

## New plan details how California's groundwater law will impact a top ag region

The second most productive agricultural region in the nation will be hit hardest by California's new groundwater management regulations.

In one subbasin covering a portion of Tulare County, more than half the farmers – and nearly all the communities – depend on groundwater for irrigation and drinking water. They will now have to trim back their pumping by as much as 70%, according to a draft groundwater sustainability plan (GSP) released last month as part of implementing the Sustainable Groundwater Management Act (SGMA).



The Friant-Kern Canal sends water to Tulare County farms and communities.

“There’s a lot of science, there’s a lot of data, there’s a lot of technical stuff that goes into the GSPs,” said Bryce McAteer, former head of the Eastern Tule Groundwater Suitability Agency during a presentation at the World Ag Expo earlier this year. “But at the end of the day, the big question that folks are asking is, ‘What does my access to groundwater look like?’”

To answer that question, the agency has spent the last four years engaging with stakeholders before it submits the final plan to the California Department of Water Resources in January. At an annual cost of \$1.4 million, the 1,000-page GSP spells out how the agency will meet a strict new water budget by gradually reducing over the next 20 years an annual overdraft of 54,000 acre-feet.

For the industry, this will exacerbate many existing problems. SGMA adds pressure to hard-fought policy battles in the state and federal arenas over surface water allocations for the Central Valley Project and water infrastructure funding. As the draft GSP indicates, SGMA will likely add more regulatory costs for farmers as well. The Eastern Tule agency expects to fund the plan through extraction fees and other “contributions” from users, as well as state grants.

Some land fallowing is certain to occur as well. According to the GSP, “agricultural groups, landowners, and those governments and businesses that rely on agriculture for their income worry about the future economic effects of this possibility.”

About 320,000 acres within the boundaries of the subbasin are dedicated to agricultural production. According to McAteer, about 80% of those crops are permanent. Tulare County produces more than \$7 billion in commodity sales – a 10% increase over the prior year. That includes about half of the state’s orange production, along with a large share of its table grapes and tree nuts.

The area already contains about 125,000 acres of fallowed or native land. Along with the Eastern Tule GSP, farmers within the large and interconnected Tulare Lake hydrologic region will have 10 more lengthy and technical plans that could impact their water decisions going forward.

“The hard part now will really begin as those plans begin to be implemented,” said Tulare County Ag Commissioner Tom Tucker. “We’re not asking for anybody else to be hurt. We just want the ability to save our communities and save this valley.”

In a “far more dire situation” are the “pumpers” in the areas that do not fall under the jurisdiction of an irrigation district, according to Tulare County Farm Bureau Director Tricia Blattler. She pointed out those districts also carry leadership roles within the groundwater sustainability agencies (GSAs) and will ensure their surface water rights “will be part of making the equation” to balance water demands.

“It is a very stressful time for landowners that are uncertain about their future water,” she said. “Those that pump exclusively have them really big concerns to face.”

In the Eastern Tule Subbasin, she said, published research suggests the safe yield under SGMA may be as low as half an acre-foot per year.

“So if someone has a tree orchard down there that needs three or four acre-feet a year, and they only rely on groundwater pumping,” she said, “they would have to find another method for obtaining the remainder of the water needs, which could mean fallowing ground or buying water from another property owner that has a surplus available.”

The chilling effect from fear of the coming regulations could alone lead to land fallowing, sending economic ripples across the valley, said Blattler. She cautioned, however, SGMA will not be implemented overnight.

Her office and several other organizations have been hosting workshops to educate growers and encourage them to start taking stock of their wells and tracking their use trends through water meters. For a number of GSAs, the first five years will involve gathering and managing data, before implementing ordinances. The plans will also phase in gradually over the next two decades, avoiding abrupt transitions.



Tricia Blattler, Executive Director, Tulare County Farm Bureau

“No one wants to just wake up in 2020 and be told you have to live your life with 50% less water in your home and on your farm,” said Blattler.

Cities must also adhere to SGMA, which will take time. Also within the GSA boundaries are three unincorporated communities, and all Eastern Tule communities are considered “either disadvantaged or severely disadvantaged” by the state, where many farmworkers live. During the drought, 1,700 wells failed throughout the county.

The state could change the tide through infrastructure improvements. The Friant-Kern Canal has suffered reduced capacity from land subsidence, though two successive years of policy pushes have yielded no new funding for the fix. Proposition 3 failed to get the vote in 2018 and this year Senate Bill 559 (named for the Tulare area code) died in the Assembly, though it is expected to return next year.

Water trading markets will likely alleviate some water scarcity as well. Blattler said a couple of counties have been experimenting with markets and an Australian approach to markets may serve as a model. System-wide policy initiatives like the San Joaquin Valley Blueprint and Governor Gavin Newsom’s Water Resilience Portfolio may bring those much-needed investments for trading and infrastructure.

With the GSP now drafted, the Eastern Tule GSA is taking public comments through the end of the year, with [a listening session](#) scheduled for December 16. The agency’s next step is to administer the plan. It will establish rules and regulations and set up an accounting system for water users within the subbasin. The agency will then have five-year benchmarks to meet under SGMA, when it will also refine the strategy.

