



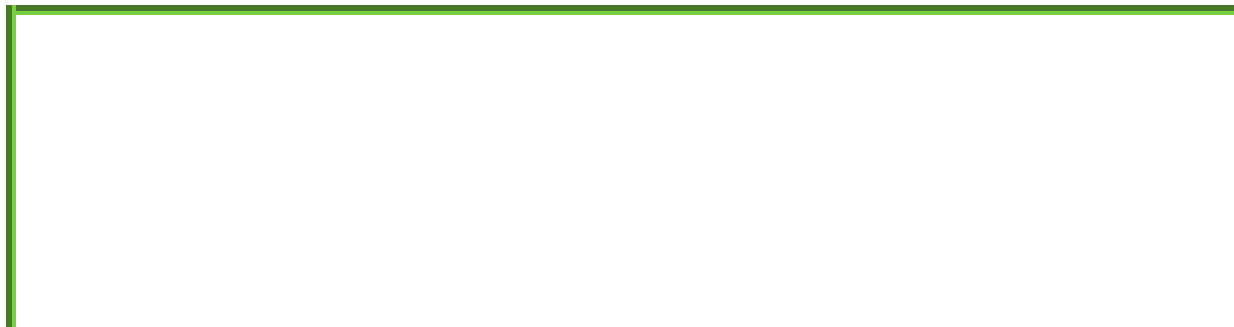
***Protecting our rural environment by promoting citizen participation  
in sustainable land use planning since 2006***

***The Community Action Project (CAP) administers the Calaveras Planning Coalition (CPC),  
which is comprised of regional and local organizations, community groups, and concerned  
individuals who promote public participation in land use and resource planning to ensure a  
healthy human, natural, and economic environment now and in the future.***

**Learn more at [www.calaverascap.com](http://www.calaverascap.com)**

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**Join Us!**

*Get a glimpse into what CPC membership is like by attending a meeting.*

*There is no commitment, just show up and listen in!*

**Next Calaveras Planning Coalition Meeting**  
**December 6, 2021 3 P.M. - 5 P.M.**  
**New Members Welcome at CPC Meetings**

Organizations, groups, and individuals (known as associate members) may join the Calaveras Planning Coalition (CPC). Prospective members may attend two consecutive meetings before making a final decision on membership in the Coalition. The membership form is a pledge to support and advocate for the Coalition's eleven Land Use and Development Principles, which you will find on our website:

[www.calaverascap.com](http://www.calaverascap.com).

There is no membership fee. However, members are encouraged to donate to the Community Action Project/Calaveras Planning Coalition. Visitors and prospective members will, by necessity, be excluded from attorney/client privileged discussions.

If you are interested in membership, please email CPC Facilitator Tom Infusino, [tomi@volcano.net](mailto:tomi@volcano.net), to receive a membership form, agenda, and the Zoom meeting connection.

*To help prevent the spread of Covid-19 in our county, all CAP and CPC meetings will be held online via Zoom until restrictions are lifted by the Public Health Department.*

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**Board Of Supervisors November 16, 2021**

Agenda Upcoming

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## Local News

### Calaveras Public Health reports 2 additional COVID-19 deaths

*Enterprise Report Nov 9, 2021 Courtesy of Calaveras County Public Health*

On Nov. 8, Calaveras County Public Health added two additional deaths to its total Covid death toll, which is now 85.

The deceased were a man in his 60s and another man in his 90s, according to the health department.

"To those people experiencing the loss of a loved one to COVID-19, the team at Calaveras Public Health offers our condolences," a Public Health press release reads.

As of Nov. 8, there were four Covid hospitalizations and 43 confirmed active cases countywide. According to Public Health, roughly 56% of the county's eligible population has been fully vaccinated.

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### Fire protection sales tax initiative may bring \$5 million annually to increase staffing

*Dakota Morlan / Calaveras Enterprise / November 11, 2021*

Volunteers began collecting signatures last month for a ballot initiative that would ask Calaveras County voters to approve a 1-cent-per-dollar sales tax increase to fund local fire protection agencies.

Proponents say the Calaveras Local Fire Protection Tax initiative, if it qualifies for the ballot and is approved by voters, would generate an estimated \$5 million annually to fund improved staffing at the county's 10 fire agencies (nine fire districts and one municipal fire department.)

Achieving and maintaining adequate staffing levels has been a growing issue among rural California fire districts, which struggle to offer a living wage comparable to that of Cal Fire and urban fire departments.

A few local fire districts have been able to maintain limited staffing via tax measures—most recently, the San Andreas Fire Protection District (SAFPD), where voters approved property tax increases to fund stipends to keep volunteer firefighters at their station 24/7.

“Right now the county has a number of stations that are either vacant or staffed something less than 24/7,” Dana Nichols, Vice President for the SAFP and one of four proponents of the new tax initiative said in a press release. “This funding would make it possible for even the smallest agencies to either hire paid firefighters or significantly improve their incentives for volunteers.”

