Family Farm ALLIANCE®

PROTECTING WATER FOR WESTERN IRRIGATED AGRICULTURE

Monthly Briefing

A Summary of the Alliance's Recent and Upcoming Activities and Important Water News

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Board Member Quote of the Month

"Western agriculture needs more water, more reliable water, and healthier watersheds. The solutions have to work for farmers, communities, and the environment. Innovation gives us the tools. Collaboration is what makes them work — and sometimes that means sitting down with people we disagree with. Grow the pie instead of fighting over the pieces, and we protect our farms and our food supply for the next century."

–Cannon Michael, Family Farm Alliance Board of Directors, Los Banos, California

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The West, Together: Family Farm Alliance Board Retreat in Cheyenne

There are few places better suited to a Family Farm Alliance board retreat than Cheyenne, Wyoming—and few better times to be there than during Cheyenne Frontier Days.

The Family Farm Alliance Board of Directors in Cheyenne, Wyoming, July 21–24, 2026.

From July 21–24, the Alliance Board of Directors gathered in Cheyenne for several days of policy discussions, strategic planning, relationship-building and, importantly, some time together outside the conference room. The timing was especially meaningful as we joined the broader celebration of America 250 and the Day of the American West, designated for July 23, 2026, by the Secretary of the Interior.

Secretarial Order No. 3439 recognizes the American West as a defining part of our nation's history, culture and identity, highlighting the values of independence, self-reliance, entrepreneurial spirit, stewardship of the land, camaraderie and helping others. The Order specifically identified Cheyenne Frontier Days as a fitting place to honor the people, cultures and traditions of the West and called for partnerships among state, Tribal, local and private stakeholders.

Those values felt particularly appropriate for the Alliance.

Our retreat was not simply a board meeting in a different location. We spent several days taking a hard look at where Western agriculture is headed—and what the Family Farm Alliance needs to do to help chart that course. Formal policy meetings and strategic planning sessions gave the Board an opportunity to step back from the day-to-day and focus on the bigger picture: how do we keep Western farmers and ranchers in business through increasingly difficult water conditions, aging infrastructure, economic pressures and some of the most severe drought conditions many of us have experienced in our lifetimes?

We also made time to enjoy the place we were visiting. Between meetings, the Board shared informal dinners and conversations and experienced the traditions of Frontier Days—including the parade and professional rodeo, known as the “Daddy of ’em All.” Those moments matter. Strong organizations are built not only around shared policy objectives, but also around relationships, trust and a genuine appreciation for the people doing the work.

Between sessions, board members and guests shared evenings together — the relationships and trust that strong organizations are built on.

The retreat also gave us the opportunity to connect with leaders working on the issues that matter to our members. We were pleased to spend time with Aubrey Bettencourt, who is expected to be nominated as the next Commissioner of the Bureau of Reclamation and who recently served the agriculture community as Chief of the Natural Resources Conservation Service. The conversation provided another opportunity to reinforce the importance of Western water infrastructure and the agricultural communities that depend upon it.

And as the parade rolled through Cheyenne, we were reminded that the West is not simply a place on a map. It is a working landscape, a culture and a way of life—and one worth investing in and fighting for. Secretary of the Interior Doug Burgum was also part of the Frontier Days parade and the broader Day of the American West celebration, which included events honoring Western heritage, agriculture, Native cultures and the Nation.

As we look ahead to the remainder of 2026, the Alliance Board leaves Cheyenne with a renewed sense of purpose. The challenges facing Western agriculture are enormous. But so are the opportunities—and we intend to keep thinking big, working together and making sure the voices of the people who feed this country remain at the table.

The West has always been built by people willing to tackle big challenges. The Family Farm Alliance intends to carry that tradition forward.

Colorado River Crisis Deepens as States Face New Era of Water Management

The Colorado River Basin is entering a critical new chapter, with record-low reservoir levels, continued drought and a lack of agreement among the seven Basin states forcing federal officials to take a more active role in determining how the river will be managed after 2026.

The most visible warning sign is Lake Mead, which recently fell to its lowest elevation since the reservoir filled roughly 90 years ago. The decline reflects a combination of prolonged drought, hotter temperatures, historically

Secretary of the Interior Doug Burgum served as Grand Marshal of the Cheyenne Frontier Days parade during the Day of the American West.

Scenes from Cheyenne: Frontier Days traditions, board conversations, and the relationships that carry the Alliance's work forward.

poor snowpack and decades in which water use has exceeded system inflows. Lake Powell is also at historically low levels, leaving combined Powell-Mead storage lower than it has been since before Glen Canyon Dam began filling in 1963.

