

Farmers: Water board's 'hammer' approach disrupts voluntary efforts

The State Water Resources Control Board on Tuesday approved an emergency regulation enabling the agency to curtail senior water rights along two key watersheds in Northern California. The order enables the board to establish minimum flow requirements along the Scott and Shasta rivers to protect endangered fish species.

It is the latest in a series of emergency regulations aimed at protecting drinking water, ecosystems and carryover storage for next year during the drought.

But farmers and ranchers in this region of the Klamath Basin worry the order could upend a decades-long effort to unite once-combative parties in restoring sections of the rivers to protect critically endangered salmon species. With the regulation in place, the board will issue curtailment orders for water diverters along the rivers to preserve fall migration runs in September, when Chinook and coho salmon return to annual spawning habitats. The fish suffered record population declines following low flows in 2020 that led to lethally warm water temperatures for young fry.



Lower Klamath National Wildlife Refuge (photo: USFWS)

Wildlife officials believe the curtailments will allow the species to survive, but an extremely wet winter is needed for the fish to actually recover. In May, the California Department of Fish and Wildlife reached out to a few landowners to coordinate voluntary curtailments in a short period of time, but the rapid onset of drought conditions afterward meant much more water would be needed to avoid uninhabitable conditions this fall.

Agricultural groups have urged the board to adopt a more gradual approach that recognizes existing efforts and local leadership while allowing flexibility in meeting minimum flow standards. With time running short for the fall migration, anglers, tribes and environmental

groups have called for immediate and expansive curtailments to restore flows as soon as possible.

“I’ve seen a lot of voluntary actions,” said Felice Pace of the Sierra Club Redwood Chapter during a stakeholder workshop in July on the proposed regulation. **“Funding has been given. Funding has been taken. But where’s the public benefit? We just don’t see it.”**

Pace argued the state water board should have seen the environmental crisis coming and not wasted time on voluntary collaborations with agricultural water users.

The Nature Conservancy, on the other hand, advocated for both regulatory and collaborative actions that would prevent irreparable damage to ecosystems.

State officials have been reassuring water rights holders that the regulation is temporary, will not replace existing efforts or serve as a long-term solution, and should minimize economic impacts to farmers. Yet those interest groups, as well as regional board members, have urged the state water board to reexamine the water rights system entirely and seek permanent jurisdiction over the most senior water rights.

“[Pre-1914 rights] have always been characterized as a sacred cow — you can’t touch it,” said Central Coast Regional Water Quality Control Board Chairman Jean-Pierre Wolff in a hearing Friday. **“But we’re getting at a point where we’ve got to rethink some of these old legacy regulations.”**

These water rights were in place before California established the state water board in 1914, placing them beyond the board’s authority and in a coveted status among water users.

Recognizing the concerns from agricultural groups and irrigation districts, the state water board delayed its hearing date for the proposed regulation while staff made revisions based on the feedback and added more flexibility for voluntary approaches and local solutions. State and federal agencies also now have the option to reduce the minimum flow amount, if lower flows are shown to adequately protect fisheries. The order also exempts reforestation efforts and allows diversions for minimal livestock watering.

Yet the additions did not go far enough for Justin Fredrickson, an environmental policy analyst for the California Farm Bureau, who worried that voluntary agreements over flows would not be feasible under CDFW’s natural flow targets. The Farm Bureau did recognize the staff’s collaborative and creative efforts in recent months to find workable solutions for farmers.



California Farm Bureau Senior Counsel Chris Scheuring

Farm Bureau Senior Counsel Chris Scheuring also hoped the water board would refrain from using its reasonable use tool, a legal tactic it deployed in a Russian River regulation to override senior water rights, which labeled agriculture as “unreasonable use.”

Ryan Walker, president of the Siskiyou County Farm Bureau, said he appreciated the board's efforts to continue discussions on minimum flow levels after adopting the regulation. In [a comment to the board](#), Walker said this gives him hope the board and stakeholders can "reach meaningful solutions to the current drought without the acrimony that has, unfortunately, characterized many water disputes in the West."

In the staff workshop, Walker described CDFW as "a single-directive agency," with a mission to protect species listed as threatened or endangered. He argued CDFW's determination of natural flows neglects the state water board's more nuanced obligation, which is to balance water needs and uses.

"I'm even willing to agree that it might have some very, very modest advantage to some aquatic wildlife species," said Walker. "But at what cost for that minor improvement? How many families would have to declare bankruptcy to push cold water refugia down that river by a few hundred feet?"

