

High Country News



SEEDS AS
SUSTENANCE

Extreme Heat in Phoenix
Wetlands Under Threat
Scientists as Activists

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HIGH COUNTRY NEWS

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A grasshopper sparrow (*gorrión chapulín*) in Cochise County, Arizona. (Story on page 14.)
Rick & Nora Bowers / Alamy Photo

Know the West.

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Out there

ARE YOU READING THIS INSIDE? Is the weather reasonably clement where you are? Do you have a comfortable and safe place to sit outside? If you answered “yes” to these questions, then may I suggest, before you read any further, that you take this magazine (or whatever device you’re reading this on) outside? Even just 20 minutes of time spent outside can have a positive effect on your mood, your heart rate and your day. If you are able-bodied and haven’t been out for a walk yet, consider taking one. Walking does more than lubricate the joints: It propels us out into the world.

We are a species that evolved out of doors, long before there even were doors. We are genetically programmed to find delight in a horizon line, in the appearance of other species. We are known to stop whatever we’re doing to watch a sunset, or a moonrise. We do these things not because they generate a profit, not because they help us earn favor with those who hold power in our society. We do them because they bring us joy. Because they bring us peace. Because being indoors all the time is not healthy for us, neither mentally nor physically.

Outdoors, the sun gives life. It grows tomatoes and basil and sugar snap peas. Without it, there’d be no living things on Earth. This simple fact is worthy of our awe and adulation. And yet, the sun also gives heat — these days, a lot more heat than some of us, in some places, can handle at times. And the number of extreme heat days in a year is increasing. In Phoenix, extreme heat has spawned a loneliness epidemic among Black residents, as Adam Mahoney reports in his feature story “The Heat Between Us.” (*Story on page 34.*) People stay inside in order to stay cool, but this breeds isolation, especially among those who live by themselves.

The solution to this loneliness epidemic, it turns out, is also good for us physically: getting out on the land, among the trees and away from the asphalt. Less asphalt and more trees will also help cool the planet, so we can continue to enjoy sunsets and grow tomatoes. How wonderful that the stars have aligned on this: that the very thing that is better for the planet is also better for its inhabitants. Let us join together and heed the stars and the sun and embrace our place in the natural order as part of something, rather than being part of its undoing.

Jennifer Sahn, editor-in-chief



Bob Wick / U.S. Forest Service

Senate Republicans want to sell 3 million acres of public land

The majority of public land is too fire-prone and far away from communities to make sense for housing, research shows.

By Kylie Mohr



Katie Baldwin Basile

What defunding public media would mean for the West

Data shows that rural, tribal and Western stations would be most impacted by Trump’s attempt to cut CPB funding.

By Annie Rosenthal and Chad Bradley



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ON THE COVER

An illustrated feature about Second Generation Seeds, a farming collective that reclaims Asian crops and culture in California and throughout the U.S.

Angie Kang



Tiffany Hawkins stands in a field of sunflowers at Spaces of Opportunity farm in South Phoenix, Arizona.

Matt Williams / HCN

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LETTERS

High Country News is dedicated to independent journalism, informed debate and discourse in the public interest. We welcome letters through digital media and the post. Send us a letter, find us on social media, or email us at editor@hcn.org.

WATCHDOGGING WASTE

I want to applaud Jaclyn Moyer for her article “Where the Garbage Goes” (June 2025). Anyone worried about a landfill anywhere would be well advised to read this account. My first professional position in 1973 was funded by an Environmental Protection Agency grant designed to examine how various soil types sequestered contaminants in landfill leachates. Some worked better than others, but none worked so well as to preclude liners. Unfortunately, federal enforcement of environmental laws was abysmal in the first Trump administration, and now it will likely be worse.

Nic Korte

Grand Junction, Colorado

PORTRAITS OF PASSAGES

In Arivaca, Arizona, we are 11 miles from the border. It is a pathway and has been a pathway for centuries.

The pictures in your June article “Tierra Prometida” are excellent. Lisa Elmaleh’s use of the large format, and of her subsequent opportunities, is perfect.

Allyson Porter

Arivaca, Arizona

WE HAVE TO CARE

I appreciate the coverage of scientific research in national

parks and the impact of political changes. Not everyone cares about bull trout or invasive species, but I do (“Scientific field season in jeopardy,” June 2025).

Even if you don’t care about stewardship of public open spaces, your grandchildren will. I don’t have any answers, but I do know that we need all points of view to have a balanced future.

Brooke Evenden

Denton, Texas

FISHING FOR NEW PERSPECTIVE

I loved the writing in “I wish I was ice fishing” (May 2025), especially one bit, which shifted my sense of the “real” world: “In conversations I have with people who’ve never left the road system.” Wow!

Esther Gass

Millinocket, Maine

LOW OPINION OF LOWRIDING

Concerning “Drop It Low” (May 2025): I think it is weird to have a piece about it in *HCN*. One of the shittier things about Albuquerque is the excessive amount of loud and speeding cars, which is nothing to celebrate.

Mark Langner

Coleville, California

REHAB FOR OIL ADDICTION?

In “Behavior change is society change” (May 2025), there were

several “What if ...” statements. I have two of my own to add:

What if people had enough common sense to not rely on oil companies for scientific research?

What if we stopped assuming we have a God-given right to travel wherever we want, whenever we want, as quickly and conveniently as possible?

After all, it’s not the production of fossil fuels that’s the problem; it’s the consumption of them.

Marian Rhys

Portland, Oregon

BALANCING WOLF IMPACTS

The article “The true cost of wolves” (May 2025) is a departure from *HCN*’s quality journalism. No credible evidence supports the claim that wolves’ mere presence negatively impacts cattle.

The article perpetuates outdated stereotypes about wolves and fails to acknowledge wolf conservation’s significant economic and ecological benefits. Public-lands ranchers already benefit from bargain-basement grazing fees, and predation overcompensation creates unsustainable expectations, discouraging effective livestock management. This pattern will only worsen the situation for wolves and lead to increased conflicts.

I have 38 years of experience in wolf management and currently oversee the Wood River Wolf Project in Idaho, a successful model demonstrating that wolves and livestock can coexist peacefully. Despite managing tens of thousands of sheep in wolf territories, we have seen fewer than five sheep lost to wolves annually, with only two wolves lethally removed in response to conflicts over our 18-year field study. Coexistence is about attitude, and I applaud the ranchers

who are careful stewards of our public lands.

Less than 2% of our nation’s livestock production occurs on public land. And the cost to us as taxpayers is rarely acknowledged, as the public often pays for their predator control, water, fencing, habitat restoration from overgrazing and more. Then we pay again at the grocery store.

Our public lands are the last sanctuary for wildlife. Enough is enough. Let’s minimize livestock on those lands and prioritize stewarding them as the best last places for wildlife to thrive.

Suzanne Asha Stone

Garden City, Idaho

We appreciated *High Country News* highlighting the pay for presence (P4P) concept in the context of wolf recovery. As wolves expand across the West, they bring a range of hidden costs to livestock production, which may include lower pregnancy rates, reduced weight gain, emotional stress for producers and increased time spent protecting livestock or locating mortalities. These impacts are difficult to quantify, and we are far from identifying a reliable funding model.

It’s encouraging that states like California are using the best available data to pilot P4P, and we are excited to help the state evaluate its effectiveness. Alongside this, livestock protection tools and strong communication between wildlife managers and producers remain essential. We must continue developing a full suite of conflict management tools to support ranching livelihoods while sustaining carnivores — and P4P could be a valuable addition to that toolbox.

Matt Hyde and

Arthur Middleton

California Wolf Project

Berkeley, California



REPORTAGE

Fire and rain

Three years after New Mexico's largest wildfire, people in and around Las Vegas are still worried about their drinking water.

By KYLIE MOHR

FIRST CAME THE DROUGHT:

After three years without significant rain, northern New Mexico's dense forests of spruce, fir and ponderosa pines were baked to a crisp. Then came the spark — a prescribed burn lit by the U.S. Forest Service in April 2022. It was supposed to reduce wildfire risk but instead got out of control, eventually becoming the largest wildfire in state history.

After the prescribed burn escaped its perimeter, it was dubbed the Hermit's Peak Fire. Then it merged with the Calf Canyon Fire, a "sleeper" fire from January pile burns, in the hills above Las Vegas, New Mexico. (This is rare: Prescribed burns evade control and turn into wildfires only about 1% of the time, according to the Forest Service.)

In June, rain finally fell — not

enough to douse the flames, but enough to send rivers of soot, ash and mud racing into downstream communities and homes. That put drinking water sources at risk, including private wells and a water treatment plant that was unable to turn the sludgy, contaminated water into anything safe to drink.

Firefighters contained the 340,000-acre fire in August. Now, three years later, people living in the burn scar and the roughly 13,000 residents of Las Vegas, less than 10 miles from the edge of the burn, still intermittently have trouble accessing clean drinking water. The ongoing problems expose how local, state and federal systems aren't set up to deal with the long recovery times for increasingly large and destructive wildfires.

Las Vegas will remain vulnerable to flooding and drinking water will be at risk for at least the next five to 10 years, until shrubs regrow enough to help

stabilize sloppy hillsides and scorched soil can hold moisture again. Now everyone holds their breath when summer monsoon season rolls around.

THAT JUNE 2022 flood wasn't the only disastrous deluge the community experienced even as the fire was still burning. In July, at least 2-4 inches of rain fell on ashy, water-repellant soil in just a few hours. A torrent of water raced downstream, surging into steep canyons and filling the Gallinas River with a chocolatey sludge of burned trees, dirt and pine needles.

Flash flooding killed three people, washed out roads and overpowered the city's water treatment plant, which was not

A drainage filled with debris, ash and mud from a rainstorm in June 2023, one year after the Hermit's Peak/Calf Canyon Fire in New Mexico's upper Gallinas watershed. **Michael Remke**

designed to handle post-wild-fire conditions. Whenever floods pour dirt and ash into the river that feeds the city's three reservoirs, the plant automatically shuts off to prevent permanent damage.

Then, last summer, it happened again: Heavy monsoonal rainstorms triggered more flooding, causing debris flows that left the water treatment plant unusable for roughly two weeks. It was intermittently shut down for months afterward, forcing city officials to close all nonessential businesses before the busiest weekend of the year, the annual Fourth of July Fiesta, which was cancelled.

The turbidity in some water samples — a measure of their clarity — was 200 times higher than federal drinking water standards. Locals were asked to limit their water use; businesses faced penalties if they didn't comply. "It feels like I'm running a restaurant through the apocalypse," said Isaac Sandoval, a Las Vegas local and owner of The Skillet restaurant. "It's just one thing after another."

The solution is a new facility that can handle muddy, debris-filled water, which will cost over \$100 million. But disaster recovery moves slowly. Despite \$3.95 billion in congressionally approved fire relief and additional FEMA funding, design delays mean a new plant won't open for at least four to six more years, according to Las Vegas Mayor David Romero.

In the meantime, maintaining the existing plant has cost Las Vegas \$1 million over the last six months. And the city's water still isn't always clean. The New Mexico Environment Department's Drinking Water Bureau has cited it for violating state drinking water standards almost 60 times since 2023.

The effects of all this ripple throughout the community. Water shortages stress city firefighters. Closed businesses require more police patrols. Paper plates — dishwashing isn't possible without clean water — and an estimated 1.2 million plastic water bottles burden the city's garbage disposal system.

Other communities could face similar problems. More than 60 million people in the United States get their drinking water from streams that flow from the nation's 193 million acres of national forests. Proactive thinning is underway in high-risk watersheds, including the one supplying Butte, Montana, as HCN reported last year.

And some rural areas, like Lake Madrone, California, have already paid the price. The 2020 North Complex Fire contaminated water pipes with toxic VOCs and trihalomethanes. More than four years later, residents of the 60 or so houses that didn't burn down are still drinking from water tanks in their yards, dependent on truck deliveries for refills. FEMA denied the Lake Madrone Water District's \$8 million request to rebuild its water system, and the community can't afford to replace the piping on its own.

Chaos at FEMA — in June, President Donald Trump said he wanted to phase out the agency and "give out less money" for disaster relief — will hurt the next community ravaged by a similar catastrophe. (So far, the Hermit's Peak/Calf Canyon fire recovery funds have not

been cut.) "It is unacceptable that the Trump administration is attempting to gut FEMA — making us less prepared for the next crisis," New Mexico Sen. Ben Ray Lujan said in an emailed statement.

CYN PALMER and I stepped over the sandbags that still line the front door of her small town-home in Rociada, New Mexico, in April. Rociada is in the foothills about 30 minutes northwest of Las Vegas, due north of Hermit's Peak and flanked by a horse-shoe-shaped ridgeline. Snow blanketed the ground, and

the thousands of burnt trees that ring the valley resembled charred toothpicks. Many of her neighbors and friends lost their houses, and the community center and bar where Palmer, a retired wildlife manager, once picked up shifts burned down as well.

Palmer's house has been through the wringer: Soot damage is still visible on its white walls despite cleaning, and repeated flooding has left mold in its wake. But one of her primary concerns is water. The rural communities scattered north of Las Vegas lack



Cyn Palmer pours a glass of water from a ceramic dispenser on her kitchen counter.

Sharon Stewart / HCN

municipal water treatment plants; instead, residents rely on wells, either individual wells or community wells that serve a cluster of homes.

Floods can loosen well hardware and erode pump components. They can also ferry toxic runoff from burned areas into well water, contaminating it with chemicals, bacteria or microorganisms that require disinfection and flushing. “People are asking, ‘Is it safe to live here?’” Palmer said. “A lot of people don’t fully trust this water. I don’t trust the water.”

Palmer’s tap water comes from a community well owned and operated by the Pendaries Village Mutual Domestic Water Consumers Association. The association assured Palmer that, after repairs, its wells were safe and uncontaminated by flooding, but it refused to share immediate test results with her. When Palmer tried to take advantage of free water quality testing from the New Mexico Environment Department, she recalls being told that her sample had been tossed out because the community well had already been tested by the association. (Department spokesperson Muna Habib said some testing events only focus on private or public, not always community, wells.)

Palmer also worries that the pipes that carry water from the well across the valley floor to her house were superheated during the fire. Radiant heat can cause plastic pipes to leach benzene and other toxic volatile organic compounds into water.

To this day, the water she drinks and brushes her teeth with comes from a ceramic dispenser on her kitchen counter or bottles of water. She refills 3-to-5-gallon jugs in Santa Fe and Albuquerque, where she also receives medical care for

an anemia autoimmune disorder that developed after the fire. “There’s no point in taking a chance on this water, when you think about all the toxins that went into the watershed,” Palmer said. She’s tripped over sandbags repeatedly, once hurting herself and another time breaking a water jug.

