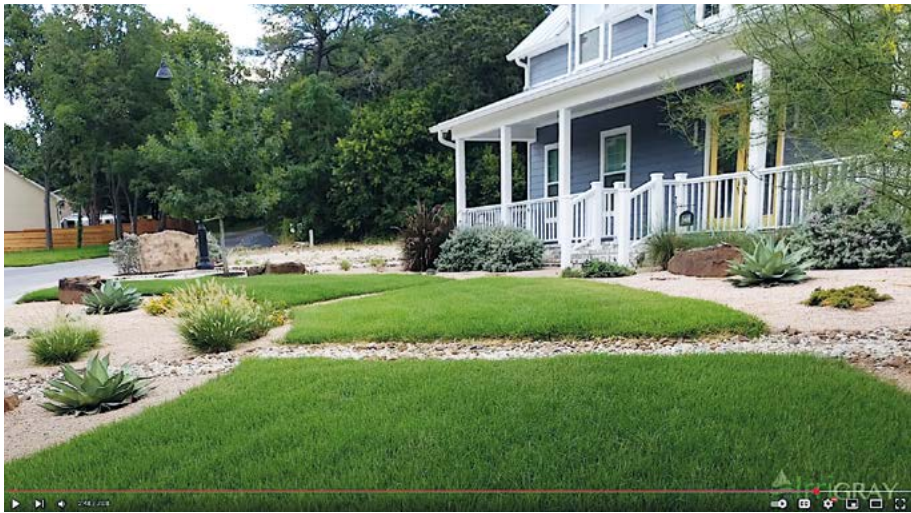
GRAYWATER POSSIBILITIES?

The Two Main Irrigation Benefits of Graywater

1. **Daily Availability:** Graywater is typically available every day. Unless treated to NSF 350 standards (which is costly), it must be used within 24 hours or directed to a sewer or an onsite sewage facility (OSSF).
2. **Enhanced Water Movement:** Detergents and soap reduce water surface tension, allowing water to move through soil more easily rather than around it. This improved movement significantly enhances capillary effects.

CAPILLARY EFFECT

The capillary effect causes water to seek out and expand along moist paths. Imagine placing a dry thick sponge on spilled water on a countertop. Over time, the water will be absorbed into the sponge, leaving the countertop nearly dry. Even when the sponge is already moist, any additional water on the countertop will continue to be absorbed until the sponge reaches super saturation. At this point, gravity becomes the dominant force, pulling the excess water away from the sponge.



The first image was taken in early spring, the day after the plants and sod were planted. The second image is from May the following year, after 14 months of irrigation.

WATER THE SOIL, NOT THE PLANT

Consider a landscape bed that is 50 feet long and 4 feet wide. Traditional infrequent irrigation requires point irrigation directly to each plant. However, with the capillary effect, the exact location of the plants becomes less important. Instead, two dripperlines running the entire length, each 1 foot off-center, can be used. For large beds with significant planting, this reduces installation time and labor from hours to just 10 minutes.

Here is an example from Waco Texas. Summer temperatures up to 110F at this site, with drought restrictions as well.

Most plants have already reached maturity. When adding new landscape plant material, there are significant savings in purchasing younger plant stock, knowing they will look like normal plant stock within a few months.

The combination of daily irrigation and soapy water results in permanently moist topsoil, which is not wet to touch and contains essential nutrients. Because of this, plant roots now exist mostly in the topsoil, forming a web sideways. This significant root web and intermingling development also provides superior plant anchoring compared to tap rooting.

There is fascinating information available, beyond the scope of this article, regarding nutrient and information sharing via fungal mycelia/mycorrhizal networks.

BREAKING THE RULES: DISSIMILAR PLANTING

With moist soil—not wet—almost any plant species can coexist with another species having entirely different water needs. We have many clients with dissim-

ilarly planted landscapes. One of the most interesting client landscapes includes decorative cacti in the same irrigation zone as bird of paradise, heirloom roses, perennials and willow trees.

The willow tree consumes the most moisture of all the plants. However, as the willow pulls moisture from the immediate root soil interaction, that soil moisture is naturally rebalanced by capillary action. At the same time, plants needing little water are happy in moist soil—but the soil must not become and stay wet.

Dissimilar planting enables simple irrigation of layered landscape beds, using a range of plants designed to shade buildings, reducing air conditioning requirements as an added benefit.

THERE IS A CATCH:

When plants are trained to have topsoil roots, as opposed to deep roots, they require regular micro-irrigation.

Because the only direct visual indication of a sub-surface irrigation issue is stressed landscape, a self-monitoring controller is highly recommended.

SUMMARY

In summary, traditional irrigation practices during drought conditions focus on promoting deep root growth and infrequent watering, which can lead to hydrophobic soil and significant water loss. While these methods have their benefits, they also come with drawbacks such as nutrient loss and algae growth downstream.

Graywater presents a promising alternative, offering daily availability and enhanced water movement through the soil due to detergents and soap. The capillary effect plays a crucial role in efficiently distributing moisture, creating a ‘moisture blanket’ in the topsoil that supports plant health and growth.

By leveraging the capillary effect and daily micro-irrigation, we can achieve more efficient water use and healthier landscapes. This approach also allows for diverse planting, enabling different species to coexist and thrive together. However, it requires consistent management and monitoring to ensure optimal irrigation and plant health.

Ultimately, embracing innovative irrigation techniques like graywater and micro-irrigation can lead to sustainable water conservation and vibrant landscapes, even in challenging drought conditions. ■

Paul James started working with graywater in 2000 in Melbourne, Australia. He moved to the U.S. in 2011 and developed the IrriGRAY system by 2012. As VP of Research & Product Development at Water ReNu LLC, he focuses on optimizing irrigation performance and reliability with smart technology.

SAY GOODBYE TO LAWNS IN DRYING U.S. WEST

Water managers and elected officials across the West are trying to reckon with the region’s existential confrontation: how to supply ever-scarcer water to some of the nation’s fastest-growing cities (Denver, Phoenix, Salt Lake City, Austin, San Antonio) and their even faster-growing outer-ring suburbs. How, they ask, should a dry-region city grow? Should steps be taken to limit growth?

The Albuquerque-Bernalillo Water Authority is working hard to promote xeriscaping and the elimination of “nonfunctional” turf grass that’s purely ornamental. “We live in a desert,” they say. “So why are you spending a fortune irrigating your yards? Xeriscaping requires little-to-no water and almost no maintenance. (WWW.OSE.NM.GOV/WUC/BROCHURES/XERIC-GUIDE.PDF)

Recirculating Shower versus Graywater Systems

Are they both the same?

As water conservation becomes increasingly important, people are exploring ways to substantially reduce their water usage and energy usage and save money. While low-flow showerheads and toilets save water, many people are looking for options that allow for deeper reductions.