Farm Bureau lobbied the state water board to take CDFW's flow metrics as recommendations and to focus instead on "functional flows" over minimum flows.

Walker is seeking a compromise for the upcoming 2022 irrigation season, fearing the current method for determining reductions may harm growers who have already adopted water efficiency practices.

Others involved in the region's local water policies said the board could upend ongoing efforts to implement the Sustainable Groundwater Management Act.

"You're replacing (groundwater sustainability plans) with more of a raw, brute-force tactic and ignoring the collaborative effort that's been going on here for many years," said Sari Sommarstrom, a watershed management consultant in the Scott Valley.

While the irrigation season is coming to a close for most farmers, ranchers and dairy farmers feared the regulation would still lead to immediate impacts for their herds.

Theodora Johnson, a local rancher, said shutting the water off now would mean crop failure for the alfalfa she grows as winter feed, forcing her to sell cows.

"That has very long-term implications," said Johnson. "Everybody has ranch payments and equipment payments and other things they have to do in order to stay in business. What kind of place are we going to be living in if people are going out of business?"

Elisa Noble, who directs the Scott Valley and Shasta Valley Watermaster District, pushed for financial compensation for the landowners who voluntarily reduce their diversions. She argued this would maintain economic viability and encourage more to participate.

Water Board staff have been receptive to such ideas.

"Nothing in the regulations is set in stone," said Erik Ekdahl, a state water board deputy director. "We're open to other approaches, including voluntary approaches, voluntary engagement, locally derived actions and efforts that could be as productive or more, in terms of accomplishing the goals that we're setting out to do."

CDFW Program Manager Joe Croteau responded to concerns over the “extreme burden” the regulation could place on legally irrigated agriculture.

“We've been dealing with this since I've moved here. It's been an ongoing struggle,” said Croteau. “I feel like our staff has made attempts to do some planning, get grants and do the best we can. And if not this year, when?”

The regulation will take effect Aug. 30, with curtailment orders soon to follow.

Arizona farmers face big water cuts in 2022 due to shortages

Arizona farmers are bracing for water cuts next year after the Bureau of Reclamation announced a historic shortage at Lake Mead, which collects water from the Lower Colorado River Basin.

“Pinal County agriculture faces a dire reality,” the Arizona Farm Bureau said. “Beginning in 2022, farms in Central Arizona will lose access to nearly half of the water on which they now rely to grow food and fiber for Arizona’s families. **This will have a devastating impact on each farming family in that county, and the surrounding communities will feel the ripple effects for years to come.”**

The water elevation at Lake Mead is projected to be about 1,066 feet by Jan. 1, nine feet below the level at which a “Level 1” shortage condition would be triggered. “Based on this projection, Lake Mead will operate in a Level 1 Shortage Condition for the first time ever,” the Bureau of Reclamation said Monday. The water is at its lowest level since the 1930s.

The cutbacks will leave Arizona with 18% of its normal allotment; Mexico will get 5% and Nevada 7%.



The Arizona Farm Bureau said irrigation districts in Central Arizona “are working diligently to improve and expand well infrastructure to help replace some of the lost water with groundwater,” but even with increased pumping capacity, “there are no options currently available to fully mitigate the economic or environmental impacts of this shortage.”

Arizona Farm Bureau President Stefanie Smallhouse called for “significant investments in water infrastructure.”

The infrastructure bill that passed the Senate has about \$3.2 billion for aging infrastructure in the West as well as \$1.15 billion for water storage, groundwater storage, and conveyance, and funding for water recycling, desalination, rural water projects, dam safety, the Colorado River Basin Drought Contingency plan, waterSMART grants, watershed health, and aquatic ecosystems.

The announcement of a shortage at Lake Mead “underscores the value of the collaborative agreements we have in place with the seven basin states, Tribes, water users and Mexico in

the management of water in the Colorado River Basin,” Reclamation Deputy Commissioner Camille Touton said.

“While these agreements and actions have reduced the risk, we have not eliminated the potential for continued decline of these critically important reservoirs,” she added. “Reclamation is committed to working with all of our partners in the basin and with Mexico in continuing to implement these agreements and the ongoing work ahead.”

Pinal County, located south of Phoenix, ranks first in the state for cotton, barley and livestock production, according to the Farm Bureau. It also ranks in the top 7% of all counties in the country for vegetable production and fruit and nut production.

James Hanks, president of California's Imperial Irrigation District, said it is not directly affected by the announcement but will be “actively monitoring the ongoing drought conditions and forecasted reservoir elevations as the district looks to protect the Imperial Valley’s sole water supply.