Against that backdrop, the Bureau of Reclamation has released its Final Environmental Impact Statement for post-2026 Colorado River operations, establishing a framework for managing Lake Powell and Lake Mead through 2036. Rather than prescribing one fixed set of rules for the entire decade, the framework establishes operating "sideboards" and allows Interior to develop guidelines in roughly two-year increments, providing flexibility to respond to changing hydrology. The framework allows annual Powell releases between 5.0 and 12.0 million acre-feet, Lower Basin shortages of up to 3.0 million acre-feet and voluntary Upper Basin conservation of up to 200,000 acre-feet.

But the framework does not resolve the central political question: who will take reductions, and how much? The seven Basin states have been unable to reach consensus on the post-2026 allocation framework. The Lower Basin states—California, Arizona and Nevada—have proposed conserving 3.2 million acre-feet through 2028, including 1.25 million acre-feet of binding reductions in each of the next two years. At the same time, there is disagreement over how much responsibility should be shared by Upper Basin states.

Federal officials are also turning to voluntary conservation and financial incentives. Reclamation has used federal funding to compensate cities, farms and tribes for temporarily leaving water in Lake Mead, and additional programs are being developed to encourage conservation across the Basin. Earlier this summer, Southern California's Metropolitan Water District agreed to provide up to $65 million to help leave as much as 200,000 acre-feet of its Colorado River supplies in Lake Mead this year.

For Western agriculture, the unfolding Colorado River negotiations underscore a larger reality: there is no single solution to a shrinking and increasingly unpredictable water supply. Conservation will be part of the answer, but so will infrastructure, storage, groundwater management, technology, augmentation and new approaches to funding and collaboration. As the Basin moves into this next phase, the question is no longer whether the Colorado River system must adapt. It is how we adapt while protecting the farms, communities and economies that depend upon it.

Congressional Update: A Busy Fall Ahead for Western Water and Agriculture

With Congress now in its August recess, lawmakers have stepped away from Washington for the month, but the list of unfinished business waiting for them in September is substantial. The House is scheduled to return August 31, while the Senate is not scheduled to return until September 14. For Western farmers, ranchers and water managers, several of the issues awaiting Congress could have direct implications for water infrastructure, federal funding, regulatory requirements and agricultural programs.

Government Funding Remains the Immediate Priority

The most immediate challenge will be keeping the federal government open beyond September 30, when the current fiscal year ends. The Senate has passed a bipartisan continuing resolution by a 90–6 vote that would fund the government through December 11. The House, however, passed a different CR extending funding only through December 4. The two chambers will need to reconcile those differences before the October 1 deadline.

At the same time, work on the 12 individual FY2027 appropriations bills remains stalled. That means many of the

federal programs important to Western agriculture and water infrastructure—including Bureau of Reclamation, Army Corps and USDA programs—remain dependent on what Congress ultimately agrees to this fall.

Senate Republicans have also postponed consideration of a third reconciliation package until September. That package could include additional funding for defense and agriculture, while separate supplemental proposals under discussion could include disaster assistance and potential funding for Colorado River drought response.

For water managers, the bottom line is straightforward: federal funding decisions made this fall will help determine what resources are available for water infrastructure, drought response and agricultural programs in the coming year.

Farm Bill Still Stuck

The Farm Bill remains another major unresolved issue. Senate Agriculture Committee Chairman John Boozman's effort to advance a five-year bill stalled in early August over disagreements about Supplemental Nutrition Assistance Program cost-sharing requirements.

The Senate proposal nonetheless contains a number of provisions important to agriculture, including year-round nationwide sales of E15, higher farm-loan limits, expanded livestock and specialty-crop disaster assistance, additional drought and wildfire assistance, rural development and research funding, and increased baseline funding for conservation programs.

But the legislative calendar is becoming increasingly difficult. The existing Farm Bill has been operating under extensions since the 2018 law expired in 2023, and many authorities are again scheduled to expire September 30. With the November elections approaching and House and Senate versions still needing to be reconciled, another extension remains a possibility if Congress cannot complete the work this year.

Permitting Reform Could Have Major Water Implications

Bipartisan Senate negotiations on comprehensive permitting reform have continued to make progress, although significant disagreements remain. Lawmakers are attempting to streamline environmental reviews and reduce permitting delays while working through contentious questions involving the Clean Water Act, the National Historic Preservation Act and federal authority over approved projects.

The House has advanced its own permitting legislation, meaning the two chambers will have to find common ground if Congress hopes to pass a comprehensive package.

For irrigation districts and water project sponsors, permitting reform is worth watching closely. Major water infrastructure projects can take years to navigate federal environmental and permitting requirements, and changes to those processes could affect project timelines, costs and certainty.

One related measure gaining attention is the bipartisan CURRENT Act, introduced by Reps. Adam Gray (D-CA) and David Rouzer (R-NC), which would reform the Clean Water Act Section 401 certification process. The legislation would limit conditions imposed under Section 401 to those related to water quality, establish review timelines and streamline judicial review. Central Valley irrigation districts have supported the bill, arguing that expanded use of Section 401 has created delays and additional costs for water and energy projects.

