RESILIENCE

A VOICE OF THE NEW AGRARIANISM

Issue 45

SEARCHING FOR HOME GROUND
AND WHAT WE FIND ALONG THE WAY

Editor's Note

Dear *Resilience* readers,

So much of our time on this planet is spent searching for a sense of home, whether that's on a plot of land, with a specific set of people, or a connection to something that fulfills us. The amazing part of finding home is that although it can be such an individual endeavor, it can accidentally or intentionally uncover community, humility, history, and place.

In this issue of *Resilience* – the 45th edition – we get to hear from ranchers and farmers, students and poets as they consider how they create a home for themselves and for others. In reading their stories, I was inspired by people considering hard questions in this pursuit. How do we trust others to take over something that is intrinsically tied to what we consider our legacy? What work can we do to create space in regenerative agriculture for those who have been pushed to its edges? How do we think differently about land ownership, land access, ecosystems, and community agriculture?

As I put finishing touches on editing my first issue of this literary journal, a line from Hannah Breckbill's piece (pg 28) truly resonated with me and made me feel proud to call myself a farmer:

And so the Queer Farmer Convergences that I have hosted have always been about belonging. No one is not queer enough, no one is not farmer enough. If you are called to come, you are precisely who we need.

If you are called to come, you are precisely who we need. May we strive to build our homes, communities, and gatherings places where we feel a strong sense of self and belonging while creating the same for others.

Anica Wong

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Cover photo by Jessica Brothers

With dozens of trees nearby to build a protected nest, this robin chose a potted plant on a tool shelf directly outside our very active back door as a safe place to raise her young. For the next month — 14 days of incubation followed by 14 days of feeding — the robin and her mate coexisted with our family. The nest was crafted with a number of found farm materials, including sheeps' wool, tarp material, and hemp twine. The daily exchange we experienced with the robins brought up ongoing conversations of 'resilience' and 'belonging' in our daily musings. The robin's choice to nest so close to our everyday lives, along with our efforts to respect and nurture this relationship, reflects our own ongoing desire for connection, care, and belonging within our broader community ecosystem.

Perhaps a stroke of misfortune led the robins to choose such a busy spot for their nest. Maybe our family provided the predator-proofing they needed to raise the next generation. There's no doubt this experience expanded our own idea of resilience. Our lives were enriched by the ecological convergence, and I hope the same for the robin family. One by one, the fledglings *(see photo above)* found new homes among our oak, pine, and beyond. The gift they shared with us during those 28 days will ripple far beyond the tool shelf.

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Quivira Coalition publishes *Resilience* annually as a benefit of its membership program — becoming a member is one of the best ways to support our work. Additional copies are available for $10 + shipping within the United States We are also able to ship international.

Contributors

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Yolanda Benally is a farmer along the San Juan River in New Mexico. She is a mother of three and works at her tribal energy company. Her passion is spending time with her children, sewing, and designing fabric. Farming is a source of fresh produce for her family and her community. She believes farming is a way to reduce her carbon footprint and she hopes to see more young farmers take the reins in her community to continue taking care of the land.

Claire Boyles is a writer, a former small-scale farmer, and a member of the Board of Directors for Poudre Valley Community Farms.

Hannah Breckbill (she/they) loves to show up, to go deep, and to channel the power of relationships into right-sized action. She dedicates her community involvement to the development of ever-better alternatives to conventional systems. She is a worker-owner with Humble Hands Harvest, a diversified direct-market farm in rural northeast Iowa, and is grateful for rain. To connect to the Queer Farmer Network: queerfarmernetwork.org

Jessica Brothers is a designer, ecological educator, and wild food advocate. With a passion for land stewardship, she channels her creativity into designing products and technical guides for Quivira Coalition. She also runs Earth Hands Co., where she nurtures a living library of wild and cultivated herbs and leads sensory workshops that aim to deepen our connection with wild edibles and medicinal plants. Her family shepherds a flock of katahdin sheep as they work to regenerate and heal the land they call home.

Emily Brown is a farmer, rancher, mother, and public health advocate. She was raised in the San Luis Valley in Southern Colorado and is now back on the family farm working with her husband and parents. Emily thinks a lot about the structures and systems of thriving rural communities, in part due to her master's degree in public health education, and looks for ways to give back, including sitting on boards like Rocky Mountain Farmers Union.

Kyler Brown was raised outside of St. Louis enjoying the outdoors. He always wanted to be a cowboy and gravitated west to go to college at Colorado State University and work on ranches from Texas to Wyoming. After training horses for several years in Nevada, Kyler came back to the San Luis Valley to farm and ranch with his wife and two kids, Elijah and Olivia. Kyler sits on several boards to help his local agricultural community.

Aalap Dixit is an assistant professor in the Department of Forestry at New Mexico Highlands University and holds a PhD in forest science from Northern Arizona University. Aalap is also the supervisory scientist with the New Mexico Reforestation Center. His expertise lies in studying plant traits to predict plant performance under diverse field conditions and then using this information to select best adapted species or seed sources for reforestation projects.

Pete Ferrell has worked at the Ferrell Ranch all his adult life. He co-founded a rancher-owned cooperative for marketing forage-finished beef. He was instrumental in the development of the Elk River Wind Farm constructed on the Ferrell Ranch. Pete serves on the board of directors of The Land Institute. With ranch operations now in the hands of the next generation, Pete devotes his time to mentoring and teaching regenerative practices.

Erin Foster West is the policy campaigns director for the National Young Farmers Coalition and has been with the coalition working on state and federal environmental policy for over six years. Erin grew up in rural Montana, where she got her passion for the environment and agriculture. Before Young Farmers, Erin worked for the U.S. Department of Agriculture, a food bank, and served as a FoodCorps member. Erin holds a master's degree in agriculture, food, and the environment from Tufts University and a bachelor's from Macalester College. She lives in Denver, where she enjoys hiking, cross-country skiing, and working in her garden

Elaine Gonzales Mitchell is a biracial Chicana writer, and an alum of the New Mexico School for the Arts Creative Writing department. She won a Scholastic Gold Key for her senior capstone manuscript titled "Querencia," which explores the traditions of farming and acequia culture for her family. Elaine is from rural northern New Mexico, an experience that influences her work, which centers around historical and contemporary land and water rights issues for Chicane Americans.

Kristal Jones is a rural sociologist and runs a small applied social science consulting firm based in Montana. Her team's work spans the country, supporting producers and agencies in using data and information related to food systems. Her own experiences in grazing systems include time spent with herding communities in West Africa, community-based organizations in the Northern Great Plains, and many points in between.

Sarah Knight is a classically-trained chef from the Mid-Atlantic region. After working in Washington, D.C. and Baltimore for over a decade, she left cooking professionally to pursue experience in animal agriculture, whole animal butchery, and higher education in sustainability for a deeper understanding in creating more resilient food systems.

Feliciana Mitchell-Gonzales is a proud northern New Mexican Chicana who was born and raised in the Taos area. Feliciana attends New Mexico School for the Arts and is preparing for her junior year, majoring in the art of theater. She enjoys biking, hiking, and skiing, and also playing the vihuela, creating murals, doing circus arts, and learning about her culture and traditions. Feliciana is passionate about keeping her New Mexican culture alive, especially the acequias. She is also an activist against climate change and she also advocates for many other social issues.