“IID supports a collaborative approach to river management and renewed efforts of the Basin States to ensure the long-term reliability of the Colorado River system,” he added. “However, the district will protect and defend the senior water rights that form the foundation of our rural community.”

Ag sounds alarm over PG&E rate hike

A major power utility serving California producers is looking to generate \$5 billion in new revenue over the next five years, and ag leaders worry their industry will be forced to bear the brunt of the cost.

According to a recent filing by Pacific Gas and Electric (PG&E), the increase would help the investor-owned utility afford costly new wildfire safety improvements and clean energy investments. But as a result, rates are expected to go up 45% by 2026. Rates are the utility's primary source of revenue.

The added revenue could bump rates to three times the national average; agricultural and commercial customers typically shoulder the bulk of the rate increases.

“We know this is a significant request that comes at a pivotal time when many of our customers are struggling to recover from the pandemic,” said Robert Kenney, PG&E vice president of regulatory and external affairs, in a statement accompanying the filing. “We won’t stop looking for additional ways to manage costs and help customers use less energy and lower their bills.”

PG&E serves about 16 million customers in Central and Northern California, covering 70,000 square miles of service. The company claims about half the requested 18% increase for the first year would be for wildfire reduction work. This includes measures like burying power lines,



Electric lines (Photo by Petr Kovar from [FreelImages](#))

installing microgrids to limit the size and impact of public safety power shut-offs, removing dead trees, and investing in technology to detect downed wires.

PG&E plans to invest a portion of the revenue in clean energy technologies, such as system upgrades and charging infrastructure for electric vehicles, water use efficiency for its hydroelectric dams, and a battery storage system in Monterey County.

The ambitious rate increase has raised eyebrows among consumer and business groups.

Western Agricultural Processors Association President Roger Isom told *Agri-Pulse* the proposal would lead to the largest jump in energy rates in state history even though California agriculture is already paying the highest rates in the continental U.S. Isom, who also leads the California Cotton Ginners and Growers Association, worried how growers could compete with other cotton-producing states, where electricity is less than half the cost of California's.



Western Agricultural Processors Association President Roger Isom

According to WAPA, rates for PG&E customers have already increased 37% since 2013.

“We feel strongly that we've already paid for this,” said Isom. “Instead of just paying out huge dividends to shareholders, they should have been investing in a lot of these upgrades that they're now asking us to do.”

The “biggest slap in the face” was that PG&E shareholders stand to make a profit on the infrastructure investments through a 12% rate of return, according to Isom, who argues they should instead carry the brunt of the cost.

While a previous deal secured with Gov. Gavin Newsom had limited the rate of return on some investments, this proposal would instead guarantee a fixed rate of return.

“PG&E has failed to make investments in their system over the last two decades,” Michael Boccadoro, executive director of the Agricultural Energy Consumers Association, told *Agri-Pulse*. “Because they were providing extreme profits to their shareholders.”

Boccadoro said San Diego Gas & Electric and other major utilities in California have encountered the same issues when it comes to “sky-high” rates.

PG&E's submission of its general rate case for 2023-26 kicks off a two-year process for the California Public Utilities Commission (CPUC) to review the proposal and overall revenue increase. Utilities typically pitch a high number at the start and negotiate down. Even a rate increase half of what PG&E is proposing would be challenging for ratepayers to absorb, according to Isom.

In the second phase of the process, PG&E, CPUC and stakeholder groups will spar over the individual rates for each class of ratepayers. The increase would then become the base rate for each year thereafter. The consumer advocacy group The Utility Reform Network (TURN) blasted the PG&E proposal and called for CPUC to reject it.

“This mind-boggling PG&E increase is a slap in the face to millions of California residents still hurting economically from the pandemic and struggling to get back on their feet,” Mark Toney, the group's executive director, said in a statement.

While Isom would like to see CPUC reject the proposal, he expects the commission will approve a sizable rate increase. But it is still early in the process.

“Heck, we just barely finished the last general rate case,” he said.

The pandemic shutdowns, which barred face-to-face hearings, dragged the settlement negotiations on much longer than usual. Isom did not expect to see any substantial progress or public hearings on the new proposal until 2022.

In the meantime, PG&E stands to absorb significant new costs not outlined in the general rate increase. The company has been blamed for sparking catastrophic fires in 2017 and 2018 with its equipment, leading the utility to declare bankruptcy. The company is facing charges for the 2019 Kincaid Fire as well and could be held accountable for last year's Zogg Fire.

