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Final Bay-Delta Plan Draws Ire from Former Supporters

By Natalie Willis, Reporter, Valley Ag Voice

On October 29, the State Water Resources Control Board approved an updated Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta watershed, otherwise known as the Bay-Delta Plan.

The Bay-Delta Plan will govern water quality and flow standards for the Sacramento-San Joaquin Delta and its tributaries — the Sacramento and San Joaquin rivers. The San Francisco Bay/Sacramento-San Joaquin Delta watershed supplies water to roughly 30 million residents and over six million acres of farmland, according to the Public Policy Institute of California.

"More than two-thirds of Californians and millions of acres of farmland rely on water from the Bay-Delta watershed. Two massive water infrastructure projects—the State Water Project (SWP) and the Central Valley Project (CVP)—move water from the Delta to Central and Southern California for municipal and agricultural purposes," a March 2026 report from the Legislative Analyst's Office stated. "SWRCB currently is updating the Bay-Delta Plan to improve protection of fish and wildlife."

The plan offers water right holders with two pathways to achieve the required water quality standards: participate in a negotiated voluntary agreement — now known as the Healthy Rivers and Landscapes program — or default to a regulatory path focused primarily on enhanced flows.

According to a PPIC blog post, "What's in the Proposed Bay–Delta Water Quality Control Plan?" published on September 28, 2026, those who choose to participate in the Healthy Rivers and Landscape program would agree to dedicate a portion of their water right to support instream flows, primarily for salmon. They would also commit to significant investments in physical habitat restoration over the next 15 years along with a surcharge on water use to fund a science program, a portion of restoration investments, and purchases of water to meet environmental flows.

If a water user or watershed opts out of the HRL program or its negotiated agreements fail to meet water quality objectives, the regulatory pathway requires water right holders to leave instream or release from reservoirs a percentage of the flow of water that would be in the river without dams or diversions, the PPIC post explained.

BAIT AND SWITCH

The first Bay-Delta Plan was developed by the State Water Board in 1978 and was subsequently updated in 1991, 1995, and 2006, according

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An Editorial Perspective: CEQA and the Need for Water Infrastructure in California

By Lizzy Stevens, Copy Editor
Valley Ag Voice

California's environmental diversity is one of its greatest assets, yet the state faces persistent challenges involving drought, groundwater depletion, population growth, and water supply reliability. These challenges are especially important in the Central Valley, where agricultural production, local communities, and ecosystems depend on sustainable water management.

As climate variability and competing demands strain water resources, California must improve water storage, groundwater recharge, and conveyance while protecting the environment. The California Environmental Quality Act, enacted in 1970, requires public agencies to evaluate the potential environmental consequences of many proposed projects before approving them. Although this process is essential for identifying environmental risks and protecting affected communities, its legal and administrative requirements can create additional costs, uncertainty, and delays for project proponents. Research also suggests that environmental review does not always distribute infrastructure benefits equitably among communities. California should reform CEQA's environmental-review and litigation procedures to reduce unnecessary delays for beneficial water-infrastructure projects while preserving rigorous environmental safeguards, public participation, and environmental justice.

The initial and intended scope of CEQA required government agencies to consider environmental consequences when making decisions about proposed projects. Environmental review can identify risks to wildlife, water quality, public health, and surrounding communities before construction begins. However, CEQA also allows judicial challenges when parties believe an agency has failed to comply with the law, adding another stage to the approval process. In a 2020 article published in the Southern California Law Review, Ha Chung examines how CEQA litigation can be misused to obstruct development for nonenvironmental or exclusionary reasons and proposes establishing a dedicated state or regional agency to oversee CEQA enforcement and adjudication. Chung argues that CEQA's judicial enforcement structure can create opportunities to use the law to impede development for reasons unrelated to legitimate environmental protection. The article raises concerns about legal uncertainty, judicial enforcement, and attorney-fee awards, although

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Help Keep the Voice of Agriculture Strong

By Valley Ag Voice Editorial Leadership

Since 2013, Valley Ag Voice has told stories, shared challenges, and advocated for the farmers and ranchers who keep the Central Valley growing. Today, we are asking our readers to help us keep that mission alive.

For more than a decade, Valley Ag Voice has provided agricultural news, industry updates, and a platform for the people who make agriculture possible. Reaching more than 7,000 subscribers, our publication has become a resource for farmers, ranchers, agricultural businesses, and community members throughout Kern County and the greater Central Valley.

From local agricultural developments and industry achievements to the regulatory and legislative decisions shaping the future of farming, we believe these stories deserve to be told. We believe farmers and ranchers deserve a voice, especially as they navigate increasing regulatory, legislative, and economic pressures.

Our commitment goes beyond reporting the news. Our boots-on-the-ground approach allows us to follow California's regulatory landscape, including water policy decisions and other issues that directly affect the day-to-day operations of farmers and ranchers. Having an independent local publication that understands agriculture and is willing to cover these issues is more important today than ever.

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FARM BUREAU NEWS

The United Voice of Kern County's Farming Community



President's Message

By Todd Snider
President
KC Farm Bureau

There are few things in life that are constant, and the recent election is a stellar example. Administrations and leadership change. New regulations are passed each year, funding for vital programs is flexible, and the priorities that are meant to guide our nation can shift on a whim.

But one thing you don't ever have to worry about changing is the purpose of the Farm Bureau. We represent Kern County agriculture through consistent education, public policy advocacy, and public relations to ensure the continued economic viability of local farming and ranching balanced with stellar management of natural resources.

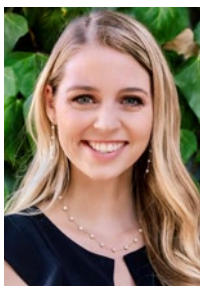
No doubt, it is a major blow when we lose the credible voices of elected officials that prioritize agriculture and understand the razor thin margins our members face. But we have the option to either retreat and lick our wounds or keep moving forward and utilizing these opportunities to educate new leaders, ensuring we make our voice loud and clear.

There are more commonalities than we may think, especially when it comes down to the ability to feed and fuel our nation. The Kern County Farm Bureau will not cease its work to represent the interest of farmers and ranchers at the local, state, and national levels, advocating for policies that benefit our industry and influencing the legislation that impacts agriculture.

Going into this season of change, my mindset is focused on the opportunities we have to highlight the true powerhouse our regional agricultural industry is and how we can continue to be a driving force for the economy and cultural landscape of California and the broader United States.

Disagreement does not mean disconnection. To me, it is a privilege to have opposing sides that can come together for the greater benefit of food, fiber, and the families that work the land. Your Farm Bureau is already getting our toolkit ready to build bridges so that we can continue to enjoy the benefits of working in such an essential industry.

I'll leave you with this: the strength of agriculture has never come from politicians. No matter who sits in the Governor's mansion or the halls of Congress, the Farm Bureau remains unchanged in its mission to defend your right to farm. We are ready to get to work.



Executive Director's Report

By Rachel Nettleton
Executive Director
KC Farm Bureau

Kern County agriculture is no stranger to challenges. From water availability and rising production costs to regulatory requirements and unpredictable weather, our farmers and ranchers are constantly adapting. However, one of the latest threats to our agricultural community is something many of us had never heard of just a few years ago: the Golden Mussel.

First detected in California's Sacramento-San Joaquin Delta in October 2024, this invasive species has quickly become a serious concern for water agencies statewide. Golden Mussels reproduce rapidly and attach themselves to surfaces within water delivery systems, creating blockages, restricting water flow, and potentially damaging critical infrastructure. For a region like Kern County, where reliable water deliveries are essential to agricultural production, the consequences can be significant.

Earlier this year, the Kern County Board of Supervisors declared a local emergency in response to the growing infestation. Since then, local water districts have invested significant resources in monitoring, treatment, and prevention efforts. As the infestation continues to spread, the financial burden on water agencies remains a growing concern, particularly as they work to protect critical infrastructure and maintain reliable water deliveries.

These additional expenses come as farmers and ranchers already face rising production costs. Reliable water infrastructure is essential to agriculture, and the growing costs of Golden Mussel management add another layer of uncertainty for an industry already navigating numerous challenges.

Recognizing the seriousness of the situation, the Kern County Farm Bureau joined local water agencies and agricultural partners in supporting efforts to secure a statewide emergency declaration. In a coalition letter to Governor Gavin Newsom, we emphasized the growing challenges facing our local water infrastructure and the need for additional resources to address the infestation.

More recently, the California Governor's Office of Emergency Services (Cal OES) declined Kern County's request for a State of Emergency proclamation and California

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Young Farmers & Ranchers



By Deissy Ibarra
Chair, Young Farmers & Ranchers

As 2026 ends, I look back on a year of growth, new friendships, and meaningful experiences through the Kern County Young Farmers & Ranchers.

When the year began, our goal was simple: bring young people in agriculture together. Throughout the year, we learned from industry leaders, gave back to our community, supported local agriculture, and built relationships that will last well beyond our YFR involvement. Whether you attended one event or several, every member played a role in making this year a success.

One of the things I enjoyed most was seeing new faces join our group. There is something exciting about watching someone attend their first YFR event, meet others in the industry, and become part of the agricultural community. Agriculture can feel like a small world, but each year we are reminded of how many talented and passionate young professionals are eager to get involved and make a difference.

Serving as Chair this year has been one of the most rewarding experiences of my professional and personal life. I have had the privilege of working alongside an incredible committee, dedicated volunteers, and supportive Farm Bureau staff who share a common goal of strengthening agriculture in Kern County. Their hard work and commitment are what make this organization successful.

I am also honored to share that I will be returning as Chair for a second term in 2027. I am grateful for our members' support and confidence, and I look forward to continuing the work we've started. At the same time, we are excited to welcome new committee members who will bring fresh ideas, new perspectives, and plenty of enthusiasm to our team. That combination of returning leadership and new energy is what keeps our organization moving forward.

Recently, we wrapped up our annual election meeting, which allowed us to reflect on the year and discuss our vision for the future. A special thank you goes to the Kern County Sheriff's Office and Sergeant Giannelli from the Rural Crime Investigation Unit for joining us that evening and delivering an informative and engaging presentation. We appreciate their partnership and their willingness to share their knowledge with our members.

As we look ahead, we have plenty to be excited about. Our committee remains committed to creating opportunities for young farmers, ranchers, students, and agricultural professionals to connect, learn, and grow. We already have several ideas in the works for the coming year and look forward to building on the momentum we created in 2026.

We'll save the official introduction of our 2027 Executive Team for next month's issue, but I'm excited about the group of leaders who will help guide Kern County YFR in the year ahead.

Thank you to everyone who attended our events, volunteered their time, sponsored our programs, and supported our organization throughout the year. We couldn't do it without you.