People often ask about the difference between graywater systems and recirculating showers. In short, one re-uses water on the spot (recirculating shower) while the other stores and diverts water for other purposes (graywater system). While both offer significant savings, they work in different ways and have unique advantages.

What Are Recirculating Showers?

Recirculating showers are designed to reuse water in real time during your shower. Instead of letting water go down the drain, these systems capture, clean and pump it back through the showerhead. A small amount of fresh water is added periodically to maintain water quality. The result? You can enjoy a long, luxurious shower while using up to 80–90 percent less water than a conventional shower. A bonus: Because the water is already heated, recirculating showers save up to 80 percent in energy compared to traditional showers.

Examples of recirculating showers:

RainStick Shower (<https://rainstickshower.com>), made in Canada, is applicable for North American and European installation.

Orbital System (<https://www.orbital-systems.com>), made in Denmark, is applicable for European installation.

What Are Graywater Systems?

Graywater systems collect wastewater from showers, baths and washing machines. After basic treatment, this water is reused for non-potable purposes like irrigation or toilet flushing. These systems can reduce a household's total water, depending on the setup and local regulations. However, graywater systems do not save energy, since the reused water is typically not hot and may require additional energy for pumping and treatment.

Examples of Graywater systems:

Greyter System
Hydraloop

Which System Saves More Water?

- Recirculating showers are ideal if you want to save the most water and energy in the bathroom with minimal installation hassle. They're especially effective for households where showers make up a large portion of water use.
- Graywater systems are better suited for those looking to reuse water throughout the home, particularly for landscaping or toilet flushing. However, they require more complex plumbing, ongoing maintenance, and may be subject to local regulations.
- Both systems save approximately the same amount of water.

Which System Saves More Money?

Recirculating showers are easier to install and maintain, with a faster return on investment. Graywater systems have a longer payback period.

The Bottom Line

Both recirculating showers and graywater systems can dramatically reduce your water footprint. Recirculating showers offer the highest water and energy savings for showering. Graywater systems provide broader water reuse options. Your best choice depends on your household's water use, your goals and your willingness to invest in installation and maintenance. ■

RIGHT-SIZED PLUMBING

Saving Money, Water, and Safeguarding Health

BY CHRISTOPH LOHR, PE

In New Mexico, where water is a precious resource, building more efficient homes isn't just about innovation—it's an economic necessity.

For decades, builders and plumbers have relied on an outdated approach to sizing plumbing pipes—one that assumes every faucet, shower and toilet will be used simultaneously. This method dates back to the 1940s, long before water-efficient fixtures and appliances became standard. The result? Pipes are often twice as large as necessary, creating excessive costs through wasted materials, delayed hot water delivery and increased water consumption.

Enter IAPMO's Water Demand Calculator® (WDC), a free tool that enables builders and plumbing professionals to design smarter, more efficient systems for new residential construction—systems that conserve water, reduce costs and enhance water quality.

The Benefits of Using the WDC



Water Quality



Water Conservation



Energy Savings



Material Cost

PLUMBING THAT MATCHES REAL-LIFE USAGE

When was the last time almost everyone in your household was lining up to use water at the same time? Probably never. Yet traditional plumbing codes are based on this unlikely scenario—leading to oversized pipes and unnecessary construction expenses.

The IAPMO Water Demand Calculator changes this approach by using real-world data about household water usage patterns to calculate actual peak demand. With this information, new home builders and multi-family developers can use appropriate pipe diameters rather than defaulting to larger sizes.

This matters significantly in New Mexico, where development continues to expand, and sustainability is woven into both Indigenous traditions and modern building practices.

BIG IMPACT, SMALL PIPES

The financial benefits are substantial. Using the IAPMO Water Demand Calculator to design residential plumbing systems can dramatically reduce construction costs. In a 45-unit building, right-sizing pipes can save between \$86,000 and \$190,000 in material and connection costs. For a single-family home, savings typically exceed \$2,000, and can reach \$5,000, depending on location and layout.

But cost savings are just the beginning. Larger pipes require more water to move through the system before hot water reaches the tap. With right-sized pipes, less water is wasted while waiting for the desired temperature. On average, right-sizing can save 513 gallons of water per dwelling unit annually, with actual savings ranging from 234 to 1,500 gallons, depending on configuration. These numbers are meaningful in New Mexico, where water scarcity is both a historical reality and an ongoing challenge.



The volume of water saved yearly by right-sizing pipes is equivalent to filling an outdoor hot tub for each home. These savings also increase the benefits from water-efficient fixtures like WaterSense-labeled toilets and faucets by improving the delivery system.

BETTER WATER, BETTER HEALTH

Water quality benefits are equally important. Oversized pipes allow water to remain stagnant longer, particularly in rarely-used sections of a home. This stagnation can create conditions ideal for bacterial growth, including Legionella, which causes Legionnaires’ disease.

Right-sizing promotes faster water movement and reduces stagnation. By improving flow conditions throughout the plumbing system, the Water Demand Calculator contributes to better overall water quality and reduces the risk of waterborne illnesses.

A DATA-DRIVEN SHIFT IN PLUMBING DESIGN

The IAPMO Water Demand Calculator shifts from simplified assumptions toward evidence-based plumbing system design. It’s freely available, making it accessible to plumbing engineers, designers and builders throughout New Mexico. For communities seeking to advance its use and to attain increased water savings, we recommend adopting the IAPMO Water Efficiency Standard (WE-Stand®), the first and only building standard focused solely on achieving safe and efficient water use in both residential and commercial buildings.

To explore how the IAPMO Water Demand Calculator works, visit <https://iapmo.org/we-stand/water-demand-calculator> . If you are attending the Next Generation Water Summit in June, I invite you to join my session about the calculator. ■

Christoph Lohr, PE, is vice president of Technical Services and Research for the International Association of Plumbing and Mechanical Officials (IAPMO)

The Fight to Protect Tesuque’s Drinking Water

*Public Hearing Set for May 19
– Unless the NM Supreme Court Intervenes*

BY SETH ROFFMAN

The village of Tesuque is located directly north of Santa Fe in a lush green valley. There are horse properties, small casitas and adobe estates sprinkled in the hills. There is the post office, a few galleries and two popular restaurants. There is also Bishop’s Lodge, an upscale retreat and destination hotel managed by Auberge Resorts, and a next-door subdivision, “Hills & Villas,” with single family homes and condominiums.

In 1979, Bishop’s Lodge obtained its first Ground Water Discharge Permit under the New Mexico Water Quality Act for the treatment and discharge of treated effluent. The resort has obtained seven subsequent permit renewals and modifications, most recently in 2019. On March 28, 2024, BL Santa Fe, LLC (BLSF), Bishop’s Lodge’s current owner, submitted an application for permit renewal and modification to accommodate its new treatment plant and wastewater disposal plan.