Jesse Pinkner was born and raised in St. Louis, Missouri with his brother and sister. He grew up as a city kid but would spend his summer vacations with his family visiting the Ellzey Ranch. He has a degree in kinesiology from Missouri State University. He married his best friend from high school, Leah, in 2020 and in 2021, they both joined the New Agrarian Program and spent three years as ranch hands in central Montana. In 2023, Jesse and Leah moved to Jesse's family land in the panhandle of Texas to start their own regenerative ranching operation.

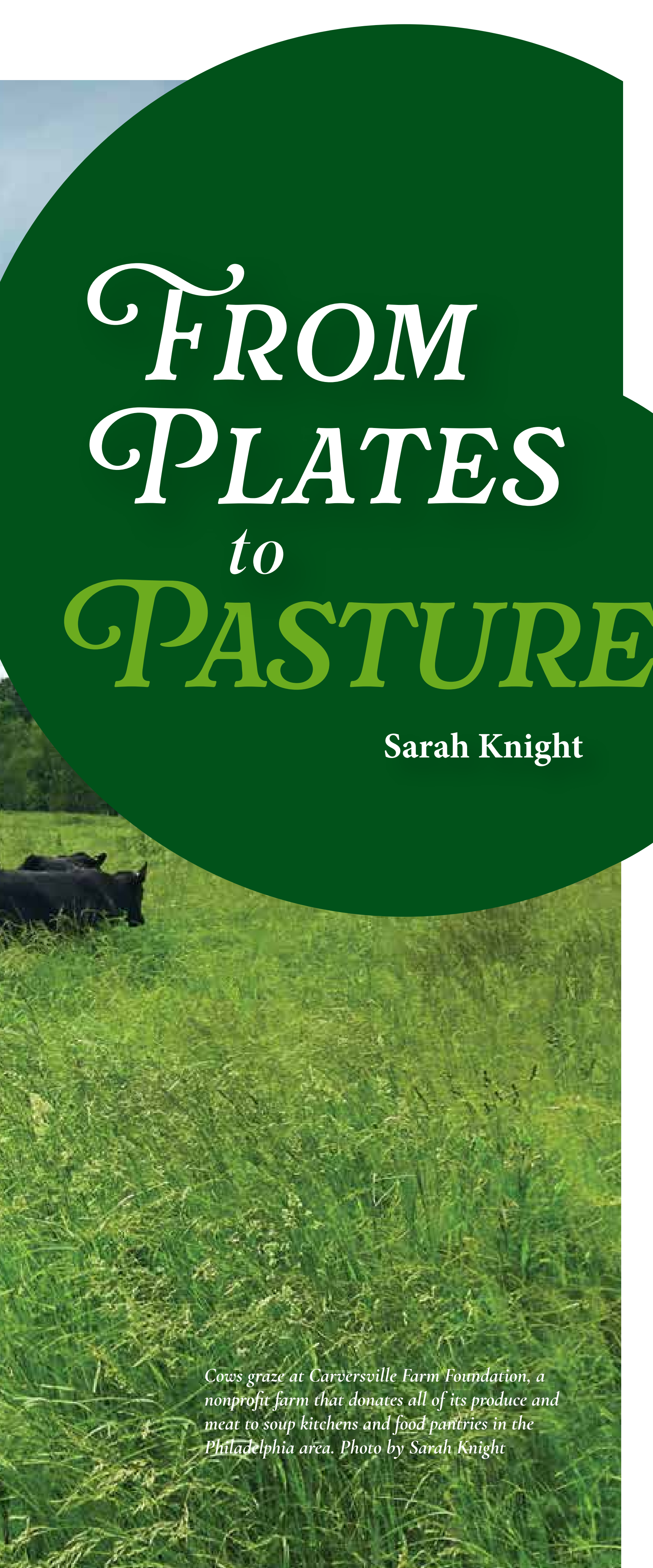
Sam Ryerson raises cattle and horses with his wife and partners on leased grazing lands in northeastern New Mexico. He is a graduate (in 2010) of Quivira Coalition's ranch management apprenticeship program. He has been on the Quivira board since 2017, and also serves on the boards of the Southwest Grassfed Livestock Alliance, Sweet Grass Coop, and Contra Viento Journal.

Joshua Sloan is an associate professor of forestry and associate vice president of academic affairs for forestry and the Reforestation Center at New Mexico Highlands University. He received his bachelor's degree in forestry and PhD in forest biology from Purdue University. Josh is also the co-founder of the New Mexico Reforestation Center where his work focuses on the outreach, education development, research, and operational aspects of forest restoration.

Sally Thomson is a documentary and fine art photographer, landscape architect, and conservation planner based in Santa Fe, New Mexico. Her work explores the relationship between nature and culture and how that forms our perception and expression of the world around us. Her goal is to inspire through photography the need to preserve at-risk, important natural environments and the cultural legacies they support. Sally's work has appeared in a variety of print and web-based media, and has been commissioned by private individuals and organizations.

Anica Wong is a journalist by training and has more than a decade of communications and marketing experience; she is currently the communications director at Quivira Coalition. Her great-grandfather and grandfather were part of a long line of vaqueros in northern New Mexico and her dad spent his entire career in the Forest Service working to help all people access the outdoors. She and her partner own an urban farm in the Denver-metro area.

Bill Zeedyk, innovator of the Induced Meandering concept, brings a lifetime of experience in natural resource conservation to the practice of river, wetland and riparian restoration. Upon retiring from the U.S. Forest Service with 34 years' experience in habitat management, Bill founded a small consulting business. He has prepared training materials and conducted numerous hands-on workshops involving professionals, laymen, and volunteers alike. His methods have been adopted by federal, state, and tribal agencies, landowners and conservation organizations, and acclaimed by teachers, scientists, and practitioners in the field.



From Plates to Pastures

Sarah Knight

Cows graze at Carversville Farm Foundation, a nonprofit farm that donates all of its produce and meat to soup kitchens and food pantries in the Philadelphia area. Photo by Sarah Knight

As I walked the buffet lines before the doors open to welcome the newlyweds and their loved ones, I checked the presentation of the food and added final touches. I wiped smudges or added garnish, while the front of house crew did the same for the equipment, silver, plates, and lighting. They checked the orientation of the displayed hors d'oeuvres and wiped up the moisture pooling at the bottom of the lid when chafing dishes were opened. I'd made note of areas to improve upon next time, remembering how something was executed in the kitchen and the effect it had on the food in front of me now; why spend so much time searing rockfish for a perfectly crispy skin only to have it soften in a humidity-filled chafing dish moments before being served?

The attention to detail for this event was different. Not merely in size — 250 guests — but this was the wedding of the property owner's daughter. The owner and his family, a whole horde of restaurateurs, picked our location to hold this once-in-a-lifetime event. The welcome reception offered top-shelf liquor and wine, eight passed appetizers, an oyster shucking station, and a build-your-own ceviche station to start. The ceremony followed, giving the kitchen 45 minutes to finish executing the food for the cocktail hour. More food, more drinks. We had six different food stations to replicate iconic scenery and menu items found at each of the family's restaurants. Build-your-own sushi rolls, fire-grilled teppanyaki. More oysters and crudo. A whole snapper carving station. Mounds and mounds of olives and feta threatened to topple onto guests' open-toed shoes.