WRDA Keeps Water Infrastructure on the Agenda

There is some good news on the water infrastructure front. Both the House and Senate have advanced bipartisan Water Resources Development Act (WRDA) of 2026 legislation.

WRDA authorizes Army Corps projects and studies addressing flood risk, drought, water conservation, navigation, ecosystem restoration and other water infrastructure needs. Senate committee language also includes a provision advancing the Perkins County Canal, an important Western water project currently involved in a U.S. Supreme Court controversy.

The House and Senate will still need to reconcile their respective bills, but keeping WRDA moving is important for communities that depend on federal participation in water infrastructure.

Regulatory Changes Continue Under the Administration

Meanwhile, the Trump Administration continues to make significant regulatory changes affecting Western agriculture.

On WOTUS, USDA's Natural Resources Conservation Service has issued an interim final rule clarifying that most wetland determinations made since 1990 can be treated as certified, providing producers greater certainty when making operational decisions and seeking to maintain eligibility for USDA programs. EPA is also preparing a proposal to rescind a Biden-era rule concerning tribal subsistence uses in water-quality standards.

The Endangered Species Act remains another major area of change. The Administration finalized a rule rescinding the regulatory definition of "harm," eliminating habitat modification as a stand-alone basis for prohibited take. Other changes involving threatened species and critical habitat are also moving forward. At the same time, lawsuits and congressional efforts to reverse some of these changes mean the regulatory landscape remains unsettled.

For farmers, ranchers, irrigation districts and water project sponsors, the practical takeaway is that ESA requirements, consultation obligations and permitting rules remain an area to watch closely. Changes at the federal level could affect water infrastructure projects, grazing, irrigation operations and projects requiring federal funding or approvals.

Looking Toward September

Several other developments will be worth watching when Congress returns, including Interior nominations, weather forecasting legislation and additional water and drought legislation. Bipartisan legislation has also been introduced to reauthorize and expand the Bureau of Reclamation's federal desalination program, providing another potential tool for addressing persistent Western water scarcity.

For now, Washington is quiet—but the issues are not going away. When lawmakers return in September, they will face a compressed calendar and a long list of unfinished work.

For Western agriculture, the next few months could be consequential. Funding, permitting, water infrastructure, drought response, the Farm Bill and federal regulatory policy are all moving at once. The Family Farm Alliance will continue tracking these developments and advocating for policies that protect reliable water supplies, strengthen Western infrastructure and keep farmers and ranchers in business.

Congress may be on recess, but there is no recess from the work of protecting the West's water future.

Boots on the Ground: Montana's Water Challenges Require a Close-Up View

The Family Farm Alliance's Boots on the Ground initiative is about more than traveling across the West. It is about listening, learning and seeing firsthand the people, places and infrastructure behind the policies we advocate for on Capitol Hill.

Earlier this month, Alliance Executive Director Sam Barncastle traveled to Montana to attend the Montana Water Resources Association (MWRA) Summer Meeting and participate in a series of tours and events organized by MWRA in conjunction with Remsight, a Montana-based, veteran-owned company deploying irrigation monitoring technology across the state. The technology is helping irrigation managers address increasingly difficult water-monitoring challenges in Montana's remote, rugged terrain, particularly as growing urban development places additional pressure on existing systems.

Executive Director Sam Barncastle joined Montana water managers touring irrigation infrastructure in the Bitterroot Valley.

Barncastle spent her time in the Bitterroot Valley, touring local irrigation districts and visiting with irrigation managers from across Montana. Those conversations provided an invaluable look at the challenges facing water managers on the ground—and the ingenuity they are using to address them.

That is precisely why the Alliance Boots on the Ground initiative matters.

It is difficult to effectively tell the story of Western agriculture from behind a desk. The challenges facing an irrigation district in Montana may look very different from those facing a district in California, Colorado or New Mexico, but the common thread is clear: farmers and water managers are working every day to maintain aging systems, stretch limited supplies, incorporate new technology and keep water available for the farms and communities that depend on it.

Our job at the Alliance is to make sure those stories are understood—not only by policymakers in Washington,

On the ground in the Bitterroot Valley: reservoirs, penstocks, canals, and the people who keep Montana's water moving.

but throughout the West. We do that by building relationships, collaborating with local leaders and, most importantly, showing up.

The Alliance looks forward to returning to Montana for the association's annual conference this winter, continuing these conversations and welcoming more Montana farmers, water managers and irrigation districts into the Family Farm Alliance. Several new Montana members have already begun joining the Alliance, and we are excited to build on that momentum.

The best advocacy starts with understanding the people we serve. Sometimes, you have to put on your boots and go see it for yourself!

Aging diversion structures like this one move water across Montana's remote, rugged terrain.

Thinking Big. Growing the Pie. Building What Comes Next.

This fall, the Family Farm Alliance will once again bring together the West's leading voices in water and irrigated agriculture for our Annual Conference, October 28–30 at the Silver Legacy in Reno, Nevada.