PG&E recently acknowledged its equipment may have been responsible for igniting the Dixie Fire, which has grown to the second-largest fire in state history and destroyed more than 1,000 structures, about half of them homes. Before the fire, the company was planning to bury the power line that may have started the blaze.

After PG&E submitted the general rate case, it pledged to bury 10,000 miles of power lines to harden the grid against fires, which carries an estimated cost of \$30 billion or more.

“That's not electric line in agricultural areas,” said Boccadoro. “That's electric line in rural northern mountain areas.” He argued that ag lands act as buffers for wildfires yet farmers are not compensated for this service but punished with higher rates.

In February, CPUC issued a report projecting wildfire costs will drive electricity rates up as much as 30% by 2030.

“The CPUC faces multiple intersecting policy mandates that require a delicate balance to avoid unintended consequences,” says the report. “If handled incorrectly, California's policy goals could result in rate and bill increases that would make other policy goals more difficult to achieve and could result in overall energy bills becoming unaffordable for some Californians.”

State policies for electrifying transportation are also affecting rates. The report focuses on the transmission side of electricity costs but leaves out the energy production side and the shift to renewable sources like wind and solar. Isom worried that rates would inevitably rise when switching from cheap, reliable energy sources — like nuclear, natural gas and coal — to more expensive renewable energy sources that depend on the sun to shine and the wind to blow.

“Our rates have no choice but to go up,” he said. “We have some difficult times ahead if this [rate increase] goes through.”

He has been encouraging food processors to move operations outside of California when possible, invest in on-site solar power generation, or find other ways to get off the grid.

Climate report forecasts heat that will threaten crops, farmworkers

A new United Nations report underscores the grim reality that extreme heat poses for crops, livestock and farmworkers.

“It isn't off in the distance. It's happening. It's here, and we are certainly feeling its impact, particularly in the industry that we work in and around,” said Victoria Hassid, who leads California's Agricultural Labor Relations Board and spoke during a recent panel discussion exploring heat impacts on the industry.

The Sacramento-San Joaquin River Delta region has already warmed by about 1.5°F, with nighttime temperatures more than 2 degrees above normal, according to Lauren Parker, who coordinates the [USDA California Climate Hub](#).

“You might see average daytime high temperatures as much as 7 degrees warmer by the end of the century,” said Parker. “That means places like Salinas might feel more like Chula Vista by the end of the century.”

Cities like Davis in Northern California could experience a jump in the number of annual heat days from an average of three or four today to as many as 30 by midcentury and 50 by the next century, she warned. The Central Valley could experience 80 days a year by 2100.

“That's that many more days that you have to be concerned about farmworker health,” said Parker.

Wildfires, dry soils and wind erosion will create more air quality issues for workers and transport more soil-borne microbes for Valley fever.

By 2050, extreme heat waves will be expected to first appear in May and stretch well into the fall. For crops, this could lead to earlier planting, faster development and a bumped-up harvest.



A Hmong grower farms in Fresno County

Parker is wrapping up a project that will develop a menu of adaptation strategies and on-the-ground practices producers can deploy for both immediate and long-term resiliency. This could be investing in shade nets or adding soil amendments to increase water-holding capacity to serve as a buffer against extreme heat waves.

While high-value perennials like walnuts and almonds are well-adapted to high temperatures, challenges arise when it comes to winter chill hours and water scarcity, she noted. Increased heat leads to more evapotranspiration and greater water demand for irrigated crops.

It also stresses plants, animals and people.

Heat kills more people than any other climate-related hazards, including hurricanes and floods, according to the National Oceanic and Atmospheric Administration. The sixth report

from the Intergovernmental Panel on Climate Change released last week projects extreme heat to become more frequent and intense as global warming reaches 1.5°C.

“The people who had the least to contribute to this problem are bearing the brunt of it,” said Kathy Baughman McLeod, who directs the Adrienne Arsht-Rockefeller Foundation Resilience Center at the Atlantic Council. “The inequity seen in the way that heat bears out is dramatic.”



Kathy Baughman McLeod, senior vice president and director of the Adrienne Arsht Rockefeller Foundation Resilience Center

The center’s goal is to engage 1 billion people in resilience solutions to climate change, migration and security challenges by 2030.

McLeod explained that the most economically impacted populations are Blacks and Latin Americans. Gaps in the scientific understanding of heat impacts and public awareness have exacerbated the issue. No agency is responsible for heat, in the way the Federal Emergency Management Agency is responsible for flooding and the U.S. Forest Service is for fires. Heat waves are not named or categorized.