As I finished checking my list, I stopped to stare at a wall of seafood resting above heaps of ice. Red snapper and crustaceans adorned with seaweed, edible flowers, shells galore. This display cost $2,244, and wasn't intended to feed anyone. Twelve whole red snappers sat there, their presumed destiny no more than props. I was the product of the corporate chef world, trained by skilled chefs, some of them even Michelin-starred, but eventually molded by managers and owners seeking profit; meeting quarterly goals had become the norm, not the creation of delicious food. Because of that, I had hoped for a meaning or purpose greater than family, or staff, meal for this snapper, hoping to make a profit somehow, to combat the food cost of this event. While

Sarah helps serve food at the Mannix Ranch dinner, hosted by Old Salt in 2022.
Photo by Floating Leaf Studios

the newlyweds and guests had the time of their lives, while the sales team raked in bonuses and gratuities for the price tag of the event, and the teams across the company worked for hours to finish this successfully, the cost of it all was starting to weigh on me. The requirement to please the client willing to pay, at the cost of land, animals, and people, made me feel desolate.

For large events, we frequently ordered pre-fabricated meat to save on labor. More often than not rockfish filets would come in hacked to pieces by the cut floor of their facilities. The system is set up so we can send the product back if it isn't sufficient. I asked the driver once what happens to the fish upon its return; he said it's either trashed or sold to a pet food company. The wedding sales team often sold plated events because of its higher revenue potential, and well, a beautiful plated dinner is simply that… beautiful. So we would plate rockfish and filet mignon with out-of-season asparagus. And then, for some reason, when asparagus was in season, the sales team would start selling mini rainbow carrots. For a wedding of 125 guests, which was common, we would order enough protein for 140 people, to cover mistakes or overcooks. A steer has two tenderloins, each of which provides about ten filets. In order to cover our numbers, we would need the tenderloins from 27.5 animals. It's harrowing to think about. Where did the other 27,000 pounds of meat go?

I couldn't stop thinking about how unsustainable it all was. Something had changed in me. The unused snapper filets, cleaned and sitting frozen for weeks on end, were haunting me. The off-season asparagus from Mexico started to wear on me, having to send back pencil-thin stalks for fat stalks because they weren't good enough for the guests' plate.

While I watched food get thrown in the trash daily, as I inspected vegetables from Mexico and California in our east coast mid-Atlantic kitchen, I questioned everything I was doing. Beholden to a company-approved wholesaler supplier list, and tired of half-truths on menus, I really started to feel the weight of being a part of the problem. Food was a commodity, a resource used to make profits for the company. The people creating the food are not paid well enough to live a sustainable life. Examples of waste were everywhere. Water would run for hours to defrost food frozen from across the world. We didn't recycle, we didn't compost, and conservation was not a thought. I loved the people, I loved Baltimore, living in the city, and loved the food, but realized I was doing myself, the industry, and product a disservice. So, I quit. I wanted to understand our food system and what it means to grow and raise food well.

• • •

Six months after that lavish wedding, I sat at a long wooden table in a barn listening to my farm manager lay out the day's goals. One by one, the farm manager, livestock manager, mechanic, and groundskeeper each discussed the equipment needed, how the cover crops were doing, the lay rate of the hens, and which steers to send to the slaughterhouse. A calico cat sauntered around the table randomly picking (or so it seemed) which person she wanted to flop in front of for pets, only to claw at them the moment it was too much.

> *"They all had more experience in farming than I had, and used a language with which I was unfamiliar. They asked me cooking questions and I asked farming questions."*

With the meeting over, it was time for daily chores. In my new role as livestock apprentice at Carversville Farm Foundation, my first task was to collect the eggs, which I picked up off the high-tech mechanical belt quite slowly, terrified of breaking one. I was still figuring out how to change my natural grip that was used to picking up steaks out of a pan to slice to handling moments-old eggs. After the collection, the livestock crew headed to the winter cattle pasture. Though there was no more snow for the

season, it was muddy, wet, and cold. The cattle didn't seem to mind. They lounged on dirty straw, chewing their cud, observing us. While we stood there, our manager explained pasture-based cattle operations, and I tried to keep up with what I was learning from him while simultaneously learning from the gorgeous beasts I watched. The group of 14-month-old steers, one by one, rocked their weight onto their hooves, stood up slowly, and walked over, all the while sticking their tongues into their nostrils. They came toward us, curious but timid. I got to rub the crown of steer #811, and because I was the only one granted the privilege, I had no doubt I was going to be a natural.

Leaving a professional position as an executive sous chef — a position I had worked long to achieve — to become a livestock apprentice was gutsy. I was 36, working and living with people who ranged from 19 to 28 in age. They all had more experience in farming than I had, and used a language with which I was unfamiliar. They asked me cooking questions and I asked farming questions. Once, I asked my manager how soil regeneration works. I pointed to the cattle pasture, then down the hill to a vegetable field, asking if those soils were benefitting from the cattle pasture a half mile away. "It doesn't work that way," he politely said. But he did reassure me that just because the fertilizer naturally found in cow manure wasn't benefitting the soil in the vegetable field, it was most certainly helping to build resilient ecosystems by developing biomass and organic matter in this pasture. I nodded, then proceeded to look up the definitions of those terms.

In cooking and restaurants, the variables are all familiar things I knew how to prepare for: adjusted guest count, broken oven, allergies, delayed deliveries. My instincts were honed on issues and decision-making in high volume, high stress kitchens. When it came to farming, to animals, to the outdoors, my instincts were garbage. I fell, didn't read the steer's body language properly, became scared and unsure of myself. I clumsily made knots of full spools of fencing wire daily, and I stalled tractors. I would tend to my bruised ego by occasionally treating myself to a steak from the farm, only to set off the smoke alarm. My body hurt, my brain was on fire, and I was deeply tired. I stumbled, asked stupid questions, and got kicked off jobs. I was asleep by 8 p.m. nightly, and then up with the sun. I loved it all.

Eventually I found my footing and even started performing with some competence. I continued to learn. I had the privilege of working at a farm that practiced regenerative agriculture, was certified organic, and had on-site slaughter. It was through the daily diligence of these methods that I learned what it means to raise animals well, to grow vegetables, manage pastures, tend to ecosystems, and regenerate soil. For all of these skills learned, I also realized there is never one answer, and whatever the answer or solution you choose, it's only a small part of a much larger equation. Farm life and learning are the same: they never end.

Sarah serves food at the Old Salt Festival. Photo by Gavin Sullivan

Pastured laying hens graze and fertilize the asparagus patch. Photo by Sarah Knight

My nine-month livestock apprenticeship lasted two years. Working in agriculture was the best treatment for my depression. I used to spend 12 hours a day in a windowless kitchen, just trying to drink enough water. Eating the food I raised on the land that fed it is the ultimate version of reciprocity. Being at the slaughter house with the first steers I helped raise from their first day on the farm until their last. Assisting in their final moments, watching the fibers in their muscles twitch as they were inspected. Seeing the pasture, still fermenting in their stomachs. Feeling their warm bones and flesh in my hands. And finally, three weeks later, being able to bring them back home, and slap one of the most well-marbled steaks over a hot charcoal fire, while watching the sun set over the same pasture of clover that created this marbling. That was one of the most rewarding, if not *the* most rewarding experiences I've ever had. The result of the hard work — from seed and young steer to permanent pasture, food, and improved ecosystems — beat the faux, exhaustion-filled satisfaction from some drunken, shit-eating grin of a rich guy eating a sourceless filet mignon from a feedlot. Until this time, these moments, I don't know that I could have told you why I had been depressed. But it became obvious that not only had I been lacking the basics that make a good quality of life — daily sunshine, connection with nature, a purpose greater than capitalism — but now, I got the best quality of everything.