Stay connected by following our social media for more information!

Email: KernYFR@KernCFB.com
Instagram: @Kern_YFR
Facebook: KernYoungFarmersAndRanchers



(Photo provided by KCYFR)

Executive Director's Report

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Disaster Assistance Act (CDAA) funding. The agency determined that current conditions did not warrant either request, citing the lack of an identified long-term solution to eliminate or control the infestation. Despite this decision, local water agencies still face these challenges, along with the need for continued coordination, research, and resources.

While finding a permanent solution is certainly important, the immediate challenges do not disappear simply because one has yet to be identified. Water districts must continue treating their systems, monitoring infestations, and protecting infrastructure to ensure water can continue reaching the communities and agricultural operations that depend on it.

In August, the Kern County Farm Bureau partnered with the Water Association of Kern County to host an educational forum bringing together water managers, researchers, agricultural representatives, and other stakeholders to discuss the Golden Mussel invasion. One of the most important takeaways was that there is no simple solution. Different water systems face different challenges, and treatment methods that work in one location may not necessarily be effective in another.

Equally clear, however, was the commitment of our local water agencies to addressing the problem. Despite the uncertainty, these agencies continue working to identify effective treatments, share information, and minimize the impacts on water deliveries.

This issue also highlights a much larger concern for California agriculture. Our water infrastructure is interconnected, and invasive species do not recognize county boundaries. With Golden Mussels already affecting multiple regions throughout California, continued coordination between local, state, and federal agencies is essential to managing their spread and protecting critical water infrastructure.

Looking ahead, continued research, collaboration, and access to resources will be critical. We must also recognize the importance of supporting proactive efforts rather than waiting for infrastructure failures or disruptions. Preventing additional damage today may help avoid far greater costs tomorrow.

At the Kern County Farm Bureau, we will continue monitoring developments, working alongside our agricultural and water partners, and advocating for the resources needed to address this growing threat.

Golden Mussels may be small, but the challenges they present are anything but. Protecting our water infrastructure isn't simply a water district issue; it is an agricultural issue, an economic issue, and ultimately a concern for everyone who depends on California's water supply.

Southern San Joaquin Valley Rangelands: Oak Trees, Grass, and Grazing

By Julie Finzel, Range and Livestock Farm Advisor, UC Cooperative Extension



(Image by Sundry Photography / AdobeStock)

In 2019, Das et al, published a study that documented nearly 20% blue oak mortality in Sequoia National Park. They found that the severe drought from 2012 to 2016 caused a significant increase in blue oak mortality when compared to pre-drought rates, which are closer to 5% annually.

During the worst year of this drought, 2014, I remember driving through Kern County and observing areas where the grass never sprouted below a certain elevation. The hills never turned green. At this time, I received calls from landowners concerned about their oak trees dying. A couple of my colleagues received similar calls. In response, we decided to start a small research study tracking Blue Oak vigor and mortality at three sites; one in Tulare County, one in Madera County, and one in San Benito County. We have about four years of data from this research. I once heard someone say that oaks grow for 100 years and die for 100 years. Four years of data on a tree species that lives for centuries isn't enough to draw any real conclusions from; however, at the Tulare site, we did have one tree die in the first year.

In the process of designing the study, we learned some interesting facts about oaks (and ourselves). For example, when an oak tree dies, it releases nitrogen in the soil which can cause an increase in grass production, or sometimes, an increase in weedy species like Italian thistle. This nitrogen increase in the soil can last for up to 20 years. Also, in what I am guessing is a response to water stress, blue oaks will sometimes shed their most recent years growth from the tips of their branches, leaving little oak twigs all over the ground. Finally, all my professional training taught me to assess the landscape and examine the ground carefully. Studying oak trees required me to learn a new skill; looking up into the trees. It was like learning to write left-handed.

Blue oaks are considered a keystone species as their presence defines the landscape. Their acorns provide food for wildlife, their canopy provides shade for animals (and people!), their leaves are a nutritious snack for deer, and oak woodlands are home to many wildlife species.

In the 1990's, UC scientists and others conducted a great deal of research on oak trees and oak woodlands. This effort was known as the Integrated Hardwood Range Management Program (IHRMP). Much of their research can be found archived at https://ucanr.edu/site/uc-oaks. One of the key drivers of this research was a lack of young oak trees, or a lack of oak regeneration. A careful observer can identify oak trees of similar age and size on rangelands—evidence of pulses of oak regeneration throughout the years (Stahle et al, 2013). Recent oak regeneration can be observed in some places, such as in wetter areas and on north facing slopes, but in many areas, no young oaks can be found on the landscape. The IHRMP studied oak regeneration extensively looking for a driver behind the lack of young oaks. Ground squirrels, cattle grazing, and the non-native annual grasses that dominate the landscape were all considered. Ultimately, no single cause could be identified. Rather, it seemed to be a combination of multiple factors. Science struggles with murky waters like this.

I know it might seem strange to mention drought when the National Weather Service (NWS) says a strong El Niño is building in the Pacific Ocean. However, California is known for cyclic weather patterns of drought. In 2014, the NWS reported 2.41 inches of rainfall for the Bakersfield area. In contrast, in the winter of 2022-2023 when Tulare Lake returned, the NWS recorded 10.26 inches of rainfall for the Bakersfield area. Average rainfall for the Bakersfield area is about 6.15 inches.

It is well known that grass growth varies greatly depending on the amount of rain received each winter. Each year, I visit sites across Kern and Tulare counties to collect samples of grass and weigh them to estimate forage production. This is one of my favorite times of year because I get to visit so many beautiful places during my extensive tour of Kern and Tulare counties. The data I collect is sent to the Farm Services Agency and the County Agricultural Commissioners to help with drought designations. This year, rainfall was slightly above average at just over seven inches, and the timing of the rain was near perfect for grass growth. It is no surprise that the rangelands grew a lot of grass this year and there was no reportable forage loss. Even the Mojave desert looked great and produced a lot of forage. I was even treated to a desert rainstorm during my annual visit this year!

One thing is clear as I visit rangelands and interact with livestock producers. Being a cattle rancher or a sheep producer can be a tough gig; they depend on mother nature for the water needed to grow feed for their livestock. But just like farmers across Kern County, they are proud to produce a healthy, nutritious food product to help feed America.

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Kern County AgTech Panel Zeroes in on Collaborative Partnerships

By Natalie Willis, Reporter, Valley Ag Voice

On November 10, the city of Bakersfield and B3K Prosperity hosted a panel of agricultural education leaders and private farming interests at the 2026 Unbound: Kern County Capital Summit. The panel, titled "From Field to Future: AgTech with a Global Reach," centered on the importance of partnerships in Kern County agriculture as well as the role of emerging technologies to drive the industry into the future.

The panelists included Dr. Aaron Hegde from the California State University, Bakersfield agriculture business department, Peter Ernster from California Dairies, Inc., Melissa Haworth from the UC Davis College of Agricultural and Environmental Sciences, Dr. Stacy Pfluger from Bakersfield College, and Devon Yurosek from MAVRK Capital and Canopy Ag.



(Photo: Natalie Willis/Valley Ag Voice)

According to Hegde, while CSUB has been involved in developing workforce pathways for students in the agricultural business department for roughly a decade, the university is excited to offer a new agronomy program in the near future as they round out the program's curriculum.

"We're also in the process of developing an agronomy degree, so this is also much needed. Recently, we got a $5 million grant from the Department of Education to help develop that, as well as to include experiential learning," Hegde said. "We're going to be working on trying to develop a space for students to learn hands-on — as our president, [Dr. Vernon] Harper says, get their hands in the dirt."

Hegde also explained that CSUB remains involved in the trajectory of the industry and the challenges associated with farming in California, from water availability to international competition. He views technology as an avenue to ensure water and other inputs are applied on the farm efficiently, with the added benefit of reducing on-farm labor expenses.

"That's what we're trying to do at CSUB and through the Grimm Family Center for Ag Business, is connecting the university with industry, addressing some of the problems with real hands-on experience for our students when they graduate, because that's the future. They are the next generation that will have to address these issues," Hegde said. "Water scarcity, again, regulations and such, you need the technology to be more efficient. And already, in Kern County, in the Central Valley, we're probably the most efficient users of water — regardless of what you hear, that's the reality. We need to be even more efficient."

CSUB is also focused on keeping Kern County agriculture competitive, Hegde explained. The addition of a graduate program in analytics, with a focus on the ag industry, will allow students to analyze and meaningfully interpret data to turn into an evidence-based competitive advantage.

"In terms of competition, we have courses where students learn about export, because the majority of what we grow here in Kern County is exported internationally," Hegde said. "What we're doing is meeting the needs of the industry by developing the students and the workforce."

According to Ernster, California Dairies, Inc. is the country's largest dairy exporter. Their Bakersfield plant — Valley Natural Beverages — opened in 2025 to extend CDI's manufacturing network into Kern County, producing Extended Shelf Life and Aseptic Ultra High Temperature milk, cream, and flavored beverage products. Currently, the Bakersfield location exports to 12 countries.

"Twenty percent of our milk comes from Kern County, and we ship it all over the country. We sell to 60 different countries around the world…Bakersfield is selling to about 12 countries now out of the Bakersfield plant, and we're all over Southeast Asia and around the world," Ernster said.

He explained that an exciting opportunity for dairy farmers will stem from utilizing technology to produce even more milk.

"The dairy farmers will figure out how to use technology to produce just more milk," Ernster said. "They're really good at producing milk."

For its part, Pfluger explained that Bakersfield College has been in the community since 1913, with agriculture remaining one of its largest departments. BC has seven different disciples in the department, with transfer pathways to accredited four-year universities should students desire a bachelor's degree.

"Our goal is to give students as strong a foundation as we can in preparation for whatever's next for them, whether that's transfer or entering into the workforce," Pfluger said.

According to Pfluger, funding from Measure J, a $502 million bond measure approved by Kern County voters in 2016 to fund facility upgrades, allowed BC to break ground on a new agricultural sciences building that will give students ample hands-on learning opportunities. The facility is currently under construction, and Pfluger expects it to open soon.

Alongside BC and CSUB's efforts to connect students with more hands-on agricultural learning opportunities, Haworth explained that UC Davis has 10 campuses and, as of last year, opened a facility in Wasco.

"We acquired about 300 acres. It includes 420,000 square feet of advanced greenhouse, shade house, it runs off a solar plant," Haworth said. "We're really excited to be here in Kern County and partner in meeting the needs of this area. We're not moving our whole university down here — you've already got wonderful universities here in Kern County — but we're eager to partner."

Rounding out the panel, Yurosek, a third-generation family farmer, explained that their operations include roughly 10,000 acres in Kern and Fresno counties, and they continue to evaluate the use of AgTech to better their operations.