“When somebody is admitted to the hospital, there is not a box you check that says this person is suffering from heat,” said McLeod, referring to a recent UC Berkeley study finding such data gaps.

Heat increases workplace injuries by “enormous margins” on days above 100 degrees, according to Patrick Behrer, a postdoctoral fellow at the Stanford University Center for Food Security and Environment. Injuries not related to heat increase substantially as well.

“You get tired, you lose focus, it's harder to concentrate on what you're doing,” said Behrer. These kinds of injuries are a much bigger danger than the heat-related injury.”

And these injuries have been significantly underestimated in California, he explained.

“We're talking about hundreds of millions of dollars in costs that have not been included in calculations of the damages of climate change,” he said.

Illness among farmworkers, however, is a difficult issue to address, according to Dr. Marc Schenker, the founding director of the UC Davis Western Center for Agricultural Health and Safety. California has been a leader, Schenker argued, in implementing prevention policies — starting with emergency occupation regulations in 2005 that became permanent the following year and served as a model for three other states. The fatality rate for North Carolina, for example, is nearly five times that of California.

“We're not perfect, but we certainly are ahead of the pack,” said Schenker.

State investigations into heat-related illnesses in 2006 found nearly all the workers had adequate water and shade available. But 80% had been on the job for less than four days, indicating acclimatizing to heat is critically important. Performing strenuous work also elevated the risk of illness. **After several more deaths in 2008, the Centers for Disease Control and Prevention**

found deaths among agricultural workers were 20 times higher than for workers in the oil industry, with the vast majority being in crop production and among immigrant workers.

“We see that this has continued to increase with climate change,” said Schenker. “We haven't addressed it seriously enough.”

Schenker and his research team recently surveyed more than 500 farmworkers and found 42% had continued to work regardless of heat-related symptoms. Nearly all felt they drank enough water, though 72% reported being thirsty at work. Nine out of 10 were not at all concerned or only a little concerned, which indicated to Schenker a problem with communicating the risks to farmworkers.

He said the solutions are not straightforward, though heat illness is “100% preventable.” More education and more shade structures along with better enforcement could help. But he suggested the state set a standard for the appropriate workload to be absolute zero when the temperature hits 110 degrees. Much of the problem, he added, stems from the fact that the majority of California farmworkers are undocumented.

“They're not going to complain. They're not going to stop working. They're going to take risks because their job is often on the line,” he said. “That is an issue that needs to be grappled with.”

Western Growers Association has posted some guidance to farms for protecting workers from heat. The recommendations include allowing workers to gradually acclimate over a period of days.

State, federal funds will further Central Valley research for agriculture

The challenge of expanding and refining the use of artificial intelligence to resolve challenges in agriculture is drawing increased state and federal funding to researchers in the San Joaquin Valley.



UC Merced farm site (Photo: Veronica Androver)

The University of California, Merced is part of the Institute for Agricultural AI for Transforming Workforce and Decision Support (AgAID), a new collaboration with Washington State University, Oregon State University and the University of Virginia that recently received \$20 million from the Department of Agriculture's National Institute of Food and Agriculture.

The AI collaboration is one of eleven members of the National Science Foundation's National Artificial Intelligence Research Institutes. NIFA is helping fund two of the eleven institutes; the second is led by Iowa State University.

Joshua Viers, a civil and environmental engineering professor and associate dean for research at UC Merced, said the new grant shows the school's growing profile as a place with “an emerging strength in ag food technology.”

“This AgAID institute is one of three recent large awards to UC-Merced in and around what’s called smart farming,” he said.

UC Merced already was a partner in an NSF-funded Engineering Research Center focused on the Internet of Things for Precision Agriculture (IoT4Ag). The governor’s budget sends another \$3 million to the university for a new Center for the Future of Agriculture and the office of the president of the UC system, included UC-Merced, in a multi-campus research program called LACA, or Labor and Automation in California Agriculture, Viers said. The Davis, Berkeley and Riverside campuses are also part of that project.

Viers said these investments align with the Merced campus’s plans to use 40 acres for an experimental smart farm. Taken together, they show that the youngest UC campus has carved out a place for itself, specifically studying sustainability, water resources management and big data solutions to ag problems, he said.

“USDA is just now starting to recognize some of our strengths,” he added.

Because Viers and a colleague had done some research in Washington, they saw that “we both have high-dollar specialty crops that often have high demands for both labor and water.”