Tesuque residents became concerned when they learned that BLSF planned to regularly discharge large amounts of pressurized, treated wastewater into Little Tesuque Creek. In response to 140 public comments and 80 formal hearing requests, BLSF pivoted to a new plan, which proposed to discharge into a leach field within 100 feet of the creek. The New Mexico Environment Department (NMED), which regulates all liquid waste discharges, granted BLSF a draft permit.

Should Liquid Waste Disposal and Treatment Regulations Be Applied?

Area residents formed an organization, Protect Tesuque, Inc. (<https://protecttesuque.org>), began staging ongoing protests in front of Bishop’s Lodge, and on Feb. 5, filed a lawsuit to have NMED’s draft permit withdrawn and to compel the resort to adopt an “environmentally sound” solution. The group asked the court to require NMED to uphold the Environmental Improvement Act of 1971 and enforce the state’s Liquid Waste Regulations—both enacted specifically to prevent groundwater contamination from on-site sewage disposal. PTI’s broader goal is “to secure adoption and enforcement of disposal regulations by county and state agencies.” On March 14, the group filed its reply brief to BLSF’s response.

The plaintiffs say that the disposal area is a FEMA flood zone with highly permeable soil and a shallow water table. They think that it is the neighbors who will bear the risk if the waste treatment proves ineffective or fails. They believe that the resort’s disposal field is undersized and that an overloaded field will sooner or later release contaminants into the aquifers that feed and sustain wells and drinking water. They say that downstream residents will have to continually monitor their wells for traces of contamination and will have to bear the initial cost of remediation if it’s detected.

On April 7, a NMED hearing officer denied PTI’s motion and said that NMED would not apply the Liquid Waste Regulations to Bishop’s Lodge. The officer said that the regulations, adopted at the Legislature’s directive over 50 years ago by the Environmental Improvement Board to bolster the Water Quality Act, only apply to discharges of 5,000 gallons or less, and that ground- and surface-water regulations apply instead. She also decided that a full public hearing was necessary to guide the NMED Secretary in his decision. The hearing is scheduled for May 19.

Tesuque’s community advocates see the denial as a blatant failure of environmental protection. They allege that the NMED is abdicating its watchdog

duty to prevent water pollution. “We weren’t asking for anything special,” said Bernadette Romero-Jaramillo, a PTI board member whose family has lived in Tesuque for generations. “We simply asked that the law be applied even-handedly to a luxury resort as it is to every other property owner in this valley. Instead, what we got was a ruling that says if you’re powerful enough, you don’t have to follow the rules the rest of us do.”

BLSF has called PTI’s assertions, which are spelled out in legal briefs, “conjecture and scare tactics.” The company says that its treatment plant operates within the scope of the Water Quality Act and its Water Protection Regulations. BLSF has contested the applicability of the Liquid Waste Regulations.

BLSF expects to initially treat up to 30,000 gallons of liquid waste per day. The company seeks coverage for its new, technologically advanced treatment plant that replaces the previous system, which discharged up to 14,760 gallons a day to the ground. The resort’s application indicates that it could discharge 60,000 gallons per day into a 5,000-square-foot disposal field in a “second phase.” The company’s response to Protect Tesuque’s motion says that its wastewater completes an eight- or nine-step treatment to meet or exceed New Mexico water quality standards before “the highest quality reclaimed wastewater” (Class 1A) goes to the “low-dose” disposal field, and some is used for the resort’s landscape irrigation.

Class 1A wastewater “does not require restrictions on public access and exposure” and can be used to irrigate food crops, provided that is not sprayed onto crops. BL Santa Fe



Little Tesuque Creek; Bishop’s Lodge property;
Protect Tesuque protestors

More than 60 residents gathered on April 23 to discuss their ongoing legal battle and its implications for New Mexico communities.

says that it does not intend to use its reclaimed wastewater to irrigate food crops. The company also asserts that analytical data objectively demonstrates that its treatment process protects human health, the environment and groundwater quality, and that in addition to weekly e.coli sampling, the company will provide quarterly sampling and reporting to the NMED using standardized wastewater analytical methods.

Those Claims Haven’t Assuaged the Neighbors’ Concerns:

“The resort’s contention that its wastewater discharge ‘meets or exceeds Groundwater Quality Standards’ is utterly baseless... By ignoring the applicability of the Liquid Waste Regulations to the resort’s hazardous plan [which would require a disposal field 10 times larger and limit the rate at which the effluent is discharged], and by pretending that the resort’s self-interested monitoring of a few wells for a very small number of contaminants a few times a year is an adequate substitute for the stringent safeguards the Liquid Waste Regulations would impose, NMED is complicit in the resort’s cynical transfer of hazard and risk to its downstream neighbors.”

— From Protect Tesuque’s response to BL Santa Fe’s response to the citizen group’s motion

Project Tesuque also reminded NMED that: “Despite collecting, aggregating, treating and disposing into the ground combined liquid wastes from scores of private residences, the resort is not a licensed public utility. A public utility [the motion states] would not be allowed to site such a facility at the headwaters of a watershed, in this case, precisely where the watershed leaves the Santa Fe National Forest and Hyde State Park to feed and recharge the alluvial aquifers that supply hundreds of pre-existing downstream drinking and agricultural wells. The watershed also supplies surface and groundwater to Tesuque Pueblo, Pojoaque Pueblo and San Ildefonso Pueblo.”

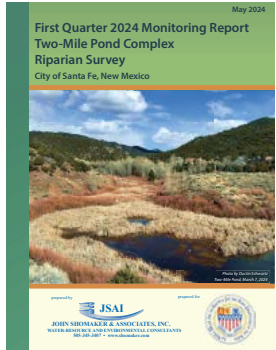
Frank Morbillo, a longtime resident who has built rainwater catchment systems on his Tesuque property, has researched alternative wastewater treatment systems. He says that many resorts have installed multiple leach fields to avoid oversaturation, while others have built larger systems at higher elevations for better filtration. “Bishop’s Lodge,” he says, “has chosen not to invest in those solutions.” In an opinion letter to *The Santa Fe New Mexican*, he asked, “To the Environment Department and [real estate investor] Juniper Capital, I ask this: Would you be comfortable drawing your own drinking water directly downstream of your leach field? Because that is what you are asking your neighbors to do. You are gambling with our health and the future of our community.”

“Why weren’t the full protections of the Water Quality Act enforced?” asked Cathie Sullivan, who has been a resident of Tesuque since 1966. Sullivan sees what’s happening in Tesuque as a fight for accountability and a test case for how environmental regulations are applied across the state. “How many other communities are at risk of water contamination because regulators are bending the knee to money and power instead of the health of New Mexico’s people? Once our water is contaminated, there is no undoing the damage.”