"From an AgTech standpoint, we get to play with a lot of these new technologies as they come out," Yurosek said. "We really get to touch and feel everything as it hits the ground. It allows us to see what's coming and invest in those opportunities."

KERN COLLABORATIONS

Throughout the panel, the need for collaboration to meet the evolving needs of the regional ag industry became a point of focus.

According to Hegde, Kern County's agriculture industry is collaborative by nature.

"It's not just limited to the actual production part of it, but there's a whole ecosystem that depends on agriculture," Hegde said. "It's also the largest employer in Kern County in terms of being extended beyond just the actual farming part of it — transportation, logistics, and all of this. There's a lot of opportunity."

Yurosek explained that Kern County is a major hub for agriculture ranging from physical farms to educational facilities that plug directly into the workforce.

"I think most farmers, most producers, are very welcoming of investment in the area. We welcome companies to come in and work together collaboratively to try and find solutions for our industries," Yurosek said. "That really allows a great return on any investment coming into the Valley and the area."

Ernster echoed this sentiment, adding that collaboration is needed across all sectors, including farmers, education, and pathways to navigate the state's regulatory nature.

"Education — we need the educated employees to help us run the farms and run the factories so we can be efficient," Ernster said. "We need [regulations] to allow us to invest and build and help us get there without being too much of an impediment. I know we've got rules and regulations, we can't go around them, but we need to make it easier to get through them so that we can continue to invest and continue to explore."

Adding his thoughts to the industry's need for regulatory reform, Hegde painted an image where a farmer has a problem, a technology company puts forth a potential solution and engages the college or university system to help test it, and the government allows it to move forward.

"Regulations are not bad, but you need to have the right regulations. I think that's the key," Hegde said. "You can't have, obviously, an environment with no regulation, but you need to have smarter regulation…we need this partnership — industry, we need education, and we need government."

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Water Abundance Means Thinking Big Again

By Edward Ring, Director of Water and Energy Policy, California Policy Center

"The problem we faced in the 1970s was that we were building too much and too heedlessly. The problem we face in the 2020s is that we are building too little and we are too often paralyzed by process."

This quote from the book "Abundance" by Ezra Klein and Derek Thompson perfectly encapsulates what has happened in California. We have stopped thinking big.

An example of how much everything has changed is how California has managed water projects over time. In less than sixty years, from 1910 through 1970, we built the most impressive system of interbasin transfers in the world. Along with reservoirs that can cumulatively store over 40 million acre feet, we built the Los Angeles Aqueduct, Hetch Hetchy Aqueduct, Colorado River Aqueduct, Delta Mendota Canal, Friant-Kern Canal, and California Aqueduct. Altogether these conveyances are over 1,500 miles in length and every year they move millions of acre feet from where water is found to where water is needed.

It would be impossible to build such ambitious projects today. For more than a half-century, almost nothing big has been completed. The only big water project even being contemplated today is the proposed Delta Conveyance – a 45 mile long tunnel under the Sacramento-San Joaquin Delta, with an internal diameter of 36 feet. If it were built and ran at maximum capacity without a break, it could move just over four million acre feet per year.

But the delta tunnel, regardless of its virtues or detriments, has been mired in controversy. Expressions of support, or opposition, both attract condemnation. The debate over the tunnel has polarized, and, worse, has paralyzed California's water community. Even necessary and relatively noncontroversial water projects are often condemned by tunnel supporters not based on their merits, but by how their realization may affect the physical need, political support, or available funding for the tunnel.

One thing is certain. With or without a tunnel, how the Sacramento-San Joaquin Delta is managed needs an upgrade. There is no single variable affecting how much water is available to Californians than this vast network of islands and channels that drain the 44,000 square mile Sacramento and San Joaquin river watershed into the San Francisco Bay.

Again, to quote from Klein and Thompson's book, *"What is often missing from both sides is a clearly articulated vision of the future and how it differs from the present."*

Well here goes. The opportunity is huge. In 2023, a very wet year, 5.2 MAF was pumped south from the Delta via the California Aqueduct and the Delta Mendota Canal, while 27.2 MAF flowed to sea. The delta pumps (state and federal) only operated at half their capacity in that year. There are safe ways to divert more water from the delta.

Here are possible examples, each of which deserve serious evaluation. An assortment of them combined and implemented would restore water abundance to California.

Starting upstream, improved weather forecasting could mean less water would need to be released from major reservoirs to leave vacancy for unexpected late spring runoff. At the same time, California's aging major reservoirs could be dredged, with the rich silt made available for habitat restoration and levee upgrades. Completing off-site reservoirs like the embattled Sites project, or an off-stream reservoir on the Cosumnes River, would also add storage for release later in the summer, as would upstream aquifer recharging. Extending the 26 mile Folsom South Canal another 30 miles to the aqueduct pumps on the Clifton Court Forebay could be another way to store and manage delta bound runoff from the American, Cosumnes, Mokelumne, and Calaveras rivers.

Millions of acre feet of upstream diversions and storage would be feasible by taking these steps, but the ability to rapidly and safely withdraw water from the delta requires additional projects. Of immediate urgency is to dredge about 85 miles of channels in the south delta in close proximity to the pumps. With five decades of silt accumulation that gets worse every year, if these channels aren't deepened to historical depths, the pumps will have to be shut off even more frequently in order to prevent channels in the south delta from drying up. If they are deepened, it is likely the pumps could be operated more often, moving more water south. At the same time, the delta levees need to be upgraded and elevated to protect against earthquakes and storm-driven tidal surges.

To address the challenge of fish getting trapped in the pumps, there are prime locations in the delta that have been identified for fish friendly diversion projects, infiltration beds where perforated pipes buried in gravel collect gravity fed water at a velocity of one inch per minute. Such a facility would not entrain fish, and could be located in the central delta only a few miles from the Clifton Court Forebay with a collection pool and connecting aqueduct about five miles long.

Downstream from the delta in the San Francisco Bay and its estuaries, major cities, most notably including San Francisco, need to upgrade their wastewater treatment plants to remove nitrogen and other pollutants from the effluent. Doing this would reduce the volume of delta flow required to maintain ecosystem health in the estuaries and in the bay, and reduce another significant constraint on pumping water into the aqueducts.

Projects to better manage the greater Sacramento-San Joaquin watershed, from the upstream tributaries to the estuaries flowing into the San Francisco Bay, may be the biggest variable affecting California's water supply, but there are other major solutions. Optimize the harvest of urban storm runoff and recycle 100 percent of urban wastewater. Develop large-scale desalination plants along the California coast.

These are nonpartisan ideas, and unlike every other state in the American southwest, California is blessed with natural prerequisites for water abundance – a dense urban population which makes wastewater reuse more economically feasible, a coastline with a strong offshore current that enables environmentally responsible seawater desalination, and the ramparts of the Sierra that force winter storms to dump tens of millions of acre feet into the Central Valley every year.

These are gifts that should inspire us, not to build heedlessly, but to nonetheless build on the same transformative scale that characterizes the work of previous generations.

If we thought big again, and actually implemented the most promising products of our imagination, we would achieve not just water abundance, but water super-abundance. And if that were done, it would open up spectacular options to restore and enhance the environment on a similarly transformative scale.

This article first appeared in "What's Current? California's Water & Energy Future with Edward Ring."

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Becerra Elected as 41st Governor of California, Makes First Public Appearance



(Photo News 10)

By Natalie Willis, Reporter, Valley Ag Voice

On November 5, California Governor-elect Xavier Becerra held his first press conference after defeating Republic opponent Steve Hilton. Becerra was joined by Democratic Assembly Speaker Robert Rivas and Democratic Senate President Pro Tem Monique Limón.

"We got lots to do," Becerra said in his opening remarks. "The public made it very clear, we should be focused on job one, two, and three. And that is: cost of living, cost of living, cost of living."

PLAYING POLITICS

On the issue of affordability, the press asked Becerra and his colleagues if they would consider cutting taxes for Californians. Becerra responded that "everything should be on the table."

Reporters then asked specific questions on housing affordability, his appointment plans, his "fair share" philosophy, and healthcare, but Becerra did not go into specifics. One of Becerra's priorities during his campaign centered on healthcare, specifically noting his plans to protect existing coverage.

"Guarantee Access and Build Toward Universal Coverage. Protect existing coverage from federal rollbacks and chart a clear path to ensuring that no Californian is left without care, regardless of income, zip code or immigration status," Becerra's campaign website, https://www.xavierbecerra2026.com/, stated.

Yet, when a reporter asked him if he, Rivas, and Limón would commit to reversing Medi-Cal cuts for undocumented immigrants, Becerra provided a different answer.

"Every time people ask those, 'Will you commit to this?' 'Will you promise to that?' that may get you elected, but that isn't the way you govern," Becerra said. "I made it very clear I was going to be the healthcare governor for California. I made it very clear that I want California to be the backstop for all families who need access to healthcare. But you want me to make a commitment to families without knowing what the budget will be, without knowing where the votes are, and that's just playing politics the wrong way."

Then, more broadly to the press in attendance, Becerra said, "Don't play this game asking me to commit because I didn't get elected doing that. A lot of other folks made these wild promises and they're not the governor elect."

In the near future, Becerra will assemble a transition team to begin the decision-making process for filling senior level staff positions such as chief of staff and finance director. He will also consider cabinet appointments in the California Department of Food and Agriculture, California Natural Resources Agency, California Environmental Protection Agency, along with other state agency appointments.

The California Secretary of State will certify election results on December 11, 2026.



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DPR Confirms High Safety Levels in State's Produce Supply

By Natalie Willis, Reporter, Valley Ag Voice

On November 10, the California Department of Pesticide Regulation released the annual DPR Pesticide Residue Monitoring report, finding that nearly 97% of fresh fruits and vegetables tested in 2024 contained no pesticide residue or residues below health-protective tolerance levels set by the U.S. Environmental Protection Agency.

Further, of the California-grown samples, only 2% had illegal residues. DPR collected samples from 550 California businesses. Of those, 920 were grown in California, 825 were grown elsewhere in the U.S., 1,256 were grown outside of the U.S. and imported, and 31 were of undetermined origin due to a lack of information on the containers.

To conduct the report, DPR collected 3,032 produce samples in 2024, testing them for over 500 types of pesticides and breakdown products. For 1,195 samples, or 39.4%, no residues were detected. For 1,740 samples, or 57.4%, residues were within the legal pesticide residue tolerances set by the federal EPA.

"These findings reflect consistent trends over the past decade, with the vast majority of residue levels within safe limits," the DPR press release stated. "The tests were conducted on 115 different fresh fruits and vegetables both grown in California and imported into the state. Of the California-grown samples, only 2% had illegal residues."