“The important thing is for folks to remain engaged,” said Rogelio Caudillo, interim director for the GSA. “If you live here, you’re a stakeholder, you are affected and you have a voice.”

## Six questions for Dr. Joaquin Arambula

As a physician, Assemblymember Joaquin Arambula, D-Fresno, saw first-hand the impacts of extreme drought on San Joaquin Valley communities. It served as inspiration for him to run for the Assembly in 2016.

Arambula spoke with *Agri-Pulse* recently about his bill to support rural agricultural communities and about the many water bills passed this year in Sacramento.



### 1. What are some of the biggest challenges facing rural communities in your district?

I spent 10 years as an emergency room doctor in Selma, the raisin capital of the world, and got the privilege of taking care of both farmworkers and farmers.

I really grew to appreciate agriculture and its role for our rural communities and how proud so many of us are coming from those communities of the benefits and contributions that agriculture makes.

It was in the emergency department that I actually worked through the last drought that our state had. I was forced to face head-on the struggles that our community has when we don't have water for our economies and communities to thrive. And I really do go to our state capitol to carry that voice and those stories, to make sure that we're continuing to fight for agriculture and our rural community.

Oftentimes, it's stories of not being able to make ends meet. Because our community didn't have enough water, there wasn't enough work. Because they didn't have enough work, they couldn't afford the prescriptions or treatments that I was recommending. It led to a cascade that oftentimes spiraled in a way that forced them into the emergency department to come to see me. It was in that place that I saw them really just trying to figure out how to make their reality work. It's a struggle when we face a drought.

All I remember from those times was really their wanting and needing for a better plan for both our state and our community and for future cycles of not having enough water.

## **2. Can you explain your perspective as one of the authors of AB 417, the Agriculture and Rural Prosperity Act?**

Secretary Karen Ross of the California Department of Food and Agriculture really came to us with this idea of wanting to place an ag economist within her department. If there were policies that were working their way through the Legislature, she wanted someone with expertise to analyze the policies and determine their real effect.

Oftentimes, we just look at what the changes are in terms of how much we sold in crops, rather than looking at the multiplier effects that occur from the processing, transporting and the trade that goes on with agriculture as well.

We were excited about working on the Ag and Rural Prosperity Act and bringing this ag economist to the state capitol, because it would allow us to better understand some of the unseen or unintended consequences of legislation and what their real economic impact was for communities like ours.

## **3. What are the concerns about the Sustainable Groundwater Management Act (SGMA) in your communities?**

SGMA has the potential to dramatically change our landscape. It was because of that regulation that we worked on AB 658 this year. The governor in 2015 had passed an emergency regulation to allow for doing more groundwater recharge. We are working on AB 658 and have it on the governor's desk awaiting his signature. To better allow for permitting to do groundwater recharge, we should do more with the water we have rather than sending it out to the ocean. Having a permitting process that allows us to prepare for high-precipitation events allows us to meet the goals and sustainability within SGMA.



Asm. Arambula speaking at food vendor rally in 2018.

There's a bit of an irony that goes in this if you're from the valley. Our community knows that it actually took flooding to sustain agriculture for decades in our communities. But as we transitioned to drip (irrigation), we lost some of that sustainability. As we have high-precipitation events, we may need to figure out which fields or areas have the most permeable basins, so that we can start doing more flooding with these high-precipitation water events to make sure that we're meeting our goals as a state.

The hope is that if we create the permitting process, it makes it easier that farmers and corporations will want to invest in the conveyance, because they see the benefit to preparing for the next high-precipitation event.

We know weather is cyclical here in the valley. We have La Niña and we have droughts. We need to capture as much water as we can in those high-precipitation events to prepare for the next round, which we know is around the corner.



Arturo Barajas, a former legislative aid for Asm. Arambula, is sworn in as a CDFA deputy secretary in July.

**4. You've worked on water infrastructure with Temperance Flat and the Friant-Kern Canal. Has it been frustrating to see these issues come up again and again but the funding still not coming through?**

I believe it's imperative for the state to continue to invest in water infrastructure as our population continues to expand. We have roughly the same amount of storage that we had when we had 20 million people. I believe that we need to be thinking about all the solutions that help in our water tool chest: increasing storage, increasing conveyance, increasing recharge. We need to support moving and storing water to prepare for the next dry spells. That's why I was pleased to support Senate Bill 559 (on fixing the Friant-Kern Canal). It has been made a two-year bill, which will allow us time.

There was quite a bit of collaboration between local, state and federal partners to work on a project of this magnitude. I'm glad that we moved the ball forward this year and know that we need much more work to be done.

If we're to meet our goals of SGMA, we have to continue to invest as a state in water infrastructure. I'm pleased that our governor and his leadership team are really looking at what future investments need to be made and are trying to strategize that out with an infrastructure plan.

It ties in fairly well with the select committee that I'm chairing, dealing with regional approaches for the water crisis. We all should know that a one-size-fits-all doesn't work. We're going to need different solutions for Coachella Valley, Central Valley and Northern California that work for each of those regions.