The scope of the private well problem is not fully known, but the roughly 75-100 households who live in and around Rociada get their water from wells. “I worry about people that haven’t gotten sick yet,” Palmer said.

A few miles up the road from Palmer, Laura and Luis Silva live with six family members and run a small herd of cattle. Both sides of their families have lived here for five-plus generations. Manuelitas Creek, which runs through the Silvas’ property, is usually only a few feet wide. Since July 2022, however, it occasionally swells up to 75 feet wide and 12 feet deep, washing out driveways, damaging septic tanks, stock ponds and culverts, and pinning logs and other debris on fences.

The Silvas believe that chemicals from burned homes and fire retardant, which contain toxic heavy metals, ended up in the floodwaters that their cattle drank. It’s difficult to know how much fire retardant was released overall during the months-long fire, but 28,000 gallons were dropped on one day in May 2022. That year, several calves were born prematurely, small and without any fur. “We’ve never seen that before,” Laura Silva said. The calves didn’t survive.

It cost the family \$575 to have their well tested for a variety of contaminants in March 2023, which they said FEMA didn’t reimburse. “People haven’t had

their wells tested because they can’t afford it,” Laura Silva said. (In a statement attributed to Jay Mitchell, director of operations, FEMA disputed this and said private well testing was eligible for reimbursement before the fire claims reimbursement deadline of March 14.)

They’re concerned a septic tank damaged by flooding may be contaminating their water, an even more expensive problem to fix without FEMA’s help. So for now, they drink their water and hope there’s nothing wrong.

SOME 40 MILES SOUTH, in the mountains south of Hermit’s Peak, Michael Pacheco lives on 100 acres that were once covered with piñon pines, cedars and juniper trees. Most of them burned, and now, when it rains, water runs right off the soil, rather than soaking in. Pacheco, who is a minimalist, has never had running water at his trailer. But he used to draw as much water as he wanted from a nearby well. Now, it runs out after 30 gallons.

When we met for an afternoon lemonade in Las Vegas, Pacheco pulled up in an old turquoise truck. There was a 300-gallon plastic tank strapped in the back, and he planned to fill it with potable water before heading back to the hills. “I’m so concerned about the water,” Pacheco said. “How toxic is it?” The 2024 summer flooding kept

Pacheco, who’s cut off from town by Tecolote Creek, from turning in water quality samples to the New Mexico Environment Department for free testing on time.

Though Pacheco lives dozens of miles away from Palmer and the Silvas, they share similar concerns: lingering chemical contamination from fire retardant and the lack of testing of private wells and surrounding waterways. Pacheco has fought environmental battles in the past, protesting and organizing against fracking and mining efforts in the region. “I’ve been an activist since I was a little boy,” he said. Now, safe drinking water is his next fight. He’s started pestering the city, the state, and the federal government to help fund testing and any cleanup necessary to ensure clean water. “It’s time to heal,” he said. “I’m going to help turn this all around.” ☀

Kylie Mohr is an award-winning freelance journalist and correspondent for High Country News. Her work has appeared in The New York Times, The Atlantic, National Geographic, The Guardian, Grist and many other publications. She lives in northwest Montana.

Reporting for this story was supported by a grant from the Institute for Journalism & Natural Resources.

“People are asking, ‘Is it safe to live here?’”



REPORTAGE

It matters who decides

Indigenous leaders from around the world share ideas about making free, prior and informed consent a reality.

BY B. 'TOASTIE' OASTER

BIOPIRACY, WOMEN'S SAFETY and critical minerals mining were all hot topics at the United Nations Permanent Forum on Indigenous Issues this year, but consent received the most attention. Roughly a third of the panel discussions dealt with implementing U.N. standards of Indigenous rights, and some were specifically about the Indigenous right to free, prior and informed consent (FPIC) to decisions

impacting tribal people or lands.

The U.N. listed its standards in the 2007 Declaration on the Rights of Indigenous People (UNDRIP) — 46 articles that include the rights to ancestral land and self-determination. Some member nations, like Bolivia, have used this declaration to create national laws. Others, like the United States, have delayed implementing or even recognizing the declaration

and the rights it describes.

Since the Permanent Forum began meeting in 2002, said Forum Chair Aluki Kotierk (Inuit), the U.N. has made significant strides — adopting UNDRIP, for example — but the on-the-ground reality in member nations has been slow to change. “Let us be honest: Progress remains uneven,” Kotierk said, speaking on opening day. And even that progress, she added, is often merely symbolic.

When global Indigenous leaders and other experts broke out into smaller groups to discuss their communities' biggest issues, FPIC was on the table. Here's a look at what some had to say.

Albert Barume, United Nations special rapporteur on the rights of Indigenous peoples: At a panel called “Implementing FPIC Across the Regions,” hosted by the Native American Rights Fund, Barume said consent is central to

Indigenous rights, adding that its purpose is to safeguard other rights. “Free, prior and informed consent is a mechanism to redress one of the key environmental and historical injustices Indigenous people have been going through for generations,” Barume said — other groups deciding things for them. This kind of racism violates the rights to self-determination and racial nondiscrimination. Rights like these, as well as the rights to land and water, are what FPIC is meant to protect. “It's like a gatekeeper,” Barume said. “It's like putting a fence around substantive rights.”

Fawn Sharp (Quinault), former National Congress of American Indians president and former president of the Quinault Indian Nation: In a panel examining “The Rights of Indigenous Peoples in the Context of Just Transition Economy,” Sharp said that climate change presents an

opportunity for the rest of the world to align with Indigenous worldviews. She noted that when it comes to environmental care, Indigenous people are far outperforming others, even with few resources. “Imagine what Indigenous people could do with resources,” she said. “I see a world transitioning to a trajectory that Indigenous people have been on since the beginning of time,” she added. “The world is desperate for truth. The world is desperate for solutions that are timeless and proven. ... Only Indigenous people have that knowledge.”

In another panel, Sharp said that after years of unsuccessfully pushing state and federal lawmakers to recognize FPIC, she is now working to implement it in the private sector. Elected officials, while unwilling to support Indigenous rights, she said, are beholden to corporate interests — and companies have fiscal and reputational incentives to respect FPIC: Litigation with tribes is extremely costly and makes for bad PR.

Cristina Coc (Q’eqchi Maya), spokesperson for the Maya Leaders Alliance: FPIC protocols, Coc said, can be transformative only if they are owned and operated by Indigenous people themselves. State-developed protocols undermine Indigenous ways of governance and decision-making, causing irreparable harm. “States often do not understand Indigenous peoples’ rights under international law,” she said. The Maya of Belize developed their own FPIC protocols in 2014 in response to encroachment by extractive industry and the state. The state tried to file its own FPIC protocols with the courts — without consulting the Maya. But its version of them had regressed from consent to consultation. (In theory, consultation is supposed

to be the means of obtaining tribal consent. Without consent, consultation is virtually meaningless.) By 2022, Coc’s community had finalized protocol negotiations, drawing from a Mayan framework to strengthen Mayan decision-making. Through these long-term grassroots efforts, she said, the community has gained experience, not just with implementing consent protocols, but also with financial administration and village-scale solar development.

Hernán Eloy Malaver Santi (Sarayaku), president of Pueblo Originario Kichwa de Sarayaku: Santi said his community’s territory is a living body entitled to its own rights. When an oil company encroached, the community disrupted its camps, drove it out and turned down its bribes and job offers. Santi, who is also a lawyer, spent years in court pushing Ecuador’s government to take responsibility. The court eventually acknowledged state wrongdoing, including letting the oil company abandon over a ton of dangerous explosives on the community’s land. But Santi said the political will to enforce compliance with the court is lacking. Still, he noted, the Sarayaku community now has its own FPIC protocols forbidding mining, timber or biopiracy — the misappropriation of genetic resources and traditional knowledge — without consent. The protocols also say that any and all community projects — including health initiatives or housing — require consent in advance. “This protocol is binding, and the state is mandatorily respecting it,” Santi said, via an English interpreter.

Seánna Howard, law professor at University of Arizona: It’s a common falsehood that FPIC is a barrier to development, Howard said, speaking in a small side room

with Coc, Santi and others. But it’s more accurately a safeguard against exploitation. Indigenous people often end up developing FPIC protocols defensively, only after litigation with corporations or governments. Adopting protocols before development pressure starts reminds project proponents that the Indigenous community has the right to decide its terms. Governments and companies might actually welcome this; clarity around FPIC can help them mitigate reputational damage. “Protocols should reflect that FPIC is more than a mere formality, more than checking the box, that the process needs to be conducted in good faith and includes the right to either give or withhold consent, at every stage of the process.” She said African, Latin American and Caribbean nations have models of how to develop protocols successfully.

Forum Chair Aluki Kotierk (Inuit): “The global push for the so-called green transition has intensified demand for critical minerals,” she said, “many of which lie beneath sacred Indigenous lands and territories. We cannot ignore the threat this poses to our rights, lands and way of life.” She called the extraction of these minerals another form of colonialism.

“We are not anti-development, but development must be on our terms, and it must be just,” she said. “Indigenous people are not merely beneficiaries of development projects” — they should also be seen as partners. Only through this can we achieve justice, respect, and sustainability for all. “The road is long,” she said. UNDRIP is not just a document to celebrate once a year. It must guide how we treat each other on this earth. “It is a moral, legal and collective obligation.”

“I urge U.N. entities to embed Indigenous peoples’ rights at the core of their work,” Kotierk added. “Our unity, wisdom and determination remain our greatest strength. Let us continue to walk together.” ☀

B. ‘Toastie’ Oaster (Choctaw, they/them) is a staff writer for High Country News. Email them at b.toastie@hcn.org or submit a letter to the editor.

Chairperson Aluki Kotierk spoke at the U.N.’s Permanent Forum on Indigenous Issues. “We are not anti-development, but development must be on our terms, and it must be just,” she said (*opposite*). Forum attendees in New York this April (*below*).

Tailyr Irvine / Grist



In defense of wetness

As federal protection dries up, states are stepping up to save wetlands.

BY NATALIA MESA
ILLUSTRATION BY HANNAH AGOSTA

THE U.S. SUPREME COURT’S 2023 decision on *Sackett v. Environmental Protection Agency* dramatically weakened protections for millions of acres of the West’s essential wetlands and streams. Under the ruling, only

bodies of water with a “continuous surface connection” to a “relatively permanent” traditional, navigable water body can be legally considered part of the waters of the United States (WOTUS) and therefore covered by the Clean Water Act.

The court’s definition excludes wetlands with belowground connections to bodies of water as well as those fed by ephemeral or intermittent streams. In effect, an estimated 60% of wetlands have lost federal protection, according to a National Resources Defense Council report. The language in the decision was ambiguous — exactly how wet a wetland has to be to fall under WOTUS and qualify protections was left up to federal agencies.

Wetlands are critical to both human and ecosystem health as well as for climate change mitigation. But they are also prime targets for dredging, filling and other disruptions because of their proximity to water and rich, fertile soil.

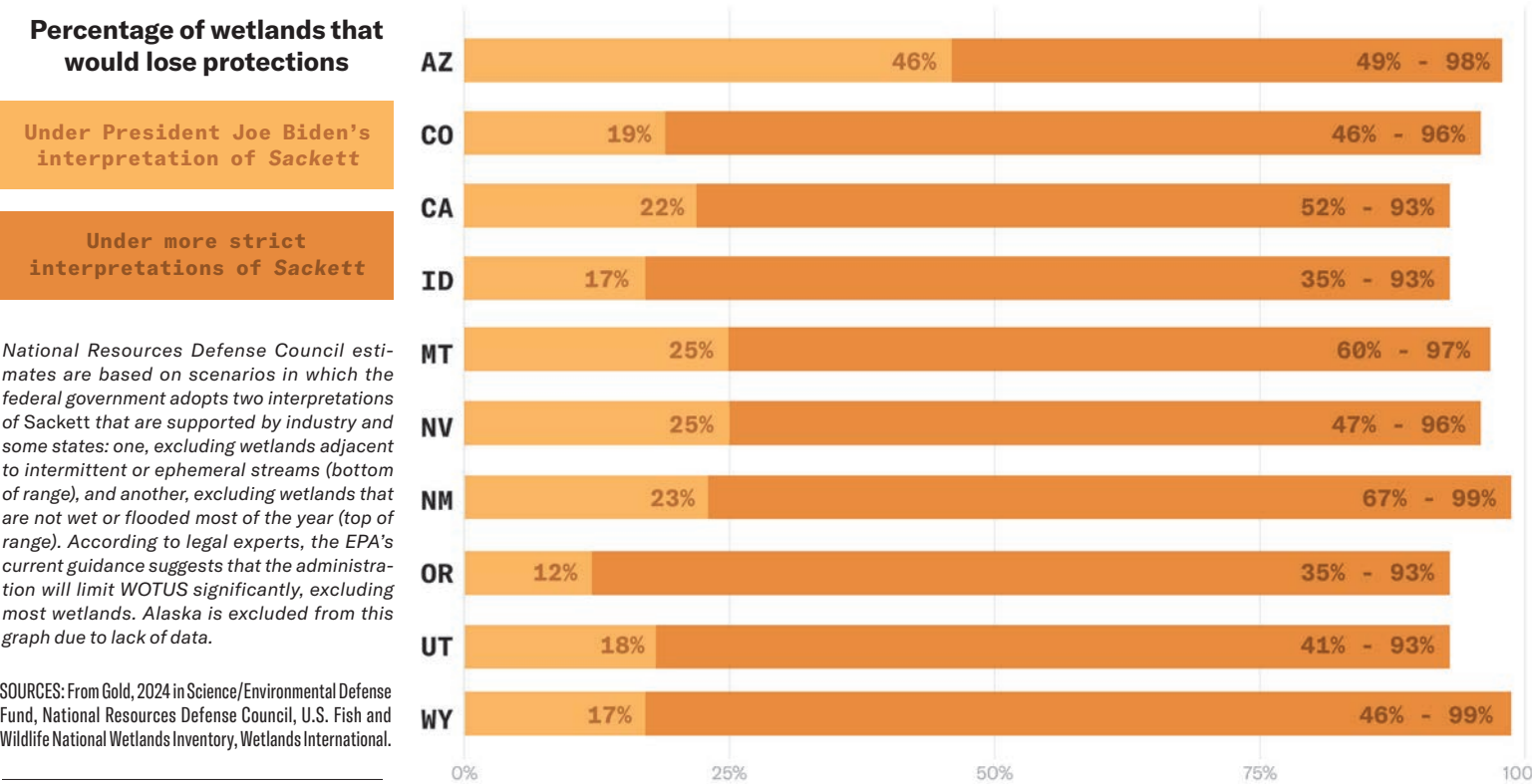
Under President Biden, the EPA broadly interpreted *Sackett*, focusing on protecting wetlands adjacent to bodies of water, with no explicit threshold for how often they had to be flooded. In March, however, Donald Trump’s EPA released a memo indicating that it plans