The fruits and veggies with illegal residues were referred to County Agricultural Commissioners who are responsible for investigating the cause and assessing civil penalties.

"Most illegal residues were found on imported produce, with 77 of the 97 samples coming from fruits and vegetables grown outside of the United States," DPR stated. "China (32%), Peru (8%), Ecuador (7%), and Mexico (7%) registered the highest percentage of illegal residues detected."

CEQA

Continued from PAGE 1

these concerns do not establish that every lawsuit is abusive. In addition, uncertainty about potential legal challenges can encourage agencies and developers to spend additional time and resources addressing possible disputes. These concerns matter most when California must respond to pressing water-management needs. The central policy question is not whether environmental review should exist, but how California can make the process more predictable and effective without sacrificing its protective purpose.

California's groundwater challenges demonstrate why reliable water infrastructure and sustainable management are essential to the state's future. In 2024, the California Department of Water Resources reported on groundwater conditions during the first decade of the Sustainable Groundwater Management Act's implementation, underscoring the ongoing need to monitor and manage the state's aquifers. Although groundwater conditions can improve during wet periods, long-term sustainability requires managing extraction, replenishing aquifers where feasible, and addressing the effects of historical overpumping. These issues matter most in the Central Valley, where groundwater supports agriculture, communities, and ecosystems. Groundwater recharge and storage projects can help improve water reliability when adequate water supplies, suitable locations, funding, and sound management practices are available. Infrastructure projects must also be carefully planned to prevent water-quality problems and other unintended environmental consequences. Consequently, California should coordinate environmental review with groundwater planning and management so that beneficial projects can advance efficiently while protecting water resources and affected communities.

Improving water reliability requires infrastructure that helps California capture, store, and manage water during periods of abundance and scarcity. Groundwater recharge is especially important because it can replenish aquifers and provide underground storage for future use. In a 2021 study published in Water Resources Research, Ulibarri and her research team evaluated the feasibility of managed aquifer recharge in California, examining the opportunities and challenges associated with using groundwater recharge to improve long-term water sustainability. Ulibarri and her research team examined managed aquifer recharge projects proposed by California groundwater sustainability agencies and identified 233 proposed projects, with recharge basins representing the most common approach. The study found that proponents anticipated benefits such as higher groundwater levels, reduced land subsidence, and improved water quality. However, the researchers also identified implementation challenges, including water availability, legal barriers, funding limitations, and land requirements. Developing water infrastructure requires more than environmental approval; projects must also overcome practical, financial, and institutional obstacles. Therefore, California should coordinate environmental review with water planning, funding, and groundwater-management requirements so that environmentally responsible projects can advance efficiently.

CEQA's legal and administrative procedures deserve careful examination because uncertainty can increase the resources needed to plan and approve infrastructure. Water projects may require coordination among public agencies, landowners, engineers, and affected communities, making predictable review procedures particularly valuable. According to Chung, CEQA's judicial enforcement system can create litigation opportunities that impede development, including projects with public benefits. Chung also raised concerns about attorney-fee awards and other litigation features that may influence the incentives of parties involved in disputes. Nevertheless, the existence of these incentives does not prove that a particular lawsuit lacks merit or that litigation necessarily causes excessive delays. A sound reform strategy should distinguish challenges that identify substantial environmental or procedural failures from disputes that could be resolved through clearer administrative standards or earlier consultation. California could consider more consistent review guidelines, earlier coordination among agencies, and timely resolution of legal disputes while preserving access to the courts. Such measures would make the process more predictable without automatically exempting water projects from environmental scrutiny.

A specific example of the relationship between CEQA litigation and water infrastructure is the Sites Reservoir project in Northern California. According to a 2024 press release from the Governor's Office of California, an appellate court resolved a CEQA challenge to the project within 256 days under California's judicial-streamlining framework. The state described this outcome as an example of how expedited judicial review can help move a major water-storage project through the legal process while retaining judicial oversight. This example illustrates how more predictable litigation timelines can move major water-infrastructure projects forward. However, one case cannot establish that all CEQA lawsuits are unnecessary or that every project would benefit from the same approach. Instead, it supports considering targeted reforms that resolve disputes efficiently while preserving meaningful environmental review and public accountability. By examining actual project timelines and litigation outcomes, policymakers can better determine where procedural improvements would be most beneficial.

Opponents of CEQA reform argue that speeding up project approvals could weaken environmental protections and expose communities to avoidable harm. Water infrastructure can affect groundwater quality, river flows, wildlife habitats, agricultural land, and neighboring residents. If agencies overlook these consequences, projects intended to improve water reliability could create new environmental problems or distribute benefits unfairly. In a 2023 article. published in Environmental Science & Policy by Wang and a research team reinforce the importance of environmental assessment by demonstrating that review and mitigation practices can vary across communities and projects. Similarly, Ulibarri and the research team show that managed aquifer recharge is not automatically successful simply because a project has been proposed; its feasibility depends on water availability, funding, land, legal arrangements, and other practical conditions. These findings support maintaining careful project evaluation rather than assuming that all water infrastructure is environmentally beneficial. At the same time, they do not justify treating every additional procedural step as equally valuable. The appropriate response is to preserve thorough assessment of significant environmental effects while improving the consistency, timing, and accessibility of the review process.

California can address these competing concerns by pursuing targeted reforms rather than broadly weakening CEQA. First, public agencies should establish clearer expectations for environmental documents and coordinate review requirements early in the planning process. Second, agencies should engage affected communities before major decisions are finalized, allowing residents to identify local concerns and recommend appropriate mitigation measures. Third, policymakers should evaluate whether procedural disputes can be resolved more quickly without restricting legitimate legal challenges. Finally, proposed reforms should be evaluated according to their potential environmental impacts, public benefits, and effects on vulnerable communities rather than assuming that every infrastructure project deserves identical treatment. These recommendations follow from Chung's analysis of litigation-related concerns, Wang's findings on environmental justice, and Ulibarri's assessment of managed aquifer recharge feasibility. Importantly, streamlining should mean reducing avoidable administrative duplication and uncertainty while maintaining accountability. A more consistent and equitable process could help California advance necessary water projects without sacrificing environmental responsibility.

California lawmakers and state agencies should take action to streamline CEQA review and litigation procedures, improve interagency coordination, and set clearer timelines for water-infrastructure projects while preserving environmental safeguards and community participation. By evaluating reforms through measurable outcomes, including project approval times, environmental impacts, public participation, and equitable access to water resources, policymakers can ensure that California protects its environment while meeting its growing water needs. California must pursue a more efficient, equitable approach to environmental review that supports both environmental protection and long-term water security.

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The Ag One Carl and Barbara Fanucchi Scholarship Fund awards financial aid to Fresno State students. (From left: Dean of Jordan College Dr. Rolston St. Hilaire, Luis Gonzalez, Carl Fanucchi, Barbara Fanucchi, Juan Gonzalez. Photo: Natalie Willis/VAV)

Fresno State Grows its Ag Resources, Awards Student Scholarships

By Natalie Willis, Reporter, Valley Ag Voice

On November 5, California State University, Fresno held its 47th Annual Ag One Kern County Alumni and Friends Luncheon, hosted by Tejon Ranch. The event allowed Fresno State to highlight the diversity of its agricultural programs and present the Ag One Carl and Barbara Fanucchi Scholarship to students in the university's Jordan College of Agricultural Sciences and Technology.

According to Dr. Rolston St. Hilaire, the Dean of Jordan College, it is important to realize the scale of the agriculture industry in the Central Valley — where over 400 commodities are grown — and Fresno State is uniquely positioned to prepare students for working in the industry while also acting as a regional hub to drive innovation.

"We're right in the middle of it," St. Hilaire said. "So, our role would be to be some of the pioneers in what we'd like to see Valley ag look like. Meaning that we could be the area where we drive the innovation that happens in ag."

For instance, St. Hilaire explained that Fresno State was among the first to experiment with planting olives at a high density. In 2005, Fresno State produced the first commercial harvest of an olive plantation for oil from a super high-density planting, modeling that form of planting for the benefit of regional farms.

"That's one of the roles we have as an educational institution," St. Hilaire said. "We should be the ones that can model what would be the new technologies, the new ways of farming."

Alongside this purpose, Fresno State's role is to prepare students to enter the local industry workforce. According to St. Hilaire, roughly 80% of students who graduate from Fresno State remain in the Central Valley.

"Our role, therefore, is to make sure that our curriculum is current, that it's responsive to what the industry needs, and then, we're training those students to go out into the industry and therefore meeting their needs," St. Hilaire said. "So, that's the second big piece. And then, the third piece is where we're actually working closely with industry to make sure that what we're teaching in our classes, what they're doing on the farm or in the fields, are really lining up and meeting those needs."

OPPORTUNITY AND RESOURCES

In order to prepare students for the modern industry, Fresno State incorporates a combination of classroom and hands-on learning opportunities. The university's 1,000-acre farm offers students a space to connect with industry — St. Hilaire explained that industry leaders partner with Fresno State on the farm and the 90-100 students that work the farm regularly interact with those seasoned leaders.

Additionally, the Jordan College has six departments that offer programs on applied and practical training for students, with 18 majors and eight minors through its undergraduate, graduate, and continuing education programs.

On campus facilities such as the Jordan Agricultural Research Center, Fresno State Winery, graduate laboratory, university agricultural laboratory, and others prepare students for successful careers and post-secondary education through hands-on, practical experience, industry-aligned research, and real-world application.

According to Christopher Court, a master's student in Industrial Technology, along with the resources available on campus, connecting with faculty members has been instrumental in preparing him for the workforce. Court explained that his mentors have connected him with internships and provided advice for his future career.

"Just in the Jordan College as a whole, talking to any of the professors that I've had there has been very good as far as just all the advice or helping with my classes," Court said.

Court also played a key role in the Department of Industrial Technology's new model manufacturing lab which opened on November 2, 2026. The idea of the lab initially arose in 2022, according to St. Hilaire, but it gained momentum in 2023, around the time Court became a student technician under Andrew Harper, an I.T. Department instructional technician.

St. Hilaire made a promise that if the department could begin clearing the potential space, at the time known as I.T. 152, the Jordan College would find a way to make the lab a reality. Court and Harper quickly got to work on clearing the space which was filled with old equipment.

"We did a lot of work around the department fixing things up, but one of the main things was we ended up clearing the shop, the entire shop. It was just me and Andrew for the most part… we cleared out all these World War II surplus equipment. They were painted with army surplus green with little plaques that said they were army surplus," Court said. "We got these cleared out, working with what we had, an old forklift at the time, and then we had to get some help from the mechanized agriculture department."