Seeing an animal grow from its first day to its last has helped me realize how important small, regional food systems are, the importance and value of humane animal handling, and of seasonal eating. Seeing the sun change paths over the course of a year on the same land helped me recognize that every season is a new season. I noticed the difference between a sticky morning dew as it touched my skin and a soft evening mist when putting the hens to bed, their coos a lullaby. What it means to assist in the development of life, only then to take it a few months later; to love, to kill, to consume, then ultimately give it back to the place from which it came. In my final summer there, I was getting ready to collect eggs when I realized the pasture we had just moved our hens into was neighboring the asparagus patch. It was the end of the season for the asparagus and it was no longer being harvested. So I walked, pinching and breaking off the tips of asparagus stalks between my fingers and crunching down on them while watching the hens forage, realizing that this was

Keeping logs burning for the overnight smoked pigs at the 2023 Old Salt Festival. Photo by Anthony Pavkovich

what I had been looking for (in addition to knowledge) — a sense of being where I was supposed to be.

Since that apprenticeship ended, I've ranched cattle in Montana, I've farmed on cow-calf and pastured pig operations. I've worked in slaughter facilities, and I've learned whole animal butchery. I've eaten meat from a 16-year-old grassfed cow, and it was better than any 18-month-old steer I've ever had. I can tell you about how an animal was raised just by looking at its hanging carcass. Identifying grasses, the body condition of animals, the annual rainfall…these are the things I think about now.

These days, I find myself in a multi-faceted role of chef, farmer, butcher, and educator at a not-for-profit higher education institution located in the high desert area of the eastern Sierra Nevada mountains. I cook the food we grow here, slaughter the animals we raise, and teach students how to do the same. Working toward a completely closed-loop food system is the goal; this year we're focused on upgrading our compost program, increasing our reliance on our ranch and farm produced product, and trying to eradicate our land from invasive Russian thistle so that our cattle's natural forage diversity can increase. I still find myself wanting to cook what I used to, to challenge myself to make the best tasting and best looking plates of food. Wanting to earn the same accolades as my industry friends who are still absolutely crushing it on the line in their restaurants every night. However, the desire to return to what I did before, in the same capacity, has changed. It sounds trite, but restaurants and hotels aren't good enough anymore. The walls and restrictions of those institutions have forever been torn down for me. I no longer am required to use food as decoration, to waste lives, or work in extractive systems. I get to work in systems that mimic the natural systems as old as time. Growing food, raising animals, slaughtering on-site and cooking in our kitchen for our community. While I still occasionally play around with the idea of growing microgreens for the sole purpose of garnishing plates, I get to stop and recognize that the desire to create beautiful things will always be present, but it doesn't have to be on a plate. Beauty is created around me by the land and animals. All I have to do is not get in the way.

How Can You Measure What You Can't Measure?

Kristal Jones

Photos by Quivira Coalition

In the early 1940s, Arthur Goldschmidt, an anthropology professor at UCLA, moved east to study the impacts of corporatization of agriculture on rural communities in California's Central Valley. The purpose of the study of three communities in the region, which came to be titled *As You Sow*, was to observe and describe the role that family farming played in rural life and the potential social implications of different forms of agricultural production. In a preface to the second edition of the book, written decades later, Goldschmidt noted that his purpose was not to reify or elevate a bucolic rural past in the face of change: "Though the tradition has its endearing charms, it is not without its costs, while urban society has much to commend it. The importance lies, however, in the recognition of both the possible dangers and the inherent values of an urbanized rural society. It is not impossible to salvage the good from tradition and still capture the best that technological efficiency has to offer."

I think about Goldschimdt's work often. As a rural sociologist by training, I have always been interested in the social dimensions of agriculture; that is, in the ripple effects that production systems shaped increasingly by external pressures (climate, markets, politics) have on individuals and families and communities. And equally important, in how the histories and visions and priorities of those people shape the production systems and the ecosystem in tune with or in spite of those external pressures. Goldschmidt is often seen as kicking-off rural studies in the United States, but in fact, his central thesis reflects a longer tradition of European social theorists reflecting on the persistence of peasant agriculture (defined as farms and communities that resisted maximizing productivity through mechanization or specialization in the name of community wellbeing and self-sufficiency). Although the framing of both "family farm" and "peasant agriculture" can seem old-fashioned, overly simplistic, and at times exclusionary, the underlying point is more expansive. For many producers, past and present, in most places around the world, agriculture is not simply a job, but is instead a vocation and an avocation rooted in history, place, and community. In other words, agriculture is a way to make and sustain a home.

As an applied social scientist now often working with public and non-profit agencies and organizations to support producers, consumers, and everyone in between in maintaining and enhancing resilient food systems, I spend a lot of time considering what counts as resilient, regenerative, sustainable. It is, in many ways, simplest to boil those dynamic concepts down to a focus on ecosystem structure and function. Rangelands are being managed sustainably if they grow grass every year. But what species, over what time period, in what climatic conditions? Are there birds and bees and prairie dogs in those grasses? How do ranchers define, for their own places, what "counts" as resilient or adaptive

or sustainable, inclusive of not only the ecosystem but the human communities living within it? Equally importantly, how do these concepts account for historical disenfranchisement of Native Americans and Indigenous peoples across the West? Can a system be truly resilient if it keeps people out of their home places?

In ways I am still putting my finger on, the "Goldschmidt thesis" resonates for me when I think about the ranchers and land managers I know and have learned from across the Plains and Rockies. These families and communities are managing land sometimes, but not always, as owners, and are building economically-viable businesses in community, through local sales, cooperative marketing, and value-added products. They are building on the multi-generational knowledge of white producers and multi-millennial knowledge of Indigenous producers to manage animals on the landscape in ways that reflect ecological history. They are restoring Native foodways through free-roaming buffalo herds, and they are supporting the many family ranchers whose livelihoods have been built on cattle. In other words, they are merging the knowledge and priorities of past and present in place-specific operations, households, and communities.

"'You can't monitor what you don't measure' is an oft-stated principle within land management and one of the reasons that ecological indicators tend to dominate rubrics and lists of metrics...."

To a certain extent, the many ways that resilient and regenerative ranching looks on the landscape reflects a more recent adage: "If you've seen one rural community, you've seen one rural community." The ethnographic and place-specific work of rural social scientists and the ongoing creation of rural community resilience reflected in that sentiment, in many ways, stand in high contrast to the increased emphasis across the food system on monitoring, measurement, and data collection. "You can't monitor what you don't measure" is an oft-stated principle within land management and one of the reasons that ecological indicators tend to dominate rubrics and lists of metrics that operationalize terms like regenerative, sustainable, resilient, and more recently, climate-smart or climate-friendly. In a recent study for The Nature Conservancy's Grazing Lands Program, colleagues and I engaged ranchers and ranch employees across the West to ask questions about the ranch management and viability metrics that are most useful to them for their own decision-making and to communicate about their home place to markets, policymakers, and the public. Overwhelmingly, ranchers reported that there are a set of metrics that reflect seasonal decisions, short-term outcomes, and long-term impacts, related to both productivity and ecosystem health. They also emphasized that economic stability is interconnected with other short- or long-term goals related to multidimensional resilience. In other words, being profitable is a necessary — and also not sufficient — condition of resilience.