On April 21, the grassroots coalition filed an emergency petition, asking the New Mexico Supreme Court to intervene and require the Environment Department to uphold environmental protections. The court responded on April 30, requesting that all parties involved submit written arguments by May 19. Tom Hnasko, representing Protect Tesuque, said the court could have denied the petition without further argument. “They obviously want to see what the Environment Department and Bishop’s Lodge have to say about the matter,” he said. At press time, the May 19 hearing before the NMED for additional testimony was still scheduled. ■

RESTORING TWO-MILE POND

Two-Mile Pond is a small body of water near the intersection of Cerro Gordo and Upper Canyon roads in Santa Fe. The pond served as a freshwater reservoir for a full century. When Two-Mile Dam was decommissioned in the 1990s, a large earthen dam was removed and replaced with a smaller berm, holding back what we now know as Two-Mile Pond. Approximately 60 percent of the pond's surface area is part of the Santa Fe National Forest. Roughly 30 percent is on city land. Ten percent along the southern edge is owned by The Nature Conservancy, which manages 525 acres around the pond.



Historical satellite imagery from 1994 until 2023 shows that Two-Mile Pond had about two acres of open water surface area. Over the past decade, “Living River” waters were diverted through a nearby bypass channel, and the pond gradually dwindled to less than one acre of largely stagnant water. Due to a lack of consistent inflow, it has largely silted in. To restore open water and an adequate depth to support diverse bird, fish and amphibian life, it needs a secure water supply and, likely, mechanical restoration work.

Small ponds high in arid watersheds hold significant value, serving as crucial breeding and feeding grounds for a variety of species. Prior to the loss of inflow, Two-Mile Pond provided habitat for beavers and was designated an Internationally Important birding area. There have been warbling vireo, yellow-breasted chat, black-headed grosbeak, American robin, migrant ducks, resident American coot, pied-billed grebe, swallows, white-throated swift, song sparrow, red-winged blackbird, great-tailed and common grackle, belted kingfisher and spotted sandpiper seen at the pond.

While under threat, Two-Mile Pond remains a unique resource in the Santa Fe region. Its importance is augmented because it is publicly accessible, whereas most of the Upper Santa Fe River watershed is closed to the public. Wildflowers are abundant, especially in the spring. There are substantial educational and recreational opportunities, including a trail around the pond with interpretive signs. More than 30,000 visitors and 5,000 students have hiked the adjacent preserve annually. An ADA-compliant path was recently completed to improve access to the overlook.

Santa Fe County's Wetland Action Plan Update (2023) includes a “Water Security Guarantee” as a high priority for the pond. But the plan also cautions: “The most important, ongoing stressors of wetlands and riparian areas in Santa Fe County include wetland isolation, degradation of habitat quality and hydrological changes [including] dwindling water sources.” Restoration of the pond can help offset these threats by “retaining snowmelt over a longer period in the mountains; countering evaporative losses; helping spread, infiltrate and store water in the soil; and by cumulatively moderating local micro-climates and their effect on the water balance in the landscape.”

Small ponds recharge groundwater and play a crucial role in flood management.

These ponds also reduce sediment and pollution levels by acting as natural filters, capturing sediment, nutrients and chemicals from runoff, allowing these particles to settle to the bottom, thus cleaning the water body downstream. They play a crucial role in flood management by arresting peak flow events during heavy rainfall, and also recharge groundwater, providing greater quantities for use in the watershed and allowing seepage into streams later into the summer.

Pond advocates have asked the city to consider diverting some available water that is managed under the city's 2012 Living River Ordinance. While this would greatly improve water quality, it would not likely scour meaningful amounts of sediment and make the pond once again a suitable environment for fish, frogs and other creatures. Dredging could restore it, at least until sedimentation returned, but that could cost about \$800,000. To minimize future maintenance costs, a sedimentation basin upstream could be used.

All involved recognize that downstream interests must be heard, respected and accommodated. The pond is currently supported by groundwater, and the area is maintained by a small baseflow. If reliable surface water supplies were added, that water would essentially float atop, gaining reach. Downstream interests would not suffer depletions. Specifically, estimated losses (primarily due to evaporation) would amount to an instantaneous flow rate of just 0.011 cubic feet per second. By comparison, the mean annual flow rate of the Santa Fe River from 2001–2007, was 5.7 cubic feet per second. The impact is negligible in context.



Two-Mile Pond; riparian area at the base of Old Stone Dam, fed with groundwater flows; Santa Fe Canyon Preserve is protected by The Nature Conservancy

Two-Mile Pond remains a unique resource in the Santa Fe region.

The rights of the Acequia Cerro Gordo and Acequia Madre have special protection, both by law and tradition. With the completion of work currently underway at Nichols Dam, it appears acequia water and Living River waters will be separately measured and released going forward. That should help clarify which is being diverted for use as contemplated here, and should minimize conflict.

Regardless of the restoration effort's precise parameters, all seem to agree that Two-Mile Pond should continue as a city-wide asset, open to all for recreation, education and outdoor living. Additional studies may be required to identify the best approach for restoring the pond, looking at inflows and outflows, potential dredging options, the risks of earthquakes and floods, and the legal context for doing all of the above, including potential oversight from the Office of the State Engineer. Yet, with strong leadership from city and county elected officials, neighbors and wider community cooperation, it will be possible to restore this unique feature for the benefit of the Santa Fe community, students, visitors and nature lovers. ■

Richard Ellenberg, a retired attorney, founded and directed the Santa Fe Canyon Preservation Association. Tom Wilmoth practices natural resources and environmental law with an emphasis on water rights and conflict resolution.

STATEWIDE FLEET ELECTRIFICATION IN NEW MEXICO TO ACCELERATE



Sustainability Partners (SP), a Public Benefit Company dedicated to advancing sustainable infrastructure, has been awarded a contract from the State of New Mexico for the electrification of over 5,000 fleet vehicles and supporting infrastructure. SP and its vendor partners will conduct a full assessment of the state's vehicle fleet and

develop a strategic implementation plan.

SP is utilizing the Electric Vehicles as a Service™ (EVaaS) model, which can include any combination of funding, deployment, maintenance, charging-station installation, load management and ongoing support. According to a press release, SP will deploy and maintain a robust charging network, offering real-time monitoring, as well as ongoing maintenance and system upgrades—without locking customers into proprietary hardware or software.

Notably, the contract also allows New Mexico's public schools and municipalities to procure EVaaS, expanding the initiative beyond state agencies. "Advancing our state's electrification efforts are essential for protecting our environment," said Ryan Mast, SP New Mexico's lead infrastructure partner. "Our service model is built to last a lifetime." John Veech, SP's CEO, added, "Our approach eliminates upfront costs and accelerates implementation."