According to Nichols, those agencies that do have some paid firefighters on duty 24/7 do not have enough paid firefighters to meet the National Fire Protection Association Standard of four firefighters per engine, or the minimum standard of three.

“Even the best funded fire agency in the county—Ebbetts Pass—has a vacant station that would, if staffed, significantly reduce response times in parts of that district,” Nichols said.

The new tax initiative would not only utilize revenue from locals shopping locally, but also the many tourists who visit the county and may need emergency services but “don’t contribute all that much to fire taxes,” Nichols told the Enterprise.

The four proponents of the measure are Nichols, Robert T. Dean, of Mokelumne Hill, and Skip and Shannon Sharp, of Mountain Ranch. Along with Faith Hall of Valley Springs, they also make up the Calaveras Local Fire Protection Committee that is organizing the campaign.

To qualify for the ballot, the campaign must collect 2,161 signatures from Calaveras County voters by Feb. 22. The measure would most likely go before voters in November 2022.

Campaign volunteer Gina Gonzales said that people have been “very supportive” in her efforts to gather signatures in Angels Camp. “People say this should have been done a long time ago,” she added.

Gonzales also said in the press release that many voters have questions and are often not familiar with how local fire agencies train and recruit firefighters. “A lot of people don’t know they are (mostly) volunteers and don’t get paid,” she said.

The campaign is currently seeking volunteers to gather signatures in all areas of the county.

“You can have a petition party with friends or take it to the next meeting of your service club or other group,” Nichols said.

For more information, or to volunteer or donate, go to the campaign website at [calaveraslfp.org](http://calaveraslfp.org) or call Nichols at 209-768-9072.

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## CUSD becomes second Calaveras County school district to defy vaccine mandate

At a Calaveras Unified School District (CUSD) board meeting Tuesday night, the board voted 5-0 against upholding the state-issued COVID-19 vaccine mandate for students and staff.

The five board members voted on an action put forth by board member Bryan Porath to “not enforce, support, or comply” with the mandate, which requires all students and school staff to be vaccinated by July of next year, following FDA approval of the vaccine for the child’s specific age group.

CUSD is Calaveras County's largest school district and includes Calaveras High School, five elementary schools and one middle school.

This decision follows after the Mark Twain Union Elementary School District became the first in the county to vote against enforcing the mandate last week.

Some school districts throughout the state have similarly expressed concerns or pledged not to uphold the mandate, including districts in Apple Valley and Happy Valley, with one school board member in Temecula Valley resigning to avoid getting vaccinated, though it is undetermined whether the state rules apply to school board members.

While the CUSD board’s decision was unanimous regarding the mandate for children to be vaccinated, discussions over whether the same rules should apply to teachers and school staff presented differing opinions.

A theme of solidarity and mutual support was echoed throughout comments from concerned parents, teachers, and school board trustees. Two fourth grade students from Valley Springs Elementary also rose to the podium, to ask the board to consider their feelings about the mandate.

Fourth grader Liz Montgomery got chuckles from the packed room when she said, “I don’t want to be homeschooled. My mom already homeschooled me last year, and it was not the best.”

While most of the commenters were against the mandate, some in attendance were for the mandate, like one Zoom commenter who said that “science tells us we’re all more vulnerable without the shot.”

Another parent, however, asked the board to “take the science out of it,” saying, “We are in America, the greatest country in the world, based on our right to choose.”

Staff members including teachers voiced opinions about their rights, asking the board to consider allowing unvaccinated staff to opt for weekly saliva tests over nasal swabs, without requiring medical exemptions as is currently the rule.

Others asked that the board revisit the prior decision to require kids to wear masks in school, with parents calling out “let my kid breathe” and “let’s bring those smiles back.”

One commenter from the audience told the board, “I am so proud of you guys. I am so proud to be in Calaveras County, and I am so proud that we are united. I’m so proud. I know It takes a lot of courage to take a stand like this. I’m so proud of each one of you, and I’m so proud of all of us. ... We’re gonna have your back.” Applause and a shout of “we got your back” echoed the sentiment throughout the room.

Prior to voting, Superintendent Mark Campbell advised the board that based on liability and the risks associated with going against the state-issued mandate—including “fall back from unions” and OSHA, state and local public health orders, and potentially losing Covid-related funding—he would recommend that the district remain in compliance with the state’s rules. Campbell advised that the district “stand(s) to lose students and staff on either end.”

While the board made a decision against supporting and enforcing the vaccine mandate for its students and staff, they asked that other issues brought up, like the mask mandate and saliva testing, be agenized for future meetings.

Board members also asked people to remember that there are community members in favor of the mandate, and to be compassionate towards them and not “lose sight of the fact that we all have to live together.”

Board member Cory Williams said, “I hate that it divides people. I hate that it divides family and friends in our community. Obviously, we feel with the majority, but we do need to have compassion for others.”