In interviews and focus group conversations in several projects over the past few years, ranchers discussing the impacts of regenerative practices often mention less tangible or measurable impacts of their practice. In addition to discrete metrics that cover multiple dimensions of ranching and rangeland health, ranchers talk about being able to attend their children's sporting events in the winter because of later calving seasons, about decreasing the stress on their bodies when they stop growing feed and driving a tractor, and most crucially, about their children and grandchildren's renewed interest in ranching when they see that it doesn't have to be as labor and capital intensive as in the past. These and many other outcomes of adaptive practices shift the conversation away from a statement about monitoring what you measure and toward a question: how can you measure what you can't measure?

This is the central conundrum for many monitoring and data collection frameworks that are requested or required of ranchers interested in participating in various market opportunities, as well as accessing public funds to support conservation practices. Many corporate commitments for sustainability focus on one or a few dimensions of ecosystem structure and function, things like water use, the presence of certain key species of birds or pollinators, and of course, on greenhouse gas (GHG) emissions. A recent emphasis on climate-smart and climate-friendly commodities from the USDA and the private sector further narrows in on GHG emissions as a singular set of metrics that define climate-smart. While these metrics are an accurate reflection of the climate change mitigation impacts of given production practices, the sole focus on CO_2 equivalents loses the much richer and more dynamic concepts of resilience and adaptation that make a product and the practices that generated it climate-smart in a holistic sense. Maintaining the soil carbon stocks currently held in grasslands by minimizing conversion to row crops or residential development, for example, is a climate-smart outcome not as easily measured or valued in the existing marketplace and regulatory frameworks around conservation on working lands.

For independent ranchers and the rural communities that they call home, the story around producing climate-smart products will likely require the integration of new technologies and techniques in ways that enable economic viability and staying on the landscape in ways that do not further exacerbate and are able to adapt to a changing climate. That storytelling can focus on an external audience, to consumers and voters and policymakers, with the goal of creating more holistic market programs and investments in rural places. Certifications focused on regenerative agriculture increasingly include producer wellbeing alongside metrics of biodiversity, soil health, and other ecological dimensions of the systems. Equally important, storytelling can also be internal, within the producer or rural community. Talking circles like those organized by Women in Ranching, for example, create space for people to share their stories and create connections that have human rather than market-oriented goals. Finding ways to tell that story with more than just tidy graphs or rates of change requires those of us on the landscape — from ranchers and land managers to rural social scientists and more — to reflect on how and why rural communities persist and adapt without losing the things that make those communities home.

Letting Go

Pete Ferrell

My daughter is a compassionate physician. One of the more difficult tasks she faces is telling a patient that they "need to get their affairs in order." Few of us have to address an immediate situation as dire as this, but when talking about the process of ranch succession, many of the same emotions will arise: denial, grief, sadness, repeat. My generation is asked to plan for a time when we are not going to be here. Who wants to do that? It's not fun, it's not pleasant. But if we want to perpetuate our ranches, it is absolutely necessary. In my opinion, a perpetuation plan needs to be in place regardless of the age of the current ranch owner/operator. Statistically speaking, the death rate is hanging right in there at 100 percent...one to a person.

The Ferrell Ranch is 7,100 acres situated in the beautiful Flint Hills of Kansas; the Flint Hills are home to the largest tract of intact tallgrass prairie in North America. I began thinking about the succession of our ranch about 20 years ago; I'm 71 now. My children, now adults, were in middle school. Like many ranch dads, I certainly admit that I wanted either or both of them to consider following in my footsteps. I also knew that either or both of them could develop the skills needed to become a ranch manager. At the same time, I felt strongly that neither of them should step into a position of authority just because their last name is Ferrell. I wanted to make it clear that managing a ranch required a skill set similar to any other profession. Just because they were part of the family didn't mean they naturally had the skills it takes to run a ranch. Stan Parsons, founder of Ranch Management Consultants, advocated that we needed to separate ranch management from land ownership to get a clearer idea of the true worth of our actions. So that's what I did; I created a management company that leases the ranch real estate. Cash rent is paid from the former to the latter. I also recognized that I would need the rent as retirement income and to satisfy my ongoing debt requirements.

When I turned 60, the hand of time slapped me. By that point, I knew that neither of my offspring were choosing to go into ranching. They love this place as their ancestral home but picked other careers. I also realized that I was not really doing justice to the care of this ranch. I knew there were enterprises and infrastructure that needed to be developed. I recognized that I was not the guy to get that done. I wouldn't say I was burned out, but I was certainly past my prime. I turned to

my colleagues in Executive Link, an educational program for graduates of the Ranching for Profit School, for help. It took a while, but I was able to locate an amazing young man who is more than capable of managing this ranch. He is now in the process of buying the management company. In this way, we have taken the cost of the land out of the succession equation. In my opinion, it is heartbreaking that we typically ask each and every generation to buy these ranches over and over again. What often suffers is the land and the people paying for it. I am doubtful that my generation will find highly-qualified successors (as I have) without offering real ownership. Even with adequate pay, a job title is not enough. Furthermore, few of our successors will arrive at the ranch gate with adequate capital to operate the ongoing business. My successor needed the financial equity that I have worked so hard to build. I've learned to trust him with it.

So...has it been a smooth transition? Hell no. Pete Ferrell sometimes exhibits an overactive ego that can really get in the way. He is an unrepentant workaholic and has an opinion about how everything should get done. Whew! He's a piece of work. Who wants to be around that? Well, we found some secret sauce in the form of a family coach and counselor who has been able to smooth the waters during our transition. There have been several times the process could have been derailed had it not been for our resident sage ... a genuine advocate for us all ... holding up a mirror to show us who we really are and what we really want. He once shared an Irish adage that has stuck in my head: *Every son must kill his father and every father must let him*. Now, I'm not suggesting violence here (although that has happened repeatedly throughout history as authority clings to power), but the saying does speak to the necessity that the younger generation must step out of the shadow of their elders. And the elders must encourage this development if they want the next generation to flourish. Every ranching tradition that we might hold near and dear was once a brand-new, unknown thing. It's time to let go of those traditions and let new ones be born. I have a deep sense of empathy for my brethren who struggle with the unspoken turmoil of this phase of our lives. Sadly, many ranches will not pass to the next generation until they are pried from the cold, dead hands of the late proprietor.

Rootedness does not begin to describe how I feel about this place currently known as the Ferrell Ranch. I was the fourth generation of my family to manage this ranch. Some of our story could be seen as tragedy but threat and opportunity live under the same roof. My great-great-grandfather was murdered for money during the Civil War. His wife died soon thereafter, leaving my great-grandfather a teenage orphan. My great-grandfather (1852-1928), who founded the ranch in 1888, lived a rags-to-riches story not uncommon in the development of the American West. My grandfather (1879–1969), my grandmother (1879–1969), my father (1907–1980) and my mother (1912–2010) witnessed two world wars, the Great Depression, and the Dust Bowl while holding this place together.