As the space was cleared, St. Hilaire got to work to secure the appropriate funding to move the lab forward. In the end, the $850,000 project was made possible by collaborative support from the Fresno Madera K-16 Collaborative, Fresno Economic Development Corporation's Good Job Challenge federal grant, the Farms Food Future (F3) Initiative, the Jordan College, and the Division of Continuing and Global Education at Fresno State.

"The lab will be set up to teach classes in manufacturing, and in spring, there will be classes like manufacturing processes, production methods, and there's a couple more — four or five classes that will be part of the Industrial Technology program. They do have what's called an agricultural systems management major, so a lot of those classes will support that major," St. Hilaire said. "In addition to that, the lab is being used now to train individuals who are embedded in the workforce already. They're working in manufacturing companies, and they need to be up skilled."

FANUCCHI SCHOLARSHIP

While the university's roots are in Fresno, every year, students from Kern County can receive the Ag One Carl and Barbara Fanucchi Scholarship to support their continued studies with Fresno State.

This year, two scholarships were awarded to twin brothers — Juan and Luis Gonzalez. Juan is a third-year student majoring in Agricultural Systems Management and was recently accepted into a master's program in Industrial Technology with a minor in Spanish.

"Jordan College has helped me not only develop myself as a student but as a colleague, helping me develop that intuition to look for more opportunities as a student and as a peer, so I could help enhance those workplaces," Juan Gonzalez said.

Luis is also a third-year student majoring in Agricultural Systems Management with a minor in Spanish.

"Growing up in Bakersfield, I worked in gardening and learned firsthand what it takes to make things grow. That hands-on experience sparked a deep respect for the land but also made me realize that loving agriculture is just the first step. Managing the complex, fast-moving technology and systems that keep a modern industry alive is another challenge entirely," Luis Gonzalez said. "That is why I chose the major of agricultural system management here at Fresno State — I wanted to take the work ethic I learned on the ground and pair it with the data, machinery, and technology needed to make the food system more efficient and sustainable. And that is all gonna be possible through the Jordan College of Education at Fresno State."

According to Carl Fanucchi, the scholarship program began over 45 years ago as a small barbeque fundraiser.

"I can remember that we'd have a get-together where we would do the cooking and the barbecuing, and if we made $500 or $600 profit, we'd put in the scholarship fund," Fanucchi said. "And now, it's grown to this."

Fanucchi explained that while the scholarship fund began modestly, with him and his wife, Barbara funding and preparing the fundraiser event for 30 years, the Ag One Foundation has helped it grow into a successful source of funding for local students in pursuit of an agricultural education.

The Ag One Foundation has more than 150 named endowment funds and has awarded scholarships and program support to roughly 5,750 students.

"I am incredibly grateful to be a recipient of the Ag One Carl and Barbara Fanucchi Scholarship.

The Ag One Foundation and the Fanucchi family, thank you. Knowing that this scholarship was established by a family with such deep roots in Kern County made this award incredibly personal to me," Luis Gonzalez said. "This is so much more than financial aid, it is validation. It is a powerful message for leaders in my own home community that believe in the next generation. Because of your generosity, I can focus less on the stress of tuition and more on mastering the irrigation systems, machinery, management, and position data technology that our industry needs. You aren't just funding my education; you're adding me to the next generation of Valley agricultural innovators."

Pandol Receives 'Lifetime Achievement' Award for Dedication to Fresh Produce Industry



John Pandol, of Pandol Brothers, Inc. received the 2026 Member of the Year Award from the FPAA. (Photo by: Fresh Produce Association of the Americas)

By Natalie Willis, Reporter, Valley Ag Voice

John Pandol, Director of Special Projects for Pandol Brothers, Inc., was awarded the 2026 Member of the Year by the Fresh Produce Association of the Americas for his ongoing 25-year service on the board, service as Chairman of the association's grape division, and his broader work to support the fresh produce industry.

Pandol Brothers, Inc. is based in the San Joaquin Valley and operates as a commission merchant of fresh grapes, blueberries, and other produce. The company is owned by growers and has become one of the country's top 10 grape producers.

According to Pandol, receiving the award felt akin to the lifetime achievement awards provided to actors and singers for their career-long attributions to the industry.

"That's kind of how I feel after being on that board for 25 years," Pandol said. "That's how many trips to D.C., how many congressional visits, how many letters, how much content contributed, you add up all that over a 25-year period…it's kind of a lifetime achievement award."

In a press release, FPAA explained that Pandol's contributions to the association extend across North America, from Mexico and Arizona to California, New York, and Washington, D.C. Over the past year, FPAA explained that Pandol participated in a panel addressing the United States-Mexico-Canada Agreement, authored an opinion piece on that trade agreement, and traveled to D.C. for additional Congressional meetings where he advocated for relief from government inspection requirements that contribute to industry losses.

"A dedicated advocate for the fresh produce industry, he regularly participates in meetings with policymakers, industry organizations, and stakeholders, bringing valuable perspectives on international trade, agricultural policy, customs, logistics, and the challenges facing the produce supply chain," FPAA stated.

After graduating from the University of Southern California Marshall School of Business in 1982 with an emphasis on International Marketing, Pandol continued his agriculture studies at Universidad Catolica de Chile. Pandol's work in export sales for Pandol Brothers, Inc. began in 1984 where he sold fresh produce to Europe, Far East, Oceana, and Latin America under commission merchant and buying broker scenarios.

Pandol then stepped into his current role as Director of Special Projects for Pandol Brothers in 2004, managing the family company's business development activities in sales and sourcing.

Within this work, Pandol explained he collects and evaluates data in marketing and business development to understand what consumers are looking for and how to leverage that information to make informed market decisions.

Pandol noted that if he wasn't working in agriculture, his skills would transfer well to a career in law enforcement or private investigations.

"I actually took private detective courses," Pandol said. "I thought the skills in law enforcement or in the intelligence world—or other types of intelligence gathering and analysis—might be useful."

He utilizes this background and skillset to evaluate early pattern detection for the company's business development activities.

Along with focusing on forecasting, which takes historical and current trend data and applies it to future scenarios, Pandol also practices trend tracking which focuses on the past and the present to identify long-term patterns.

FARM TO MARKET

From an industry standpoint, Pandol explained that the current regulatory landscape in California can act as a barrier to a farmer's ability to compete on an international scale.

For instance, while the state promotes technological advancement and innovation, autonomous tractors are still restricted by Cal/OSHA's 1977 regulation that requires all self-propelled agricultural equipment to have an operator stationed at the vehicular controls while moving under its own power.

"You still have [the Private Attorneys General Act], and no self-driving tractors, and it still takes you 15 years to approve a new agrochemical," Pandol said. "Why is it like that?"

Along with the regulatory headwinds facing the industry, Pandol explained the importance of understanding the entire supply chain, from the time of harvest to when the product is sold at the store.

"The whole supply chain, and really, it's a web, is important. As a seller, when a farmer picks something and he gives it to me, it's perishable," Pandol said. "My challenge is to get it to the market in an orderly fashion so that it's still in an acceptable condition."

He explained that every aspect of the supply chain has to execute its job to get the farmer's product to the shelf. This includes the physical production to the manufacturing components and transportation.

Balancing those intricate, high-stakes logistics is no small feat, but with a 'lifetime achievement' award in his pocket, Pandol will continue his work in advocating for the industry, promoting fair trade, and keeping the world of fresh produce moving forward.



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Holloway Hosts First 'Soils in Action' Field Day

By Natalie Willis, Reporter, Valley Ag Voice

On October 22, H.M. Holloway and the Kern County Farm Bureau co-hosted the first Soils in Action field day event at Holloway's gypsum mine in Lost Hills, California. According to Brian Milne, vice president of communications for Holloway, the field day was inspired by the general lack of regional events focused on soil health.

"There's a lot of events out there, but not a ton focused just on soil health. So, that was the primary reason, and also, to show people where Holloway gypsum comes from at the mine here," Milne said.

Growers, agronomists, crop advisors, and others interested in soil health attended, with opportunities to visit over 30 exhibitors at the tradeshow and hear from industry experts on maintaining high-quality soil to benefit their operations.



Holloway hosted its first field day event focused on soil health on Oct. 22, 2026, in Lost Hills, Calif. The event featured various expert speakers on soil health as well as industry-led discussions on the invasive golden mussel. (Photo: Natalie Willis/VAV)



Over 30 exhibitors, like Berchtold Equipment, participated in the tradeshow. (Photo: Natalie Willis/Valley Ag Voice)

The speakers covered several topics including salinity management, drone imaging, microbes and nitrogen mineralization, AgTech and precision application, different forms of gypsum, and a timely discussion on golden mussels. Representatives from the University of California, Davis, Sunridge Nurseries, Greenleaf Ag – a Bennett Company, Holloway, the University of California Cooperative Extension, Kern Machinery, California State University, Bakersfield, and Grimmway Produce Group hosted these speaker stations.

According to Allie Cushnyr, senior agronomist with Holloway, while the event was dedicated to soil health, she also wanted to include discussions on ag technology and California's ongoing battle with the invasive golden mussels which continue to clog vital water infrastructure.

"If we ignore key things like golden mussels and we're not talking about that, then we're not going to have farming," Cushnyr said.

Daniel Terry, director of sales and ag products at Holloway Gypsum, explained that they hope to make the Soils in Action field day a recurring event. He noted that new products continue to hit the market, but research and scientific verification is currently lagging innovation.

"That's why we're here right now," Terry said. "We want to start an open dialogue, we want to start presenting something new to everybody, and we're hoping this starts to shed some light on what's out there and what can happen as we all work together."

TRUE GYPSUM AT HOLLOWAY

Cushnyr gave a presentation on the different types of gypsum and explained the unique properties of Hollway's gypsum. Gypsum is a natural mineral commonly used in agriculture to improve soil structure, add calcium and sulfur to boost crop productivity, and improve water filtration, among other uses.

According to Cushnyr, Holloway has mined gypsum for over 90 years, and its gypsum stands apart from the rest. Holloway's original gypsum is an organic, naturally mined Dihydrate form, which allows it to dissolve and works faster than anhydrite alternatives.

"This material is a dihydrate material that you're standing on, which means that it has two water molecules on it, which means it's very soluble and will move into your soil structure," Cushnyr said. "The whole reason you use dihydrate is because when water hits it, whether it be your irrigation or the rain, it's going to move into the soil. And when it's moving into the soil, you're ideally replacing your sodium ions on your [Cation Exchange Capacity] of the soil with calcium ions."

She explained the importance of leaching the soil underneath the root zone. As part of the agronomy programs Cushnyr runs for growers, she takes soil samples within the root zone and below the root zone to understand what leached, what still needs to leach, and how much progress has been made.

Along with mining its own gypsum, Holloway carries a wide variety of soil amendments, fertilizers and nutrients to get growers' soils on the right track.