Presently, it is unclear what the ramifications might be for school districts that defy the state’s vaccine mandate.

Board member Bryan Porath made a statement regarding potential legal repercussions, as advised by Superintendent Campbell, stating that “there is no precedence for any of this,” and “we don’t have insurance for this anyway,” to which Campbell replied, “nobody is covered for Covid-related cases, but if you don’t have a vaccine mandate in place, you do open up...for potentially more litigation.”

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## Regional News

### **Prescribed burns are key to reducing wildfire risk, but federal agencies are lagging**

*Alex Wigglesworth / LA Times / November 8, 2021*

When wildfire burned through a federal research area in Klamath National Forest this summer, scientists were dismayed to see more than 20 years of work go up in smoke.

But when they returned to the charred study area near California's northern border, they realized they'd been given a unique opportunity.

Although the scientists had set out to understand how the thinning and controlled burning of vegetation could help regrow large trees more quickly, they now had a chance to study another urgent question: Could these same treatments make forests more resilient to wildfire? Or more specifically, could they moderate fire behavior so that flames were less intense and firefighters would have a better chance of snuffing a blaze before it barreled into a populated area?

The answer appeared to be a resounding yes.

"In areas where we didn't do anything, the untreated controls, the predominant fire behavior was a crown fire which killed every tree and consumed the entire tree crown," said Eric Knapp, research ecologist with the U.S. Forest Service.

However, the plots that had been thinned and then treated with broadcast burning — in which an area of land is set alight to mimic naturally occurring wildfire — emerged relatively unscathed, he said.

The results, once confirmed, will rank among the strongest scientific evidence supporting the effectiveness of these so-called fuels treatments, Knapp said. But they were not unexpected. Researchers have found in the past that the best outcome is reached by the combination of thinning crown fuels, or tree canopy, and burning surface fuels, or vegetation on the ground.

Despite this knowledge, however, the federal government, which manages about 57% of the forested land in California, has completed only half of the fuels treatments it had hoped to get done in the state for the year — a statistic that profoundly dismayed wildfire experts.

As of mid-September, the Forest Service had completed or contracted out fewer than 37,000 acres of prescribed fire projects in California since Oct. 1, 2020. The majority was the burning of stacks of vegetation that had been piled after thinning, in which crews prune branches or cut down smaller trees, often using chain saws or cranes.

An additional 6,063 acres of managed land included naturally ignited fires that were allowed to burn — a practice the Forest Service suspended after it came under heated criticism over the summer.

Another 5,000 acres were treated with broadcast burning, which in combination with thinning has shown to be most effective.

"That's just depressing," said Lenya Quinn-Davidson, fire advisor for the University of California Cooperative Extension. "That's so little, given how much land the Forest Service manages in California. It is just a drop in the bucket.

"I think it speaks to the need for such drastic change around prescribed fire."



In total, the Forest Service had, as of Sept. 17, met about 54% of its goal of treating 238,200 acres in the state during the fiscal year, which ended Sept. 30. The target does not discriminate between prescribed burning and other methods of vegetation removal. Those include grazing, thinning, chemical treatments such as herbicide, and disposing of the thinned vegetation, including biomass removal, chipping, crushing and piling.

The U.S. Bureau of Land Management and the National Park Service, which manage much less forested land in California, didn't fare any better. The NPS performed a total of 616 acres of broadcast burning in the state so far this calendar year; the BLM plans to burn about 300 acres but has yet to begin.

Officials say the lag in forest treatment is due to several factors, including lack of funding and personnel, but also to fundamental changes in the fire season. They say that drought, climate change and fuel overloading have stretched out the season and narrowed the time frame in which prepared burns can be conducted.

"There's a lot of structural issues that need to be overcome to burn at the scale that is needed," Knapp said.

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The Klamath study, dubbed the Gooseneck Adaptive Management Area, is a patch of old timberland that was heavily logged before it was turned over to the Forest Service in the mid-1950s. Before it was privately managed, fires had burned through the area every nine years or so, but by the time researchers began to focus on the area, it had not burned in decades, Knapp said.

The parcel was crowded with young trees competing for light and resources, and they had transitioned from primarily pine to fir, which is less fire- and drought-tolerant, he said.

Scientists were trying to see if they could remove some vegetation to re-allocate the growth to fewer trees, making them grow larger more quickly and restoring the forest to something that more closely resembles what it looked like a century ago.

They put in place three treatments: thinning favoring the reestablishment of pine species; thinning favoring pine species plus two rounds of broadcast burning, in 2001 and 2010; and thinning favoring the largest-diameter trees with no regard to species. Each was repeated on five 100-acre plots. Five control plots received no treatment.

The lightning-sparked Antelope fire burned through all of the plots over the course of four days starting Aug. 4.