This year's theme is "Growing the Pie: Innovation for the next 100 Years." It is a theme that reflects both the challenges facing Western agriculture and the opportunity in front of us. Across the West, farmers and ranchers are confronting drought, wildfire, aging infrastructure, rising costs and increasing pressure on already-limited water supplies. After a winter with little snow and a hot, dry spring and summer, this has been one of the toughest seasons many of our members have faced.

But the Alliance has never been about accepting limits as inevitable. This year's conference is about looking beyond the constraints and asking a bigger question: What can we build together?

We will focus on collaboration, innovation and the big thinking needed to address the West's water infrastructure challenges. Panels will explore water and infrastructure solutions at every scale—from major new storage projects to smaller, local storage opportunities; from desalination and groundwater recharge to emerging technologies that can help irrigation districts identify, prioritize and implement improvements across their systems.

Just as importantly, we will tackle the question of how we pay for it. The West needs sustainable, reliable funding mechanisms that can support the infrastructure investments necessary to maintain and improve water systems for generations to come. That will require new partnerships, new approaches and a willingness to think beyond the traditional boundaries of how water projects have been financed and developed.

And we won't just be talking about the problems. We will be showcasing the people, projects and technologies already pushing the boundaries of what is possible.

In the midst of a difficult year, we are ready to turn toward fall with a renewed sense of optimism—and a

determination to build a bigger future for Western agriculture.

There is also something new on the horizon. We are working with the Bureau of Reclamation on a new collaborative event that will be part of this year's conference experience. We are not ready to share all the details just yet, but members will want to be in Reno to see what we have planned. More to come soon.

Mark your calendars for October 28–30. Bring your ideas, your challenges and your vision for the future. Let's think big—and grow the pie together.

Registration Now Open

October 28–30, 2026 • Silver Legacy Resort Casino • Reno, Nevada

Registration for the 2026 Family Farm Alliance Annual Conference — *Growing the Pie: Innovation for the Next 100 Years* — is now open. Join farmers, ranchers, irrigation district managers, and national policy leaders from seventeen Western states for two days of the conversations that will set the water agenda for 2027.

SUPER SAVER	EARLY	REGULAR
$600	**$625**	**$675**
by August 31	by September 25	after September 25

Register online: familyfarmalliance.org/2026conf
Book your room: Silver Legacy room block — book.passkey.com/go/SRFFA26 or 1-800-687-8733. Reservation cutoff is **Monday, October 5**.
Full conference details: familyfarmalliance.org/events
Questions? Contact Executive Director Samantha Barncastle at samantha@familyfarmalliance.org or (575) 202-2705.

Wednesday, October 28 features a limited-entry Reclamation Workshop for active irrigation district managers, board members, and farmers within Reclamation districts — check the box when you register and we will follow up with details.

From the Next Generation: Our Interns Take on the Future of Western Water

Our 2026 Family Farm Alliance summer interns wrapped up their 10-week program at the end of July, but their work is just getting started. Over the next several months, we will be sharing more of what they learned, researched and produced during their time with the Alliance.

This month, we are pleased to feature four articles written by our interns on topics that will be central to conversations at this year's Annual Conference in Reno: desalination, on-farm water efficiency technology, system infrastructure improvements and cloud seeding.

Each intern was assigned a topic that represents one piece of the larger conversation about how the West can think differently—and think bigger—about its water future. Their articles provide an accessible introduction to

these concepts, exploring the basic technologies, opportunities and challenges associated with each.

These are not intended to be the final word on any of these issues. Rather, they are a starting point—and a useful way to orient ourselves before we dive deeper into the policy, funding and implementation questions at the conference.

Our conference theme this year, "Thinking Big and Growing the Pie," is about looking beyond the limitations we face today and considering what is possible when we combine innovation, infrastructure investment and collaboration. The ideas explored in these articles fit squarely within that conversation.

We encourage our members to take a few minutes to read through the articles that follow. They offer a glimpse into the work of the next generation of agricultural and water leaders, while also providing some helpful background for the discussions ahead.

We are proud of the work our interns accomplished during their 10 weeks with the Alliance, and we look forward to sharing much more of it with you in the months ahead.

Consider this your preview. Then join us in Reno, where we'll take these conversations from the basics to the deep policy dive.

Cloud Seeding: Growing Water Resources from the Sky

Across the American West, water managers face an increasingly difficult challenge of balancing growing water demands with shrinking and less predictable water supplies. Prolonged drought, declining snowpack, and increasing competition for water have forced communities to look beyond traditional water management strategies. While conservation, infrastructure improvements, and groundwater management remain essential, another tool has quietly supported Western water supplies for decades, cloud seeding.