**5. With Senate Bill 1, you were worried about it "freezing the science" on water issues but voted in favor. Later you voted against it on the floor. Can you describe that process?**

I was happy to allow some time for discussions to occur on the bill. But I really do feel like at the end of the day, as a scientist, I have to be in favor of biological opinions continuing to evolve (for determining water flows for the Central Valley Project). It's why I ultimately voted against the bill when it reached the floor. I didn't feel that it met the goals that we should be trying to strive for.

I was really pleased to see the governor be a backstop, as he's continued to see our valley and advocate for our communities. It was shown by his public statements wanting to veto this bill when it eventually gets to his desk.

## 6. Is there anything we've missed?

One is AB 450 on the Apiary Protection Act. We did some cleanup language. We worked on this bill last year regarding just where bees are within a county and between counties so that you're reporting it to the ag commissioner, so we don't have the mortality.

In good news, one of our staffers, our legislative aid, has become a deputy secretary under Karen Ross at CDFA. It's another way that we're going to want to continue to be involved in this arena and work in this space, to continue to partner with Arturo Barajas.

## It's not just tariffs: Farmers facing long-term market challenges

As much as growers long for an end to the trade war with China, there are long-term threats to demand for corn, soybeans and other crops that economists say could depress commodity prices for years to come and lead to calls for higher government spending.

Among the threats: Increased competition from foreign producers and slumping U.S. biofuel consumption due to stagnant usage mandates and a coming shift to electric vehicles. **Given those factors alone, “a return to chronic, large U.S. farm surpluses cannot be ruled out,”** economists from The Ohio State University and the University of Illinois warn in a new paper.



Carl Zulauf

In the near term, there is the risk the U.S. permanently loses market share because of the trade war. "Ag economists are very worried about the long-term loss of export share because it raises the issue of the reliability of the U.S. as a supplier of food and countries tend to take access to food pretty seriously," said Carl Zulauf, a co-author of the paper who has provided analysis of every farm bill for the last four decades.

He believes the historically huge payments to farmers under the Trump administration's Market Facilitation Program, created last year to offset the impact of China's retaliatory tariffs, could lead to pressure on Congress to permanently expand farm bill programs.

There's precedent for that to happen, he notes. After lawmakers passed successful farm bailout packages in the late 1990s because

of a downturn in commodity markets fueled by a drop in Asian demand, Congress created a countercyclical payment program to supplement the fixed direct payments authorized in 1996.

**“When you have ad hoc programs ... you tend to create a political constituency for those programs to continue,” said Zulauf, a professor emeritus at Ohio State.**

Bolstered by the administration’s trade aid, government farm payments will account for more than 17% of net cash farm income this year, according to USDA. (MFP will account for 30% of total farm payments in 2019.) The paper Zulauf co-authored calls MFP the largest expansion of federal farm support since the 1940s.

A separate paper prepared for the Kansas City Federal Reserve by two former USDA economists cites additional factors that could hold down market prices over the next decade and beyond, including lower-than-projected global population growth and slowing soybean demand in China due in part to diets and production efficiencies.

The African swine fever epidemic that has decimated China’s hog production this year, hitting small producers especially hard, “may lead to further consolidation, completing the transition to commercial feeding and improving feed efficiency,” and also leading to a shift to production of poultry, which requires less feed overall, the paper notes.

Longer term, there may not be as many mouths to feed worldwide as some forecasts have suggested. The projections include a variety of possible outcomes, the paper notes. The range in UN population estimates for 2100 vary by 3.3 billion people between the high-growth and low-growth estimates. The low-growth estimate actually shows the world’s population declining after 2060. The paper also suggests levels of meat consumption are likely to vary significantly among countries even as incomes rise.

**Shorter term, farmers face increasing international competition in grain, oilseeds, cotton and other crops, and the trade war with China is providing farmers else with new incentives to expand.**

USDA’s Economic Research Service expects most export growth over the next 10 years to go to Brazil for oilseeds, cotton and poultry and to the Black Sea region for wheat, said Joe Glauber, a former chief economist of USDA who cowrote the paper for the Kansas City Fed with Seth Meyer, former chairman of the World Agricultural Outlook Board.

From 2005 to 2015, China’s soybean demand grew at an annual rate of 8.5%, eventually accounting for two-thirds of world trade, but USDA projected in 2018 that growth in China’s soybean consumption would slow to 2.7% a year through 2028.

The trade war with China poses new uncertainties about its demand for oilseeds. The real danger of a prolonged dispute is that it will among other things encourage an expansion of oilseed acreage in South America and spur Brazil to invest more heavily in port facilities and other infrastructure, said Glauber.



*Sen. John Boozman, R-Ark.*

Arkansas Sen. John Boozman, who is in line to become the top Republican on the Senate Agriculture Committee in 2021, cautions that ending the trade war could have a somewhat muted impact on commodity prices because of other market factors.

**“I do have a concern that producers are getting used to it (trade aid), because at some point” the trade war will end, he said.** “I know the administration, and I believe the Chinese at this point, are working hard to come to an agreement. My concern is that once we do that ... there’s other problems going on that are going to preclude commodity prices from just jumping back,” Boozman said.