"Because we have five replicates of each of these treatments that were all hit by fire burning under oftentimes similar conditions, we can tease out the effect of weather and the effect of fuels," Knapp said. "It will be a very compelling example of the interaction of fuels treatments and weather in affecting the outcome."

Initial observations suggest that the plots that were thinned and burned fared the best, the control plots the worst, and the plots that were only thinned made out somewhere in the middle. There was little noticeable difference between the two types of thinning.

“What it shows to me is that under the most extreme fire behavior, thinning alone is oftentimes not enough,” Knapp said. “You have to also deal with the stuff on the ground.”

That’s not to say thinning alone didn’t change fire behavior, he said. Though many of the trees in the thinned plots still died, they were killed by heat, their needles scorched brown. By contrast, the trees in the control plots were entirely consumed by fire, leaving behind only dead, blackened sticks.

That suggests the thinned plots experienced a hot surface fire. The control plots, however, experienced even hotter fire that reached up into the crowns and burned the canopy, likely spitting out embers ahead of the main fire that made it move more quickly, Knapp said. Such variations in intensity and speed could mean the difference between firefighters being able to battle the fire or being forced to retreat.

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Traditionally, parts of California would get a rainstorm in late September or early October, and broadcast burning could start a couple of weeks later once the vegetation dried out, Knapp said.

But in the last few years, fall rains haven’t arrived until late October or November. By that time, the sun angle is so low on the horizon and it’s so cool that the rain-soaked vegetation might never dry to the point where these burns can be conducted, he said. And even once the right conditions are in place, fire smoke and air quality considerations limit the number of burns that can be performed at once, Knapp added.

At the same time, fire seasons have grown longer and more intense, so the crews that once transitioned from fighting blazes to setting them are no longer available because they are still in fire suppression mode.

The National Interagency Fire Center reached its highest preparedness level, 5, in July, the earliest point in a decade. The designation indicates that 80% of the nation’s wildland firefighting personnel are committed to incidents.

U.S. Forest Service Chief Randy Moore cited those resource limitations in August when he announced the agency would no longer consider conducting prescribed burns until the preparedness level dropped back down to 2.

“We are in a ‘triage mode’ where our primary focus must be on fires that threaten communities and infrastructure,” he wrote in a memo explaining the decision.

The move underscored the dire need for a full-time workforce dedicated solely to prescribed burning, with positions that are well-paid and attractive, Quinn-Davidson said.

“We need more jobs focused on prescribed fire and fuels treatments that don’t get pulled off to fire suppression,” she said.

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Authorities caution that many Western U.S. forests have suffered through so many years of imbalance due to aggressive fire suppression practices and climate change that broadcast

burning alone is not sufficient to restore them.

National forests like El Dorado are now so overgrown that the landscape often must receive one or more rounds of thinning before it is safe to put fire on the ground, said Jeff Marsolais, forest supervisor of El Dorado, which has seen no prescribed burning this fiscal year.

"Getting to where we can broadcast burn and having fire burn naturally through the ground like it did 100 years ago, that's exactly what we're trying to get to," he said. "But there's a ton of work that has to go into restoring the resilience of the forest before we can get to that level."

And even if federal authorities were able to perform these treatments on the scale that is needed, the increasingly extreme conditions under which fires are burning still means they wouldn't always be sufficient to protect forests and communities from damage.

In a development that surprised researchers on the Goosenest study, one of the units treated by thinning and prescribed fire that burned during a four-hour high wind event appears to have been fairly heavily damaged despite the low surface and crown fuel loads, Knapp said.

"To me, this illustrates there may be some limits to what treatments can do under severe fire conditions," he said. "Maybe when we're up against the worst conditions, you just can't really do much to prevent that."

Still, he said, high wind events tend to be of limited duration and account for a minor portion of the time during which a fire burns. And treatments can slow the spread of the blaze so that less land burns under those extreme conditions, he added.

The plot was also overdue to receive another round of prescribed fire, underscoring the importance of maintenance. And it still fared better than the control plots that burned under the same weather conditions, he said, estimating that 25% to 50% of the trees will survive.

"So even in the worst conditions, it did something that made the forest more resilient," he said. "Just maybe not as resilient as we would've hoped."

This story originally appeared in [Los Angeles Times](#).

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## **Crashes with wildlife cost state at least \$1 billion, according to UC Davis "roadkill report"**

*KCRA/ 11:35 AM/ November 11, 2021*

Collisions between wildlife and cars have cost California at least \$1 billion over the past five years, according to the annual "roadkill" report from UC Davis. The report gives an overview of collisions with large and small animals — from deer and bears, to squirrels and birds. Researchers found the deadliest highway in the state for those collisions is Interstate 280 on the San Francisco peninsula. There are also a lot of animals hit on Interstate 80, Highway 50 and State Route 49 in the Sierra. Authors say the state should help fence off areas that see a lot of crashes, and build more wildlife crossings.

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## How will the US deal with a shortage of 80,000 truckers?