Left: The Ferrell ranch house (circa 1923)
Photo by Pete Ferrell
Right: "Nature's Benediction"
Photo by Rena Detrixhe

My ancestors are the heroes of this story, as they had many opportunities for failure but prevailed. I came to my career in ranching with a deep sense of obligation, knowing how much they struggled to give me the opportunities I have enjoyed.

This sense of rootedness goes even deeper. I have a "homing pigeon" sensation about the exact place where we live (in my great-grandfather's house). I became fascinated by the work of Fred Provenza and the way diet (nutritional wisdom) from a specific habitat can affect animal behavior. My parents were eating food grown from this soil when I was conceived. *Take. Eat. This is my body given for you.* I came from that soil, and I'll go back to it. I have never wanted to be anywhere else. I was deeply moved watching George Whitten give a Quivira Coalition presentation while standing in a bucket of soil from his ranch. I totally understood that he is not comfortable unless he's rooted in the very soil that gives him life. His ranch does not belong to him; he belongs to it. It may take a lifetime to develop that feeling.

When my father was 61, he awoke one day to discover that our family's ranch, where he had worked his entire adult life, had been partitioned. Dad had already suffered a stroke and was told by his physician that a court battle could kill him. He wept and acquiesced to this fate. I'm grateful that he chose to live another 12 years. However, it gave me a front row seat to what happens when the succession of a family ranch is not well managed. I know what happens when there is no habitat of trust. In some respects, my life's work and instruction is a consequence of that dysfunction. Believe it or not, I'm grateful for those lessons.

My dad had a master's degree in business. He understood economies of scale and knew that our ranch would not survive if we didn't try to buy it back. In 1976, he and I purchased half of the portion that was lost in the partition. When he died, I had never written a ranch check. Frightened does not begin to describe my 27-year-old state of mind at that time. Knowing our family history, I didn't want to be the generation that "lost the farm." Just beyond my incessant grief over losing my dad waited the haunting question: how was I going to make my payments? After attending my first Ranching for Profit School in 1987, I learned how to answer that question. Stan Parsons became my mentor, sharing his insight about the economics of ranching. I honed this essential skill, and in 1999, I was able to buy back the other portion that was lost. The ranch is now composed of the same acreage that my great-grandfather established in 1888.

One of Pete's favorite spots: the bullfrog pond.
Photo by Pete Ferrell

I am now of the opinion that it is not possible or even desirable to put an old head on young shoulders. As I recall the five and a half years of my adult life when I worked with my dad, I learned a lot, but he wasn't able to teach me much of anything. I learned more by watching his example, not by direct instruction. He held space for me to learn. Mark Twain once said, "When I was a boy of 14, my father was so ignorant I could hardly stand to have the old man around. But when I got to be 21, I was astonished at how much the old man had learned in seven years." That was me. Had anyone else behaved as badly as I did, I'm sure he would have fired them. I have consistently remembered that time, how patient he was with me, and have tried to extend that to my successor.

Teach your children well

Their father's hell did slowly go by

Feed them on your dreams

The one they pick's the one you'll know by

What kind of ancestors do we want to be? I think my generation needs to become true elders (not just "olders" ... geezers ... set in our ways). It is no longer our turn but we still have much to offer ... but only when asked. If we become directive, we rob the next generation of the joy of discovery. If there is trust and faith, they will ask us about our dreams and experience and perhaps learn from us.

And you, of tender years

Can't know the fears your elders grew by

Help them with your youth

They seek the truth before they can die

("Teach Your Children" by Graham Nash)

Those who follow us really cannot know what we have been through. And, until you get to this age, you cannot know what it feels like to have to let go of your life's work. We need help, hope, energy, and empathy from the next generation. Please be gentle with us. We never had all the answers. We're still finding our way too. We're all walking each other home.

Wendell Berry shared a quote with me of something his father said to him years ago. When John Berry was quite elderly, he said to Wendell, "I've had a good life." Long pause. "And I had nothing to do with it." This is the way I feel about my life's journey. It's all been a gift ... the trials, sorrows, struggles, love, joys, triumphs. I have been blessed beyond measure. I'm happily married and have uber talented children and amazing grandchildren. I hope the next generation may enjoy the adventure as much as I have. I want them to flourish.

Talking TRANSITION

Emily Brown certainly didn't see herself coming back to her family potato and barley farm in the San Luis Valley of Colorado, but a husband, two kids, and global pandemic later, she finds herself learning how to farm from her parents and becoming an active participant, along with her husband, Kyler Brown, in succession conversations with her family. In this interview you'll hear from both Emily and Kyler about what legacy, land, and birthplaces mean when the family is tied up with the business.

Interview by Anica Wong

Emily: We live and work on my family's farm in the southern part of the San Luis Valley, north of Monte Vista. My dad's mother's family moved to the area when there were some different promotions to get people to settle in the Valley. They settled and started farming potatoes. My grandma's aunts and uncles had different parcels of land in the area, too.

My grandmother met my grandfather, and he was the one who then consolidated the farm into what it looks like today; he leased and rented out a few different pieces of land, but then bought out some of my grandma's aunts or uncles. My dad grew up on the farm but he didn't really plan to come back to the farm or didn't really think that he was going to be a farmer; he went to school to be a teacher because he had a lot of teachers in his family. But then mostly he was a ski bum.

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I have a master's in public health and was working as a contractor for the state public health department out in Nevada. I didn't have leave benefits as a contractor and we had gotten pregnant and I was ready to have our first kid. My mom had come across this job description for a public health director at the county where I'd grown up. I looked at it, considered it, interviewed for it, and they offered me the job. I told them, well, I can't really move out right away because I'm about to have a baby, but I can be out in a few months. And so we moved from Reno back to Colorado when our son was a month old.

At that time, my dad was sort of not sure what to do on the farm so Kyler came on to help on the farm. And then about three years ago, I came on more full time to do the farm's bookkeeping and part of that was just the interesting timing of that; I had gotten fired from the county during COVID as a public health director.

Kyler: When we came back 10 years ago, Emily had a job lined out and I said I would help get her dad through planting and, I guess, I have just stuck around. They have a section of land that straddles the Rio Grande River that had been leased to a neighbor for almost 30 years who had run some cows on it. It's a peaceful place that her dad and grandfather liked to have as a little refuge away from the farm; the farm can be pretty windy, pretty sterile, but you come over to the river and there's a lot of cottonwoods, a lot of wildlife.

When I came on, we started the transition to where I took over that lease and Emily and I, eight years ago, bought our own cows and we've been slowly growing that operation. So far, it's our own operation separate from the farm, but without the farm, it probably wouldn't work very well. We keep doubling our herd every few years, and we've increased and gotten some leases so now we run on not only this property, but several others, including one in New Mexico.

In the last four to five years, we've finally had some much stronger conversations about what succession looks like.

Emily: It's not like this stuff is written down in a manual and you can just hand it over to someone. It felt like my dad wanted to see how it felt before he said that we're going to be part of the farm or having real serious transition discussions.