GOLDEN MUSSELS

John Bison from Greenleaf Ag hosted a speaker station to discuss the golden mussel — an invasive species native to China and Southeast Asia that was initially detected in the Sacramento-San Joaquin Delta and O'Neill Forebay in October 2024.

Bison explained that the golden mussel spread quickly in California, and efforts to mitigate the species are ongoing.

"Everything in the State Water Project water across the aqueduct has golden mussels in every ounce of water. They are a broadcast spawner, and they can spawn multiple times in a season," Bison said. "We know based on studying them in other countries, they spawn between six and 13 times in a summer. We don't know what triggers them. We thought it was temperature. We know they start spawning at about 60-degree water temperatures. But we're finding, for example, this year we've documented eight spawns, individual spawns this year in the aqueduct."

He explained that while quagga mussels and zebra mussels spawn once or twice a year and take six to eight months to come to maturity, golden mussels spawn up to 13 times a year and come to maturity in two months. Further, they can be sexually mature in three months, meaning every three months, the juvenile mussels are creating their own larvae.

The danger of this species is its ability to plug irrigation systems and block water flow in the state, Bison explained.

The current treatment protocol is a copper sulfate pentahydrate, but Bison explained that not all copper sulfate pentahydrates are successful. Currently, California has approved only four chemistries to fight golden mussels, and copper remains the cheapest and most effective option.

Bison utilizes a continuous, low-dose treatment of copper, which has proven to be the best fight against the species currently. He explained that the low dose keeps it from harming other fish or wildlife.

According to Bison, federal and state funding are both needed to effectively mitigate the golden mussel. Specifically, he explained that the impact on concrete will require federal assistance. Essentially, mussels need calcium to build their shells, and the east side of the Valley has naturally low-calcium snow runoff.

When the water is low in calcium, Bison explained that mussels naturally go to the concrete, where they pull 20% of the calcium out of it, ultimately weakening the structure.

"Coming into an El Niño season, think of all the bridges going across the aqueduct right now…some of the studies say it could weaken the concrete up to 80%," Bison said.

Additionally, golden mussels attach to water infrastructure pipes and colonize in large groups in certain areas, causing metal corrosion.

"Just by them being in the pipe will corrode the metal and weaken the concrete and just destroy our infrastructure of our pipes and our water systems in the state of California," Bison said. "It's not only the risk of them plugging up the water and stopping the flow; it's also weakening an aging water infrastructure."

He explained that while his efforts as an applicator have resulted in 100% mortality of mussels where he applies treatment, it's impossible to treat every colony given how fast the mussels keep spreading.

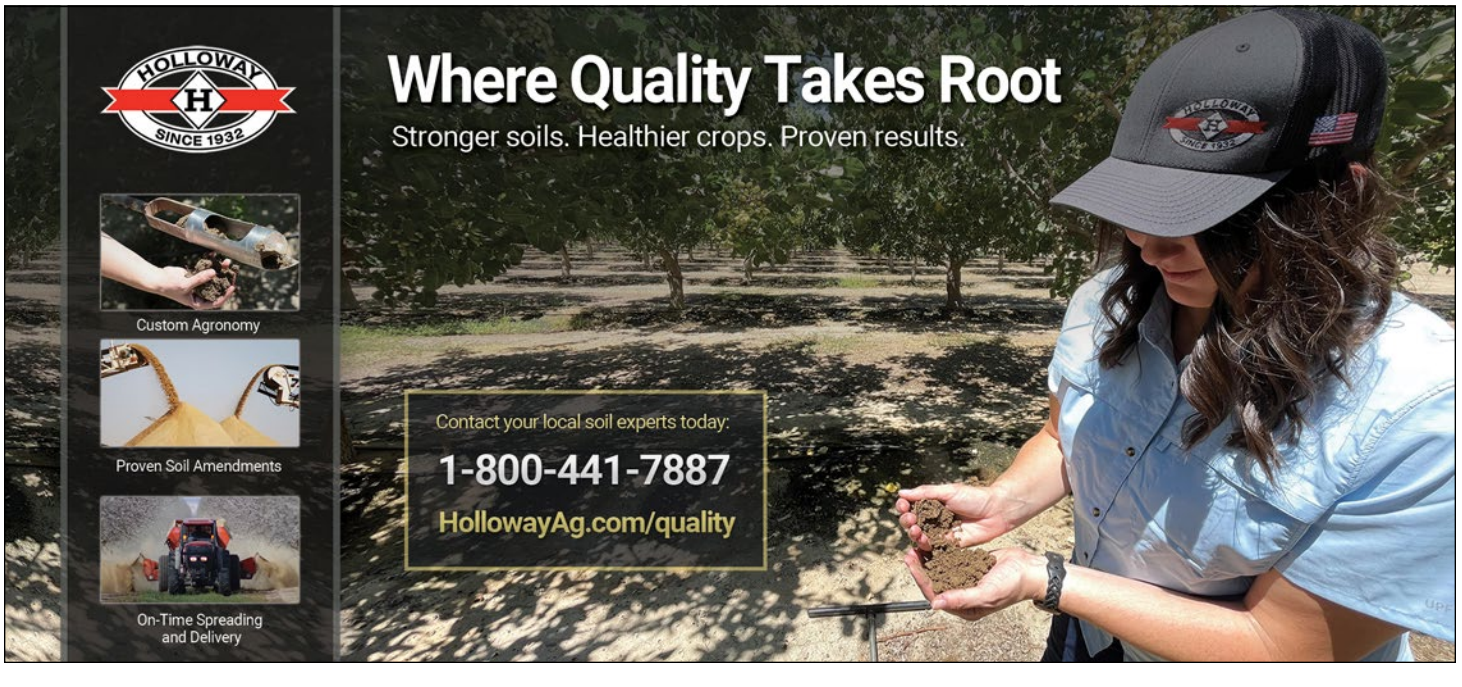
"So, we're fighting [the Department of Water Resources] to treat the actual aqueduct at the source," Bison said. "It's yet to be seen if they're going to do that or not, but hopefully they will."

The cost of treating this invasive species is more than local agencies can handle, Bison explained. He pointed to efforts in China – where the golden mussel is indigenous and has indigenous predators — explaining that it costs them roughly $12 billion a year to fight the species.

"Kern County has declared a [local] state of emergency, but all that is, is a letter to the Governor, and he's done nothing," Bison said.

He explained that he is focused on spreading the word about how severe the issue is, educating people on the topic, and fighting for state and federal funding to help growers fight golden mussels.

"This problem in California is only starting to move east," Bison said. "This is a problem that's going to affect at least the southern states, all the way to the east coast. It's just not there yet."



Plan Draws Ire

Continued from PAGE 1

to the SWRCB Resolution NO. 2026-0042.

In 2009, the State Water Board issued a Notice of Preparation followed by a revised NOP in 2011, regarding its intent to amend the Bay-Delta Plan to address flows for the "reasonable" protection of fish and wildlife in the lower San Joaquin River as well as salinity for the "reasonable" protection of southern Delta agriculture.

Since then, the SWRCB has engaged in a multi-year process to update the plan, leading to the Board's approval of the final plan in October 2026 — 17 years after the initial NOP.

Despite the lengthy public review process, the final plan has ruffled feathers among water agencies, agricultural and business groups, and the federal administration primarily due to the regulatory pathway and Healthy Rivers and Landscapes program outlined in the plan.

In March 2022, a Memorandum of Understanding was reached between state, federal, and local water leaders to create measures to integrate additional water flows with the physical landscape to improve conditions for native fish in the Sacramento and San Joaquin rivers, their tributaries, and the Delta to which they drain. The agreements were originally referred to as "Voluntary Agreements" but were later renamed and formalized into the Healthy Rivers and Landscapes program.

The agencies and water districts that signed onto the original Voluntary Agreements, like Westlands Water District and the U.S. Bureau of Reclamation, agreed to a collaborative formula that balanced the protection of all beneficial uses based on scientific flow and non-flow measures. According to the Westlands Water District, the approach paired new flows with habitat restoration at scale, provided funding, and established a "rigorous" science program.

However, the final Bay-Delta Plan adopted by the SWRCB has been accused of diverging from the MOU. According to a letter from the U.S. Bureau of Reclamation to the SWRCB on September 4, 2026, the Plan does not honor the 2022 MOU, it merely keeps the Healthy Rivers and Landscapes label while changing the terms of the agreement.

The letter was signed by Aubrey Bettencourt, the Principal Deputy Commissioner for the Bureau of Reclamation and former president of the Almond Alliance of California. The comments stemmed from the draft final plan, before the SWRCB officially approved the final plan in October.

"Reclamation and partners throughout the State recognized an opportunity to work with the State Board in this Draft Plan update that would provide certainty for water users while still ensuring protection of native fish and wildlife through integrated flow and habitat measures," Bettencourt stated. "The current draft plan reflects more of what has come to be expected from the State Board – executive and regulatory overreach, questionable legal authority, and continued downward pressure on water users throughout the state."

Specifically, in order to utilize the voluntary agreement pathway for the HRL water rights, the participants responsible for providing State Water Project and Central Valley Project export contributions, including Reclamation and the Department of Water Resources, are required to reduce exports by 125 thousand acre feet in both dry and below normal water year types. They must also release 175 TAF in above normal water year types "to provide additive Delta outflows above base conditions."

"It requires additional CVP and SWP export reductions of 125 TAF in dry and below-normal years and 175 TAF in above-normal years, and sets a regulatory default of 55% unimpaired flow," Bettencourt stated. "Neither pathway contains a durable mechanism that protects CVP contract performance – water for families, farms, communities. The backstop is more water, not the portfolio the parties negotiated in 2022."

The 55% figure refers to the Plan's requirements that, except where specific exceptions apply, inflows from the Sacramento/Delta tributaries must be maintained at 55% of unimpaired flow year-round on a seven-day running average to achieve the narrative inflow objective to protect fish.

Bettencourt further stated that if the SWRCB approved the plan without addressing Reclamation's concerns, Reclamation would cease any further participation or funding under HRLs or similar state pathways that do not protect CVP contract supplies and project purposes. This threat would include withholding an anticipated $740 million of federal funding from California's HRL program.

On September 4, Westlands Water District, one of the original signatories of the 2022 MOU, withdrew from the Healthy Rivers and Landscapes Program due to the terms set out in the draft final Bay-Delta plan.

"Since 2022, water agencies including Westlands have participated in good faith, devoted significant time and resources to negotiations, and submitted detailed comments as the draft water quality control plan evolved, ensuring it remained consistent with the agreement memorialized in the 2022 MOU," Westlands stated in a press release. "Throughout this process, the State Water Resources Control Board has included elements in successive drafts that undercut the comprehensive, science-based approach embodied in the 2022 MOU. Despite repeatedly raising detailed concerns, the issues remain unresolved, and the agencies' comments have been rejected rather than meaningfully addressed."