Collaborating on AI solutions could benefit both places, even though the specific crops grown are different. The collaboration has three areas of focus.

For labor, the goal is to develop a human workforce that is using new tools, such as AI-informed equipment, so technology improves “not just worker productivity but also worker safety and their operating environment,” he said. More sustainable water management is another focus area, which Viers said might include integrating precision irrigation with climate models, for example, to better determine how much water to allocate. The third focus area is about how climate and ecosystems services research might lead to “more timely and effective forecasting models” that could help protect apple crops in Washington’s Yakima Valley or mitigate drought in the San Joaquin Valley.

Viers said UC Merced’s relative youth - the school was founded in 2005 - as well as a diverse student body that includes many students from the immediate area, and its designation as a Hispanic-serving institution, added to its appeal as a partner in major national grant programs. For the AgAID grant, he said, “one of the requirements of the proposal, in fact, was that one of the core partners needed to be a Hispanic-serving institution or a minority-serving institution.”



Joshua Viers, UC Merced

He said Merced students often take a “fresh look at some old problems” and the campus community is uniquely positioned to attract students and researchers from a wide range of backgrounds and life experiences, which can “really translate well into new ideas.”

Tools or technologies developed by the two research centers could be deployed on the new smart farm, Viers said. The mantra “adopt-adapt-amplify” describes the process of figuring out how to make existing technologies better (such as micro-irrigation), how to add something new such as

remote sensing, machine learning or autonomous movement, and then making sure the results are “tools that can be readily used,” he said.

The AgAID grant will fund graduate student researchers and also provide summer programs and other opportunities for undergraduates.

News Briefs:

Regan, Newsom recognize growing strength of state, federal partnership on wildfires, climate. During a visit to California Tuesday, EPA Administrator Michael Regan reiterated the Biden administration’s commitment to a multiagency effort to increase the resiliency of farms, ranches and communities to wildfire and climate change. “There’s absolutely no question that the President’s vision is to have a whole of government approach to this,” Regan said. “What you’re seeing the past six months is USDA, EPA, FEMA, Interior, all beginning to work together in a very congruent manner to think about how we leverage our resources.” Appearing with Gov. Gavin Newsom at the site of the CZU Lightning Complex fire, which burned more than 85,000 acres in 2020 in and around the Big Basin Redwoods State Park, Regan said one of the first conversations he had after being appointed Administrator was with Agriculture Secretary Tom Vilsack. USDA and EPA have a partnership Regan described as a “one-two punch” concerning wildfire response and climate mitigation. President Joe Biden’s effort to get all agencies working in tandem, Regan said, meant a faster and stronger response when California needed a partner this year. He added that rebuilding and improving local water infrastructure, which in some communities has been damaged by fires and in others is nearly unusable due to drought, will not focus on “putting Humpty Dumpty back together the same way, but doing it in a way that’s really smart and climate resilient.” The pending infrastructure bill would send more money to California for drinking water systems, Newsom added. With the charred remains of a giant tree behind him, Newsom said the CZU Lightning Complex fire was a “gut punch” to those, like him, who grew up in the San Francisco Bay Area and spent time in California’s oldest state park as children. The roughly 1,500-year-old tree managed to survive. “May not be thriving, but it’s surviving,” he said, and that is “a point of tremendous optimism.” Vilsack visited a different 2020 wildfire site with Newsom two weeks ago. Newsom praised state and local firefighting agencies, including CalFire, and the strengthening of the partnership with the federal government but added “it goes without saying, we have to do more” to protect Californians and the state’s natural resources from damaging wildfires.

USDA, Interior announce firefighter raises. The Biden administration is increasing pay for the government’s wildland firefighters to ensure they all make at least \$15 an hour. The plan announced Tuesday will give raises to about 14,800 firefighters, including 3,500 employed by the Interior Department and 11,300 who work for USDA’s Forest Service. The agencies say this will increase pay for about 70% of Interior firefighters and about 78% of USDA’s force. The raises will total about \$31.9 million; \$7.6 million for Interior and \$24.3 million for USDA. “With the growing threat of climate change, severe droughts and longer, more intense fire years, we must have more resources to protect communities, infrastructure and the environment we all depend on,” said Agriculture Secretary Tom Vilsack. “Supporting our brave firefighters with pay, benefits and career opportunities that reflect the importance and danger of the work that they do is critical to facing the mounting wildfire threat.” Interior Secretary Deb Haaland also underscored the threat of climate change in a statement on the news and said the government “must remain steadfast in our commitment to wildland fire

preparedness and response. “The brave women and men on the frontlines deserve fair pay for their work to protect our families, our communities, and our lands from the increasing threat of fire,” she said. “By improving pay, we will not only support our wildland firefighters in a challenging year but also improve our ability to hire and retain top talent.”