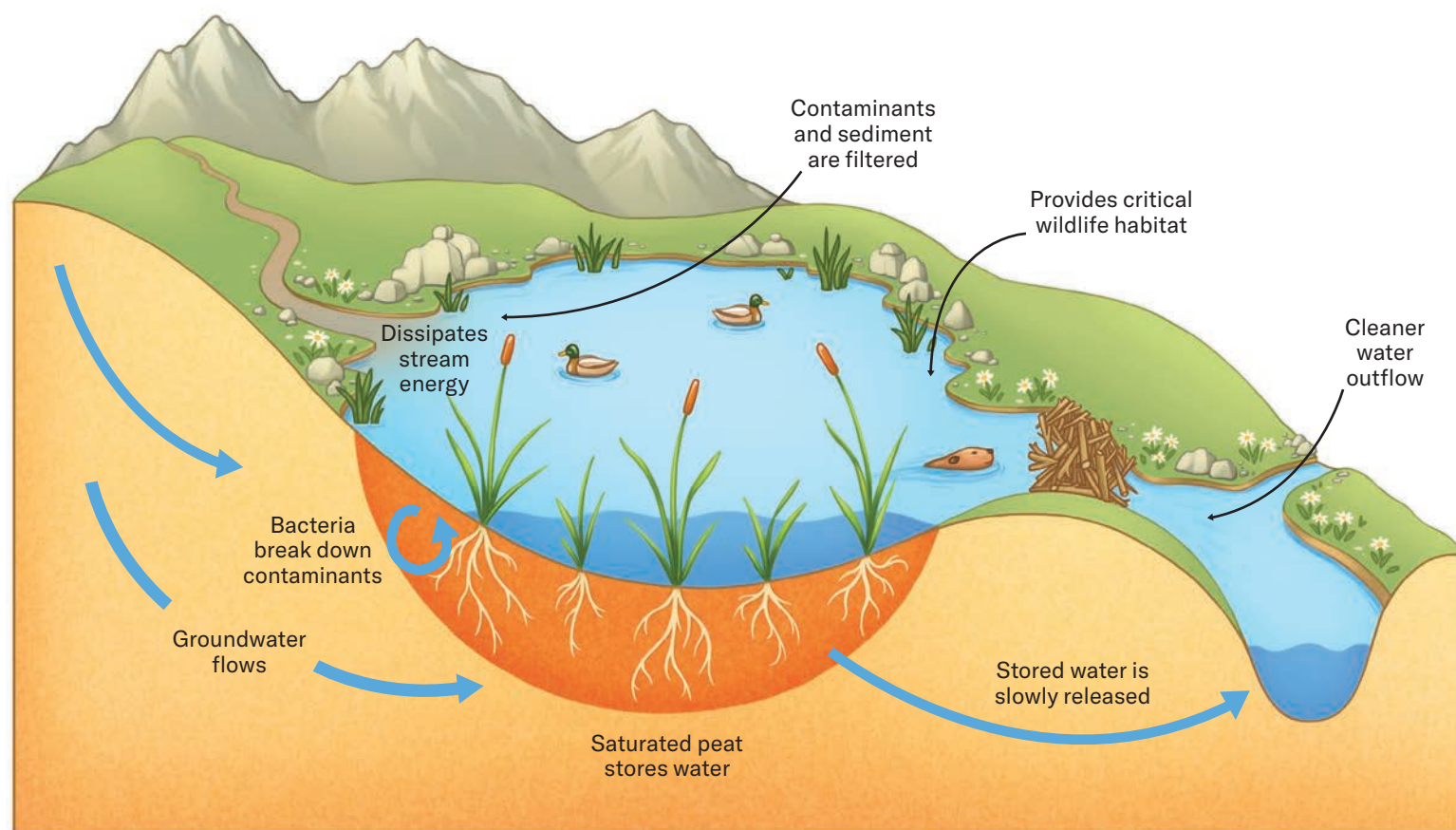
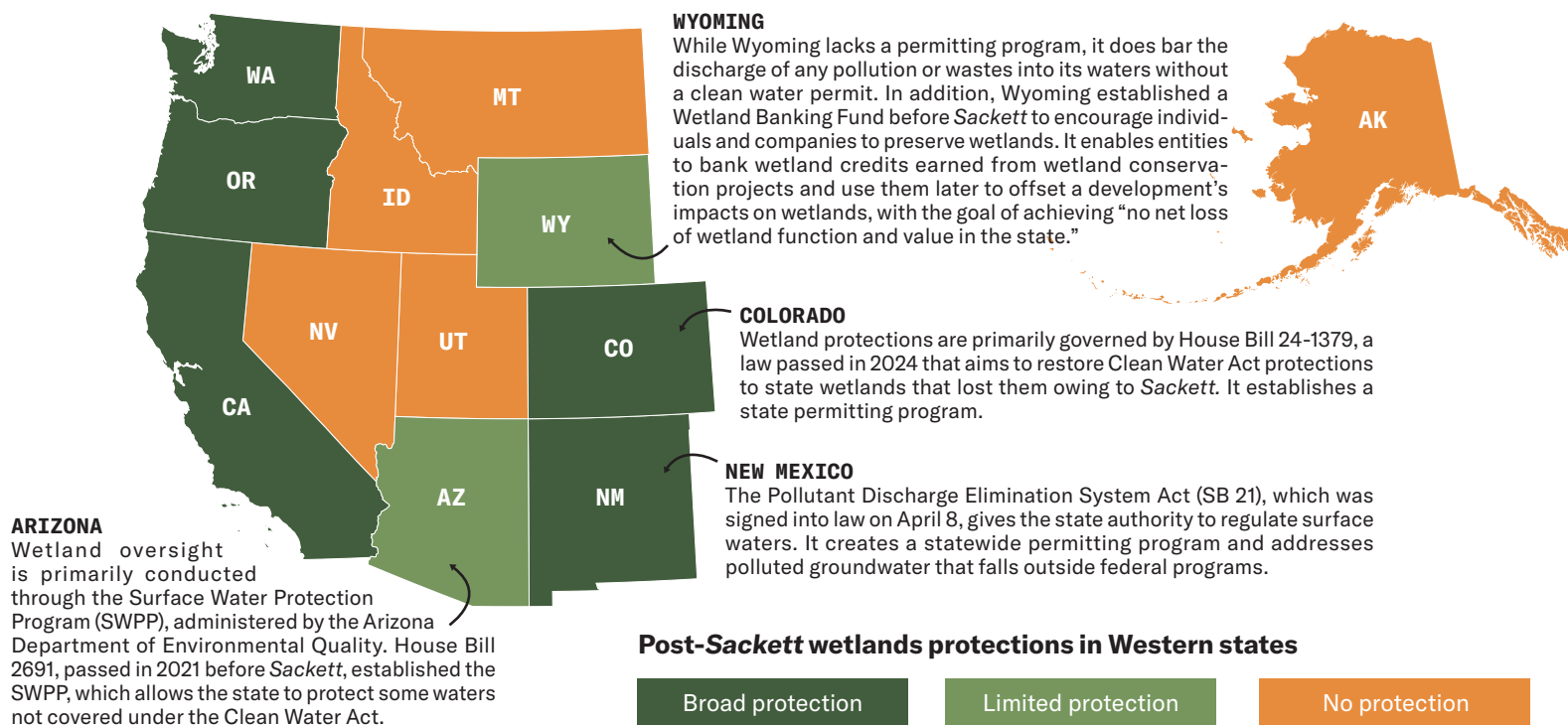
to restrict *all* WOTUS, although it’s not yet clear by how much.

“The current EPA seems to be using *Sackett* as a springboard to find any perceived ambiguities and narrow the definition of WOTUS further,” said Julian Gonzalez, senior legislative counsel at Earthjustice.

In the absence of federal regulations, state dredge-and-fill permitting programs can protect wetlands, and California, Oregon and Washington all have broad protections for non-WOTUS wetlands and streams. And since the *Sackett* decision, Colorado and New Mexico have passed laws restoring clean water protections for waters excluded from WOTUS. “It’s a dereliction of duty on the federal government’s part by not appropriately protecting the waters of the U.S. and that leaves it up to the states to fill in those protections,” said Rachel Conn, deputy director of Amigos Bravos, a New Mexico conservation organization.

The result is a patchwork of laws protecting the nation’s wetlands. But if more Western states were to emulate their neighbors’ efforts and take action, millions of acres of wetlands could be saved, even in the absence of strong federal protections. 🌱





How wetlands work

Approximately 40% of species, including half of all federally listed species, rely on wetlands, which act like sponges for excess water, offering billions of gallons of flood protection and storing this water for later use. Their plants, roots and microbes filter pollution from drinking water and also store 20%-30% of the world's total soil carbon. But Western states have lost 50% of their wetlands since colonization, and roughly half of the region's remaining ones are degraded.



REPORTAGE

Searching for sparrows in the Sky Islands

Grassland restoration in Sonora, Mexico, helps to conserve North America's bird life.

BY CAROLINE TRACEY

This story is co-published with The Border Chronicle.

ON A HILLSIDE above an oak-lined wash, 25 miles south of the U.S.-Mexico border in the state of Sonora, a norteño ballad trumpeted from a portable speaker and Eduardo Ríos

Colores sang along, swinging a pickaxe at the ground. It was early February, and Ríos Colores and a group of Sonoran university students were uprooting catclaw mimosa, a thorny shrub that invades overgrazed grasslands. Once the catclaw was removed, the pasture would eventually

become a seed bank for native grasses that provide crucial bird habitat.

Ríos Colores — known to most simply as “Colores” — is a rancher in the Madrean Sky Islands, a group of isolated mountain ranges that straddle the international border. Much of Colores’ ranch lies within the watershed of the San Pedro River, which runs north from Sonora into Arizona. Though the river’s binational basin is a priority for grassland bird conservation, during the last 15 years, no monitoring was conducted on the Mexican side. Now, the Tucson-based Sky Island Alliance is working with ranchers like Colores to monitor the region’s grassland birds and use restoration projects like the catclaw removal to increase their numbers.

Before sunrise the next morning, the bird-monitoring team set out from ranch headquarters in a government-issued *Brigada Forestal* pickup truck. Omar Siqueiros, a contract biologist with Mexico’s Commission of Protected Natural Areas, was at the wheel, and Eamon Harrity, Sky Island Alliance’s Wildlife Program Manager, rode co-pilot.

Harrity explained that winter bird monitoring helps scientists understand how changes to a bird’s habitat outside its breeding range can affect its population numbers. “When we’re doing conservation of species, it’s not enough to look at where they nest,” Harrity said. “We have to understand threats along the migratory route and on the wintering grounds.”

Birds that winter in grasslands have seen some of the

sharpest population declines, he explained. “Grasslands in the U.S. have been disappearing for a long time because of agricultural conversion, human (sprawl) and energy development.”

The grasslands of Sonora had not been monitored in over a decade, in part because monitoring efforts in northern Mexico had focused on the larger grasslands in the neighboring state of Chihuahua. But Chihuahua is now seeing industrial agricultural conversion similar to that which transformed U.S. prairies a century ago. “Kilometer-square fields of alfalfa and grains,” Harry said. “That leaves no room for sparrows.”

He and others realized that the smaller, ranching-dominated grasslands of Sonora could soon play a much greater role in sustaining grassland bird populations.

Siqueiros parked the truck, and, guided by a map on Harry’s phone, they walked in silence, the yellow bunchgrass brushing their calves just enough to startle the birds. This was deliberate, Harry said: “In the winter, birds aren’t perching or performing; to see them, you almost have to make them fly.”

Many grassland birds are

brown and white, making the different species hard to distinguish. That morning, the most frequently seen birds were chipping sparrows. Siqueiros and Harry also identified bluebirds; loggerhead shrikes, which have white bellies and black masks; ladder-backed woodpeckers, whose black backs are spotted with lines of white dots; and phainopepla — “goth cardinals,” as some birders call them for their silky black plumage and pointed crests. There was also a northern harrier, a raptor with a long striped tail. In heavily grazed areas, however, they saw only *alondras*, or horned larks, which sport black feathers that stick up from their heads like little horns. “It’s also beneficial to monitor in areas that aren’t as good, to get the data,” said Harry.

On the way back, the biologists counted grass species instead of birds: blue grama (*navajilla*) and side-oats grama (*banderita*), Lehman’s lovegrass, three-awn and several species of muhly.

As they headed back to the truck under a hard noon sun, something jumped out of the tall grass. It was a grasshopper sparrow, or *gorrión chapulín* (pronounced “shapulín” in the regional accent of Sonora) — a species they were especially

interested in counting because it has experienced large population declines.

In the evening, Colores lit his grill to make carne asada while the students helped make guacamole and pico de gallo under a concrete pavilion a few steps away. It was so warm that few people gathered around the campfire. Overhead, the tall cottonwoods were blooming, something Colores could not remember seeing in February before.

Spatula in hand, Colores explained that when he was growing up, the region’s rangeland was held communally. After it was privatized in the 1990s, he and his brother bought small parcels and gradually assembled a ranch. Five years ago, Colores became interested in incorporating conservation practices into his work, after the nonprofit wildlife organization ProFauna, based in the state capital of Hermosillo, organized a series of workshops for the local cattlemen’s association.

“The thing that surprised me most was about pumas,” he said. “We used to have a lot of problems with them. They would kill the calves and foals. And how did we respond? ... We would ride up to where the pumas live, the dogs would

start to sniff them out and we’d be behind them, on our horses. And we’d have our rifles.”

After the conservation-ranching workshops, Colores said, he entered a program to limit white-tailed deer hunting on the ranch. He discovered that when the deer hunting stopped, he stopped losing calves.

“The puma was just hungry; that’s why he was killing our animals,” said Colores. “That surprised me.” Colores began tackling other projects suggested by ProFauna, the Commission of Protected Natural Areas and Sky Island Alliance, building water-retention structures and starting a native tree nursery to supply saplings for restoration projects. The new seed bank has a similar goal: Colores expects to be able to sell the native grass seeds in Arizona, where habitat restoration efforts have created a demand for them.

Zach Palma, who manages Sky Island Alliance’s projects in Mexico, said ranchers like Colores are leading the way. “It can be harder for older ranchers to change their management practices, even if they’re seeing the effects of climate change,” Palma said. “Eduardo’s ranch has become a demonstration site

“Landscapes are connected, and borders are arbitrary.”