"This innovative business model benefits New Mexicans by expanding EV infrastructure while saving the state money," said Environment Department Secretary James Kenney. "New Mexico is leading by example when it comes to the adoption of electric vehicles for its fleet."

SP is also partnering with the City of Albuquerque on a solar project that supports Mayor Tim Keller's vision for 100 percent renewable energy across all municipal operations.

SANTA FE COUNTY LAUNCHES ELECTRIC VEHICLE CARSHARE

The Santa Fe County Housing Authority, in partnership with Forth ([HTTPS://FORTHMOBILITY.ORG](https://forthmobility.org)), PNM and the Land of Enchantment Clean Cities Coalition, has launched the Affordable Mobility Platform (AMP) electric vehicle (EV) carshare pilot program at two of its southside Santa Fe public housing communities. Forth will also be offering rideshare programs in Albuquerque and Las Cruces. The nonprofit is administering a \$10 million pilot project across eight states, set to run through April 2026. The vehicles are owned and insured by Forth.

The program offers community members (not just public housing residents) access to affordable, all-electric cars for errands, appointments, shopping and more, bridging transportation gaps not met by public transit. Participants can reserve a vehicle using the MDO Carshare app for \$5 per hour or \$50 per day, plus tax. Onsite EV charging for the carshare vehicles is included. Anyone over 21 with a valid driver's license and clean driving record can sign up.

Transportation is Santa Fe County's largest source of carbon emissions. EVs are oil-free, produce no smog, and emit significantly less carbon than traditional cars. Expanding access to EV carsharing programs like AMP helps communities adopt clean transportation solutions while reducing pollution and costs associated with vehicle ownership.

Adrianna Velasquez, deputy director of Housing Operations, emphasized the importance of the AMP carshare program: "Our EVs are not only helping the environment; they are also helping our tenants and the Santa Fe community have access to transportation."

Between 2025 and 2028, Santa Fe County will use \$4.2 million in federal and state funding to install 33 publicly accessible charging stations at 13 locations, including community centers, senior centers and affordable housing developments. Additionally, the county is transitioning its fleet to electric and low-carbon alternatives.

FEDERAL CUTS ENDANGER HEALTH CARE FOR RURAL CHILDREN IN NEW MEXICO

Potential federal budget cuts to Medicaid and CHIP may have devastating consequences for New Mexico's rural families and children, who often depend on Medicaid as their primary source of health coverage. According to a recent Georgetown Center for Children and Families report, 60 percent of children living in New Mexico's rural counties are covered by Medicaid/CHIP.

"Medicaid is a lifeline for hundreds of thousands of our low-income parents, pregnant women, children and individuals with disabilities," said Mónica Otero, a policy analyst with New Mexico Voices for Children (NMVC). "Cuts in coverage threaten essential health care services that New Mexicans rely on, such as the birth of a new child or cancer treatments."

NMVC is a nonpartisan, nonprofit, Albuquerque-based organization. A new fact sheet from NMVC indicates that 24 rural New Mexico counties have 30 percent or more residents enrolled in Medicaid. Other statistics from the organization's research:

- 37 percent of New Mexicans living in rural counties are insured by Medicaid.
- One third of New Mexicans live in a rural county.
- Three fifths of rural children are enrolled in Medicaid or CHIP.
- One third of rural adults are enrolled in Medicaid.
- Ten percent of rural seniors are enrolled in Medicaid.
- 60 percent of children living in rural counties in New Mexico are covered by Medicaid/CHIP.
- 24 rural New Mexico counties have 30 percent or more residents enrolled in Medicaid.

"Cutting Medicaid and stripping health care from our neighbors in need is dangerous," said Gabrielle Uballez, NMVC's executive director. "It's particularly harmful to kids in our rural communities."

The NMVC Rural Medicaid Fact Sheet is viewable at www.nmvoices.org/archives/19627.

The Georgetown Center for Children and Families report may be viewed at <https://ccf.georgetown.edu/2025/01/15/medicaids-role-in-small-towns-and-rural-areas/>.

JUDGE SIDES WITH YAZZIE/MARTÍNEZ PLAINTIFFS

Orders Collaborative Statewide Education Plan

On April 29, there was a major victory of the Yazzie/Martínez plaintiffs’ motion for non-compliance and request for a remedial action plan. New Mexico First Judicial District Court Judge Matthew Wilson ruled that the state’s Public Education Department (PED) and the State of New Mexico are not in compliance with the Court’s Final Judgment and Order and have not met their constitutional obligations to the “at-risk” students of New Mexico. The state and PED were ordered to address the continuing violation of the constitutional rights of Native American students, English language learners, students with disabilities and children from low-income households.

The Court ordered PED to collaborate with the Legislative Education Study Committee (LESC) and community stakeholders to develop a comprehensive education plan. The court agreed with the plaintiffs’ proposed nine components they said are essential to an action plan that would begin to meet the high bar of the constitutional mandate as well as the state’s statutory obligations under its education laws that call for a multicultural and multilingual framework. The Court ordered PED to report back by July 1 with a status update and begin building

a plan that incorporates meaningful community, expert and stakeholder input. The final plan is due Nov. 3. This is the fourth time the court has affirmed the plaintiffs’ case.

The nine action plan components are:

- Cultivating multicultural and multilingual education
- Ensuring inclusive education for students with disabilities
- Transforming curriculum and instructional approaches
- Building a diverse and qualified educator workforce
- Enhancing technology access for all students
- Establishing comprehensive student and family support services
- Implementing an equitable funding system
- Developing robust accountability mechanisms
- Strengthening the capacity of the PED



CITY OF SANTA FE
ECONOMIC DEVELOPMENT

SUPPORT FOR
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SANTAFENM.GOV/ECONOMIC-DEVELOPMENT

WHAT'S GOING ON

ALBUQUERQUE / Online

THROUGH MAY 4

PUERTAS FRONTERIZAS / BORDER DOORS

Albuquerque Museum, 2000 Mountain Rd. NW

Cultural exchange can spark positive change. Bilingual exhibition showcases how education fosters understanding and inspires new ways of seeing the world. ALBUQUERQUEMUSEUM.ORG

MAY 7

NM COMMUNITY COLLABORATIVE FORUM

Embassy Suites, 1000 Woodward Pl. NE

Discussions on 2025 state health legislation, federal policy changes, state agency and community priorities and potential collaboration. NM Alliance of Health Councils. Register: [BITLY/MAY07CCF](https://bit.ly/may07ccf)

MAY 8, 6–8 PM

URBANISM AND ENTREPRENEURSHIP

National Hispanic Cultural Center Bank of America Theater

The Role of Small Business in Neighborhood Revitalization. Presented by Eric Williams. Homewise Livability Series. Free. WWW.LIVABILITYSPEAKERSERIES.COM/EVENT/WILLIAMS

JUNE 2–5

10TH NATIONAL FARM TO CAFETERIA CONFERENCE

Albuquerque Convention Center

Biennial event convenes hundreds of movement leaders working to source local food for institutional cafeterias and foster a culture of healthy food and agricultural literacy.