*Michelle Fleury / BBC North America / November 7, 2021*

The shortage of truck drivers in the US could hit 160,000 in the next 10 years

In the car park of an abandoned shopping centre in Long Island, New York, instructors at Sunny Truck Driving School put students through their paces.

They are training a new generation of lorry drivers, more commonly called truck drivers in the US, to help fill the gaps in a nationwide driver shortage - a situation that is adding to the country's supply chain problems.

This shortage of drivers is not new, but an increase in freight demand as the US economy reopened after lockdowns, waves of baby boomer retirements and the pandemic have made it worse.

The American Trucking Associations (ATA) estimates that the US is short 80,000 truckers - an all time high for the industry. And if nothing changes, the shortfall could reach 160,000 over the next decade.

The lack of drivers has made it hard to get products from ports to shop shelves and is driving up prices for a wide variety of products ahead of the winter holidays.

"It's a very good problem to have in a business, to grow and grow as fast as you can," says Tejbir Batth

Back to school

Since images of stranded shipping containers on the US West Coast emerged, the Long Island driving school - that's been around for more than 25 years - has seen the number of interested applicants who want to train as truck drivers grow.

"That has attracted people who weren't looking into this industry before," says the school's operations manager Tejbir Batth.

Waiting times to join its commercial driver's licence courses have tripled - rising from four to 12 weeks.

To keep up with demand, the school recently bought three new tractor trailers and has doubled its staff.

"It's a very good problem to have in a business, to grow and grow as fast as you can," he says.

New incentives and a change in circumstances due to the pandemic are enticing people in to train as truck drivers who perhaps weren't interested in the industry before.

"I see a lot of folks coming from, you know, grocery stores, from gas stations or even from city cabs," says Mr Batth.

When New York City shut down at the start of the pandemic, many taxi and ride-hailing drivers were suddenly left with no work.

Some are now moving into trucking, like Muhammad Sohail who is taking classes at Sunny Truck Driving School to obtain his Class A commercial driver's licence.

In the parking area, he is learning how to back up the truck and drive it around corners. He sees the trucking industry as a stable means of supporting his family.

"There are a lot of jobs, a lot of companies are hiring," he says.

A former Uber driver, he hopes to double his income and believes there are lots of opportunities, not least the possibility of one day starting his own trucking business.

Despite incentives, not enough people want to work as drivers and turnover in the industry is very high

Hanging on to drivers

According to the US Bureau of Labor and Statistics, the median pay for a truck driver in America is \$47,130 (£34,700) per year. But, desperate for new blood, freight operators are offering better pay and sign-on bonuses - some as high as \$10,000 (£7,360).

However, the shortage of drivers isn't just a pay issue. Despite the incentives, not enough people want to become truckers. Or if they do, they often don't stick with it.

Turnover in the industry is very high: the average annual turnover rate for long haul drivers at big firms is 90%, according to the American Trucking Associations.

Drivers burn out because the job is stressful and comes with big personal sacrifices - such as long periods of time away from family.

Covid has also led some drivers to bring forward their retirement plans. The average age of a truck driver in the US is around 49 years-old.

Backlog at Los Angeles and Long Beach: Thousands of containers waiting to be loaded on trucks and trains

Tough working conditions

At a rest stop on the New Jersey turnpike, long haul truck driver, Brandon Whitehead enjoys a break. But often, after a 14-hour drive, finding a place to park can be difficult.

"They make us move and we shouldn't be moving our trucks. There are no facilities for us to use," he says.

Another frustration for this independent fleet owner from Chicago is rising fuel prices. Mr Whitehead, who owns three tractor trailers, says his workload hasn't increased but his costs have.

"It affects the bottom line," he explains, while waiting times also cut into his income.

Most long haul truckers are paid by the mile, not by the hour. This means he routinely waits four to six hours to load or unload at shipping facilities.

Independent fleet owner Brandon Whitehead is coping with high running costs including rising fuel prices

"And then that way now your day is over and you're late on the load and your pay is docked," he says.

When he first got behind the wheel eight years ago, Mr Whitehead was under no illusion how tough the job was. His grandfather and two uncles were truckers before him. Still, he understands why so many drivers end up leaving the business.

The schedule often means long hours on the road, with extended periods of time away from family. A father of five, he is only at home for four to six days a month.

"It's equivalent to being in the army because we're doing a service to America," he says. "Without the recognition, without the pride, without the respect and without the money."

The current crisis shows how heavily the US relies on these unsung key workers.

To help increase the number of available drivers, President Biden's infrastructure bill would let drivers as young as 18 drive a truck across state lines. - currently a driver has to be 21.

Over time the hope is this would significantly increase the workforce.

Increased focus on supply chain woes is leading to changes in America's trucking industry but they are not happening fast enough to reverse the current shortage of drivers.