The Family Farm Alliance was founded by farmers, ranchers, irrigation districts, and allied water organizations with a mission to secure reliable and affordable irrigation water supplies throughout the West. Rather than simply accepting the impacts of drought, the Alliance advocates for practical, science-based solutions that help communities make the most of every available drop of water. Cloud seeding is one of those innovative tools that deserves greater attention.

Cloud seeding is not a new technology. Modern weather modification began in the 1940s, and by the 1960s the U.S. Bureau of Reclamation established the Division of Atmospheric Water Resources Management to study whether cloud seeding could enhance water supplies. One of its most well-known efforts, Project Skywater, operated from the 1960s through the 1980s, investigating how weather modification could supplement water resources while improving scientists' understanding of cloud physics. Although federal funding eventually declined, Project Skywater laid the foundation for many of today's operational cloud-seeding programs.

Cloud seeding works by introducing tiny particles, most commonly silver iodide, into cold moisture-filled clouds. These particles provide surfaces for supercooled water droplets to freeze, forming ice crystals that grow into snowflakes or raindrops. In mountainous regions throughout the West, the primary goal is to increase snowfall, which later melts into rivers, reservoirs, and aquifers that supply farms, communities, and ecosystems.

Importantly, cloud seeding does not create storms or generate moisture where none exists. Instead, it helps existing clouds become slightly more efficient at producing precipitation. Recent research has strengthened confidence that cloud seeding can produce measurable results. The Idaho Experiment (SNOWIE) provided some of the strongest physical evidence, to date that cloud seeding can enhance snowfall under the right atmospheric conditions. Scientists now generally agree that the question is no longer whether cloud seeding works, but rather under what conditions it works best and how much additional precipitation it can consistently produce.

For many Western water managers, those modest gains can make a meaningful difference over time. Jonathan Jennings, meteorologist with the Utah Division of Water Resources and president of the Weather Modification Association, emphasizes that cloud seeding should be viewed as a long-term water management strategy rather than a quick fix. As Jennings explains, cloud-seeding operations “cannot and will not fill a lake or reservoir overnight, but long-term projects can help replenish aquifers over time, increase agricultural production, and increase water supply for these reservoirs over a combination of years.”

Real-world examples demonstrate this long-term value. During Texas' historic 2011 drought, officials in San Angelo credited the community's long-running cloud-seeding program with helping maintain water supplies during one of the driest periods in the region's history. Cloud seeding has also been used in parts of Texas to reduce hail damage, protecting valuable crops from destructive storms while providing additional precipitation when conditions allow.

Despite these successes, cloud seeding is not without challenges or controversy. Measuring exactly how much additional precipitation results from seeding remains difficult because weather systems are naturally variable. Scientists continue working to better quantify the technology's effectiveness under different atmospheric conditions.

Additionally, some members of the public express concerns about unintended consequences or broader weather impacts. Researchers generally conclude that operational cloud-seeding programs produce highly localized effects, utilizing supercooled water already present in existing clouds rather than creating large-scale changes in regional weather patterns. Current evidence does not indicate that cloud seeding significantly alters precipitation across entire states or deprives neighboring regions of rainfall.

Other concerns focus on environmental impacts, tribal interests, and ensuring that cloud-seeding projects are implemented transparently with appropriate stakeholder involvement. These conversations are important as states continue evaluating where cloud seeding fits within broader water management. Like any water resource project, successful implementation depends on collaboration among federal agencies, state governments, tribal nations, local water users, and the scientific community.

Cloud seeding is already supporting water management efforts across much of the West, including projects associated with the Colorado River Basin and other mountain watersheds that feed critical river systems. As water supplies become increasingly stressed, cloud seeding offers one additional tool that can complement conservation, storage, infrastructure improvements, and responsible groundwater management. It is not a replacement for these efforts, but it can help maximize the precipitation nature already provides.

Continued investment in research and technology will play an important role in improving cloud-seeding programs. Organizations such as Rain Enhancement Technologies are helping advance the field by combining

decades of operational experience with modern meteorological tools, aircraft technology, and real-time monitoring systems. These innovations are improving the ability of water managers to deploy cloud seeding under the most favorable atmospheric conditions while collecting data that strengthens scientific understanding of long-term program performance.

The challenges facing Western water management will not be solved by a single technology. However, the future will require innovative, science-based approaches that work together to improve water reliability for agriculture, rural communities, and growing populations. Cloud seeding represents one of those opportunities. While it cannot make it rain on demand or eliminate drought, decades of research and operational experience suggest it can provide meaningful benefits when used appropriately. As the Family Farm Alliance continues advocating for practical water solutions, cloud seeding demonstrates that sometimes growing our water resources begins not on the ground, but in the clouds.

Desalination and Water Reuse: Making More Water Usable

Beneath the Chihuahuan Desert, under the crop circles of eastern New Mexico, and along the drainage canals outside Yuma, Arizona, the same story keeps repeating: an aquifer that once ran fresh is growing saltier with every year of drought and every well drilled a little deeper. The water is often still there. The challenge is making it usable again, and that is where desalination and municipal water reuse belong in the conversation about the West's water future.