The pay increases take effect immediately, retroactive to June 30.

Robot speeds up work to identify grape varieties resistant to powdery mildew.

Grape breeders across the country are working to develop varieties that won't fall victim to powdery mildew, a fungus that threatens grapes just about anywhere they are grown, and now artificial intelligence is speeding up the process, a USDA scientist says. Until recently, the research group that Lance Cadle-Davidson is part of relied on humans to sit at microscopes for hours looking at fungal spores and how far they grew. They realized that some of their processes could be automated. Enter BlackBird, a robot developed in collaboration with engineers and computer scientists at Cornell University that can capture thousands of images, feed them into a neural network and identify the information they're looking for even more accurately than the human technicians could. Cadle-Davidson, a research plant pathologist with USDA's Agricultural Research Service in Geneva, N.Y., said “it does take us a lot of time” to teach the robot what it needs to know, time that's spent in front of a large computer screen, not bent over a small microscope. Once the analysis identifies the samples most likely to be resistant to powdery mildew, Cadle-Davidson's lab provides plant breeders with DNA tests they can use on-site to pick the best candidates for their breeding programs. Ultimately, the goal is that public or private grape breeders will be able to launch commercial varieties that are resistant to the fungus. That could reduce dependence on pesticides, which Cadle-Davidson said are currently sprayed as often as 10 to 15 times per year to protect vines. ARS is spending \$100,000 to bring BlackBird to other field offices so it can help with any crop susceptible to powdery mildew, which includes strawberries, hops and many others, he said. “We've developed a framework,” he said. “We want to generalize it even further.”

PepsiCo announces goal to become 'Net Water Positive' by 2030. PepsiCo, which holds 23 food and beverage brands, announced Tuesday that it hopes to become “net water positive” by 2030. The company, which has more than 1,000 company-owned and third-party facilities in high-risk watersheds, announced in a release that it hopes to reduce its water usage by 50% and avoid using more than 11 billion liters, or 2.9 billion gallons, a year. The company also plans to adopt the Alliance for Water Stewardship Standard by 2025 in areas with high water risks. “Water scarcity is directly linked to the climate crisis, and at PepsiCo we believe a global effort to be 'net water positive' is essential,” said Jim Andrew, the chief sustainability officer at PepsiCo. “We're focused not only on making sure people around the world have access to this vital resource, but ensuring that we are also prioritizing water stewardship in our operations everywhere.” The overarching goal of the initiative is to reduce overall water use and allow more than 100% of the water used at PepsiCo sites to be returned to the local watersheds it came from. Through the “Net Water Positive” initiative, PepsiCo hopes to improve safe water access for 100 million people by 2030. According to the release, the company has also announced a new investment with WaterAid — an organization focused on providing people around the globe with access to clean water, toilets and good hygiene — to improve water infrastructure and sanitation facilities in sub-Saharan Africa. It will also try to promote hygiene education in that region. “We're proud of our continued partnership with WaterAid to bring this program to the region and are excited to be investing in the water-scarce areas that need this resource most,” said C.D. Glin, the vice president and global head of philanthropy at PepsiCo.

West Coast fishing industry raises concern about possible sea otter

reintroduction. West coast seafood industry groups are asking the U.S. Fish and Wildlife Service to consider the impact on near-shore fisheries as they prepare a congressionally ordered report on the reintroduction of sea otters. The fiscal 2021 omnibus spending bill directs the agency to complete a study within a year on “the feasibility and cost of reestablishing sea otters on the Pacific coast of the contiguous United States.” But a coalition of about two dozen groups representing ports, processors, and fishermen is concerned sea otters could devastate some fish species currently harvested for human consumption, says Lori Steele, executive director of West Coast Seafood Processors. “We wanted to make sure to get our concerns and our recommendations on the record,” Steele said. The biggest worry, she said, is the Dungeness crab fishery, which can be particularly lucrative. Along Canada’s western coast and the coast of Alaska, growing sea otter populations have had harmful impacts on other species because they are “voracious eaters,” she said. A letter that the fishing industry groups sent to the Fish and Wildlife Service asks the agency to engage industry and local Native tribes if the initial study leads to further action toward the sea otter introduction. The agency is also asked to consider the past experiences of reintroducing otters in southern California and Alaska, and to account for how ongoing protection of reintroduced otters might affect habitat, fishing and aquaculture, and even offshore wind production. Steele said the West Coast seafood industry isn’t necessarily opposed to sea otter reintroduction “as long as the cost-benefit analysis doesn’t suggest that this is going to take our fishery out.” A statement from the Fish and Wildlife Service said “there is no active proposal to reintroduce sea otters – it is just a concept that is under consideration and up for discussion.” The agency said its report to Congress “will focus on summarizing known information and identification of key data gaps, as well as a summary of stakeholder perspectives. In the future, should there be a move to formally propose the reintroduction of sea otters, the Service would initiate a public review process under the National Environmental Policy Act.”