Now that the final Bay-Delta plan received board approval in a 4-1 vote — Nichole Morgan, the civil engineer to the SWRCB, was the only 'No' vote — board staff will release a draft implementation methodology within one year and develop implementing regulations within two years, pending approval from the Office of Administrative Law.

The California Office of Administrative Law ensures that state agency regulations are necessary, legally valid, and available to the public. Once the OAL approves a regulation and files it with the Secretary of State, the next available action for opponents is to file a judicial challenge against the state agency.

The voluntary agreements pathway is expected to begin implementation no later than October 1, 2027.

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Voice of Agriculture

Continued from PAGE 1

Since its beginning, Valley Ag Voice has been free to readers. That is not something we want to change. Our ownership believes access to agricultural news, information, and advocacy should never be a financial burden for the farmers and ranchers who already face enough challenges simply keeping their operations running. We want every member of our agricultural community to have access to the information that matters.

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Save Our Lawns, Reform AB 1572

By Edward Ring, Director of Water and Energy Policy, California Policy Center

Californians are within months, if not weeks, of getting what could be the most thorough statewide drenching in decades, as a "super" El Nino grows in the Pacific. Expect hundreds (plural) of millions of acre feet of water to dump onto watersheds across the state this winter, as California experiences its fifth year in a row with above average rainfall.

There's no water shortage in California. There never was. The solution to water scarcity is, and has always been, figuring out how to save enough water during wet winters to still easily supply all our needs during droughts. And even in drought years, around 100 million acre feet falls onto the state.

This is why, in a state where precipitation whipsaws between years with ridiculous over-abundance and years where there is barely enough, the worst possible strategy is to invest in lowering demand, instead of investing in increasing supply. But that's exactly what California's state legislature is doing.

The latest example of this arrives on January 1, when AB 1572 begins to take effect. Rolling out over three years, by 2029 it will be illegal to use potable water to irrigate "nonfunctional" grass on commercial, institutional, and industrial properties.

This is not an inexpensive investment in lowering demand. In a bid to "get ahead of the rules," the City of Morgan Hill removed 4,400 square feet of grass and replaced it with native plants. The work cost $32,000, to landscape one-tenth of one acre.

This was an expensive investment, but one that is likely to be repeated in cash-strapped municipalities all over the state. In the state's official "Water Supply Strategy" document released in 2022, the following cost estimate is made: "The State will partner with local agencies to convert 500 million square feet of ornamental turf by 2030, with corresponding investments in programs and policies that incentivize turf conversion. Removal of 500 million square feet of turf could generate 66,000 acre-feet of water savings each year at an estimated cost of $1 billion."

Under what set of credible assumptions is this accurate? 500 million square feet is 11,478 acres, which means this document assumes 5.7 acre feet of annual irrigation per acre of lawn. That figure appears frequently in official anti-lawn literature, but it represents an extreme case and has no credibility. Modern desert-optimized hybrid grass can thrive on half as much water. There are also varieties of grass that can survive during droughts on as little as 7 inches of water per year, barely more than one-half an acre foot, then easily revive after the drought is over.

Moreover, even if you accept the 5.7 acre foot per year estimate for watering one acre of grass, you still have to take into account the water requirements of the native plants. Will they require no irrigation? And what will their maintenance requirements be compared to simply irrigating and mowing lawns?

Another casualty of eliminating "non-functional" turf is that it also helps sustain large trees. If the lawns die, trees will die, which is not only an aesthetic tragedy, but a costly cleanup. If these rules take full effect, thousands of beautiful groves of urban redwoods will die. Expect them to be replaced by "approved" varieties, such as the overplanted, boring, messy Chinese pistache, and the equally ubiquitous, droopy, and slow growing deodar cedar.

The economics of replacing lawn with landscaping are not favorable. Spending a billion dollars to convert 500 million square feet is $2 per square foot. Don't believe it. The landscaping job in Morgan Hill cost $7 per square foot. Meanwhile, drought tolerant "TifTuf Bermuda" sells for $1.05 per square foot, and that's not unusual. A commercial nursery in the expensive San Francisco Bay Area is selling grass at prices as low as $0.84 per square foot.

If property owners and property managers can keep their "non-functional" turf alive while using far less water, why doesn't AB 1572 provide for that?

The sad truth is many commercial property owners, already beleaguered with regulations that have brought their operations to the brink of financial ruin, are going to comply with AB 1572 by just letting everything die. Others will install the cheapest fake grass they can find. And that will be a disaster.

There are few examples of a misanthropic mistake that should never have been invented, masquerading as a virtuous answer to the climate emergency, than artificial turf. A hairy green rug that sort of looks like grass, sold as a low maintenance, aesthetically superior alternative to grass.

Except that it isn't. On hot days this "grass" can hit 150 degrees. It continuously sheds microplastics, and at the end of its short lifespan, it ends up in a landfill.

We need more natural lawn in California, not less. Lawn and trees are life. They cool our urban heat islands, which improves our quality of life and saves energy. They are low maintenance, and they can thrive without chemical fertilizers and herbicides. And they are beautiful. Expansive lawns; groves of redwoods. How transgressive, yet how lovely. Save them. The urban environment is by definition artificial. Fill it with life.

Structural excess in good times is life-saving resilience when times are not so good. We invest in scarcity at our peril.

This article first appeared in "What's Current? California's Water & Energy Future with Edward Ring."



An Overview of Biostimulants



By Joy Hollingsworth
UCCE Tulare Table Grape Advisor

Biostimulants are a broad category of products that are used to enhance agricultural production. Although there has been an increasing interest in these products in recent years, there is still not a very good understanding of what they are and how they work. Part of the reason for this is because biostimulants are hard to define. The Plant Biostimulant Act of 2025 defined them as "A substance, microorganism, or mixture thereof, that, when applied to seeds, plants, the rhizosphere, soil, or other growth media, act to support a plant's natural processes independently of the biostimulant's nutrient content, including by improving nutrient availability, uptake or use efficiency, tolerance to abiotic stress, and consequent growth, development, quality, or yield." This is similar to the definition that was used in the 2018 Farm Bill, although there are some slight differences. Another reason that biostimulants can be difficult to understand is that the category contains a wide range of substances which work in different ways. Some of the most common types of products are made with seaweed or algae. Humic and fulvic acids are other examples, but there are many additional types of products available on the market as well.

Although biostimulants are not new products, they are newly coming into common usage. The lack of a universal definition has made regulations challenging and therefore has been patchwork across the United States. Without consistent regulations, it is difficult for growers to be able to trust products, especially when there are so many to choose from, with many different claims. Fortunately, there have been recent efforts to define and regulate biostimulants on both a national level and state level.

Another important thing to consider when choosing a biostimulant product is to make sure to read the product labels carefully. Although many have broad claims, try to make sure you are choosing a product which addresses an issue that you have. For example, a product that claims to improve water penetration is not going to be much help on a sandy soil which is naturally well-drained.

There are many research papers published on biostimulants, but the reported results have been somewhat inconsistent. Also, most of the work has been done on annual crops and there are fewer papers written on table grapes. One problem that we see is that year-to-year variations in weather conditions affect crop growth. Also, with perennial crops such as grapes, effects seen one year can be the result of something that happened the previous year. This is why multi-year studies are so important. With that in mind, I have begun testing out different biostimulant products this year. It is too soon to share results, but I do hope to continue testing products for multiple years. Feel free to reach out to me if you are interested in learning more about these products.

Wolf-Livestock Depredation Cases Continue to Climb in 2026



(Photo by Jon Anders Wiken / AdobeStock)

By Natalie Willis, Reporter
Valley Ag Voice

On October 16, the California Department of Fish and Wildlife released an updated Wolf-Livestock Depredation Investigations and Determinations report. According to the report, there have been 148 investigations in 2026, with 79 total livestock for 2026 confirmed or probable killed or injured by gray wolves.

The Whaleback pack in eastern Siskiyou County is leading in confirmed wolf-livestock depredation cases, with 38 cases linked to the pack. The Whaleback pack is still active, and biologists recently conducted four days of ground capture operations, collaring one adult male from the 2024 Whaleback litter whose non-functioning collar was replaced.

In terms of the Whaleback pack's reproduction for 2026, a minimum of nine pups was confirmed via trail camera.

The Harvey pack has the second most confirmed wolf-livestock depredation cases, with 17 cases linked to the pack. This pack is active and located in southern Lassen and eastern Shasta counties. According to CDFW, biologists confirmed, through genetic analysis, that the Harvey breeding male and Tunnison adult female produced a litter of at least four pups in 2026.

To stay up to date on gray wolf activity and wolf-livestock depredation cases, visit https://wildlife.ca.gov/Conservation/Mammals/Gray-Wolf.

ALMONDS — (SALE PENDING)
30± acres | Buttonwillow Area, Semi-Tropic WSD non-contract water, Productive Soils, Almonds in full production.

FARMLAND — (SALE PENDING)
40± acres | Maricopa Area, Wheeler Ridge Maricopa WSD, 116± AF contract water.

FARMLAND — $7,500±/AC (NEW LISTING)
80± acres | Firebaugh Area, Westlands Water District, Productive Soils, Perfect for permanent crops.

ALMONDS, CHERRIES AND SOLAR — $12,503±/AC
156.68± acres | Shafter Area, Shafter Wasco ID Annexed Area, 1 well, Solar, Productive Soils, Almonds and Cherries in full production.

FARMLAND — $12,000±/AC
156.96± acres | Wasco Area, Semi-Tropic WSD non-contract water, 1 well, Productive Soils, and Perfect for permanent crops.

DRY LAND — $1,750±/AC
231.42± acres | Taft Area, West Kern WD, Residential service, Recreational and Rural home site.

FARMLAND AND ALMONDS — (SOLD)
238.36± acres | Buttonwillow Area, Semi-Tropic WSD, 4.66± AF per acre of contract water, 1 well, Productive Soils, Almonds in full production, Open ground ready to plant.

FARMLAND AND SOLAR OPTION — $7,501±/AC (NEW LISTING)
245.60± acres | Firebaugh Area, Westlands Water District, Productive Soils, Existing Solar Option Contract, Suitable for Groundwater Recharge.

FARMLAND — (SOLD)
290.66± acres | Maricopa Area, Wheeler Ridge Maricopa WSD, 824± AF contract water.

PISTACHIOS — $30,002±/AC (NEW LISTING)
291.30± acres | Firebaugh Area, Westlands Water District, Productive Soils, Pistachios in Production.

ALMONDS — $10,774±/AC
394.47± acres | Wasco Area, Semi-Tropic WSD non-contract water, 3 wells, 863.4± KW Solar System, Productive Soils, Almonds in full production.