Overproduction is plaguing cotton growers, for example. U.S. cotton exports are expected to be the second highest on record this year despite China's retaliatory tariffs, but U.S. and global production is also up this year and market prices are down about 20% since the beginning of the year.

House Agriculture Chairman Collin Peterson D-Minn., has a different concern. He fears that the administration’s use of the Commodity Credit Corp. to fund the trade assistance will make the account a target of budget cutters.

**“You’re going to have troublemakers on both sides potentially, when they find out there is a pot of money that the secretary can use” to make payments to farmers, he said.**

After 2010, Republican lawmakers had blocked the Obama administration from using CCC in this way. The restrictions were lifted in 2018 as the administration was threatening the trade war with China. The MFP payments and commodity purchases authorized by the White House are expected to total \$28 billion over two years.

Commodity subsidies aren’t the only way that a future Congress could act to shore up the farm economy. The government also could do what it did during the farm economy slump of the 1980s and pay farmers to take land out of production, said Zulauf, the Ohio State economist.

Several presidential candidates, including Massachusetts Sen. Elizabeth Warren, have proposed expanding the Conservation Reserve Program, USDA’s largest set-aside program, which was created by the 1985 farm bill. The candidates emphasize the impact that a bigger CRP would have on reducing greenhouse gas emissions, but expanding it could also push up commodity prices.

**Zulauf said a prolonged slump in commodity prices that drives up subsidy costs will inevitably push Congress to consider taking land out of production.** "At some number the cost of the programs will become an issue and supply control in whatever form it takes will come back on the table," he said.

## **Some US specialty crops prepare to retake Japanese market share**

Beef and pork stole much of the spotlight when President Donald Trump and Japanese Prime Minister Shinzo Abe signed off on a trade pact last week, but many of the U.S. winners will be American specialty crop farmers.



U.S. sales of oranges, blueberries and other crops to Japan have been struggling to keep up for months after the country and 10 other Pacific Rim nations reduced tariffs in a trade pact that didn't include the U.S. **That is expected to change next year if the new U.S.-Japan trade pact goes into effect on Jan. 1, as planned.**

Japanese consumers love oranges, and California farmers love to sell oranges to the Japanese, but much less of that business has been taking place over the past several months as Australian exporters took a bigger bite out of the Japanese market.

"As Japan entered into agreements with other citrus producing trading partners the California citrus industry was put at a competitive disadvantage," says California Citrus Mutual President Casey Creamer. "The new market access agreement immediately puts California fresh citrus in a position equal to the agreement reached previously between Japan and other nations."

But it wasn't just Comprehensive and Progressive Agreement for Trans-Pacific Partnership countries that started horning in on the U.S. market share in Japan earlier this year, says Joel Nelsen, strategic adviser and past president of California Citrus Mutual.

Coincidentally, Japan opened up its market to oranges from what Nelsen calls "low-cost producers" in Egypt and South Africa at roughly the same time that the CPTPP went into effect.

**"So, the combination of all that pretty much helped erode about 25% of our market share," Nelsen told *Agri-Pulse*.**

But that should begin to turn around next year when Japan's new, lower tariff rate is expected to be applied to U.S. oranges.

**The official text of the U.S.-Japan pact still hasn't been made public — and the U.S. Trade Representative isn't saying why** — but Nelsen said oranges will be treated better under the new deal than under the Trans-Pacific Partnership (the name and acronym was extended after the U.S. exited the deal in 2017).

Come Jan. 1, CPTPP member countries will be entering the second year of tariff cuts, and that is the level the U.S. will enter at for most commodities, putting U.S. producers on a level playing field with producers from Australia, Canada, Mexico, New Zealand, Chile and others, according to senior U.S. government officials.



Joel Nelsen, California Citrus Mutual

But because of the unique complexity of oranges and Japan's efforts to protect domestic producers, U.S. oranges will enter Japan's market at essentially the third-year phase of tariff reductions. Japan's tariff on U.S. oranges will drop from 32% to 25.6% when the pact is implemented, then drop again in 2021 to 20.4%. It doesn't fall to zero until 2026.

That's an accelerated version of the TPP schedule for oranges imported annually between Dec. 1 and March 31 — roughly the time period that matches U.S. harvest and exports. The Australians

export later in the year so their oranges mainly coincide with a lower-tariff schedule (June 1 to Nov. 30) that reaches zero in 2023.

“It’s not going to happen overnight, but at least we can start rebuilding the market for California oranges,” Nelsen said.

Elizabeth Carranza, director of trade for the California Blueberry Commission, is even more optimistic.

**“It’s a pretty big deal for us,” she said about the Japan deal, which is expected to do away with all tariffs on U.S. blueberries next year. “Our domestic industry has been expanding pretty significantly over the past few years, so finding new export markets and maintaining those that we do have is crucial to our industry.”**

Japan had been an exciting area of growth, she said. Last year the country imported 400,000 pounds of U.S. blueberries and that was expected to increase until Japan signed off on CPTPP without the U.S. Chile, Australia, Canada and New Zealand all started selling a lot more blueberries to the Japanese under lower tariffs.

As it stands now, there is a 6% tariff on fresh and frozen blueberries and a 9.6% tariff on blueberries that contain added sugar. All of those are expected to fall to zero on April 1 next year.