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## A New Study on Regenerative Grazing Complicates Climate Optimism

***A new, peer-reviewed paper on White Oak Pastures' practices advances our understanding of the climate impact of beef and the potential for regenerative grazing to store carbon in the soil.***

*Virginia Gewin / Civil Eats / January 6, 2021*

At White Oak Pastures, an eastern Georgia-based sixth-generation farm, Will Harris “went rogue” and began to transition away from industrial cattle ranching 25 years ago. Since then, Harris has been rotating organic cattle, chickens, and pigs on 3,000 acres of pasture in an effort to improve land degraded by years of conventional cotton and peanut production.

Comparing his black soil to the red soil only yards beyond the fence he shares with his neighbor, Harris said in a recent phone call: “They look like they came from two different planets.”

Now, White Oak Pastures is at the center of a larger conversation about the climate impact of beef and the power of regenerative grazing to store carbon in the soil.

In 2019, White Oak and General Mills, which buys the ranch’s beef for its Epic jerky line, published a life-cycle analysis by Quantis, a sustainability consulting group, which claimed the farm “offsets at least 100 percent of [its] grass-fed beef carbon emissions and as much as 85 percent of the farm’s total carbon emissions.”

Beef production is a significant source of methane, a potent greenhouse gas, and livestock is responsible for 14.5 percent of human-caused emissions globally, according to the United Nation’s Food and Agriculture Organization (FAO). So, the promise of a practice that offsets that methane by storing carbon in the soil is tantalizing to many consumers and industry insiders.

White Oak Pastures promoted its “carbon negative footprint” in the wake of press reports questioning the validity of carbon neutral beef amid the regenerative agriculture boom. In recent years, awareness of regenerative practices have been picking up as several groups rush to create labels and certification schemes for farms that claim to be improving the soil and working to draw carbon out of the atmosphere. With so few quantitative studies yet conducted, however, the Quantis claims yielded a fair bit of criticism. But it hadn’t been peer reviewed—until now.

In November [2020], a group of eight scientists published a comprehensive, peer-reviewed life cycle analysis on the research done at White Oak Pastures. The findings confirm that multi-species pasture rotations sequester enough carbon in soil to create a greenhouse gas footprint that is 66 percent lower than conventional, commodity production of beef. The catch is that the regenerative approach requires 2.5 times more land.

The difference, says study co-author Paige Stanley, occurred because the Quantis analysts applied the rate of carbon sequestration solely to beef, while this paper included nutrient inputs and emissions from all the animals in the system.

“It’s a hell of a lot of carbon,” says study co-author Jason Rowntree, a researcher at Michigan State University. “But when you combine all of the different proteins, the emission footprint is considerably lower, with a land tradeoff that must be addressed.”

Rowntree hopes to see the approaches used on operations like White Oak scaled up to improve more land, along with simultaneous work to reduce the overall footprint of beef production.

**The Study Results** The new peer-reviewed study looks at the multi-species rotational grazing done on the ranch and found that White Oak's approach reduced net greenhouse gas emissions of the grazing system by 80 percent. Regenerative practices helped sequester 2.29 megagrams of carbon per hectare annually. To put that into context, sequestering just 1 Mg of carbon per hectare each year on half the rangeland area in California would offset 42 million metric tons of carbon dioxide equivalent, roughly the annual emissions from energy use for the state's commercial and residential sectors.

Still, a lingering debate—about the degree to which regenerative agriculture is a climate change solution, given the added land use—predictably flared up on social media once the new paper was published. The beef over beef production can get heated. Critics were quick to note that the study did not confirm net negative greenhouse gas emissions at White Oak Pastures.

Further, some suggested widespread adoption of regenerative agriculture could drive further deforestation to meet beef demand. For example, Richard Waite, a senior researcher at World Resources Institute (WRI), pointed out that converting cropland to grazing land will sequester soil carbon for a while, but the growing global demand for crops would limit the ability to realize conversion at the massive scales needed.

For Stanley and her colleagues, the bottom line is simple—the sequestration rate is meaningful, especially since grasslands play such an important role in storing carbon. In fact, new research finds that sustainable, optimized grazing and restoration of degraded pasture will be crucial to maintain the cooling effects of grassland carbon sinks.

"People will read [the study] and take the conclusion with them that fits whatever they already think—whether it be land sparing, land sharing, rewilding, half-Earthers," says Stanley, a University of California at Berkeley Ph.D. student, highlighting some of the more vocal conservation and food production factions.

No one is denying the improvements shown across soil health metrics, adds Stanley. But people who view food production solely through a lens of feeding up to 10 billion people by 2050 tend to focus on the land area needed to do that, she says. But improving degraded land is also a critical need for future production. And beef raised using rotational grazing is more expensive than conventional commodity beef, and that fact could reduce over demand for it. "At its core, [the argument] is more a question of values rather than whether or not things improve under [the White Oak] model," says Stanley.