My dad and his sisters had a pretty tough transition. My grandpa and grandma had done a lot of work to try to figure out how to transition the farm to my dad without having him be in a situation where he could possibly lose the farm or have to pay all of the inheritance taxes. There was a lot of tension and frustration around what payments for the partnership looked like or how the land transition worked. We just don't have the same relationship with my aunts because of some of that process. It was a really hard thing: the different sides feeling like the other sides didn't recognize where they were coming from, all the nostalgia and feelings caught up in "family" and "parents" and what people wished for.

Our family is still closely connected to that transition. And so it was like, oh man, we're getting ready to do this again. And we don't want it to go the way that it did then. In some ways, I think we are doing so much better. In some ways, I think we are in the same boat. My mom has been a big voice for trying to have better conversations and moving this along in a different way.

There's a guy who does transition planning with the extension services and we had taken one of his classes about transition and it made us start thinking about all of this. And then we had a few family meetings where we talked about what people feel about the land and what their thoughts are. Through Rocky Mountain Farmers Union we had made a connection with someone and my parents had him come down and we did a two-day session, which was pretty intense. He facilitated a process with my siblings where we had to dig a little deeper into what everyone's thoughts were about next steps for the farm.

Kyler and I are now partners in the LLC with my parents. We're on a track of trying to figure out what that looks like to buy in or take over more of the shares of that or a larger percentage of the LLC. This includes the storage and the warehouse and the equipment and the farm income. My parents are working on more discussions around the land, but that's definitely a piece that's still, as far as I understand it, it's still set up where it's my sisters and me, and it's split three ways when my parents both pass away.

Emily and Kyler Brown are now partners in her family's LLC with her parents. Photo from Emily Brown.

And so that's a little scary to think about as you're making improvements to the land. The Valley's having a lot of concerns about water and how the water is tied to land, and so as we try to think about how we're taking next steps on the farm business and making improvements to the farm or making decisions around what we're farming or ranching, how is that changing what might be the future depending on what happens with the land down the road.

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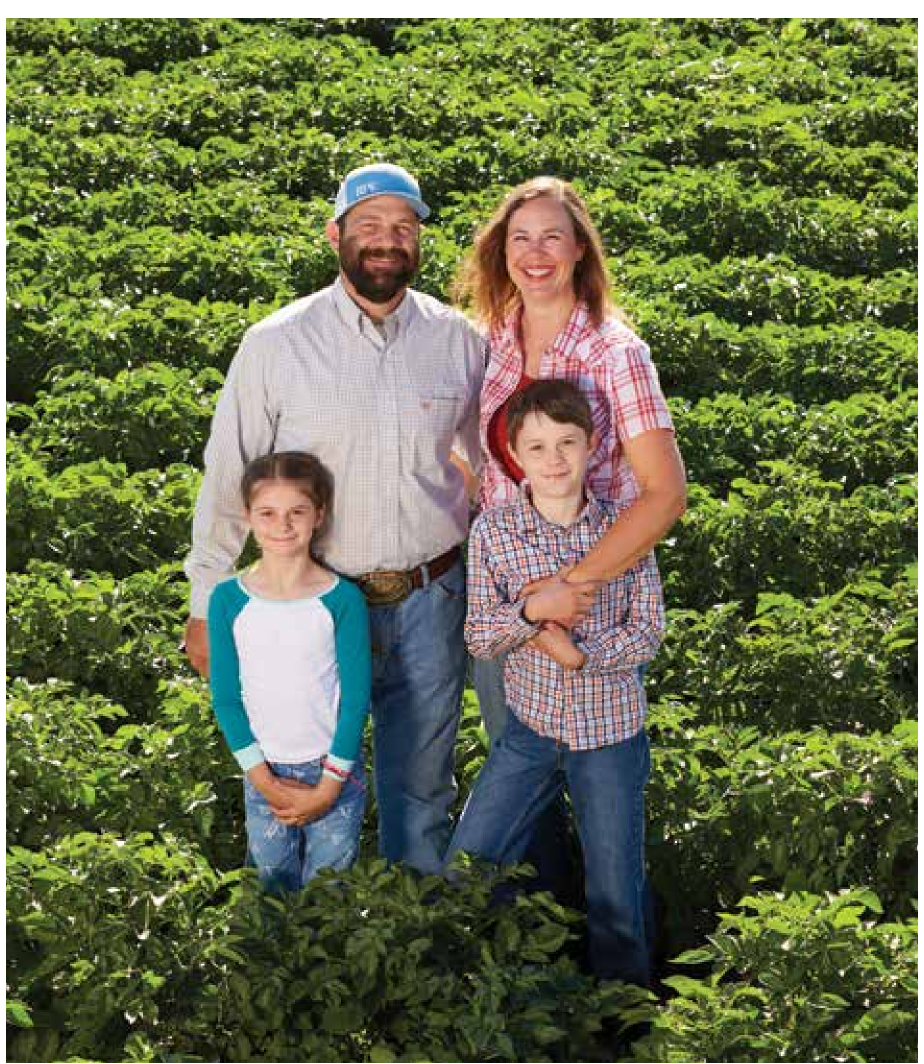
Kyler: Being the in-law is kind of a fascinating thing unto itself, as is being a male with the three daughters. There are some generational gaps and I wouldn't say that my father-in-law is the best communicator, so that's created all kinds of interesting situations, no matter whether it's family or not. But family just makes things all that more tricky where, if you have a rough day at work, and then you're supposed to go have a barbecue with them in the evening, these are still people you call family.

Emily's folks did what they knew and did what they saw their parents do, and had fears of people losing the farm that they saw all around them. And so I think they wanted to make sure that Emily and I were highly invested. And, probably more than anything, invested with our time and our sweat equity and that we had set down roots here. They didn't want to start a transition process when they thought we might pick up and leave. We also have two kids and so that's been a fascinating development with us choosing to live here and them being able to have that relationship so close with their grandchildren. I think that's pretty special to them and that kind of furthers this succession question.What is inheritance? And what does that mean? And then there's the other side of that of having a family home and having a birthplace. Her two sisters don't live here, but it's still their birthplace and their parents still live in the same home they were raised in. And so when they come back for Christmas, there's an assumption that this birthplace will never change. So that in itself has a whole series of factors that lead into 'what does succession look like?'

There's the business side of it where there's real dollars and cents. The land has real value. The water has real value. The crops have real value. And you can get down into the weeds really quickly about how to economically actually transition a farm. I think Emily and I've put a lot of effort and thought and time into the farm and the management of the farm, and I think her parents feel much safer, much more comfortable with us taking over more and more of the management decisions, more of the finances. It's been us investing and proving that we can do these things and them slowly releasing their grip and not having to stress so much and let someone else stress out about all those decisions.



Kyler, Emily, Olivia, and Elijah Brown on their family's farm, where they grow russet potatoes and barley, and raise a small herd of cattle. Photo from Emily Brown

But we haven't quite gotten to those big financial questions of how we really transition this farm. And that's where you have the conversations about what is equitable, what is equal, what is fair, what is equity.