Another U.S. specialty crop expected to see its Japanese tariff drop to zero is the walnut. Unlike the other crops, though, U.S. farmers have seen walnut exports to Japan only climb higher.



Elizabeth Carranza, California Blueberry Commission

The Japanese tariff of 10% hasn’t slowed down U.S. exports to its fourth largest foreign market, according to the California Walnut Commission, which says Japan now buys about \$90 million worth of the tree nuts.

**U.S. walnut exports to Japan have skyrocketed by 44% over the past five years and sales are expected to rise even quicker without the tariff that drops to zero next year.**

“Over the past three decades, the industry has invested over \$58 million with the assistance of the USDA Market Access Program to develop the Japanese market and we eagerly anticipate the new opportunities for growth the agreement provides,” says Jack Mariani, a vice chairman for the Commission.

One commodity listed for tariff decrease by the U.S. Trade Representative in a summary of the Japan pact is cherries, but that won’t do U.S. farmers much good, said B.J. Thurlby, president of the Washington State Fruit Commission.

Japan has increased cherry production so much in recent years that its demand for imports has shriveled to negligible levels, Thurlby told *Agri-Pulse*.

“I don’t see any change, even with the tariff dropping,” he said. “We walked away from the Japan market. For us it’s not a big deal one way or the other.”

Where U.S. cherry farmers would really like to see tariffs drop is Vietnam, Thurlby said. The country — a member of the TPP that offered to cut its tariffs on U.S. cherries, but didn’t because the U.S. pulled out — has a big potential for growth, but its 10% tariff on U.S. cherries is a roadblock.

“There was real support for (TPP) in this industry,” he said. “For our growers it would have been a rare win.”

## **Hemp growers may find processing bottleneck**

It’s harvest time in hemp country, and growers are looking for companies that can take their crop and turn it into cannabidiol, or CBD, the product that seems to be everywhere these days. But many won’t find anyone, say processors who spoke with *Agri-Pulse*.

**“Guys are getting nervous,” said Bob Hellman of Labyrinth Xtracts, a company in California with mobile extraction equipment. “There’s not going to be enough processing and there’s going to be a backlog.”**

Speaking by phone from a hemp field ready for harvest in Colorado, Hellman illustrated one of the challenges facing growers as they look to take advantage of the hottest crop in the U.S. He said he asked the growers, “What’s your drying plan?” and the answer was “We don’t have one.”

Hellman travels the country helping growers extract CBD from hemp plants, and doing extraction, and said he has been seeing “the exact same challenge everywhere.”

**“We’re booked a year out,” he said.**

Without drying and milling capacity. “We’ve got crops in the field simply rotting,” said Roger Cockroft, CEO of Delta Separations, a hemp extraction equipment manufacturer in California.

Cockroft made a startling prediction earlier this month, saying 90% of the hemp crop grown in the U.S. would not be processed, costing growers \$7.5 billion when considering lost CBD sales. The estimate, he says, “comes from our customers,” who say hemp is “literally dying on the vine.” “We’re seeing a lot of farmers just desperate,” Cockroft says.

**Eric Steenstra, president of national advocacy group Vote Hemp, agrees there’s a problem this season, but thinks the 90% figure is an “overstatement.”** Vote Hemp is predicting that due to crop failure,



Roger Cockroft

between 50% and 60% of the hemp planted this year will be harvested, or between 115,000 and 138,000 acres.

“With CBD crops, I think there’s significant risk that there will be a lot of people who won’t be completely successful,” he says.

The 2018 farm bill legalized industrial hemp by removing it from the Drug Enforcement Administration’s list of controlled substances. With commodity prices falling and markets disappearing due to tariffs, “Every farmer and their brother jumped into hemp,” Hellman said.

**Indeed, figures compiled by Vote Hemp show the number of acres of hemp licensed in 34 states totaled 511,442 in 2019 — more than four times the number of acres licensed in 2018.**

“States which license processors reported 2,880 processing licenses, an increase of 483% over 2018,” Vote Hemp found, in a report released last month.

Steenstra said there’s a possibility that as time goes on, there will be too much processing capacity.

“I think there’s a risk of getting to that point,” he said, but added, “I don’t think it’s totally clear. It’s very difficult to get a sense of what is the total market demand.”

This year, however, “We’ll be challenged to be able to process all of it that’s successfully harvested,” said Bill Hilliard, CEO of Atalo Holdings in Kentucky, which has a processing facility and 90 growers on contract to grow hemp.

Hilliard says that while hemp can be grown relatively easily, “the challenge is harvesting and drying before it goes bad — getting it out of the field and dried quickly.”

Labyrinth Xtracts’ Hellman doesn’t offer a prediction on the percentage of hemp that won’t be processed. Instead, he says, “I’m going to say that there’s a large amount that’s not processed — it will just have to be processed next year” — provided, of course, it’s properly stored.



Eric Steenstra, Vote Hemp

The threefold increase in hemp grown this year also has brought lower prices for CBD. Hellman says full-spectrum CBD oil, so called because it has a full range of cannabinoids, **was selling a year ago for about \$6,000 per liter, even reaching as high as \$8,000. Now the price is around \$2,600.**

But he said it’s all part of a maturing market, which eventually will include a commodity exchange and fully operational, large plants to process the crop.