WWW.FARMTOSCHOOL.ORG/OUR-WORK/FARM-TO-SCHOOL-CAFETERIA-CONFERENCE

JUNE 16–18

TRANSFORMING PHILANTHROPY TOGETHER

Hotel Albuquerque Old Town / Online

Hispanics in Philanthropy and Native Americans in Philanthropy will host conversations about Indigenous and Latino communities across the Americas and the Caribbean. Pressing priorities and innovative solutions emerging from communities will be highlighted. \$1,200–\$900/\$350 virtual. [HTTPS://EVENTS.BIZZABO.COM/645308](https://events.bizzabo.com/645308)

THROUGH JULY 27

RENDERED PRESENCE – ARTISTAS DE NUEVO MÉXICO

National Hispanic Cultural Center Visual Art Museum, 1701 4th St. SW

Exhibition explores artworks by artists living and working throughout NM. Each artist explores identity and the self, art history and Hispanic, Chicana/o/x and Latina/o/x contemporary art. 505-724-4471, WWW.NHCCNM.ORG

THROUGH DEC. 7

RESTORING OUR HEARTPLACES

Indian Pueblo Cultural Center

Curated by Dr. Ted Jojola and Dr. Lynn Paxson, the exhibition highlights the evolution of contemporary Pueblo architecture and its ancestral influences. [HTTPS://INDIANPUEBLO.ORG/](https://indianpueblo.org/)

THROUGH FEB. 8, 2026

VOCES DEL PUEBLO

NHCC Visual Art Museum

“Artists of the Levantamiento Chicano in New Mexico.” Six artists (Ignacio Jaramillo, Juanita J. Lavadie, Francisco LeFebre, Noel Márquez, Roberta Márquez, Adelita Medina) showcase the roots of the Chicano movement in New Mexico. NHCCNM.ORG/EXHIBITIONS

TUES.–SUN. 9 AM–5 PM

“ONLY IN ALBUQUERQUE”

Albuquerque Museum, 2000 Mountain Rd. NW

Permanent exhibit told through four galleries: Spirited, Courageous, Resourceful and Innovative. Hundreds of the city’s beloved artifacts are featured. \$3–\$6., Free Sun., 9 am–1 pm. CABQ.GOV/ARTSCULTURE/ALBUQUERQUE-MUSEUM

TUES.–SUN. 9 AM–4 PM

INDIAN PUEBLO CULTURAL CENTER

2401 12th St. NW

“Gateway to the 19 Pueblos of N.M.” Museum galleries, exhibits and restaurant. Cultural dance

program Sat., Sun. 11 am, 2 pm. \$12/\$10/children under 5 free. 505-843-7270, INDIANPUEBLO.ORG

RESILIENT FUTURES INITIATIVE

Dangerous heat, pollution and natural disasters affect all New Mexicans, especially frontline communities. This initiative, facilitated by the City of ABQ’s (CABQ) Sustainability Office, is an effort to future-proof communities in Central NM.

RESILIENTFUTURESNM.ORG

SANTA FE / Online

MAY 10, 11 AM–2 PM

LOVE YOUR WATERSHED DAY

DeVargas Park

Environmental and educational nonprofits, as well as organizations focused on watershed health and awareness. [HTTPS://SANTAFEWATERSHED.ORG/LYWD-2025/](https://santafewatershed.org/lywd-2025/)

MAY 7–11

SWAIA NATIVE FASHION WEEK

SF Community Convention Center

Produced by Joleen Minton. Tickets: \$75–\$150. SWAIA.ORG

MAY 8–11

NATIVE FASHION WEEK SANTA FE

The Railyard

Produced by Amber-Dawn Bear Robe. Tickets: general, standing, VIP. BEARROBE.COM/NATIVE-FASHION-WEEK

MAY 16, 1 PM

53RD ANNUAL HISTORIC PRESERVATION AWARDS

Museum of International Folk Art

NM Historic Preservation Division recognizes people and projects in the preservation community. NMHISTORICPRESERVATION.ORG

MAY 16–18

SF INTERNATIONAL LITERARY FESTIVAL

SF Community Convention Center

Speakers include Michael Pollan, author of *The Botany of Desire*. \$27.50–\$75 (NM residents); \$55–\$75 (nonresidents); day and full-event passes available. 505-575-6777, INFOR@SFINTERNATIONALLITFEST.ORG, SFINTERNATIONALLITFEST.ORG

MAY 20, 6–8:30 PM

POJOAQUE BASIN REGIONAL WATER SYSTEM OPEN HOUSES

Tesuque Elementary

MAY 21, 6–8:30 PM

Pojoaque Middle School, Jacanita, NM

Presented by SF County, Office of the State Engineer, U.S. Bureau of Reclamation. Info: 505-992-9887, SKASEMAN@SANTAFECOUNTYNM.GOV

JUNE 2–SEPT. 2026

MAKOWA: THE WORLDS ABOVE US

Museum of Indian Arts & Culture

Exhibition exploring Indigenous relationships with the sky and how stories and sciences speak to one another. WWW.INDIANARTSANDCULTURE.ORG

JUNE 13, 8 AM–1 PM

HANDS-ON PIÑON-JUNIPER WOODLAND RESTORATION

Santa Fe Botanical Garden

Join restoration ecologist Jan-Willem Jansens for a workshop in a piñon-juniper woodland. Learn how to help reduce erosion to encourage diversity and a healthier ecosystem. SFBG members: \$40, non-members: \$50. 505-471-9103, www.visitsfbg.org

JUNE 27–JAN. 12, 2026
12TH SITE SANTA FE INTERNATIONAL

Site SF and locations across the city
“Once Within a Time.” Seventy-one international artists alongside over 20 “figures of interest,” real and fictional, historical and contemporary artists with strong ties to Santa Fe and the surrounding region. SITESANTAFE.ORG

JULY 10–13
INTERNATIONAL FOLK ART MARKET SANTA FE

Railyard Park
Artists from around the world celebrate and preserve folk art traditions.
FOLKARTMARKET.ORG

AUG. 8–10
TRANSFORMATION & HEALING CONFERENCE

Southwestern College & New Earth Institute
Creativity & Embodiment: Ancient, Alternative and Emerging Pathways.
NEWEARTHINSTITUTE@SSWC.EDU

AUG. 15, SEPT. 27-28
INDIGENOUSWAYS 2025 FESTIVAL

Santa Fe Railyard
INDIGENOUSWAYS.ORG

NOV. 5–7
REGENERATE CONFERENCE

SF Community Convention Center
“Cultivating Adaptability.” Quivira Coalition, Holistic Management Intl. and the American Grassfed Assn. convene ranchers, farmers, conservationists, land managers, scientists and thought leaders. [HTTPS://REGENERATECONFERENCE.COM](https://REGENERATECONFERENCE.COM)