Rancher Eduardo Ríos Colores with a spotting scope (opposite).
A curve-billed thrasher (*Toxostoma curvirostre*), or *cuítlacoche pico curvo* in Spanish, atop a tree (right). **Courtesy of Sky Island Alliance**



of what you can do.”

Gradually, some of Colores’ neighbors have become interested in conservation as well. “They’re seeing that these are good things to be doing. They call me and say, ‘Hey, are you having a class at your ranch? Invite me. Do you really have a nursery there?’ They all have questions.”

In March, at the end of the monitoring season, the Sky Island Alliance sent its data to the Bird Conservancy of the Rockies, which will incorporate it into a database used to study trends in grassland bird habitat and migration. Meanwhile, Palma, Colores and the university students will continue removing catclaw and tending the native-plant nursery. The effects of the restoration work could reverberate throughout the birds’ entire migration pathways, Harrity said, adding, “Landscapes are connected, and borders are arbitrary.”

Politically, however, managing binational conservation programs is becoming more complicated. The funding for the

Sky Island Alliance project came from the Neotropical Migratory Bird Conservation Act, which has been under scrutiny by the Trump administration.

The political situation is making life in the Borderlands harder for birds as well. Since 2019, U.S. Customs and Border Protection has installed 2,000 stadium lights atop Arizona’s border wall, though so far it hasn’t turned them on outside of urban areas. A 2023 report by the Center for Biological Diversity warned that activating these lights would interfere with birds’ ability to navigate using natural light cues in the environment. Colores hopes the conservation work at the ranch can continue. “It makes me happy when people come to do their research here,” he said. “*Me hace sentir vivo*”—it makes me feel alive. ☀

Caroline Tracey is a writer in Tucson, Arizona. Her first book, Salt Lakes, is forthcoming from W.W. Norton in March 2026. She was HCN’s 2022-2023 Climate Justice Fellow.

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Biologists from the Sky Island Alliance and Mexico’s Commission of Natural Protected Areas set out for winter bird monitoring near Cananea, Sonora. **Courtesy of Sky Island Alliance**



POEM

The Cry

By Paige Hill Starzinger

It had nothing to do with augury.
I held the cell phone high into moonlight,
playing the cry of a tawny owl. Merlin obliged,
but it also had nothing to do with magic.
It was data. The magician an app.
The recording stored in cobalt and nickel
chambers where birds never roost.
But I didn’t think—I wanted to fill an
absence. I called to her three times. Four.
And then the sweep of outstretched wings,
dark figure above me, up, into a cypress
where she settled, and cried. What was I
thinking. Who am I to lure a wild thing like prey,
mislead her, with the stolen song of another—
as the hunter does. I did not have a gun.
I have a mind that operates like one.

WEB EXTRA Listen to Paige Hill Starzinger read her poem at hcn.org/the-cry

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DEAR FRIENDS

Out and about in the West

The *HCN* staff has been out connecting with readers and making new friends around the region as spring melts into summer.

Over Memorial Day weekend, we proudly sponsored the annual Mountain Words Festival in Crested Butte, Colorado, at a heavenly 9,000 feet above sea level. The festival was filled with workshops, readings, panel discussions and other programming that highlighted journalism, long-form storytelling, nature writing, climate reporting, nonfiction, fiction, poetry and more. Several *HCN* editors and writers took part, including contributing editors **Leah Sottile** and **Nick Bowlin**, correspondent **Jonathan Thompson** and former intern and correspondent **Ben Goldfarb**. Many other writers from *HCN*'s orbit also enjoyed the three-day celebration.

Also in mid-May, **Heather Grenier**, Montana's Human Resource Development Council CEO, Bozeman Deputy Mayor **Joey Morrison**, Bozeman Tenants United Director **Benjamin Finegan** and *HCN*'s Contributing Editor **Nick Bowlin** gathered to discuss Bozeman's widening affordability gap and what it means for the people who live there. (Nick wrote about the community's housing crisis in our May feature story.) The panelists unpacked the many challenges involved in creating more affordable housing and discussed what citizens and officials could do to help the situation. You know those luxury apartments going up in Bozeman and elsewhere in the Mountain West? Spoiler: They may not be the enemy of affordability.

And in June, with the nonprofit American Rivers, we co-sponsored a screening



Clockwise from top: Mountain Words Festival with Nick Bowlin, Jonathan Thompson, Gretchen King, Ben Goldfarb and Leah Sottile; An introduction to *These Sacred Hills* by Jacob Bailey; B. Toastie Oaster with Jeremy Takala and Elaine Harvey in Toppenish, Washington.; Joey Morrison, Heather Grenier and Benjamin Finegan speaking at Bozeman Unhoused. Photo illustration by Marissa Garcia / *HCN*

of the documentary film *These Sacred Hills*. The film — a collaboration between filmmakers **Jacob Bailey** and **Christopher Ward** and members of the Rock Creek Band of the Yakama Nation — follows the band's struggle to stop a renewable energy development outside Goldendale, Washington, in an area called Pushpum, or “mother of roots.” *HCN* Staff Writer **B. Toastie Oaster**, who wrote a story about the project in 2023, appears in the film. The area, they explained, is “a first foods seed bank.”

These Sacred Hills introduces viewers to the land protectors, including

Yakama Nation Tribal Councilman **Jeremy Takala**, **Elaine Harvey**, a leader of the Columbia River Inter-Tribal Fish Commission, and young band leader **Chief Bronsco Jim Jr.** We learn, in agonizing detail, how tribal members have been forced to share sensitive tribal knowledge to protect rights that are, in theory, already protected by a treaty with the U.S. government. All three took part in a panel discussion after the screening at Olympia, Washington's Film Forum.

We're grateful to all our community partners and everyone who has attended these events — and we appreciate your patience as we iron out the kinks in our planning process. If you'd like to get an invitation if *HCN* comes to your town, please make sure that your email address is included on your *HCN* account on our website. (Shoot an email to support@hcn.org to let us know you are new to our online resources, and we will get you all set up!) And if you know of a great gathering place where we can connect with the local *HCN* community, please send us an email at dearfriends@hcn.org.

— Greg Hanscom, executive director & publisher

Things are looking up

If *HCN* looks somewhat different this month — you may have noticed a few fresh flourishes in the last issue — it's probably because there's a new mind (and eye) behind the magazine: **Craig Edwards**, our new design director. He is responsible for the overall look and feel of all *HCN* products, including the magazine and website, along with our fundraising and marketing materials.

Craig has been working in publication design for a long time. His first job out of college was as a features designer for *The Detroit News*. He went on to lead the creative teams at two of the world's largest and most influential LGBTQ publications, *Out* and *The Advocate*, and helped launch the late and greatly lamented *Pacific Standard* in 2012.

And he spent several years as a creative director at Condé Nast, where he worked on *Architectural Digest* and *Bon Appétit*. One of his most recent posts was at *Deadline Hollywood*, where he grew and managed the creative, marketing, events and social media teams. Along the way, he has received numerous accolades, including two prestigious Ellies, or National Magazine Awards.

Asked what excites him about joining *HCN*, Craig says he's looking forward to doing work that makes a difference. He is passionate about social justice, environmental issues, equality and diversity —

passions that also power his volunteer work for Tree People and the Angeles chapter of the Sierra Club. Craig and his husband, Renato, live in Los Angeles, where they enjoy hiking in Coldwater Canyon, discovering new craft breweries and eating at all the vegan restaurants.

His current TV obsession is *The Great Pottery Throwdown*, which has convinced him that he, too, can learn how to make beautiful ceramic pots. Assuming he ever gets the time, of course; we're keeping Craig very busy!

Welcome aboard, Craig!



BY ANGIE KANG

Seeds of Diaspora

December 2023, my friend Julia invited me to a dinner hosted by Second Generation Seeds, a seed collective that she was a part of.

It's an end-of-year celebration for all the farmers that have been working on this project of growing Asian heritage seeds together. It should be really fun!

I had no idea what to expect.

wait is there a dress code?

it'll be pretty relaxed, it's hard to get farmers to dress up lol

The dinner was hosted at Sister Restaurant in Oakland, California.

The food was a delicious medley of crops grown by Julia's cohort of 10 farmers.

For their fellowship with Second Generation, each farmer developed a seed-breeding project for a crop that was important to their heritage.

Julia's focus was gailan. She explained that since gailan is a cool-season leafy green, she wanted to explore varieties that could be more adaptable to our rapidly heating world.

Not all the fellows were at the dinner, but some contributed produce. Julia introduced them to me by pointing to each of the vegetables they had grown.

It was a beautiful way to meet someone, and extraordinarily special to taste a meal made of fruits and vegetables rooted in the varied histories they came from.

Try the eggplant from my friend Christina!



Midway through the dinner, Kristyn Leach, the founder of Second Generation Seeds, stood up to give a speech.

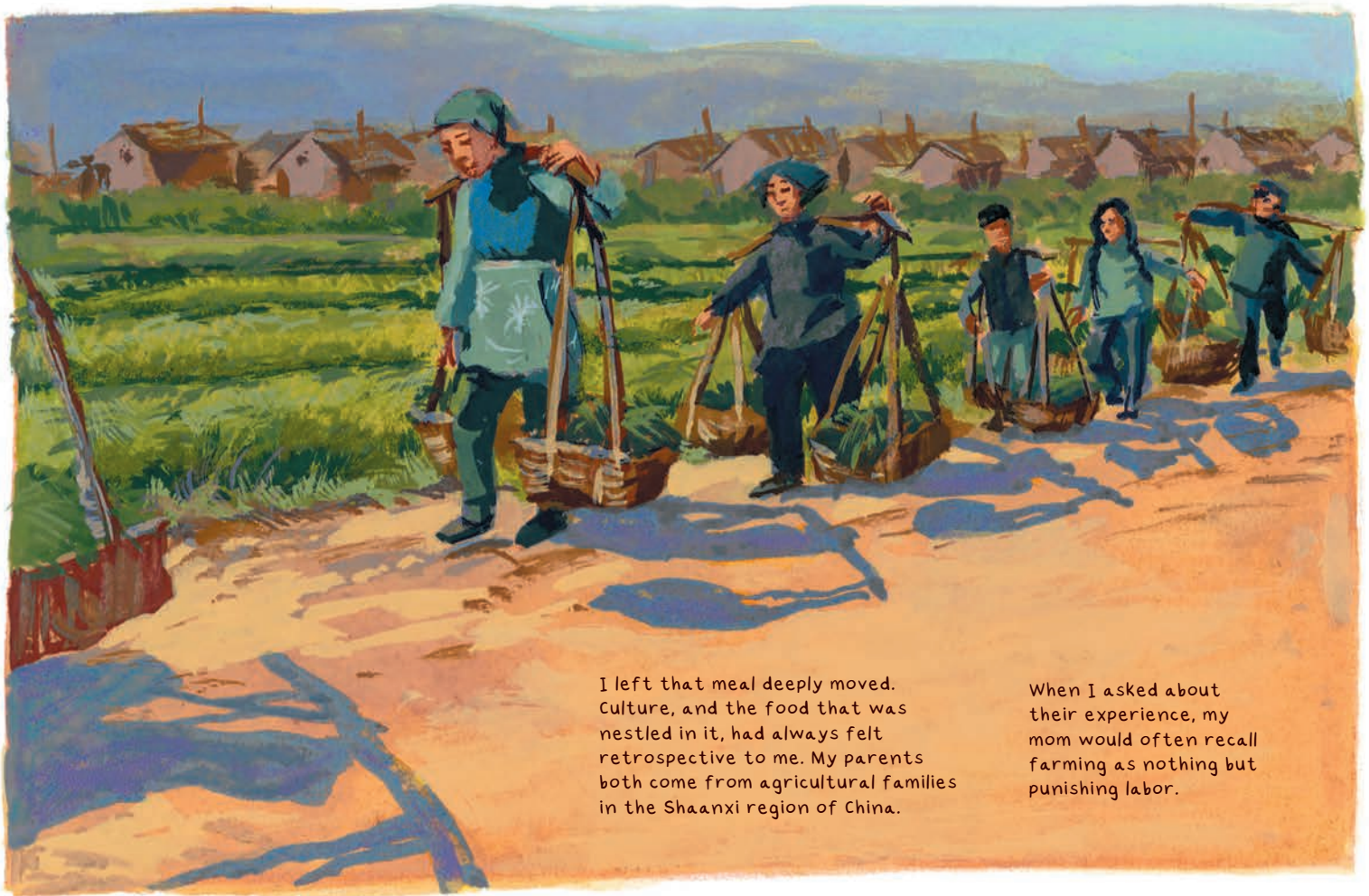
She conceived of it as a collective of Asian American farmers growing heirloom Asian crops, one that explicitly nourishes the relationship of diasporic folks to their stories, traditions and perspectives—all through seeds.



Tending to Asian heritage seeds not only makes these crops accessible to others, it also helps the growers strengthen their relationships to the seeds' respective cultures.

At the time, Second Generation had five growers and 10 Seed Fellows, but their community is far larger than that: They also have a number of community offerings in the form of potlucks, cook-alongs, farm tours and information sessions. As Kristyn put it, seeds offer more than just sustenance.





I left that meal deeply moved. Culture, and the food that was nestled in it, had always felt retrospective to me. My parents both come from agricultural families in the Shaanxi region of China.

When I asked about their experience, my mom would often recall farming as nothing but punishing labor.



But other times, my mom spoke fondly of farming.

Our plot of land was our saving grace. It kept us alive.



I never questioned her conflicting feelings; they seemed natural. After the Second Generation dinner, though, I asked her more about it.

To my surprise, I learned that it was not. Her attitudes were about two separate periods of her farming life, cleft by a distinct political shift.



We just did what we were told. Farming was just labor, nothing more.

The time my mom spoke of with pain was during the period when the Land Reform Movement was in effect.

In the early 1950s, the CCP seized the farmland of individual landlords. Though technically the land was being returned to the peasants to own collectively, the local government still decided what would be planted, when and where. The villagers only worked the fields in order to earn credits for food.

When Deng Xiaoping took over in 1978, he portioned out individual plots for each family.

Our plot was less than half an acre. We still didn't own the land. We couldn't buy land from others or sell ours.

But now, we could make the decisions. Now we had control.

That control made everyone care much more about their farms, not only because it was now their primary source of food.



My mom describes the feeling of seeing snow fall on the crops, thick layers of white covering the earth and protecting the seeds:

We would say "they have an extra thick blanket this year!" They were our babies. Our bao bei.

When my mom is feeling extra tender, she calls me that, too.

Her bao bei.





The control my parents were describing fell under the definition of food sovereignty that I had come to understand through La Via Campesina, an international organization of peasant farmers that advocates for the rights of farmers and sustainable agriculture.

La Via Campesina defines food sovereignty as "the right of farmers to produce food and the right of consumers to be able to decide what they consume and how and by whom it is produced."