The market for fiber and textiles, for instance, has barely been tapped. “It is an area that is completely underdeveloped at this point in time,” Hilliard said. Steenstra says only about 10,000 acres of the crop this

year was grown for grain and fiber, but that will change over the next 10 to 15 years.

**“We’re going to grow into our big-boy pants,” Hellman says. “I think we’ll have it all resolved by the next harvest.”**

## **New matrix tracks food sector movements**

Researchers have pulled together a mountain of government data to map how edible farm commodities and other foods move around the United States, and they say the resulting matrix could have an array of benefits, from pinpointing critical infrastructure needs to tracking differences in carbon footprints.

Researchers at the University of Illinois and Kansas State University developed their Food Flow Model by compiling data from several U.S. agencies: the Census of Agriculture, commodity movements in the Commodity Flow Survey as reported by the U.S. Census Bureau and the Bureau of Transportation Statistics, plus farm-to-table transfers of all major categories of farm and food commodities into and out of the country’s 132 major economic or marketing zones, as compiled jointly by BTS and the Federal Highway Administration into what’s called the Freight Analysis Framework.

Data on ag imports and exports, a national transportation matrix on point-to-point shipping distances and income data, were also plugged into the model.

**The researchers then drilled down to the level of every 3,142 U.S. county (and county equivalents) to record all volumes of ag products grown, processed, and shipped to final commercial destinations.** The researchers differentiate “food flows,” which are transfers along supply chains within a country, from international food trade.

The resulting food flow matrix is intended to identify the most important nodes, or links, in food supply networks, says one of the co-developers, Landon Marston, an assistant professor at Kansas State. The model could help, for example, to prioritize infrastructure improvements in the food system. He personally wants to use it to better understand the carbon footprint of different locations along the food chain.



Landon Marston, Kansas State University

"As the world becomes more and more connected, we sometimes become more disconnected with where our food comes from. And so this work helps people understand ... in a more detailed way, where their food comes from. And the next step is to understand the natural resources required to in order to produce it," Marston said.

John Newton, chief economist for the American Farm Bureau Federation, says he has done somewhat similar work and thinks that the Food Flow Model “provides a good visualization and good way to model the flow of agricultural products along the supply chain. It peels the onion back on what the supply chain system looks like in the United States.”

Megan Konar, assistant professor at the University of Illinois and co-author, **says their model “is something companies could potentially use to figure out ... how to optimize where they would put certain parts of their food supply chain.** It’s all there if anyone wants to go and see what we estimated for meat transfers (for example) between any two counties in the U.S.”

The results show the counties with the greatest inflow and outflow of farm and food products: The nation’s top one for both inflow and outflow is Los Angeles County, which has a major U.S. port (thus lots of imports and exports), plus huge volumes in both processing and consumption.

In fact, all of the top five counties — aside from Maricopa County (Phoenix), Ariz. — are in California, which is the leading farm production and exporting state, and where several counties have intensive production of high value, irrigated crops.

The locations of counties with the highest transfer totals are strikingly different from the geographically larger Freight Analysis Framework zones reported by the Bureau of Transportation Statistics and the Census Bureau for farm and food products. For the latter, the zones (separated from nearby urban market areas) of Iowa, Nebraska, Minnesota, Illinois, Kansas, and Texas all lead non-urban California in both outflows and inflows of food transfers.



Megan Konar, University of Illinois

The researchers also unearthed direct county-to-county transfers of products between any two counties in the country and even transfers between points within the same counties. That works out to 9.8 million potential pairs of trading counties, assuming every county trades with every other county, which doesn't happen. But the study found 161,400 links or pairings of counties transferring food products between each other.

**The highest volumes, it turns out, are in transfers within the same counties or trading between adjacent counties:** Los Angeles County and Erie County again, come up with huge transfer tallies within themselves, as do transfers between neighbors Los Angeles and Orange counties, for example, and between Erie and Niagara counties in New York.

The county that trades the most within itself is Broomfield County, northwest of Denver, Colo. “We were initially surprised” by that county’s tally, Konar said. Farmers may be surprised as well, because there isn’t a lot of farm production in that county.

Sarah Schweig, Broomfield County extension director, said Broomfield is the smallest county by area in Colorado, with modest population and little farm output, “and a pretty proportional number of food retail businesses.”

Among the main generators of farm product and food transfers, she expects, are major Danone North America (Dannon dairy products) facilities there, “a number of fulfillment and distribution centers,” and a robust transportation network. Further, she notes, “the BNSF railroad runs through Broomfield, and there are Union Pacific lines just to the east and southwest.”