FARMLAND — $9,000±/AC
435.38± acres | Riverdale Area, North Fork Kings River Frontage, 61.50± acres in Laguna Irrigation District no deliveries, 4 wells, Productive Soils, Ready to plant.

ALMONDS AND FARMLAND — $8,944±/AC (PRICE REDUCED)
995.11± acres | Wasco Area, Semi-Tropic WSD Contract and non-contract water, 5 wells, Productive Soils, and Almonds in full production.

FARMLAND — (SOLD)
1,271.30± acres | Maricopa Area, Wheeler Ridge Maricopa WSD, 1,176.30± AF contract water.

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California Farmers Explore Seaweed Crop

By Manola Secaira, Staff Writer, Ag Alert

Reprinted with permission from the California Farm Bureau Federation

It's just past sunrise when Riley Zajon, a quality assurance manager with Marin County-based Hog Island Oyster Co., wades into Tomales Bay to fish out some oyster baskets. As she dredges them out of the water, different varieties of seaweed—mainly nori, sea lettuce and ogo—cling to the equipment.

Gary Fleener, the company's senior director of science and policy, stands atop a small motorboat to receive the baskets. Today, the duo isn't looking for seaweed. They're collecting the oysters as part of ongoing work to monitor their health.

But there's so much seaweed that it's hard to avoid.

"We can go out and pick 500 pounds of wet weight (seaweed), and somebody would come in behind us and not know" that they picked anything, Fleener said, gesturing to a pile of equipment covered in sea lettuce.

Seaweed grows naturally on the company's oyster-farming equipment. In 2022, Hog Island received a permit to harvest the seaweed, becoming the first California shellfish company known to do so.

Fleener said if restaurants put seaweed on their menus and educate consumers about it, they can help increase demand for the marine plant as a food ingredient in California.

Seaweed farming in the United States remains in its infancy but has grown in recent years. In 2015, there were just a handful of kelp farms along the Atlantic and Pacific coastlines, according to a 2026 report by the aquaculture nonprofit GreenWave. There are now around 250 permitted seaweed farms across the U.S. and Canada, amounting to more than 6,000 acres.

Kendall Barbery, GreenWave's director of partnerships and industry engagement, said her company worked with Cal Poly, Humboldt, to open the state's first commercial, open-water seaweed farm in 2020. She sees it as part of the growing interest in seaweed as a California crop.

"Over the past decade, we've come a long way," she said. "We're at the point where we have achieved some serious scale and ability to produce and demonstrate viability as a new industry across the U.S."

The industry's growth faces barriers in California. No new aquaculture leases have been issued in state waters for more than three decades, GreenWave reported.

Barbery said a big obstacle for would-be seaweed growers is California's arduous permitting process. State environmental regulations, which have been in place for decades to protect the state's coastline, weren't created with seaweed farming projects in mind. Those regulations can make obtaining the necessary permits complicated and costly.

Kaira Wallace, the regulatory and engagement lead for the aquaculture company Ocean Rainforest, said regulatory hurdles can prevent a small or medium-sized business from getting into seaweed farming.

"There's not an established clear pathway with a defined timeline and a known cost associated with it," she said.

Wallace said Ocean Rainforest, which is headquartered in the Faroe Islands with operations in California, became familiar with the state's tricky permitting landscape when it launched an 86-acre demonstration farm growing giant kelp in federal waters offshore of Santa Barbara. The farm operated for two years as a research site.

Wallace described the demonstration farm as a critical steppingstone that helped pave the way for a larger commercial operation, for which the company announced receiving permits in early October. The new, 2,000-acre site is located in federal waters offshore of Ventura County, an area identified by National Oceanic and Atmospheric Administration as one of 10 potentially suitable places around Southern California for commercial aquaculture.

Wallace said the project's approval was made easier because it is based in federal waters, and NOAA had already vetted the site. The project could help clarify the regulatory process for other seaweed growers looking to enter the industry, she added.

"If we do well with the project, I have no doubts that we'll see other people starting to consider some of the other aquaculture opportunity areas," Wallace said.

Barbery said California's adoption of the Statewide Marine Aquaculture Action Plan in June is another step toward clarifying the permitting process for seaweed and other marine aquaculture operations. The plan calls for the development of an aquaculture pilot program "to lower barriers to entry and promote innovation in marine aquaculture."

Hog Island Oyster Co. has refined its harvesting process in the years since getting its permit. Nowadays, most harvests occur during the spring and summer. After washing and drying the seaweed, some of it is shared with researchers, with the rest used to create food products such as miso nori butter.

"It's delicious. We put it on grilled oysters, but it's also really good on a slice of toast," Zajon, the quality assurance manager, said. "We've also made cookies with nori in it before."

Although seaweed is often associated with food, most growers say culinary uses are unlikely to become the primary market for California-grown seaweed.

"People aren't eating huge volumes of giant kelp across the U.S.," Wallace said.

She said Ocean Rainforest's California operations focus primarily on producing seaweed-based agricultural biostimulants, products that support plant growth and soil health.

Seaweed-based biostimulants are already sold to farmers, she added, so getting into that market would not be difficult. Ocean Rainforest produces and sells three biostimulant products made with wild-harvested California seaweed and farmed seaweed from Maine and the Faroe Islands.

Fleener said Hog Island is working with a University of California, Santa Barbara, researcher interested in developing seaweed-based biostimulants for strawberry growers.

He said there's interest in how seaweed farming could help California ecosystems thrive, noting that seaweed can sequester carbon, provide habitat for marine life and filter water by absorbing excess nutrients, among other perks.

"A lot of our food systems tend to have the net effect of really simplifying the ecosystems where they're taking place: We take out diversity, and we put in efficiency," he said. "We really need food systems that are co-producing ecosystem health."





(Image by Kalawin / AdobeStock)

Saved By Grace

By Diego Alas, Faith Contributor, Valley Ag Voice

Ephesians 2:1-10 states, *"And you were dead in the trespasses and sins 2 in which you once walked, following the course of this world, following the prince of the power of the air, the spirit that is now at work in the sons of disobedience— 3 among whom we all once lived in the passions of our flesh, carrying out the desires of the flesh and the mind, and were by nature children of wrath, like the rest of mankind. 4 But God, being rich in mercy, because of the great love with which he loved us, 5 even when we were dead in our trespasses, made us alive together with Christ—by grace you have been saved— 6 and raised us up with him and seated us with him in the heavenly places in Christ Jesus, 7 so that in the coming ages he might show the immeasurable riches of his grace in kindness toward us in Christ Jesus. 8 For by grace you have been saved through faith. And this is not your own doing; it is the gift of God, 9 not a result of works, so that no one may boast. 10 For we are his workmanship, created in Christ Jesus for good works, which God prepared beforehand, that we should walk in them."*

I believe this is the passage in Scripture that best summarizes the whole Gospel story. Oftentimes, the Gospel story is also called the good news of Jesus Christ. But in order to understand why this news is *good*, we need to understand what the *bad* news is for all of humanity. According to this passage, the bad news for all of humanity is that we were "dead in the trespasses and sins" in which we once walked. The apostle Paul even describes us as "sons of disobedience" and "children of wrath, like the rest of mankind." Essentially, when God created Adam and Eve in the Garden of Eden, they willingly disobeyed God by eating from the fruit of the Tree of the Knowledge of Good and Evil. Since then, humanity has become an enemy of God and we are all born with a sinful nature. All humans, no matter where they come from, have an inclination in their hearts to rebel against God (Rom. 8:8).

The story could have ended there for all of humanity, leaving every individual dead in their sins without any hope for salvation. However, I just love Paul's change in direction in this passage when he states, "But God…" In other words, the story isn't over. God is taking initiative in the story Himself in order to redeem a fallen humanity. How exactly does He do this? The apostle Paul tells us that God was so filled with mercy, grace, and love for fallen humanity, that He sent His only son—Jesus Christ—to die on the cross for us. It wasn't by anything that humanity did for God to have done this. Instead, out of God's pure and amazing grace, He saved fallen humanity through the sacrificial death of His beloved Son.

Verses 8-10 are the heart of the whole passage here. It confirms to us that God did everything for us in Christ Jesus by His grace alone. The reason we do not contribute anything to our salvation is so that we have no reason to boast, for salvation was done completely by God alone. What then is our responsibility? Our responsibility is to have faith in Christ Jesus and to trust in what God has done for us. Even this act of faith is a gift from God (v. 8), and our purpose after having faith in Jesus Christ is to live our lives for Him every single day. The gratitude we have in our hearts is expressed with our daily actions, glorifying God for the salvation that He has freely given to us in Christ Jesus our Lord.

Before God's Throne in Prayer

Heavenly Father, we praise you for being a God filled with mercy, grace, and love. We know Lord that you had every right to leave us under your wrath when we sinned against you. But you are a God that loves to forgive and redeem us through the sacrifice of your Son. We ask that you empower us by your Holy Spirit to live out our lives in humble adoration.

In Jesus' beloved name we pray, amen.

SAVE THE DATE FOR THESE AGRICULTURAL EVENTS

'Tis the season to be jolly, and there's no better way to get into the Christmas spirit than attending fun, festive, and educational agriculture events!

WINTER FAIR

From December 3 to December 13, the San Joaquin County Winter Fair is bringing all sorts of Christmas cheer for the whole family to enjoy, free of charge. The 8-day event is presented by Christmas at the Fair, hosted at the San Joaquin County Fairgrounds in Stockton. The event will take place over two weekends, running from Thursdays-Sundays.

The fair will feature photos with Santa, an indoor skating rink, holiday shopping, a free-play arcade, goat show, pig races, pony rides, carnival rides, and fireworks displays.

Visit https://www.sanjoaquinfair.com/ to secure your free tickets.

CA FARM BUREAU MEETING

The California Farm Bureau Annual Meeting & YF&R State Conference is taking place from December 5 to December 7 at the Grand Sierra Resort in Reno, Nevada.

The annual meeting serves as a flagship statewide gathering for the farming and ranching community. The event will bring together county leaders, Farm Bureau members, executive leadership, and agricultural alliances for three days of networking, breakout sessions, policy discussions, and industry updates.

The California Young Farmers & Ranchers State Conference runs concurrently.

To register, visit https://www.cfbf.com/get-involved/events/annual-meeting.

ALMOND CONFERENCE

It's time to go nuts at the 2026 Almond Conference which runs from December 8 to December 10 at the SAFE Credit Union Convention Center in Sacramento. Attendance is free for all participants, but pre-registration is encouraged.

The three-day conference will gather industry leaders for insightful discussions on policy outlooks, field practices, a state of the industry presentation, and more.

To learn more, visit https://www.almonds.org/about-us/programs-and-events/almond-conference.

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