SUNDAYS
RAILYARD ARTISAN MARKET

SF Farmers’ Market Pavilion
Gifts, souvenirs and mementos from local artisans and creative small businesses.
SANTAFEFARMERSMARKET.COM

MON.–FRI.
POEH CULTURAL CENTER AND MUSEUM

78 Cities of Gold Rd., Pueblo of Pojoaque
Di Wae Powa: They Came Back: Historical Pueblo pottery. *The Why:* group show of Native artists. *Nah Poeh Meng:* core installation highlighting Pueblo artists and history. \$7–\$10. 505-455-5041

MON.–SAT., 8 AM–4 PM
RANDALL DAVEY AUDUBON CENTER & SANCTUARY

1800 Upper Canyon Rd.
Free guided walks to see birds, Sat., 8:30–10 am. RSVP for Randall Davey House tours. 505-983-4609, RANDALLDAVEY.AUDUBON.ORG

TUES., SAT., 8 AM–1 PM
SANTA FE FARMERS’ MARKET

Market Pavilion, 1607 Paseo de Peralta
Farmers and producers from northern NM. 505-983-4098, SANTAFEFARMERSMARKET.COM

WEDS–FRI. THROUGH DECEMBER
NUEVO MEXICANO HERITAGE ARTS MUSEUM

750 Camino Lejo, Museum Hill
100 Years of Collecting/100 Years of Connecting, historical and contemporary artworks and articles representing daily life in New Mexico. Free admission. 505-982-2226, [HTTPS://NMHERITAGEARTS.ORG](https://NMHERITAGEARTS.ORG)

WEDS–SAT., 10 AM–6 PM; FRI.–SAT., 10 AM–6:30 PM
SANTA FE CHILDREN’S MUSEUM

Interactive exhibits, play areas, weekly programs. Masks required for ages 2 and older. \$10/\$8/\$7/\$3/one & under free. 505-989-8359, SANTAFECHILDRENSMUSEUM.ORG

WEDS–SUN.

EL RANCHO DE LAS GOLONDRINAS

334 Los Pinos Rd., La Ciénega
Living History Museum dedicated to the heritage and culture of 18th- and 19th-century New Mexico. 505-471-2261, GOLONDRINAS.ORG

SATURDAYS
SANTA FE ARTISTS MARKET

Santa Fe Railyard
Outdoor arts & crafts booths. SANTAFEARTISTSMARKET.COM
EL RANCHO DE LAS GOLONDRINAS
La Ciénega, N.M.
Living history museum. GOLONDRINAS.ORG

IAIA MUSEUM OF CONTEMPORARY NATIVE ARTS

108 Cathedral Place
“Womb of the Earth: Cosmovision of the Rainforest” through July 19. Closed Tuesdays. \$5–\$10; under 16, Native and Indigenous peoples free. 888-922-4242, IAIA.EDU/MOCNA

MILAGRO SCHOOL OF HERBAL MEDICINE

Classes and training intensives with experienced herbalists can be a life-changing healing experience. Botany, medicine-making, plant-spirits. 505-820-6321, INFO@MILAGROHERBS.COM

MUSEUM OF INTERNATIONAL FOLK ART

706 Cam. Lejo, Museum Hill
“Protection: Adaptation and Resistance.” More than 45 artists explore themes of climate crisis, struggles for social justice, strengthening communities through ancestral knowledge and imagining a thriving future. \$3–\$12. NM residents free the first Sunday of the month.

NEW MEXICO HISTORY MUSEUM

113 Lincoln Ave.
The Lamy Branch of the Atchison, Topeka and Santa Fe Railroad model train; Palace Seen and Unseen: A Convergence of History and Archaeology, photos and artifacts; Telling NM: Stories from Then and Now. Closed Mondays. 505-476-5200, NMHISTORYMUSEUM.ORG

NORTHERN NM ICEBOX CHALLENGE 2025

Youth are being engaged in green-building science and a housing solution. Habitat for Humanity, Youthworks, Early College Opportunities High School and SF Community College are offering hands-on experience with energy-efficient building. Tiny homes will provide safe emergency housing for Esperanza Shelter. 505-982-1774, BUILDNEWMEXICO.COM

SANTA FE HABITAT FOR HUMANITY

Seeking land, donated or for sale, to build affordable housing. Low-income homeowners help build homes and make mortgage payments to the nonprofit HFH. Property owners can qualify for 50% Affordable Housing tax credit through the NM Mortgage Finance Authority. 505-986-5880, ext. 109

STATE MUSEUMS

Museum of International Folk Art (10 am–5 pm), Museum of Indian Arts and Culture (10 am–4 pm), N.M. History Museum (10 am–4:30 pm), N.M. Museum of Art (Tues.–Sun., 10 am–4 pm). NEWMEXICOCULTURE.ORG/VISIT

WHEELWRIGHT MUSEUM OF THE AMERICAN INDIAN

704 Cam. Lejo, Museum Hill
Carved Stories, Pablita’s Wardrobe; Marcus Amerman. \$10. 505-982-4636, WHEELWRIGHT.ORG. 10 am–4 pm. Closed Sundays and Mondays.

YOUTHBUILD / YOUTHWORKS!

Paid training for Youth 16–24. Construction, Culinary, GED. 505-989-1855, WWW.SANTAFEYOUTHWORKS.ORG/SANTA-FE-YOUTHBUILD/

TAOS / Online

MAY 10, 10 AM–12 PM
FREE WATER QUALITY SAMPLING TRAINING

Fred Baca Park Pavilion
Learn how to sample water quality of surface waters and join the Water

THROUGH JUNE 1

NICHOLAS HERRERA: EL RITO SANTERO

The Harwood Museum of Art, 238 Ledoux St.