## News Briefs:

**Water year comes to a close.** More than 30 atmospheric rivers pummeled Northern California this spring, leading to a snowpack that reached 175% of average in April. This led to a boon for water storage as the state's 2020 water year began Tuesday. According to the Department of Water Resources (DWR), reservoirs across the state are now at 128% of normal. "The significant rainfall and snowpack made for a great water year in 2019," said DWR Director Karla Nemeth in [a new release](#). "We start the new year in a good place." Lake Oroville, the State Water Project's largest reservoir, is nearly double its level from last year, at 102% of average. Shasta Lake, the Central Valley Project's largest reservoir, is at 126% of average. Despite the abundance in 2019, State Water Project contractors received 75% of the requested supplies. Westlands Water District General Manager Tom Birmingham was frustrated the allocations never reached the full 100%. The district also points out that the 75% allocation did not come until July. Many of its growers had based their plantings for the year on the initial 35% allocation in March. While it may not change allocations, modernizing the State Water Project infrastructure would make the water conveyance more efficient, losing less to leakage. This is at the top of the list for DWR's latest strategic plan update, as Nemeth presented to the Water Commission last month. She also noted the need for professionalism and how taxing it can be to work on California water issues for the state. "The work that we do can be rather intense," she said. "There are conflicting objectives at times, and people are very passionate."

**Water policy center hands Newsom its wish list.** The Water Policy Center at the Public Policy Institute of California (PPIC) last month sent Governor Gavin Newsom's administration its recommendations for the governor's Water Resilience Portfolio. The institute's water scholars write that the Sustainable Groundwater Management Act will impact agriculture hardest, resulting in "some permanent idling of farmland" in the San Joaquin Valley. They add that California can be a leader in regulatory changes that not only limit farm access to water supplies, but enable broader uses for recycled water and more streamlined permitting. The memo mentions how some farmers and irrigation districts are experimenting with new, multi-benefit groundwater recharge methods like flooding cropland during winter months. "But the rules governing diversion of water from rivers are unclear" and growers need guidelines and a better accounting system for on-farm recharge, they add. Improving conveyance and storage capacity was at the top of the PPIC list, particularly for underground storage and supporting water trading. In protecting ecosystems, PPIC recommends going beyond Clean Water Act and Endangered Species permits and dialing in the science while setting metrics-driven goals. The report concludes that the portfolio's next "crucial step will be to build momentum and trust to ensure its successful implementation."

**Ag innovation challenge deadline extended.** Applications for the 2020 Ag Innovation Challenge, co-sponsored by the American Farm Bureau Federation (AFBF) and Farm Credit, have been extended to October 14. Entrepreneurs in the challenge will have the chance to compete for \$145,000 in startup funds for their business. Ten semifinalist teams will be announced on Nov. 22 and awarded \$10,000 each for making the first cut. Those teams will travel to compete at AFBF's Annual Convention in Austin, Texas, in January 2020. Four teams will move on to the final round, receive an additional \$5,000, and compete on a live stage in front of Farm Bureau members, investors and industry representatives. To apply for the challenge, entrepreneurs and businesses can apply online [here](#) by Oct. 14, 2019. Entrepreneurs must be Farm Bureau members to qualify as a top-10 semifinalist. Entrepreneurs and businesses are encouraged to apply if their product or business is in the following specialties: farm, ranch,

greenhouse, aquaponics, input product, method or tool for growing, productions support services, retail, agritourism, farm-to-table business, food/beverage production, and value-added processing. Startup funds are provided by sponsors Farm Credit, John Deere, John Deere, Bayer Crop Science, Farm Bureau Bank and Country Financial.

## Farm Hands West:

President **Donald Trump** has nominated **Katharine MacGregor** to be the deputy secretary of the Department of the Interior (DOI). MacGregor is currently serving as the deputy chief of staff exercising the authority of the deputy secretary. She has served as the principal deputy assistant secretary of lands and minerals management, and before coming to the DOI she was on Capitol Hill for 10 years on the House Natural Resources Committee ... Interior Secretary David Bernhardt has signed a secretarial order to redelegate authority for vacant, non-career positions. The appointments are as follows: deputy secretary to **Kate MacGregor**; solicitor to **Daniel Jorjani**; director of the Bureau of Land Management to **William Perry Pendley**; director of the National Park Service to **David Vela**; and director of the U.S. Fish and Wildlife Service to **Margaret Everson**.

**Christy Seyfert** is set to join the American Soybean Association Oct. 21 as its new executive director of government affairs, completing a transition of the organization's lobbying efforts to in-house staff. Seyfert comes to ASA from her most recent stop at Zurich North America, but her resume also features stops at Wells Fargo and Michael Torrey Associates as well as time working for the House and Senate Ag Committees. Seyfert will lead an office that will include **Hanna Abou-El-Seoud**, who will handle trade and international policy, **Renee Munasifi**, who will focus on biotechnology, crop innovation, and regulatory policy, and **Wendy Brannen**, who will lead ASA's policy communications. All three come to ASA from Gordley Associates, the lobbying firm that previously handled ASA's government affairs efforts in Washington.

**Rachel Millard** is leaving the House Agriculture Committee, where she has served as the communications director for the Republicans. She is heading over to the U.S. Commodity Futures Trading Commission where she will serve as the deputy director of public affairs. Replacing her on the House Agriculture Committee as communications director is **Emily Hytha**. She currently serves as Rep. **Mike Conaway**'s, R-Texas, communications director in his personal office.