The contention surrounding regenerative agriculture's climate benefits is complex, multi-faceted, and only heightened given efforts to create market incentives around carbon. "Part of it is putting a dollar value on [the carbon sequestered]," says Rowntree.

"The 'regenerative' piece, specifically, is even more contentious because there have been some unscientific claims made about the benefits of regenerative ag," says Stanley.



Steve Rosenzweig, a soil scientist at General Mills, which funded this research, says regenerative agriculture is the best way to meet the company's goal of reducing greenhouse gases emissions by 30 percent by 2030. "We have to be producing food while building resilience and rebuilding the health of ecosystems. Just focusing on efficiencies or maximizing production doesn't get us to resilience or adaptation," he adds.

### Beyond Carbon

What gets lost when the debate focuses solely on carbon, however, is that rebuilding degraded soils is crucial for future food production. "Regenerative agriculture is an unqualified success, but it's not a silver bullet to every single problem we have," says Jon Foley, executive director of [Project Drawdown](#).

Beyond carbon, it will be important to put regenerative agriculture research into context, including which lands can best be regenerated, what other benefits does regenerative practices yield beyond carbon, and perhaps most overlooked, how can regenerative agriculture help build resilience to climate change.

Rowntree says it's most appropriate to implement regenerative models in areas where they can help food security and sovereignty without taking away from the bigger burden of feeding a growing population. He points out that regenerative grazing systems are phenomenal in marginal landscapes. "We're not going to go into 250-bushel corn fields and do this," he says.

Jeff Goodwin, conservation stewardship leader at the [Noble Research Institute](#) in Ardmore, Oklahoma, agrees. "What do you do with landscapes that aren't suited for crops for human consumption?" he asks—answering that turning it into high-quality protein and new land-based carbon sinks is a tremendous opportunity for agriculture. Urvashi Rangan, co-chair at [Funders for Regenerative Agriculture](#), a national initiative of funders and investors promoting regenerative agriculture, agrees. "Land is a resource. We use land. We should use it well," she adds.

The focus on carbon is understandable. Agriculture is the only one of the carbon-emitting industries that can mitigate its own emissions, says Goodwin. Yet, land-based sinks currently soak up only 24 percent of atmospheric greenhouse gas emissions, according to Project Drawdown's latest primer, "[Farming our way out of the climate crisis](#)."

The White Oak study demonstrates that while agricultural lands may not function as giant sponges that soak up society's carbon pollution, regenerative techniques are also a fantastic way to reduce nitrogen runoff, improve water quality, and create and improve habitat for biodiversity, says Foley. "The focus solely on carbon misses the big picture," he adds.

"I agree that carbon is the elephant in the room, but there's a whole herd of other animals on the prairie that matter, too," says Goodwin. "We're building more diversity on the planet—increasing wildlife and pollinator habitat—and that's a good thing," he adds. And, he says, there is a cascading dynamic of positive responses when organic matter is increased. "The value to a producer [in the form of greater water infiltration or healthy soil microbes] is much more than we could pay them for the carbon," he notes.

White Oak Pasture's Harris looks beyond what he calls "scientific quibbles" over the amount of carbon sequestered. To that end, this life cycle analysis doesn't account for the other soil, water and microbial benefits regenerative agriculture provides, neither does it account for the negative impacts of conventional beef production. The calculations around conventional beef production system has, for example, never included the cost of antibiotic resistance, even though 80 percent of antibiotics go into animal production, says Rangan. For example, she points to the human and environmental health concerns that stem from managing the manure.

Waite, of WRI, says he would love to see the conversation evolve from "how do we make agriculture regenerative," as if that's the silver bullet, to "how can we feed a growing population while greatly reducing agricultural emissions and increasing land-based carbon sinks, and building resilience to climate change." If we do that, he says, then regenerative practices clearly fit in to the picture, but aren't the whole picture.

Maybe, says Foley, it's time to focus on the shared common goals around the food system, which is complicated. "Let's imagine how food systems can do the most good for people and the planet with the least harm into the future," he says.

For Harris, the ability of rotational grazing to also retain water and prevent erosion is crystal clear—literally. Last week, he shot a video of the temporary pool created after rain washed through the region around his ranch. In the footage, water that had moved through White Oak Pastures runs clear, while that running off his neighbor's property is muddied with eroded soil. "It's not all about carbon; that's just one component," says Harris. "The benefits of our land management practices are way more complex than that."

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## Obama tells young climate activists to 'harness that anger'

*Ben Adler / Yahoo News / November 8, 2021*

GLASGOW, Scotland — Former President Barack Obama made a plea to young people to adopt a more conciliatory approach to climate change activism on Monday.

"It will not be enough to simply mobilize the converted," Obama warned. "It will not be enough to preach to the choir. It will not be enough to just ramp up intensity among people who already know about climate change and care deeply about it."