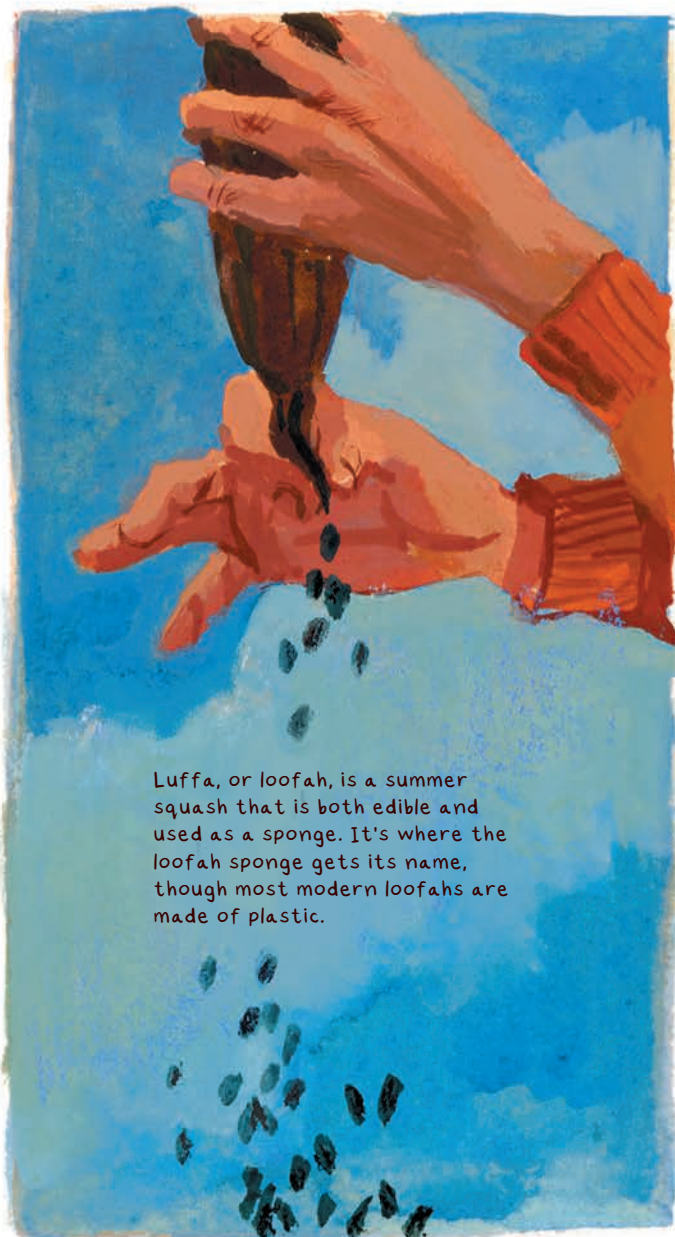
This prioritizes agricultural production to feed the people and advocates for people's access to land, water and seed.

Instead of depending on corporations—or governments, in the case of my parents—for food, the people consuming the food become the heart of food systems.

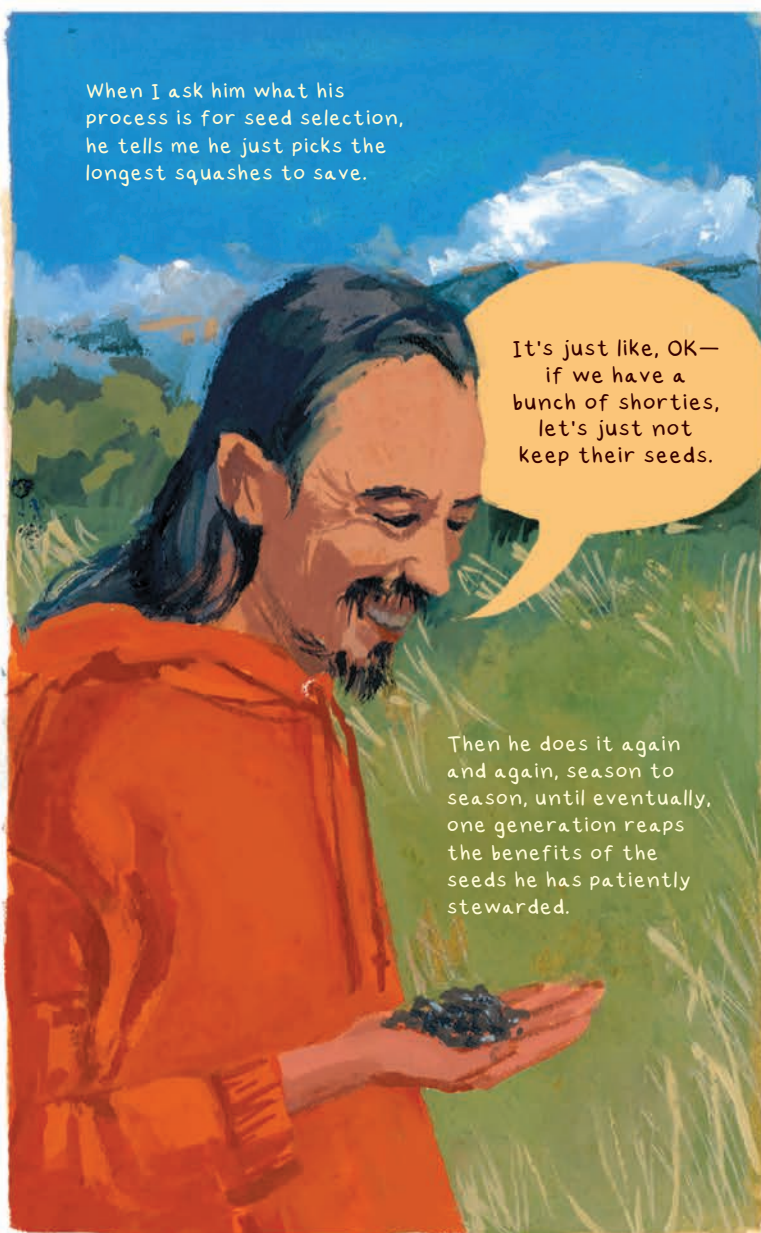
I spoke to Kanoa, a farmer who was in Julia's Seed Fellow cohort, about seeds and access. At Feral Heart Farm, Kanoa grows what he wants.



For the Second Generation Fellow program, he breeds for longer luffa, which he thinks will sell better.



Luffa, or loofah, is a summer squash that is both edible and used as a sponge. It's where the loofah sponge gets its name, though most modern loofahs are made of plastic.



When I ask him what his process is for seed selection, he tells me he just picks the longest squashes to save.

It's just like, OK— if we have a bunch of shorties, let's just not keep their seeds.

Then he does it again and again, season to season, until eventually, one generation reaps the benefits of the seeds he has patiently stewarded.

Kanoa tells me seed saving is an integral part of farming. He explained that there are designations for seeds that are sometimes marketing-based. If a seed catalog says a seed is tolerant of something, it just means that seed survived an environment with that particular factor, such as drought, disease, extreme temperatures.

Kanoa used to farm on a ranch in Half Moon Bay, three miles from the coast. There, it's always cold, even in summer. When Kanoa saved seeds from tomatoes he had grown on that ranch, he called them cold-tolerant, even if he wasn't specifically selecting for that trait.



I mean, if they weren't, they wouldn't have made it.

Despite how casually Kanoa spoke about the process, it warms me that farmers like those of Second Generation think so deeply about seasons down the line.



I'm used to our current food system that prioritizes immediate profits over long-term cultivation of healthy land, farmers and consumers. Often this priority also comes at the cost of the environment, taste and food quality. Organizations like Second Generation offer a counter-strategy to that approach as they care for a community they may never meet.

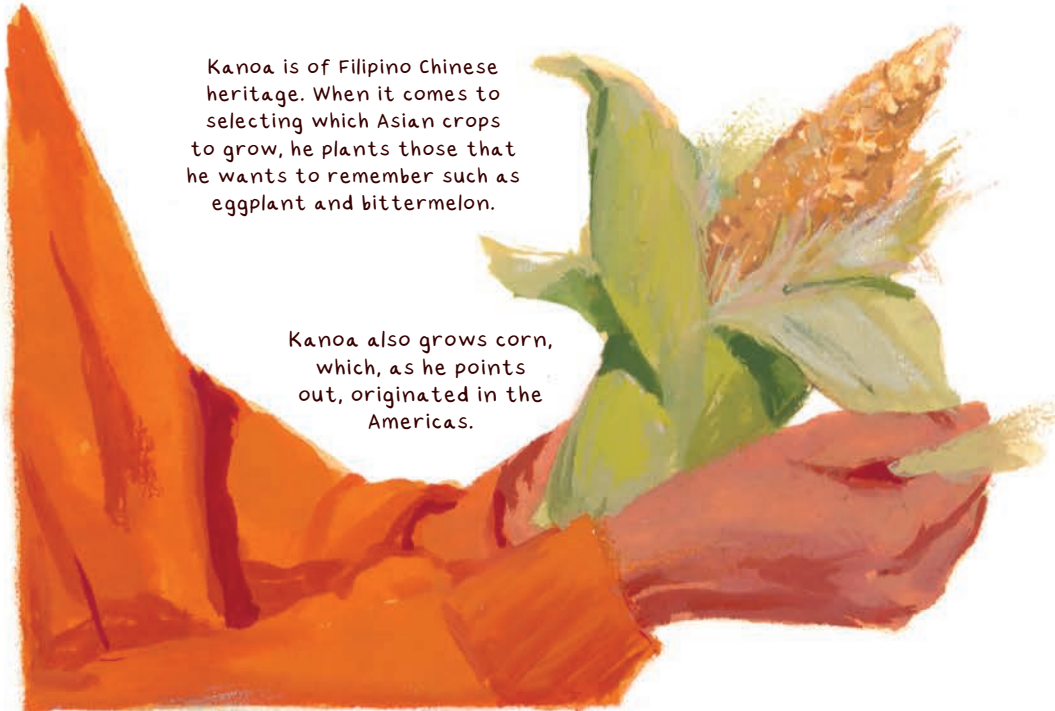
Compounded over generations, the seeds can change significantly, and relatively quickly. That epigenetic memory of a single season of life is immensely powerful—all that history contained in one tiny vessel.

Even if future farmers may not know the efforts of today's growers, it's a comfort to know that the seeds do. Offhandedly, Kanoa tells me:

"Seeds remember the climate, the soil, things about their previous lives."

When thinking of the histories they contain, it's easy to focus on the harsh conditions to which they adapt—what they can withstand, and how they are now resilient because of it.

In seeds, as in humans, trauma can be easy to trace. But there is an even more important history to uncover—that of care—which often remains invisible, yet without which we would never have survived.

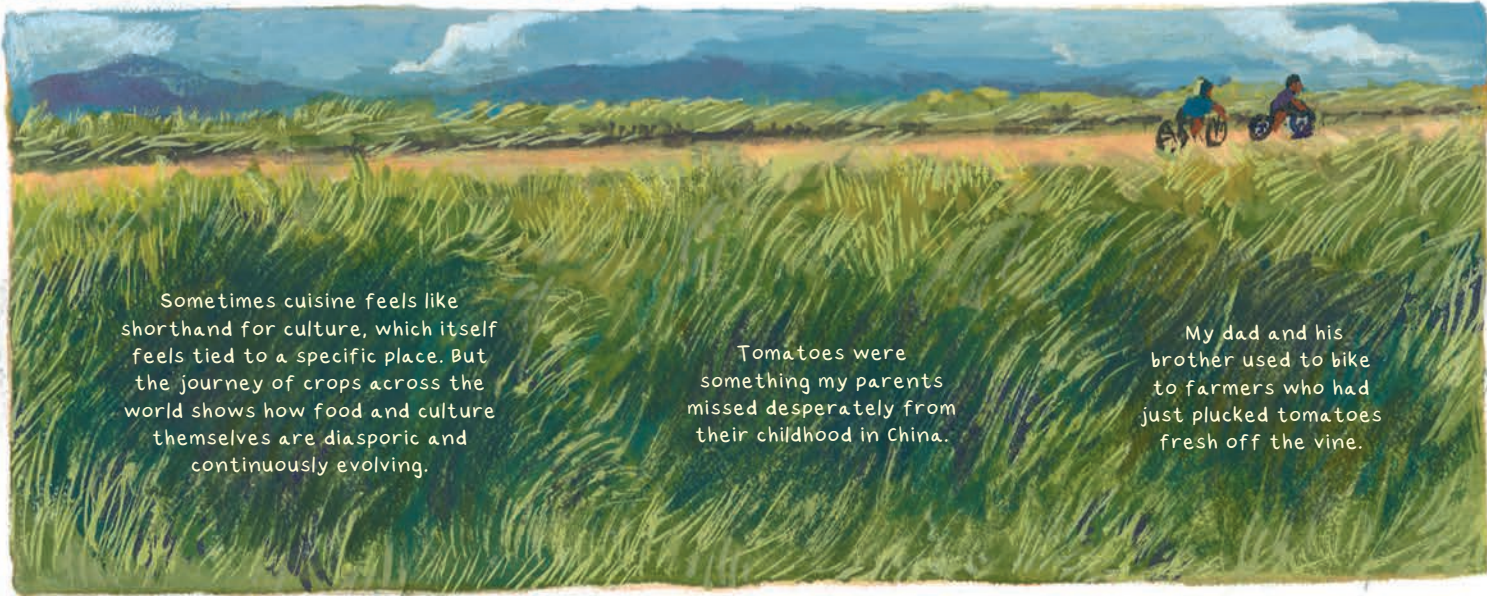


Kanoa is of Filipino Chinese heritage. When it comes to selecting which Asian crops to grow, he plants those that he wants to remember such as eggplant and bittermelon.

Kanoa also grows corn, which, as he points out, originated in the Americas.

Many crops that are considered staples in pan-Asian cuisine actually came from the Americas, such as corn, squash, sweet potatoes, peanuts and tomatoes.

These crops were brought back in continental trades and woven into the culture through the food. Many European cultures have adopted these same crops so thoroughly that one could be forgiven for believing them to be native. It's hard, for instance, to imagine Italian cuisine without tomatoes.



Sometimes cuisine feels like shorthand for culture, which itself feels tied to a specific place. But the journey of crops across the world shows how food and culture themselves are diasporic and continuously evolving.

Tomatoes were something my parents missed desperately from their childhood in China.

My dad and his brother used to bike to farmers who had just plucked tomatoes fresh off the vine.

When I told my dad where tomatoes originated from, I saw doubt scrawled across his face.



Those were really ripe. Not like the watery ones here in America.

It didn't matter to him if tomatoes were native or not to China, only that they were native to his childhood.