The Family Farm Alliance, which represents irrigators across 17 Western states, has never argued that desalination alone can solve agriculture's water challenges. Its position, repeated across years of congressional testimony, is that desalination and reuse should expand reliable water supplies rather than simply divide existing ones.

Desalination removes dissolved salts from water to make it usable for drinking, irrigation, or commercial uses. Much of the West's brackish groundwater contains far less salt than seawater, making it significantly less energy-intensive to treat than seawater desalination. Reverse osmosis remains the industry's primary technology, separating freshwater from dissolved salts and leaving behind a concentrated brine (Texas Comptroller of Public Accounts, 2022). Municipal water reuse follows a similar principle. Instead of discharging treated wastewater, advanced treatment allows it to be reused for irrigation, groundwater recharge, and industrial purposes, reducing demand on an already stressed river or aquifer.

This is a longstanding priority. In testimony before Congress, then-Alliance President Patrick O'Toole emphasized that Western water challenges require sustained investment in projects that improve supply reliability. "Technologies for water reuse and recycling are proven effective in stretching existing supplies for urban, environmental and other uses," O'Toole said, adding that "desalination must continue to be part of potential solutions" (O'Toole, 2021). Title XVI provides federal support for water recycling, reuse, and desalination projects throughout the West (U.S. Bureau of Reclamation, n.d.).

If any project demonstrates what continued investment can accomplish, it is El Paso's Kay Bailey Hutchison

Desalination Plant. Opened in 2007 through a partnership between El Paso Water and Fort Bliss, the facility treats brackish groundwater from the Hueco Bolson Aquifer and produces up to 27.5 million gallons of drinking water each day (El Paso Water, n.d.). It became the largest inland desalination facility in the United States, giving El Paso a dependable supply independent of annual river flows and precipitation, and officials are now exploring expansion.

The Bureau of Reclamation's Yuma Desalting Plant tells a different part of the story. Built to treat saline agricultural drainage from Arizona's Wellton-Mohawk Irrigation and Drainage District, it has the capacity to process around 73 million gallons of water per day (U.S. Bureau of Reclamation, n.d.). Yet despite the technology working as designed, the plant has operated below capacity for much of its history. The limitation has not been whether desalination works, but whether funding for operating it has stayed consistent. Yuma is a reminder that developing new water supplies requires more than construction; long-term success depends on continued investment.

Not everyone agrees that the technology deserves this scale of investment. Critics note that reverse osmosis is more energy-intensive than conservation or surface storage, and that disposing of the concentrated brine byproduct carries its own environmental and cost burdens; some water-policy experts argue that a dollar spent on agricultural conservation or canal lining buys more usable supply than one spent on desalination. The Alliance's position is not that these criticisms are wrong, but that desalination and reuse should be pursued alongside conservation, not instead of it.

Ongoing research is making the technology more practical. At the Bureau of Reclamation's Brackish Groundwater National Desalination Research Facility in Alamogordo, New Mexico, researchers are testing approaches to reduce treatment costs, improve efficiency, and expand the potential uses of brackish groundwater (U.S. Department of the Interior, 2023).

For the Family Farm Alliance, the value of desalination and municipal reuse lies in their ability to create additional usable supplies, converting sources that were previously difficult or impossible to use. That approach reflects the Alliance's belief that Western water challenges require expanding opportunities rather than simply reallocating shortages, and that every acre-foot developed this way adds flexibility to a system already facing increasing demands.

Federal programs such as Title XVI, the Water Infrastructure Improvements for the Nation (WIIN) Act, and WIFIA have created a foundation for supporting these projects. The question is no longer whether the technology works. El Paso and Yuma have already demonstrated both their potential and their challenges. The question is whether investment will continue at the scale necessary to make it more widely available.

The future of Western water will not be built around one solution. It will require a combination of strategies that improve reliability, strengthen communities, and support the agricultural producers who depend on secure supplies. El Paso shows what continued investment can accomplish. Yuma demonstrates what happens when that commitment is inconsistent. For Western agriculture, the goal is not to divide a shrinking supply more efficiently but to continue funding ways to grow the water pie.

Desalination and municipal water reuse deserve a place in that future.

On-Farm Technology: Doing More with Every Drop

Across the western United States, water has become one of agriculture's most valuable and limited resources. Years of drought, growing communities, and changing weather patterns have placed increasing pressure on rivers, reservoirs, and groundwater supplies. For the farmers and ranchers who rely on dependable water supplies, conserving water while maintaining or increasing production value has become increasingly important. On-farm reduction programs provide practical, voluntary solutions that help producers improve irrigation efficiency, reduce water use, and support the long-term sustainability of agriculture. Continued funding for these programs is an investment not only in water conservation but also in the future of rural communities and the nation's food supply.