Herrera comes from a lineage that includes Spanish, Native American and Mexican ancestry. He crafts *bultos*, *retablos* and mixed-media works. \$8–\$10 at HARWOODMUSEUM.ORG, 575-758-9626

THROUGH JULY

REGENERATIVE RANCHING MENTORSHIP PROGRAM

An opportunity for beginning and experienced ranchers in Taos to grow their community, knowledge and business. Taos County Economic Development Corporation. 505-758-8731, ABBY@TCEDC.ORG

LA HACIENDA DE LOS MARTÍNEZ

708 Hacienda Way

Northern NM-style Spanish colonial “great house” built in 1804 by Severino Martínez. Open daily. TAOSHISTORICMUSEUM.ORG

MILLICENT ROGERS MUSEUM

1504 Millicent Rogers Rd.

Tuab-Tab/Taos Pueblo: Home, highlighting the pueblo’s culture and artistic achievements. Open daily. MILLIE4N65OY45E.ORG

HERE & THERE / Online

MAY 7

NEW MEXICO COMMUNITY COLLABORATIVE FORUM

Online

Connect with community advocates, coalitions, elected officials, state agencies and community partners. Sponsored by Con Alma Health Fndn., NM Public Health Assn., NM Early Childhood Education and Care Dept., NM Alliance of Health Councils. Register: BITLY/MAY07CCF

MAY 7–8

2025 NM ENERGY POLICY SYMPOSIUM

Obkay Hotel Casino, Obkay Owingeh, NM

Stakeholder convening for NM’s 10-year energy strategy, hosted by Rep. Tara Luján and Vida Mejor Capital. Key energy partners and communities will discuss how federal, state, rural and tribal governments can support clean energy goals with funding sources and economic development. www.ournewmexico.energy

THROUGH MAY 17, 12–4 PM, WEDS, FRI, SAT.

FRIENDSHIP QUILTS: STITCHING A COMMUNITY

Bond House Museum, 706 Bond St., Española, N.M.

Free exhibition. San Gabriel Historical Society. 505-570-7735,

JULIANNE@UCSC.EDU

MAY 19, 10 AM–4 PM

PUEBLO FIBER ARTS SHOW

Buffalo Thunder Casino Pueblo Ballroom, Pojoaque, N.M.

Pueblo textiles, dances, food, demos, fashion show. Free. Presented by the NM Pueblo Fiber Arts Guild, Poeh Cultural Center and School for Advanced Research. [HTTPS://LNKD.IN/DHRQ9HUU](https://LNKD.IN/DHRQ9HUU)

MAY 30 APPLICATION DEADLINE

LEADERSHIP

Flagstaff, AZ

Immersive environmental justice and advocacy training program in August for college-age students interested in the Colorado Plateau.

[HTTPS://WWW.GRANDCANYONTRUST.ORG/RISING-LEADERS-LEADERSHIP/](https://WWW.GRANDCANYONTRUST.ORG/RISING-LEADERS-LEADERSHIP/)

JUNE 2–JULY 21, M–TH, 9 AM–12 PM

SUMMER BRIDGE PROGRAM

Northern NM College, Española, NM

“Fast Track to Success” developmental courses in math, writing and critical thinking skills. Open to high school sophomores, juniors, seniors, high school equivalency recipients and prospective adult students. 505-747-2185,

BRIDGEPROGRAM@NMMC.EDU

JUNE 28–29

HERITAGE FESTIVAL OF ARTS & CULTURE

Museum of Northern Arizona, Flagstaff

Artists from all of the Colorado Plateau Indigenous communities. Demonstrators, dancers, musicians, cultural experts. [HTTPS://MUSNAZ.ORG/ALL-UPCOMING-EVENTS/HERITAGEFESTIVAL/](https://MUSNAZ.ORG/ALL-UPCOMING-EVENTS/HERITAGEFESTIVAL/)

THROUGH JUNE 2026

AMERICORPS VISTA NM FOREST & WATERSHED RESTORATION INSTITUTE

Las Vegas, NM

AGILKERSON@CONSERVATIONLEGACY.ORG

JULY 7–9; JULY 10 TOURS

ARCHAEOASTRONOMY AND CELESTIAL GEOMETRY CONFERENCE

Ruidoso, N.M.

Understanding Ancient Astronomies. Researchers will present on their projects from around the world. Tours and other activities on day 4. Jornada Research Institute. 575-430-8854, DGREENWALD@TULAROSA.NET, <https://lnkd.in/g3EXXWs>

THROUGH JULY 31

ZUNI YOUTH ENRICHMENT PROGRAM EXHIBITION

David J. Spencer CDC Museum, Atlanta GA./Online

‘Health Is a Human Right’ spotlights solutions to persistent health inequities.

ZYEP programs focus on aspects of wellness, including physical activity, nutrition, leadership development and artistic expression.

WWW.CDC.GOV/MUSEUM/EXHIBITS/HHR.HTM

OCT. 3–5

NEW MEXICO STATE HISTORIC PRESERVATION CONFERENCE

Highlands University, Las Vegas, N.M.

Preserve Your Future. Building on Traditions. NM Historic Preservation Division of the Dept. of Cultural Affairs. preservenm@ctones.org ,

[HTTPS://WWW.PRESERVENEWMEEXICO.COM](https://WWW.PRESERVENEWMEEXICO.COM)

NOV. 4–7

GREENBUILD INTL. CONFERENCE & EXPO

Los Angeles Convention Center, Calif.

Green building event for sustainability professionals. Over 100 education sessions.

[HTTPS://INFORMACONNECT.COM/GREENBUILD/](https://INFORMACONNECT.COM/GREENBUILD/)

THURS–SUN, 10 AM–4 PM

BOSQUE REDONDO MEMORIAL

Fort Sumner Historic Site, Fort Sumner, N.M.

Exhibit, 30 years in the making, tells the story of ‘The Long Walk’ and the Bosque Redondo. \$7, children 16 and younger, free. NM residents with ID free first Sun. each month. NMHISTORICSITES.ORG/BOSQUE-REDONDO

EARTH KNACK SURVIVAL AND OUTDOOR LIVING SKILLS

Crestone, Colo. and elsewhere

Fiber arts, blacksmithing, hide tanning, Rocky Mtn. Survival, edible, medicinal plants, internships and more. [HTTPS://WWW.EARTHKNACK.COM](https://WWW.EARTHKNACK.COM)

GALLUP NEW DEAL ART VIRTUAL MUSEUM

GALLUPNEWDEALART.ORG

The culmination of a 9-year project provides images of the works as well as scholarly information. Hand-carved wood furniture, Spanish-Colonial-style tinwork, prints, murals, western American paintings, Native art.

SOLAR PANEL TAX CREDITS

Available for systems installed in 2020–2024 that have not previously received credit.

WWW.CLEANENERGYNM.GOV

SUSTAINABLE BUILDING TAX CREDITS

NM residents can apply for tax credits to make homes and businesses more energy efficient. There are extra incentives for upgrades that reduce energy use and lower utility costs in affordable housing or homes occupied by low-income residents.

<https://wwwapps.emnrd.nm.gov/ecmd/ecpsubmissions/>

Virtual attendance is FREE for Santa Fe city and county community members but you still need to register.

INCREASING WATER RESILIENCE IN AN UNPREDICTABLE CLIMATE

Community Tours

Join us for a series of community tours:

- Demo Garden opening at San Mateo
- Drip Irrigation workshop at Firebird
- Tree workshop at Plants of the Southwest



Check website for details about Community Tours



**NEXT GENERATION
WATER SUMMIT
JUNE 5 - 6
SANTA FE, NM**

NextGenerationWaterSummit.com