The larger history of tomatoes didn't eclipse his private history with them.

I visited Kanoa at his farm and noticed he had chrysanthemum drying outside in a collapsible hanging net.

He said he didn't grow up with these plants, which are a popular motif in Chinese poetry, a key ingredient for herbal medicine, and a ceremonious part of Mid-Autumn Festival.



I didn't know my Chinese great-grandparents, but I still offer these dried flowers on their altar.

There are more chrysanthemum in a nearby dehydrator.

Maybe they like this, I don't know. I hope they do.



I adore chrysanthemum tea, though I didn't drink it growing up. My mom did, however, and I wonder if that's where I get my taste for it.



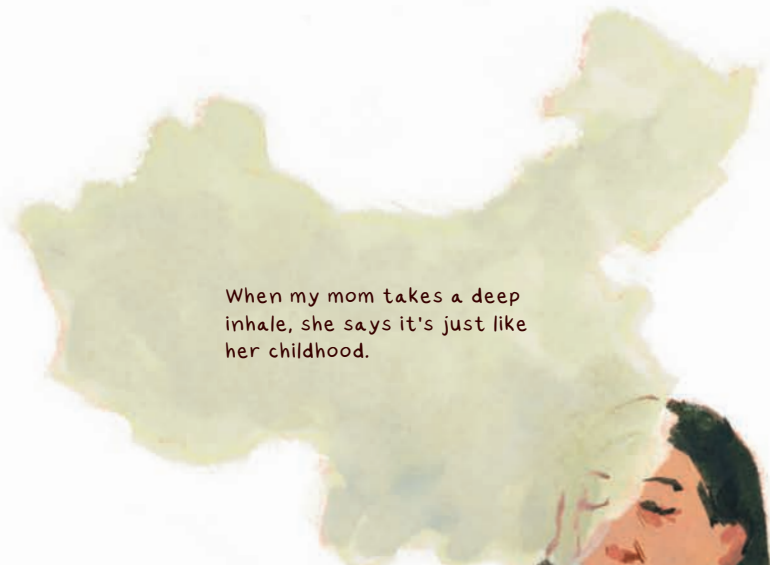
When I tell him this, Kanoa sends me home with a gift.



That same
night,



I prepare tea
for my mom.



When my mom takes a deep
inhale, she says it's just like
her childhood.



La Via Campesina's manifesto talks
about protecting both the past
and future generations through
land sovereignty. The future part
made immediate sense to me, but
it wasn't until sharing that pot of
tea with my mom did I realize what
it meant to protect the past.

Since that first Second
Generation dinner with Julia,
I felt a renewed tenderness for
my ancestors and their seasons
of invisible care that allowed
me to exist now.

And now, my parents' agricultural
backgrounds weren't remnants
of a traumatic past but instead a
connection from their ancestors
to them and from them to me: A
story we could steward together.





These days, my anxiety about the climate crisis is an inescapable screech in the back of my head, some high-pitched tinnitus. Like tinnitus, I'm aware of it, but I can't focus on it all the time or I'd be paralyzed by the internal scream.

I've learned to tune it out in order to survive.

My mom used to say that farming is just "xiu di qiu." Fixing the earth. It was a joke, she always clarified, like how one could say they fixed cars or fixed technology.

But her joke also felt like hope. Xiu di qiu—could we?



Maybe by tending to the land, stewarding the seeds of the earth—



and letting them steward us—



maybe, then, we could.

THE HEAT BETWEEN US

Climate change has created a loneliness epidemic among Black Phoenix residents, but a budding program in the desert is attempting to tackle both problems.

BY ADAM MAHONEY
PHOTOGRAPHS BY MATT WILLIAMS



LIKE THOUSANDS OF OTHER BLACK AMERICANS, Tiffany Hawkins' grandparents, Earnest and Mattie Lee Johnson, left the Jim Crow South in the 1950s to pick cotton in Arizona's desert.

Many sought opportunities in cities like Chicago and Detroit, but the Johnsons chose Arizona, where their lives and those of their children — including Hawkins' mother, Arlene — remained deeply rooted in the rhythms of rural life. Their backyard garden was the heart of their home in Phoenix, with its grapevines curling along the fence, an orange tree heavy with fruit, the rich, loamy soil Earnest turned with practiced hands.

Grocery stores were sparse and often refused to serve Black people, so growing food was necessary. The Johnsons' neighbors had gardens, too, and the family traded fruit for collard greens.





● Tiffany Hawkins stands in the garden that her grandfather once kept before his death. In recent months, she has worked to revive it.

No one called it that then, but Earnest and his neighbors were building critical climate infrastructure. Urban agricultural spaces — neighborhood gardens — can reduce local temperatures by as much as 10 degrees Fahrenheit, and trees can lower the “real feel” temperature by up to 30 degrees.

During the sweltering summers, the Black families leaned on each other. Evenings brought a sense of camaraderie. Neighbors gathered on shady porches, swapping fans and opening their homes to people without swamp coolers. Fans sat in windows and cooled the dry air using water evaporation.

Arizona’s economy back then was defined by the four Cs: Citrus, copper, cattle and cotton. It wasn’t until decades later that the fifth C — climate change — would change everything. A robust social infrastructure, such as the ones that Black families built, can reduce heat mortality risks during extreme weather by 40%, while the sharing of greens, legumes and fruit sustained agrobiodiversity and wove social trust into the fabric of their segregated community. Their gardens created a healthy feedback loop: Diverse crops are critical for an ecosystem’s health, cushioning severe weather, while shared labor builds the crisis-response networks that are vital during heat waves.

But over the last few decades, that loop was severed.

After Earnest died in 2012, his garden faded as well; the plants shriveled and withered, and soil, once teeming with worms and life, hardened with neglect. “He was their caretaker,” Hawkins explained. “When we are intentional, we build these bonds with the earth around us, but if we neglect it, there is no reason for it to support us.”

Its decline mirrored a deeper loss as the city around them transformed.

According to Hawkins, “Phoenix (has) completely changed” since she was born in 1994 — “from the heat, the sprawl, and definitely the relationships between us.” The amount of land covered by concrete in metro Phoenix has more than doubled since 1992, a rate rivaled only by its Sun Belt neighbor Las Vegas.

Even as a child, Hawkins noticed that as Phoenix ballooned and asphalt buried earth, the sense of community and connection eroded.

“Our elders had a better understanding of the earth than we do,” Hawkins said. “It feels like they had a better understanding of each other, too.”

Though life in her grandparents’ day was far from perfect, the residents’ deep reliance on one another made burdens lighter and joys more profound. Community was both refuge and resource, binding Black families together in ways that softened the harsh world beyond their doorsteps.

But as cement replaced trees and gardens, people stopped connecting. Infrastructure was built to encourage solitude, Tom Zoellner, an Arizona native and professor at Chapman University, said at an environmental conference in Phoenix. And, in the state that has led the country in climate-related deaths since the nation’s public health agency started tracking heat-related deaths in 2019, he added, “Solitude is a climate risk.”

Where neighbors once gathered under fig trees and shared their labors, isolation now settles in like the summer heat, heavy and unyielding. The unraveling of Black communities’ connection to the land creates a profound sense of loss as climate change and urbanization erase landscapes that offered both sustenance and solace. The grief associated with watching your environment fall apart before your eyes, sometimes called “solastalgia,” is deeply felt in the nation’s fifth-largest city as it teeters off the edge of livability.

“It made me not like Phoenix anymore,” Hawkins said. “The way that they’re building it, trying to maximize profits and homes over people” has had a “really negative effect” on her health. Driven by suffocating heat and a growing sense of despair, she retreated indoors, often aching with loneliness.

Across the Western U.S., Black communities in cities from Los Angeles to Las Vegas face a similar struggle with rising heat and vanishing green spaces. Yet, in Phoenix, the convergence of relentless sun and rapid development has made the city a climate bellwether. Urban loneliness is rising everywhere, but Black neighborhoods across Phoenix see more deaths from depression, addiction and hopelessness than virtually anywhere else, according to census data research by the Environmental Defense Fund and Texas A&M University. Compared to the national average, Black people are twice as likely to die by suicide.

Rebuilding relationships with the land might not only mend the community but also cool the city and reclaim its future from the heat. And new shoots are emerging from Phoenix’s cracked earth, even in Hawkins’ neighborhood, like Spaces of Opportunity, a 19-acre farm on a formerly hazardous lot. Could such efforts help save one of the first Western havens for Black Americans?



IN THE FIRST HALF OF THE 20TH CENTURY, Arizona’s farms needed skillful workers who not only knew how to work with the earth but could also adapt to unforgiving heat and a deeply segregated state. White landowners contracted Black realty companies to recruit thousands of Black sharecroppers and laborers from Texas, Louisiana and Oklahoma to transform parched red soil into farmland.

For many, this was a godsend, given the Jim Crow violence in the South. And as one of just seven states with no recorded lynchings, Arizona had a greater share of Black residents by 1950 than any Western state except California.

Black laborers followed Latinos and Natives, carving irrigation ditches into the sunbaked earth. Guided by generations of agricultural wisdom, they transformed barren desert into green fields. Beneath the vast cloudless sky, endless rows of lush white cotton bloomed in improbable abundance.

Farmers drew on Indigenous traditions, using climate-friendly and sustainable practices, cultivating drought-resistant crops like cotton, beans, squash and agave shaded by native trees. They timed planting season to the monsoons, working with the sky and each other.

Before dawn, workers like Mattie Lee Johnson arrived at the fields with the tools of their trade: Their strong hands and the long burlap sacks that would hold the day’s labor. The children sat on the sack like a sled, and Mattie Lee dragged them across the dusty fields of the south side of Phoenix, her fingers scraped raw from prickly brown cotton bolls.

Black Americans like the Johnsons created self-reliant communities much like those they’d known post-slavery in the South. In South Phoenix’s Okemah district, families



● An aerial view of a development in South Phoenix where Black families once planted gardens that helped nurture a thriving community.

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—Tiffany Hawkins

grew their own food — okra, watermelon, collard greens and beans — and made their own clothes. The area had no water, electricity or gas for decades, and Black folks were barred from entering most other parts of the city. But this isolated neighborhood was enough — until Interstate 10 was rammed through its heart, displacing the community.

Farmland and natural gathering spaces gave way to cookie-cutter housing developments, liquor stores and parking lots. In a statewide survey taken right before the COVID-19 pandemic began, just 23% of Arizonans reported regularly talking with neighbors — the lowest rate in the nation. And today, among states with more than 1 million people, Arizonans report spending less time with others and feeling lonelier during summer, outranked only by rural Mississippi and West Virginia.

“The heat, geography, environment and social differences here in Arizona that don’t exist in other parts of the country lend themselves to isolation for African Americans,” Jon McCaine, a therapist who’s spent 30 years treating Black Arizonans, explained.

Those with enough money can retreat indoors, shielded from record-breaking heat

by air conditioning while the desert grows ever more inhospitable, its rivers shrinking, skies clouded by smog and the promise of opportunity shadowed by climate change.

A boom fueled by visions of affordable homes, driverless cars and a desert tech oasis is colliding with the limits of the land itself, forcing residents to reckon with the cost of comfort in a place where survival depends on respecting the desert and its unforgiving boundaries.

“People just can’t go outside or be social in the summer unless you have the wherewithal and economic resources,” McCaine said. “It becomes lethal, either from the physical stress or the mental stress.”

Research confirms that rising temperatures are linked to increased suicide rates and mental health crises, especially for the most isolated and economically marginalized. For Black Americans, who nationwide report feeling more lonely than any other race, this can be fatal.

Yet the Black population continues to grow, not through sustainable roots in land stewardship or community camaraderie, but rather an influx of wealthier newcomers chasing sunbelt luxuries: oversized homes

and artificial lawns guarded by towering fences.

Since 2010, Phoenix has grown twice as fast as the national average, while its Black population has skyrocketed — a rate twice as high as the total growth. Fewer than half of Black young adults living in Phoenix grew up here, the lowest rate among America's major cities. Today, only 30% of Arizona's Black residents were born here.

For better or worse, owing to embedded segregation and historical white violence, the larger Black American community thrives in an insular fashion, scholars say. Instead of depending on larger interracial community systems or the government, Black folks rely on each other. However, with transplants now driving the culture, the community lacks the deep-rooted family ties and established networks that helped long-timers like Hawkins' family stay connected.

Newcomers from the Midwest bring different hopes and histories than the sharecroppers of generations ago. Queer Black residents, single mothers and entrepreneurs each navigate the city's heat and isolation in their own ways. Their stories, layered and distinct, reveal the fractures that climate change can make deadly.

Last summer, Phoenix shattered records, with 70 days above 110. July's average daily temperature broke 100 for the second time, following July 2023. With every broken record, more people die, the vast majority of them folks who lived alone or on the streets.

In 2022, Phoenix established a "cool callers" program, which allowed residents to sign up themselves or their neighbors for wellness checks on extreme-heat days. Very few signed up, however, Willa Altman-Kaough, Mayor Kate Gallego's deputy chief of staff focused on climate and sustainability, said. "I'm not sure government intervention is always the right thing to address issues like this."

Sometimes, governments and institutions even work against the community's best interests, Silverio Ontiveros, an activist in South Phoenix, said. In one local park, unhoused people once gathered routinely under trees to beat the heat. "It made sense," until officials trimmed the trees so they would no longer congregate, he said.

Some residents wonder if the solution

lies in returning to their grandparents' lifestyle. "If every neighborhood could have their hand in the dirt, could come together to build food forests, natural shade, and gathering spaces, we could see everything about Phoenix grow," Hawkins said.



ONCE THE OLD NEIGHBORLY BONDS FADED, Hawkins, like others, locked herself inside; there was nothing outside but sun beating down on empty streets. Then came the pandemic, the birth of her son, Zayne, in September 2020, and difficulties finding employment. In the sunniest region in America, she felt sluggish and brain-fogged — even suffering from a vitamin D deficiency. "We isolate ourselves because we don't have anywhere to go that is life-sustaining," she said. "It is a mode of protecting yourself from the outside."

When her grandparents first moved here, her community boasted Arizona's most productive farmland. But by 2020, her neighborhood's "nature score" was 8 on a scale of 0 to 100, making it last in the state for access to green space and fresh food. Created by a dozen scientists and researchers, the score uses satellite imagery and data on dozens of factors like air and noise pollution, tree canopy and park space to grade a community's access to nature. The average American neighborhood has a score of 64.

That's when — and largely why — Spaces of Opportunity was born. Two-story houses had been sprouting around Hawkins' home for years, but one littered and abandoned 20-acre lot remained undeveloped. It was such a hazard — it lacked shade trees and sometimes drew drug-users — that Hawkins went out of her way to avoid it.