Family Farm Alliance has long supported voluntary conservation programs that help agricultural producers improve water management while maintaining productive farms and ranches. By advocating for practical, locally driven solutions, the Alliance promotes policies that strengthen both agriculture and long-term water sustainability. Agriculture has historically demonstrated its ability to adapt to changing conditions, and today's producers continue to look for ways to do more with less, especially when it comes to water. On-farm reduction efforts encourage practices such as drip irrigation, automated irrigation controls, soil moisture sensors, canal lining, and more precise irrigation scheduling. These technologies allow producers to apply water where it is needed most while reducing unnecessary waste.

The benefits of these conservation efforts extend far beyond individual farms. Water conserved through improved irrigation practices strengthens watersheds, supports river systems, and improves the long-term reliability of water supplies for agriculture, communities, and wildlife. As water shortages become more common throughout the West, every acre-foot of water conserved becomes increasingly valuable.

Groundwater conservation is equally important. Aquifers like the Ogallala Aquifer, which stretches beneath eight states, provides water for millions of irrigated acres and supports a significant portion of the nation's agricultural production. Unfortunately, many areas of the aquifer are being depleted faster than they can naturally recharge. On-farm reduction technologies that improve irrigation efficiency and reduce unnecessary water use are important tools for slowing this decline and preserving groundwater resources. Irrigated agriculture also plays a significant role in restoring these aquifers through groundwater recharge.

Federal conservation programs play a major role in making these improvements possible. Many irrigation upgrades require significant upfront investments that are difficult for producers to afford on their own. Programs supported through the Farm Bill and partnerships with the Natural Resources Conservation Service (NRCS) help reduce these financial barriers by providing technical assistance and funding for conservation projects.

One example is the Bureau of Reclamation's WaterSMART Program. Through WaterSMART grants, irrigation districts and agricultural producers receive funding to modernize aging infrastructure, improve irrigation efficiency, and conserve water across the West. Other voluntary conservation programs also help producers improve water management. Through the Natural Resources Conservation Service (NRCS), programs such as the Environmental Quality Incentives Program (EQIP) and Agricultural Land Easements (ALE) provide financial and technical assistance for conservation practices that improve irrigation efficiency while protecting working agricultural lands. In addition, voluntary rotational fallowing programs allow producers to temporarily reduce

irrigation on selected fields in exchange for financial incentives, conserving water while helping maintain the long-term viability of agricultural operations. Together, these programs reduce water losses, strengthen water supplies, and provide producers with practical tools to improve conservation while keeping farms and ranches productive.

Technology has also become an important part of water conservation. Programs like OpenET provide satellite-based data that estimates how much water crops are using, giving producers another tool to make informed irrigation decisions based on real-time conditions rather than estimates alone. OpenET is designed to support producers by providing useful information that can improve efficiency, reduce energy costs, and maintain crop yields. By giving farmers access to reliable data while allowing them to make the final management decisions, programs like OpenET encourage voluntary conservation and help ensure that continued federal investment delivers practical benefits for both agriculture and long-term water sustainability.

At the same time, technology alone is not enough. Conservation efforts work best when new technologies are paired with good water management, policies, and producer education. While no single conservation practice can solve the West's water challenges, on-farm reduction technologies remain one of the most practical and cost-effective tools available for improving water efficiency.

Another reason these programs are successful is because they are voluntary. Rather than relying solely on regulations, conservation programs work directly with producers to develop solutions that fit the unique needs of each operation while building trust and long-term partnerships. Farmers know their land better than anyone else, and providing them with the resources to improve efficiency encourages innovation while protecting agricultural productivity. This collaborative approach creates stronger relationships among producers, conservation organizations, and government agencies, leading to more resilient agricultural landscapes. Voluntary participation gives producers the opportunity to work together toward shared conservation goals while maintaining productive agricultural operations for future generations.

Continued investment in these programs also strengthens local economies. Agriculture remains the backbone of many western communities, and reliable water supplies help farms stay productive, supporting the businesses and jobs that depend on agriculture. When producers can invest in efficient irrigation systems and conservation practices, they continue purchasing equipment, hiring local contractors, and supporting agricultural suppliers, processors, and other rural businesses. Continued federal investment allows conservation technologies to reach more producers while encouraging innovation in water management, improving water reliability, and reducing pressure on already limited water supplies.

Water conservation can also help protect rural communities from increasing pressure to transfer agricultural water to growing cities. As western populations continue to grow, so does the demand for limited water supplies. Voluntary conservation programs should be designed to help producers use water more efficiently while protecting existing agricultural water rights, ensuring that conserved water does not become a reason to permanently transfer water away from farming communities. By improving irrigation efficiency and supporting responsible water management, these programs help keep water working for agriculture, protect local food production, and strengthen the long-term resilience of rural communities.