Speaking at the United Nations Climate Change Conference, Obama devoted a substantial portion of his nearly hourlong speech to addressing not the delegates watching in person, but the younger generation of viewers online.

“The most important energy for this movement is coming from young people,” he said — the first line he delivered that received significant applause. “They have more at stake in this fight than anybody else. That’s why I want to spend the rest of my time talking directly to young people who may be watching and wondering what they can do to help.”

It was a maneuver that harked back to his swift rise in national politics and his upset 2008 Democratic primary victory over then-Sen. Hillary Clinton, which was largely powered by the enthusiasm of young voters. What distinguished Obama from Clinton and his other rivals at the time was not policy substance, on which his views were similar to other mainstream Democrats, but his approach to politics. He emphasized hopefulness and argued that democratic engagement from once-disillusioned younger voters could overcome partisan gridlock.

He returned to those same themes on Monday in Glasgow.

“You’ve been bombarded with warnings about what the future will look like if you don’t address climate change,” Obama said to his young viewers. “And, meanwhile, you’ve grown up watching many of the adults who are in a position to do something about it either acting like the problem doesn’t exist or refusing to make the hard decisions needed to do something about it. That’s a source of real anxiety and anger at older people.”

But, he argued, that frustration should be channeled into productive action. His mother, he said, would give him the following advice: “If I was feeling anxious or angry or depressed or scared, she’d look at me and say, ‘Don’t sulk; get busy, get to work, and change what needs to be changed.’ And, luckily, that’s exactly what young people around the world are doing right now.”

“The world is full of Gretas,” he added, referring to Greta Thunberg, the teenage Swedish activist who started the movement of student strikes for climate action.

Yahoo News spoke to a number of young climate activists attending the Glasgow conference, including ones from Malawi, Argentina, the Philippines, Kenya, the United Kingdom and the United States.

Obama’s first piece of concrete advice to a demographic that often lags in electoral turnout is to vote.

“This is part of your power that you have to use,” he said. “Don’t think you can afford to ignore politics. You don’t have to be happy about it, but you can’t ignore it. You can’t be too pure for it.”

He then encouraged using one’s power as a consumer and an employee.

“The second way you can have an impact on climate change is by pressuring companies to do the right thing,” Obama said. “Members of your generation have already shown that you are willing to pay for products that are responsible and responsive to the climate challenge, and that you are also willing to avoid those companies that are actually making climate change worse. ... That’s a message CEOs will learn to understand.”

He went on to urge younger people to educate and persuade older members of society on the importance of combating climate change.

And, finally, he urged them to engage constructively with the unconverted.

“Protests are necessary to raise awareness,” Obama said. “Hashtag campaigns can raise awareness. But to build the broad-based coalitions necessary for bold action, we have to persuade people who either currently do not agree with us or are indifferent to the issue.”

“To change the minds of those fellow citizens in our respective countries, we have to do a little more listening,” he added. “We can’t just yell at them or say they’re ignorant. We can’t just tweet at them. It’s not enough to inconvenience them through blocking traffic in a protest. We actually have to listen to them and their objections.”

Just two days after the conclusion of a series of largely youth-led protests that tended to assign blame for the climate crisis to corporate greed, fossil fuel companies and cowardly politicians, Obama argued that the reluctance of average citizens to risk economic disruption is an understandable concern that must be taken seriously.

“I’m talking about the fact that we’ve got to persuade the guy driving to his factory job every single day, can’t afford a Tesla, and might not be able to pay the rent or feed his family if gas prices go up,” he said. “We have to think about the mother in India who, yes, will suffer droughts and floods made worse by climate change, but whose more immediate concern is getting electricity so her children don’t have to sit in the dark every night and can do their homework. You can’t dismiss that concern.”

It was an unusual lecture at a conference where most politicians say only flattering things about young climate protesters, if they say anything about them at all.

Ultimately, Obama said, the righteous anger of young climate activists is beneficial to the effort to combat climate change, but how much depends on how it is deployed.

“I want you to stay angry,” he concluded. “I want you to stay frustrated. But harness that anger.”

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for October

/November

*This is an electronic newsletter published every two months containing information on upcoming grant and funding opportunities for the Sierra Nevada region. The newsletter includes federal, state, and private foundation funders as well as additional resources and information related to grant funding. The Sierra Nevada Conservancy provides the Funding Opportunities Newsletter as a free resource under its Sierra Nevada Watershed Improvement Program.*





**A Grass Song: November**

*By Ursula K. LeGuin*

Very quietly  
this is happening,  
this is becoming.  
The hills are changing  
under the rainclouds  
inside the gray fogs,  
the sun going south  
and the wind colder,  
blowing quietly  
from the west and south.  
Manyness of rain  
falling quietly,  
manyness of grass  
rising into air.  
The hills become green.  
This is happening  
very quietly.

from Out Here: Poems and Images from Steens Mountain Country (Raven Studios), © 2010  
by Ursula K.  
LeGuin

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