Just before the pandemic, a coalition of gardeners, educators and neighbors gathered at the edge of the field, determined to revive it. With shovels and seeds, they transformed it into Spaces of Opportunity: a lush 19-acre pasture of 250 garden plots where, for \$5 a month, residents now grow food, share culture and reclaim their community, part of a movement to revive dead vacant, heat-trapping land. Every month, more than 1,000 locals spend time in this space.

It feeds the environment as well as the

neighborhood. Arizona's vast mega-farms of alfalfa and other crops use about 72% of the state's water supply without feeding local communities. In contrast, community-scale farms use water-saving methods like drip irrigation and native plants to grow food where people live. By combining this with graywater reuse, the farm creates closed-loop systems that alleviate pressure on municipal supplies, offering a real response to both the water crisis and the social isolation caused by unchecked development.



I FIRST MET HAWKINS AT SPACES OF OPPORTUNITY, where she was harvesting elderberries on a spring afternoon. The faint sweetness of the crushed berries, reminiscent of dark grapes or wild plums with a fermented edge, rose from her hands as she worked, juice staining her palms a velvety purple.

It had taken us more than an hour to get here, zigzagging along the freeways that destroyed Phoenix's first Black enclaves. I was with Darren Chapman, founder of TigerMountain Foundation, one of the five organizations that helped create the farm.

Chapman grew up traveling back and forth between South Central Los Angeles, where his grandparents lived, and South Phoenix, where his mother moved in the 1970s. Early on, he learned the sharp edges of gang territory, but also the joys of a neighborhood ecosystem where residents swapped sun-warmed tomatoes over chain-link fences. By elementary school, he'd fired his first gun, yet he never ceased remembering the earthy scent of the collard greens and tomatoes from his grandparents' backyard garden. After eight stints in jails, Chapman found himself, just 25 years old, locked in another cell, longing for the days his people depended on — and nourished — one another.

Once he was out, he returned to South Phoenix and built TigerMountain, an organization dedicated to cultivating land and growing sustainable foods.

Over the last two decades, it has turned 30 acres of vacant lots into South Side community farms, where volunteers harvest sweet potatoes and chard, and deliver kale, eggs and cactus to the local community.



● Clockwise from top left: TigerMountain Foundation's community garden gives area residents a green space where they can plant and harvest vegetables for their families; at Spaces of Opportunity, turning the earth is not just about surviving, but working to build a community that can thrive for generations; local elementary school students prepare food for a volunteer appreciation dinner at Spaces of Opportunity; TigerMountain Foundation founder Darren Chapman.

"Whether it is South Phoenix or South Central, when you don't have hope, when you don't have opportunity, that's when the violence creeps in," Chapman said. "We're trying to replace that with something positive. Instead of pouring a cement slab into the hottest heat index area of the country to make some money, we're pouring into people and giving them something to care about."

With housing prices having more than doubled since 2015, Black people make up nearly one-third of the area's unhoused population, nearly five times the rate of white residents. Consequently, connecting to the land also meant financial stability. In this neighborhood, where the state spends more money on incarcerating people than it does anywhere else, roughly half of the TigerMountain community has been previously incarcerated, experienced substance abuse or been homeless.

Anubis, a lifelong South Phoenix resident and one of TigerMountain's 30 employees, told me that homelessness had shadowed his adult life. The farm, he said, offered more than a paycheck; it brought peace.

"If I'm not going to rely on the government anymore to be my doctor, to feed me, and

keep me safe, then I need to become my own doctor and protector," he told me, his hands and face dusted with soil. Tending the land taught him to care for himself. His family calls him "crazy" for working under the relentless sun, he said, but "studying the land, different plants" makes him happy: "I found out how to avoid anxiety."

By bringing Black people back into these spaces, Phoenix can reverse the effects that environmental racism has on their bodies and minds, Shawn Pearson, who runs the Zion Institute, explained. Her nonprofit supports Black-led Phoenix organizations that "provide resources, revitalize neighborhoods, and strengthen social bonds" for people like Chapman and many others.

Pearson herself was alone when she came here, a single mother who quickly slid into homelessness after losing the job that brought her to Phoenix. The isolation was brutal, especially during the first three summers, when she was hospitalized for heat sickness each year.

But she eventually found a creative solution: intentional relationship-building and meeting people at their point of need. "Black people don't have access to capital or

resources here, but what if we created it for each other?" she said. Her work has ranged from supporting early childhood education and interrupting the school-to-prison pipeline to helping young farmers access capital and establishing weekly balance-and-yoga classes for elders.

But it isn't always easy, as other Black farmers, such as Dionne Washington, the co-founder of Project Roots, a community garden, have been forced to realize.

Washington, whose grandparents came to work the farms after World War II, started her farming journey young, inspired by summers spent with her grandfather in Flagstaff, planting and harvesting vegetables. Later, she helped her grandmother grow collard greens across farms in South Phoenix. "It was a huge process, from the ground all the way to the plate, and my grandmother made sure that I knew how to do all those things," she recalled. "How to go out and pick vegetables and then take them home, wash them and soak them. How to then fold them, strip the leaves off, and cut them."

Washington channeled these memories into action as an adult, co-founding

Project Roots in 2019. With the help of both philanthropic and federal support, she transformed schoolyards into living laboratories, where children grow lettuce and herbs in water-efficient tower gardens despite the soaring desert heat. “We are using less water to feed more people faster,” she explained, doing so out of a mix of innovation and necessity. The project has distributed over 500,000 pounds of food, addressing food insecurity in an attempt to revive the communal spirit of her childhood.

Yet, despite her successes, Washington has faced persistent barriers. Funding for community farms has dwindled over the last year, and the once-vibrant Black farming community continues to fracture under the pressure of gentrification. All this, she said, has led her to make the difficult decision to leave Arizona, moving to Seattle this summer in search of a place where Black folks have a deeper connection to each other and the land. Outside LA, Seattle is the largest destination for Black Phoenixians who leave Arizona.

In Phoenix, she found Black culture fragmented and the physical and mental health of those around her fading in the face of gentrification and rising costs. Last year, more than 75% of Arizona residents reported participating in group events less than three times a year.

“This place isn’t created with us in mind,” she said.

This is why, Hawkins told me later that day, it’s so important to plant the seeds of regeneration in Phoenix.

Now, every morning, Hawkins stoops in her backyard, hands deep in the soil her grandfather once turned. Her vision for the future is both radical and restorative. Where her grandfather’s grapevines and orange trees once flourished, tomatoes, wheat and beans now thrive, tended by Hawkins and her 4-year-old son Zayne, who delights in stuffing his mouth with strawberries and elderberries until his face is stained magenta.

Her afternoons are spent in community with other locals under the shade of the fruit trees, chatting about the books she’s reading while Zayne eagerly digs his feet into the soil and plays hide-and-seek in the bushes. Hawkins yearns to heal generational disconnection and ensure that Black children like Zayne grow up knowing how to cherish, tend



“WE ARE USING LESS WATER TO FEED MORE PEOPLE FASTER.”

—Dionne Washington,
co-founder of Project Roots,
a community garden
in Phoenix

and reclaim the Earth. “I want him to grow up knowing that we have a right to this land.” It’s this vision that keeps her in Phoenix.

Hoping to expand her garden into a nonprofit, she recently participated in a free agroforestry class conducted by Arizona State University. She wants to distribute food boxes to families who need them and create a space where Black residents can gather freely: “No barriers, no prohibitive costs, just shared abundance.”

Research and experience show that such spaces do more than feed bodies; they promote mental health, foster intergenerational connection and empower communities to define their futures in the face of climate change and gentrification.

If Phoenix is to become livable for all its people, its salvation may well be found in these backyard plots and community gardens, “where Black hands, young and old, turn the earth not just to survive, but to thrive together,” Hawkins said.

“It just amazes me every time I come out here, that — in the hottest place in the country — I can actually live the way (it was) designed to be,” she said. “Without the anxiety, without the costs.” ☀

Adam Mahoney, the environmental reporter at Capital B News, is from Wilmington, California, where he grew up. He first wrote for HCN in 2020 about the oil refineries in his hometown. @AdamLMahoney

This story was produced in partnership with Capital B News.

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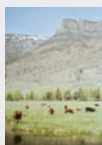
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ENCOUNTERS

An exploration of life and landscape during the climate crisis.



Politics and science can mix

The time for trying to remain neutral has passed.

BY RUXANDRA GUIDI

THIS PAST APRIL, I attended one of the nation's 1,400 "Hands Off" protests, participating in what was, at the time, the largest demonstration against Donald Trump's second term. (The recent "No Kings" demonstrations were even larger.) Thousands of people lined the sidewalks along 22nd Street in Tucson, most wearing white and holding handwritten signs, some of them funny and others not. One sign caught my eye for its matter-of-fact clarity: the simple statement "Science is not an alternative fact." The young woman holding it must be a scientist, I thought, looking into her face.

I wondered if she was one of the many employees — more than 10% of the agency's staff — who were recently fired from the National Institutes of Health. Perhaps she was among the 800 staffers cut from the National Oceanic and Atmospheric Administration, or the 170 laid off by the National Science Foundation — half of whom were reinstated after a judge ruled that firing probationary workers was illegal. Or maybe she was one of the hundreds of researchers studying pollution, clean water and climate change who had just been fired by the Environmental Protection Agency. Then again, she could have worked at our local University of Arizona, one of many researchers whose grants were rescinded by a federal agency.

Or she could have been like me: Not directly affected by the cuts, but with plenty of collective and moral reasons to protest. There are so many of us whose mission is not just to understand but to make others understand and care about the life-and-death consequences of climate change. The science behind it all matters; the impacts affect everyone.

Scientists in the United States tend to avoid activism; many fear that wading into politics will undermine their work and compromise their independence. Others worry that engaging in protest or political statements will distort the value of their research and further erode Americans' already diminishing trust in science.

And yet scientist-activists have long

helped shape public opinion and address seemingly intractable societal problems — the fight against nuclear proliferation, for example, or the pushback against genetically modified foods. Remember the 1960s and '70s? Books like Rachel Carson's *Silent Spring* and research by U.S. scientists revealed the health impacts of air and water pollution, leading to the creation of the Environmental Protection Agency and the passage of landmark environmental legislation. Fast-forward to the recent past — the aftermath of the pandemic and the Black Lives Matter protests — and, of course, to today, with the ongoing climate crisis, when scientists are mobilizing and needed more than ever.

"Scientists can be rigorous, objective, and engaged, all at the same time."

A recent piece in the journal *Nature* argued that this shift has been at least 15 years in the making: "Calls for activism through or in climate science have multiplied, urging scholars to engage in activism as an ethical and social duty beyond traditional roles of writing journal articles or managing research." Acts of civil disobedience can help spark real action on climate change, while scientists can also help by serving as expert witnesses or producing scientific reports for national or regional governments and civil society sectors. "Scientists can be rigorous, objective, and engaged, all at the same time," said the authors. "This does not necessarily imply neutrality."

Back in 2016, during Trump's first term, the Pew Research Center found that 56% of

the general public supported a major role for climate scientists in policy decisions. As if on cue, scientists mobilized as they had not done since Vietnam. According to sociology professors Scott Frickel and Fernando Tormos-Aponte, this inspired the creation of more science advocacy organizations and a greater push for fossil fuel divestment at some universities, including the University of California system.

Frickel and Tormos-Aponte's survey of scientists confirmed that the current cultural shift may have started with the first Trump presidency but was truly galvanized into action by the urgent need for climate justice. When the scientists were asked how often they thought they should be politically active, 95% answered "sometimes," "most of the time" or even "always," especially younger scientists and those who are active on social media.

A couple of weeks after the Hands Off protest, news of the dismissal of almost 400 contributors to the Sixth National Climate Assessment (NCA) mandated by Congress clearly showed that the second Trump administration's policies are not just anti-science but outright vengeful and destructive. Not to mention irrational: The firings leave states across the West — from Washington to Nevada and Arizona — without the ability to prepare for climate impacts such as extreme heat, wildfires and drought.

In a social media post, Arizona State University scientist Dave White, a lead author of the 2023 Fifth National Climate Assessment, said he and his colleagues remain committed to scientific integrity. "We must continue to push forward," White wrote. "The stakes are too high."

Soon after White's post, a group of activist scientists came forward and pledged to continue NCA's work: The American Meteorological Society and the American Geophysical Union will now produce more than 29 peer-reviewed journals that cover all aspects of the climate crisis in this fast-changing political climate. ☀

Ruxandra Guidi is a correspondent for High Country News. She writes from Tucson, Arizona.

WEB EXTRA Lea éste ensayo en español en hcn.org/activistas

Protesters gathered in Tucson, Arizona, during a "Hands Off" protest against the Trump administration in April. **Roberto (Bear) Guerra**

Finding community in a world of wounds

On a rapidly warming planet, we are not alone in our fear.

BY BETHANY KAYLOR | ILLUSTRATION BY SUMMER ORR

DURING A DEPRESSIVE EPISODE in the summer of 2021, I attended “Big Gay,” a camping event north of Fresno where Bay Area lesbians congregated for a weekend of swimming and gossip. As I bobbed in an innertube on a marshy lake, I kept one eye on the jaundiced hills, watching for smoke. The Dixie Fire had just ignited in a nearby canyon, ripping through thousands of acres of fir and pine. Earlier that day, fire crews warned that the winds were unpredictable.

Back at the car, I had my emergency kit ready: four gallons of water, food for a week, a paper map of the San Joaquin Valley, an extra blanket and two weeks’ worth of antidepressants. In the Anthropocene, the ability to locate emergency exits is essential.

The conversation among the group floating in the lake quickly turned from bad dates and the depressing housing market to climate change and mental health. The future, we agreed, was decidedly bleak, especially in California. A couple confided that they were looking to buy land in the Southeast. Although neither had ever lived in the South, they seemed to prefer the possibility of flooding to wildfire, as if the decision could be reduced to a specific flavor of catastrophe. Another

couple disclosed their anguish about whether or not to have children, citing carbon footprints. A woman with bleached hair piped up about her electric vehicle, to which another replied by pointing out the perils of neoliberalism and climate change. “You can’t buy your way out of this,” she snapped, spreading her hands wide. No one asked her to clarify what *this* was. Crumbling coral reefs? Disappearing wetlands? Climate refugees fleeing their homes, only to be turned away at the border? It didn’t matter; everyone knew what she meant.

“It’s terrifying,” I said.

The woman shook her head in disgust. “Terrifying doesn’t even begin to cover it,” she said.