Water conservation is ultimately an investment in the future. Continued funding for on-farm reduction

technologies and voluntary conservation programs gives producers the tools they need to adapt to drought, strengthen water supplies, and protect the future of agriculture. By investing in conservation today, policymakers are investing in sustainable food production, stronger rural economies, and reliable water resources for generations to come.

Water Infrastructure for the Future

Water infrastructure has played a vital role in flood protection, drinking and wastewater delivery, energy production, water storage, and food production for well over 2000 years. This includes the massive systems of dams, reservoirs, and canals constructed by the Bureau of Reclamation that store and move water to the 17 western states.

Reclamation is the largest water supplier in the United States, responsible for nearly 500 dams, 10,000 miles of canals and supports over 450,000 jobs in rural communities across the west. Reclamation is also the second largest hydroelectric producer in the nation with 53 active hydroelectric plants.

Despite the scope of success of these projects, their continued operations rely on infrastructure that was built prior to 1960, dating back as far as 1902, and is quickly approaching the end of its intended life. Without the routine upkeep and maintenance needed, this infrastructure is rapidly deteriorating, putting millions of people at risk of losing access to water and straining the electric grid across the west.

Maintaining our current infrastructure is of the utmost importance to prevent structural inefficiencies that result in the loss of valuable resources. However, paying for this upkeep presents major financial challenges. Operation and maintenance costs pose a significant obstacle to irrigation districts and producers alike. Many districts operate on long-term payment plans and are responsible for a portion of all O&M for Reclamation's "reserved works". The district then must pass that cost along to their members, whether they receive water or not. This is one contributor to the ever-rising cost of food production.

Ownership and operational responsibilities also influence how maintenance costs are distributed. In addition to "reserve works", there are also "transferred works" that were constructed by Reclamation, but ownership and operations have since been transferred to non-federal entities upon completion of certain criteria. Transferred works place higher operations and maintenance burden on water managers but are often omitted from federal payment assistance programs.

On top of structural decline of the system, external pressures continue to increase demand for diminishing water supplies. Changing weather patterns and growing cities across the west strain water delivery systems, and current resources are already inadequate to meet municipal demand. Few plans currently exist to develop and retain the supply necessary to increase needs across all sectors.

Meeting these challenges will require a comprehensive approach. First, aging infrastructure must be reinforced and upgraded using modern technologies to ensure their longevity. Second, new large-scale projects that focus on watershed level results should be prioritized.

System conveyance upgrade projects include canal lining or piping to prevent loss through seepage and

evaporation. New technologies are also making it easier for water managers to monitor and react to changing hydrologic conditions with real-time flow monitoring and better forecasting capabilities. These continue to support agriculture by ensuring proper water deliveries.

Investment in infrastructure now will extend the life of the current systems and improve their reliability long-term. This will result in fewer delivery losses and lower maintenance costs for emergency repairs. A penny of preventive maintenance is worth a dollar of emergency response.

While improving existing systems is essential, expanding storage and other water development projects are necessary to meet anticipated needs. This is a simple reality that cannot be ignored. Funding needs to support shovel-ready projects to produce the most efficient and immediate results. These projects support local economic development and ensure water resources remain available for use each year. The retention of existing water and the development of critically needed new supply is of the utmost importance throughout the West.

Increasing storage is a vital tool to increase operational flexibility across the board. By capturing and storing wet-year runoff, we increase drought tolerance and promote groundwater recharge. This ensures resilience among all conditions.

In addition to the development of water storage facilities, groundwater banking, and resource enhancement projects such as desalination and treatment plants for reuse should be encouraged. It is vital that looking forward, we utilize solutions that promote a strong domestic food supply and support growing urban demands.

The federal government needs to support new projects to enhance water supplies while encouraging state and local interests to take the lead in the planning and implementation of those projects. Local and state interests have shown remarkable capacity to manage and design creative water development projects when given the opportunity.

Existing funding programs provide a strong foundation for partnerships and demonstrate their success. WaterSMART grants and small watershed flood protection funding under PL-566 provide vital opportunities for modernization projects that help mitigate the financial burden on irrigation districts and water users. Other programs such as long-term repayment plans for districts and loan guarantees also offset maintenance costs.

Conservation is often seen as the solution to water supply issues. While conservation is surely a tool that can assist in overcoming water supply problems, it cannot be viewed as the single answer to water shortages. The construction of additional water supply infrastructure may allow more efficient management and enable greater cooperation between traditional and non-traditional water users. This will involve collaboration between land users, state and federal partners, and other interests.

The path forward is clear. Western water has been barreling towards crisis for decades, however through practical solutions including system-wide infrastructure upgrades and water development projects we can mitigate the risks. We cannot continue conversations that focus primarily on continued conservation and cutbacks through the downsizing of Western agriculture rather than working to find methods to enhance the water supply that we have now using the variety of tools available. The future of water and agriculture in the west relies on the decisions made and actions taken today.