Farm Hands West: Moffitt confirmed to USDA undersecretary post



Jenny Lester Moffitt

Jenny Lester Moffitt was confirmed by the Senate last week to become undersecretary for marketing and regulatory programs at USDA.

She will be responsible for overseeing the Agricultural Marketing Service and Animal and Plant Health Inspection Service. Moffitt previously was serving as the California Department of Food and Agriculture’s undersecretary. She is also an organic walnut farmer and has worked at American Farmland Trust and the Central Valley water board.

The Bureau of Reclamation's California-Great Basin Region has selected **Joshua Israel** to be the new science division manager for the Bay-Delta Office.

In this new position, Israel will help increase support for the region’s science efforts. Israel began his career with the Bureau of Reclamation in 2010 in Sacramento as a fish biologist. He later became a supervisory natural resource specialist at the Bay-Delta Office. In addition to his experience at Reclamation, he served as an AmeriCorps Watershed Stewards Program Corpsmember.

Scott Ross has been hired as the senior manager of sales and new business development for Dole Diversified North America, which oversees the business side of Dole's year-round berries division. Ross brings over 25 years of experience working in the produce industry. He most recently worked at Del Monte Fresh and has also worked at Sunkist, Giumarra, and West Pac Avocado.

Westfalia Fruit Group has appointed **Danielle Willems** as a group communications executive. She brings 15 years of experience to the position and currently leads corporate communications for the EMEA Animal Nutrition business for Cargill. Before joining Cargill, Willems spent 10 years of her career working for Sabic, a Saudi-owned and headquartered chemical company.

Almond Board of California has announced its new board of directors, whose terms began on Aug. 1. **Brian Wahlbrink** was elected to chair the board, and **George Goshgarian Jr.** was picked as vice chair. Representing almond growers are: **Paul Ewing**, an independent producer from RPAC Almonds in Los Banos; **Joe Gardiner**, an independent producer from Treehouse California Almonds in Earlimart; and **Christine Gemperle**, a co-op grower from Gemperle Orchards in Ceres.

The new handler representatives are: **Darren Rigg**, an independent handler from Minturn Nut Co in Le Grand; and **Bob Silveria**, an independent handler from Vann Family Orchards in Williams. The alternatives include **Brandon Rebeiro**, an independent grower from Gold Leaf Farming in Modesto; **Chris Bettencourt**, an independent grower from Westley; **Kent Stenderup**, a co-op grower from Stenderup Ag Partners in Bakersfield and former chair of the ABC Board; **Dexter Long**, an independent handler from Hilltop Ranch in Ballico; and **Chad DeRose**, an independent handler from Famoso Nut Co. in McFarland.



Joshua Israel



Danielle Willems

business and product development. Branson worked for the last 15 years at Canada's largest grocery chain, Loblaw Companies.

Ngoc Nguyen now serves as the legislative director for Rep. **Luis Correa**, D-Calif. Nguyen handles the portfolio for foreign affairs, defense, tax, housing and homelessness, labor, the Judiciary Committee, small business, appropriations, financial services and Tribes. Nguyen previously was the senior legislative assistant for Rep. **Alan Lowenthal**, D-Calif.

Mucci Farms, located in Kingsville, Ontario, has hired **Dan Branson** as senior director of

Michael Johnston, a Central Coast Water Board member, is retiring at the end of August to help care for his wife of 40 years. Johnston is from Watsonville and serves as a consultant for Teamsters Local 948 and the California Teamsters State Council of Cannery and Food

Processing Unions. Before joining the water board, Johnston was a campaign coordinator at the International Brotherhood of Teamsters from 2006 to 2009, and a business representative for Teamsters Local 890 from 1988 until 2005.

Best regards,

Sara Wyant

Editor

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