IN THE CLIMATE CRISIS, nothing is quite like you remembered it. Wildfires rip through millions of acres of California, transforming pine forests into charred skeletons. In my home state of Ohio, the changes are more subtle: Crabapples and lilacs bloom earlier; cicadas emerge weeks ahead of schedule; December calls for a rain jacket instead of a winter coat. This disorientation invokes Freud’s *unheimlich* — the “uncanny” — in which the familiar inevitably morphs into the unfamiliar, an intimacy turned rancid and raw.

In 2007, Australian philosopher Glenn Albrecht coined a new term for the feeling: “solastalgia,” the pain and distress caused by the loss of one’s environment.

Although the relationship between climate change and mental health is a relatively new field, it’s clear that the psychological effects of a warming world are worsening. Studies show that suicidal ideation, substance abuse, depressive episodes and reactive psychosis often increase following a climate disaster. Witnessing the destruction of your home, sleeping in shelters, lacking access to water and food — all of these stressors contribute to what psychologists call “ambiguous loss,” a phenomenon marked by uncertainty and a lack of closure. A 2020 poll by the American Psychiatric Association found that 67% of American adults were moderately to severely anxious about climate change. In younger generations, the impact is even more pronounced: According to a 2024 study published in *The Lancet Planetary Health*, 85% of Gen Zers are concerned about climate change. The weight of our increasingly unknowable, rapidly warming world is crushing.

In conversations with my own therapist, we’ve spent many

hours discussing how climate change — like so many other things in my life — makes me feel out of control. As a chronically depressed person, I’m familiar with periods of dark thoughts, low energy and uncontrollable crying. Even so, climate grief has caused my already dangerously low serotonin levels to dip even further. The line between hyperawareness and paralysis blurs. I doomscroll through climate reports and obsessively check the daily air quality index. I call my political representatives and leave stumbling, pleading messages. When I walk my dog on unseasonably warm days and smell fragrant cherry blossoms that opened weeks too early, panic fills my chest like a dark bloom of spilled ink. If only I could file away the small details of the world with empirical stoicism. Instead, they pour into my bloodstream and attack the veil of my selfhood, leaving me cracked and porous.

My therapist suggested that I experiment with somatic exercises to focus on my body and escape the rattrap of my brain. “Tap right here with your two fingers,” he said, pointing to his heart. “It’ll bring you back into yourself.” *Tap tap. Tap tap.* The physical sensation helps me regulate my breathing. Sometimes I



like to imagine I'm writing a message in Morse code to my future self, only I can't decipher exactly what I'm trying to say to her yet.

THE ECOLOGIST ALDO

Leopold famously wrote: "One of the penalties of an ecological education is that one lives alone in a world of wounds." The line rings less true to me these days. Our warming world is full of wounds, but we are certainly not living alone in them. My depression actually brings me closer to all this collective pain. At a Halloween party a few years ago, I met a gruff young man

who studied waterfowl migration patterns along the Pacific Flyway. He confessed that things were not looking good. Too much drought, too little water. He drained his beer and swallowed hard, pain rearranging the sharp angles of his face, then narrowed his eyes and took a half-step back, as if expecting a punch. I saw in him the sort of fear that inevitably arises from love. I recognized it immediately, and although we were strangers to each other, for one small moment I seemed to slip out from inside myself into the uncanny shadow of his climate grief. It mirrored my own. *So you feel it, too, I*

thought. The interconnectedness of our grief was painful, but it was almost holy, too. The price of a depressed brain is that you cannot look away: not from the world, not from each other. But it is also a reward: A gift to feel so strongly.

I biked home from that party shortly afterwards, weaving in and out of the dark streets of Oakland. Even when burdened with amorphous grief, it was hard not to be moved by the silence of a city at night: The ginkgo trees glowed in the streetlights, and the air was damp with the promise of rain. As I pulled into my driveway, it began to drizzle for

the first time in months. I stood still for a moment, immersed in so much relief I ached. I tapped my heart.

There's a simplicity in mourning the world in this climate crisis; the evidence speaks for itself. *Tap tap*. The burden of grieving and loving our wounded world together, though, is more bearable. Perhaps it's even a blessing. ✨

Bethany Kaylor is a writer and illustrator living in Iowa City. She's currently an MFA candidate in nonfiction at the University of Iowa, where she's working on a book about subcultures.

TOWNSHIP AND RANGE

Exploring the intersection of race and family in the interior rural West.



'Tis the season

Food from home takes on a variety of meanings in the Mountain West.

BY NINA MCCONIGLEY
ILLUSTRATION BY TARA ANAND

I AM NOT SURE where I first saw an artichoke. It might have been on a soap opera. My mother and I spent long afternoons watching TV, with the Wyoming wind blowing outside. We immersed ourselves in the 1980s world of shoulder pads, big hair and the glamorous lives in the soaps. I remember a scene of two ladies eating lunch, with crystal on a crisp white tablecloth, and between them was an artichoke. They ripped off leaves and dipped them in butter, all while drinking champagne and talking about high society in New York City. It seemed a world away from the High Plains.

I wanted to eat an artichoke.

In our house, we ate plenty of food that, for Wyoming, would be deemed exotic. Curry and rice were the norm for us, as at that time there wasn't a single Indian restaurant in the whole state. My mother took me to the store, where I picked through some sad produce. The food there had traveled many miles; my mother would optimistically buy still-green mangoes that never ripened properly. But, to my surprise and delight, they had artichokes.

I used to study *The Joy of Cooking*, a book my mother bought when she moved to America. I read about how to make floating islands, pancakes, even how to boil an egg. After school, while still in my uniform, I followed the recipe for steaming an artichoke to a T, carefully making a mixture of butter and lemon juice in the microwave. I sat down to eat, removed a leaf and dipped it in the little pot of sunshine. And then I took a bite. It was hard, so I scraped the flesh off the leaf with my teeth. My disappointment was immense. This was it? The food of the glamorous elites? All that work for a little taste of boiled mush? My mother sat down, and we shared the rest of it. I mostly slurped the butter off the leaves.

"So, not what you thought?" she asked.

"I think I like food from here," was my reply.

Food from here. What did that mean? What is food from the West? Beef? Lamb? Sugar beets? Corn? Beans? Rocky Mountain oysters? When I tell people I grew up in Wyoming, they inevitably ask me how I like my steak. One benefit of teaching at land-grant universities is that my husband and I get our meat there. In fact, anyone can buy meat raised and graded by students at the university; some of my students serve on

the meat-judging team. I love going into the little shop on campus and seeing what meat they've been producing and hearing them talk about it.

When I was a child, my father helped a Quaker friend move his cows up into the mountains and down again every year. In return, the man gave us grass-fed beef that filled our freezer. We also ate a lot of fish. My father fished for trout on the North Platte, and my mother was famous for her fish-head curry, a dish that both delighted and appalled me. And we kept a modest garden full of tomatoes and chili peppers. The way I figured, it was all food from *here*.

IN THE HOT SUMMER months in the Mountain West, from July into late summer, the hard winters pay off. You can almost forget that spring is short, and the growing season is over so quickly. You can almost forget the sadness of tulips eaten by deer, lilacs killed in a wet spring snow and new shoots flattened by surprise hailstorms.

I am a poor gardener. But there is something about gardening at 7,200 feet that feels like the most optimistic endeavor. It's a lesson in faith and patience. Every year, I keep my little tomato plants inside till the last possible second. Memorial Day weekend always feels a little too early to plant. And every fall, I nervously survey my small crop of tomatoes and hope the first snow will hold off till I can harvest them. Many times, I've picked them unripe, as a storm was coming in. I once made a green tomato pie.

The other food season to me is fair food. Some of the best food of the summer is found on the fairway. Every county has its county fair. When I was a kid, it meant entering the competitions with my 4-H projects. I sewed, made jelly, even submitted watercolor paintings. I once won a blue ribbon for crabapple jelly; I would have scored higher, but in the clear, jewel-toned jelly, I'd left a tiny speck of cinnamon.

But it was the food for purchase that really excited me: frybread, elephant ears, fresh-cut French fries, oversized turkey legs, corn dogs and funnel cakes — all things fried and sprinkled with salt and sugar. I loved the cotton candy that looked like clouds on sticks. None of it was homegrown, but it meant something exotic, something new, something only in season for a short time. To me, fair food was

far more exotic than anything I ate at home.

MY FIRST JOB when I was 16 was waitressing at a Chinese restaurant in Casper. The owners were a father-daughter duo, and he would fill my hands with almond cookies and soup after my shift was over. I would come home with the smell of fried wontons in my hair. As I took orders, I noticed that some people stuck to classics, but many customers would shyly ask questions. Was mapo tofu spicy? What was tofu like? They wanted to try things beyond sweet and sour chicken. It taught me something about desire — that many people want an artichoke experience. Most of us want to try something new.

It's easy when you are from a rural place to think that small-town cuisine isn't exciting. But I think being from spaces where options are limited makes you more adventurous. I have met so many people who claim they only like steak and potatoes, but then they eat my mom's curries and are converted. Now my hometown has an Indian restaurant, along with pho, Thai and several Chinese restaurants. And sushi, something I didn't eat till I was 25 — not for lack of wanting to, but there was nowhere to try it. Driving to Oregon last summer, I ate incredible ramen in Idaho. The foods of the West are changing.

But what hasn't changed is our optimism and hope. Earlier this summer, we planted tomatoes and other vegetables that our girls like: Carrots, snap peas and lettuce. Juniper and Marigold also planted sunflowers.

"Will they grow, Mama?"

I could only tell them I hoped so. I hoped it wouldn't snow or hail. And that the voles wouldn't ruin the garden.

I MAY NOT have liked the artichoke, but maybe that wasn't the point. The point was that I was trying something different. The point was that to live and make a home in the West, you adapt to new things. What is exotic to some is life as we know it for others. To Juniper and Marigold, growing food in our garden is as remarkable as an artichoke seemed to me.

"It's from *here*!" they say excitedly when they bite into their tomatoes, the juice running down their faces. ☀

Nina McConigley is a writer and professor at Colorado State University and the author of Cowboys and East Indians.

CALIFORNIA

What is cold-blooded, prone to slithering and fond of eating live mice? And no, we're not talking about certain members of Congress. Instead, say hello to Angel and Zeke. You're not seeing double, either: This male California kingsnake was born at Vivarium — a Berkeley pet store — with an "unexpected genetic twist: two heads," the *San Francisco Chronicle* reported. The rare reptile(s) were named after Angel Hamilton and Ezekiel White, the Vivarium employees who discovered them. Two heads might be better than one, but not when they're on the same body: Double-headed snakes — or tortoises or geckos — are extremely uncommon, with the odds against polycephaly about 1 in 100,000 and chances for survival even slimmer. But Angel and Zeke have already lived much longer than expected, and at just over 7 months old, they appear to be thriving, having grown over a foot long and devouring a baby mouse once a week. Theoretically, they could live up to 25 years and grow 4 feet long, just like their single-headed brethren. The snake(s), which navigate their habitat somewhat awkwardly, are described as "clumsy but fearless." Sometimes they disagree about which direction to slither in, and one head tends to dominate the other, with the right head taking charge at mealtime. Which head is which? you may wonder. Nobody knows for sure, but White and Hamilton enjoy bumping heads over whether the dominant head is Angel or Zeke.

YELLOWSTONE

Tourist-tossing season is officially underway at Yellowstone National Park, commencing with a resident bison versus a 47-year-old Cape Coral, Florida, man on May 4 in the Lake Village area of



Heard Around the West

Tips about Western oddities are appreciated and often shared in this column. Write heard@hcn.org.

BY TIFFANY MIDGE | ILLUSTRATION BY DANIEL GONZÁLEZ

the park. The unnamed man, who was gored after approaching the bison too closely, received minor injuries and was treated by emergency medical personnel, the National Park Service reported. This is the first incident this year, but probably not the last. It would make a perfect Marty Two Bulls cartoon: Bison wearing sandwich boards saying "F-ck Around and Find Out," or just plain "FAFO."

UTAH

The elderly cat who survived a 380-foot fall in Bryce Canyon National Park that killed her owners has found a new home. Chelsea Tugaw, the search-and-rescue helicopter pilot who flew to the scene, adopted her.

The cat, named Mirage by caretakers at Best Friends Animal Society, was discovered alive in a cat carrier near the bottom of Inspiration Point's spires when the rescue team recovered the bodies of Matthew Nannen and Bailee Crane. The long-haired tabby, who was apparently being carried by the couple when they fell from a viewing site, suffered broken teeth and ribs and was taken to a specialty Las Vegas veterinarian hospital to be treated for respiratory distress caused by fluid around her heart. Tugaw had already decided that she wanted to adopt Mirage, so she reached out to Best Friends, which contacted the couple's next of kin and received permission.

And the rest is history: Mirage has settled into her new home and reportedly gets along nicely with Tugaw's two other cats and one dog. Tugaw said finding Mirage alive was a comfort after the tragic incident: "I think that's one of the biggest reasons I was so drawn to wanting to adopt her," she told *The Salt Lake Tribune*. "It just kind of felt like there was a connection there."

ARIZONA

The market price for Anatolian Pyrenees should soar after an especially heroic one rescued a lost toddler from the Arizona wilderness. Late on the afternoon of April 14, a 2-year-old boy, Bodin Allen, wandered away from his home in Seligman, Arizona. Search parties, including the Yavapai County Search and Rescue Team, searched for Bodin on foot, on 4x4s and by helicopter for 16 hours with no luck. Somehow Bodin managed to walk for seven miles, fortuitously avoiding wild animals including mountain lions, bears and coyotes while successfully navigating rugged and potentially hazardous terrain, 12News reported. Eventually, a good-natured, protective ranch dog named Buford found the boy sleeping under a tree and guided him to the Dunton Ranch, where the dog lives. According to Scotty Dunton, Buford's owner, Anatolian Pyrenees are natural guardians. "He goes out at night and just kind of patrols. He goes half a mile, a mile from the house and just makes big loops, keeps coyotes out," Dunton said. Bodin was happily reunited with his parents and suffered no more than a few scratches. And as for Buford, the County Search and Rescue Team made him an honorary member, even bestowing on him a spiffy official-looking team vest. ✨

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#IAM THE WEST

GIOVANNINA ANTHONY (SHE/HER)
MD, OB-GYN
Jackson, Wyoming

If women don't control their own fertility, they'll never have a level playing field with men. It'll just never happen. When *Roe* was overturned, I wasn't surprised. But I was still shocked; I felt like someone hit me in the chest, even though we knew it was coming. But I've had a lot of support from women all over this state. I have not felt lonely or like it's me up against some huge surge of anger and hatred. It's not like that at all; it's just a few people. Abortion is a very normal part of the spectrum of women's health, and I see no reason to compromise my value system, even though I live in a conservative state. This is a social justice issue for me. And I know my patients: I know that most Wyoming women support the right to choose. The women here are practical and realistic.

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