Rachel Millard

**Anne DeCesaro** is leaving the House Ways and Means Committee, where she served as the staff director for the Worker and Family Support Subcommittee for Rep. **Adrian Smith**, R-Neb., to begin a new job at USDA in the Office of the Undersecretary for Food, Nutrition, and Consumer Services. In 2015, she was the lead staffer on the House Agriculture Committee Subcommittee on Nutrition.

**Kristina Baum** began a new job at the White House as the communications director of the Office of Science and Technology Policy. She previously served on the House Natural Resources Committee for Rep. **Rob Bishop**, R-Utah, as the communications director.



**Marsha Espinosa** is now the chief of staff for Rep. **Linda Teresa Sánchez**, D-Calif. She most recently worked at Swann Street Strategies and previously worked for Rep. **Nanette Diaz Barragán**, D-Calif., as her chief of staff in 2017. **Melissa Kiedrowicz** is now the deputy chief of staff for Sánchez, covering the appropriations and foreign trade portfolio. She previously served as the legislative director.

**Ryan Dierker** is now a legislative assistant for Rep. **Mark Amodei**, R-Nev., covering the foreign trade, immigration, and labor portfolio. Dierker previously served as the senior legislative assistant for Rep. **Brad Wenstrup**, R-Ohio.

**Jessica Wharton** has left Gordley Associates and the American Soybean Association, where she served as the state policy and communications coordinator. Beginning Oct. 14, she is starting a new role with Farm Journal Foundation, leading its communications efforts in Washington, D.C.

**Lucas Lentsch** has joined Dairy Management Inc. as the executive vice president of the United Dairy Industry Association. In this newly created role, Lentsch will oversee work across the state and regional system to optimize execution and evaluation of the Unified Marketing Plan. Lentsch previously served as the South Dakota Agriculture Secretary and most recently served the past three years as the CEO of Midwest Dairy.

**Alfonso Clavijo** has been appointed as director of the National Bio and Agro-Defense Facility, effective Oct. 13. Before his appointment, Clavijo served as laboratory executive director of the Canadian Food Inspection Agency's National Centers for Animal Disease. He has also directed the management of of biosafety level (BSL) 2-4 facilities that allow for the contained study of pathogens that cause foreign animal diseases, including foot-and-mouth, African swine fever, classical swine fever and highly pathogenic avian influenza.

**Maggie Stith** has been promoted to sustainability and external relations manager for Valent. She previously served as sustainability coordinator.

Secretary of Agriculture **Sonny Perdue** has appointment 20 members to serve on the Advisory Committee for New and Beginning Farmers and Ranchers (ACBFR). Members newly appointed to serve two-year terms are: **Davon Goodwin**, Raeford, N.C; **Katie Carpenter**, Attica, N.Y.; **Casey Spradley**, Cuba, N.M.; **Jacob Handsaker**, Radcliffe, Iowa; **Adam Brown**, Decatur, Ill.; **Amanda Jo Carey**, Morley, Mich.; **Paul Bickford**, Ridgeway, Wisc.; **Jason Brand**, Honolulu; **Jeffrey Gittins**, Smithfield, Utah; **Denis Ebodaghe** (USDA NIFA); **Latrice Hill** (USDA FSA); **R. Alan Hoskins**, Evansville, Ind.; **Tony Gudajtes**, Minto, N.D.; **Juli Obudzinski**, Washington, D.C.; **John Bailey**, Ukiah, Calif.; **Elicia Chaverest**, Madison, Ala.; **Shelby Swain Myers**, Crawfordsville, Ind.; **Liya Schwartzman**, Sacramento, Calif.; **Anusuya Rangarajan**, Freeville, N.Y. **James Carl Hafer**, Colstrip, Mont., is reappointed to serve a one-year term.

Archer Daniels Midland Rice President **Christian Bonnesen** announced he will retire Oct. 31 after more than 40 years in the U.S. and international rice industry. Bonnesen started his career working for the Continental Grain Company. In 1999 he founded ADM Rice, and in 2004, Bonnesen spearheaded the acquisition of a California rice mill to add to the ADM Rice portfolio. In his career he served on the USA Rice Board of Directors, the USA Rice Millers' Association Board of Directors, and the USA Rice International Trade Policy Committee.

Crystal Valley Foods has hired **James Paul** to its sales team. He will handle sales for the entire product line, including asparagus. Before joining Crystal Valley, he was the senior category director for the asparagus category at Grower Direct Marketing. Paul will be based in Stockton.

**Israel Morales** is now the executive director of sustainable operations for JV Smith Cos. He previously served as the general manager of JV Farms Organic. Morales has over 45 years of experience in farming with 30 of those years in organic farming.

Seven Seas has hired **Brent Young** as manager of sales in its Visalia, Calif., office. Previously, he was an account manager for A. Duda & Sons Inc. Before that, he was a sales associate at Foodsource Monterey.

California Citrus Mutual elected three new at large candidates to its board of directors. **Grant Parnagian, Kevin Severns, and Kenny Wileman** will be replacing **Todd Williams, John Kalendar, and Jim Phillips**. Retiring off of the board is district representatives **Al Bates and Rick Wescott**.

**Best regards,**

**Sara Wyant**

**Editor**

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