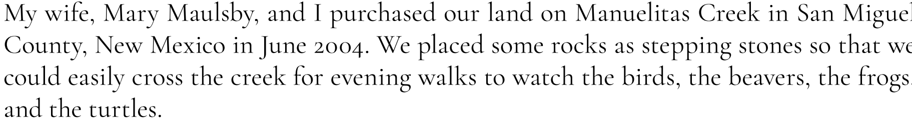
Emily: Both of us like living in the rural community and working in agriculture. I think there's a lot of unique elements of the San Luis Valley: there's some balance of political views and some racial and social diversity that all rural areas don't have. We have some good friends and community and have that kind of connection where if something happened that we needed help, we have a good support circle that we could call on.

At least for me, continuing to try to figure out how to make a living on the farm is a lifestyle that I want and a community that I want. I also think there is something tied to being a producer, being someone that produces meat or beef or potatoes. And even if I don't necessarily subscribe to the idea that farmers feed the world per se, the fact that you can put something in the ground and take it out and eat it and other people eat it, too... that is a pretty valuable lifestyle and profession.

Kyler: It's interesting that we call it succession or transition because pretty much all the levers of control are held by the elder generation. Emily's dad has been the primary owner/operator of this farm for 20 years but he feels like he just transitioned to take it over from his dad and now he's having to do it again. Farmers are kind of natural-born warriors because there's just so many variables out of your control. And so, how do you control the transition of a farm when you can't even control how planting a crop is going to go?

OUR STEPPING STONE

Bill Zeedyk



My wife, Mary Maulsby, and I purchased our land on Manuelitas Creek in San Miguel County, New Mexico in June 2004. We placed some rocks as stepping stones so that we could easily cross the creek for evening walks to watch the birds, the beavers, the frogs, and the turtles.

As newlyweds, we built our home, reorganized our business and moved from Albuquerque to the rural community of Cañoncito. The term "stepping stone" took on a new meaning, and we named our land Stepping Stone. Our new home overlooked the meadow with the creek, a neighboring beaver pond, with ponderosa pine woodlands in the background.

The pasture, next to the creek, had been heavily grazed by horses for many years. Except for many young sprouts and three very old apple trees, the meadow was well trodden. With a wildlife habitat improvement grant from the U.S. Fish and Wildlife Service, we fenced off five acres of streamside pasture, built some berms, redirected some flow across the former wetland area, and thinned some of the forest. The next year beavers moved in, along with some muskrats, meadow voles, snapping turtles, leopard frogs, bull frogs, nesting ducks, Canada geese, fish, great blue herons, black-crowned night herons, kingfishers, and other kinds of wetland-dependent wildlife. The beavers built dams, dug waterways, and invited many species of willows, cattails, rushes, and dragonflies to join them. Lizards basking on the rocks in the sun would come drink out of the creek every day. Our five acres of wetland became a haven for wildlife. The horses still loved the remaining pasture, which produced many bales of hay each year. Many elk and deer also enjoyed the pasture each year.

Due to climate change, drought has affected our creek, and dried it up two summers in a row. We lost many frogs and fish from these events. There have been strange weather changes, such as a late freezing snow storm in mid-September one year, killing many hundreds of thousands of migratory birds, like swallows, warblers, bluebirds, robins, and such. Also, their migratory habitat is changing, so they don't get what they need in their few stopping points along their way.

In 2016, the beavers on our land, and for many miles up and downstream, died of what we believe was tularemia, but which we couldn't confirm. I found four dead beavers at the edge of their pond when the ice melted that March. Cottontail rabbits and jackrabbits disappeared from our valley that year, and still have not returned since that time.

Soon after the beavers died, the dam failed and the pond dried out. Hay crops in our meadow and down valley dwindled as the shallow groundwater that sustained the clovers and timothy grass ceased to flow beneath the meadow.

With the beavers and the wetlands gone, more than thirty species of wetland-dependent birds disappeared. Gone are the nesting ducks, the herons, the kingfishers, turtles, the frogs, the sora rails, the sandpipers, and the snipe. Sad, but true.

For two months, starting in April of 2022, the Hermits Peak/Calf Canyon fire burned our valley, and many other mountains and valleys in Northern New Mexico. It was the largest and most destructive wildfire in the state's history, with more than 340,000 acres burned. Most of our watershed, Manuelitas Creek, and its tributaries, burned. Miraculously, our home survived, as did our barn, but some of our neighbors, both up and down valley, lost their homes, barns, outbuildings, vehicles, forests, and woodland landscapes. Up valley from us at Pendaries, nearly 50 homes, the hotel, the restaurant, and the community center burned. More than 800 homes in total burned to the ground. The fire burned to within six feet of our house, but fortunately we had the opportunity to come home from a week of evacuation for one day, and soak everything down – the house, decks, lawns, grasses, and shrubbery for forty feet around the house – before having to evacuate again for another three weeks. Compared to our neighbors, we were lucky. Our house was spared, though we did lose our RV and a pull-along camper, quite a few acres of trees, and lots of fencing.

"Even though our pine stand occupies a dry, south-facing slope, the Hermits Peak fire stayed at ground level and did not 'crown out.' Our forest thinning operation from 2009 saved our forest in 2022."

Following the devastation in our canyon, the fire continued to spread to the west and north into the Sangre de Cristo Mountains and northward through Mora County, and into Taos County. Also southwest to Mineral Hill toward Pecos. Finally, the first heavy rains began on July 1. Here at home, we received 18 inches of rainfall between July 1 and October 3. The rains resulted in 11 floods, three of which were valley-wide, flooding our barn and closing our road, and many other roads many times. Huge sediment piles and debris rendered the roads impassable for days at a time. Our pasture was covered with debris coming down canyon in the floods, and down from the county road south of us. In many ways, the impacts of the floods originating from the severe burn areas were worse than the fire itself. Many people's homes flooded. More than 2,000 feet of our boundary fences were destroyed by the floods. Many hundreds of tons of sediment and organic debris were deposited on our meadow – some good, some bad.

We lost many elk, birds, lizards, frogs, fish, and mammals to the fire.

In 2008 and 2009, Mary and I had thinned about 30 acres of our ponderosa pine forest, using a grant from New Mexico Forestry for the purpose of improving tree growth, reducing the risk of fire, and improving wildlife habitat. The dominant tree stand was about sixty years old, resulting from wildfire and natural reseeding in the 1940s. We worked with the New Mexico Forestry extension forester to lay out the area to be thinned and agreed on thinning guidelines to be followed. Maintaining and improving wildlife habitat features and components was an essential aspect of the thinning treatment for us, so the guidelines we followed were more complex than normal. We wanted to maintain denser stands of trees than is the norm so we thinned to a stocking level of 80 acre square feet of basal area per acre, rather than 60. Instead of removing standing dead trees, called snags, we left standing at least two dead trees per acre for cavity nesting birds, like woodpeckers, flickers, nuthatches, chickadees, bluebirds, violet green swallows, and wrens. To maintain a good population of Abert's squirrels, we left scattered patches of six to twelve pole-sized or larger ponderosa pines with interlocking branches intact.

As a very special feature, we left a corridor of dense ponderosa pines leading up a narrow ravine from the valley to the ridgetop intact. This provided a travel way for female black bears with cubs. This also provided cover for deer and elk.

The bears come to enjoy our apples and acorns each October. We enjoy seeing them, even in the apple trees.

Our thinning guidelines worked. When we thinned the forest, the fuel load was reduced. Even though our pine stand occupies a dry, south-facing slope, the Hermits Peak fire stayed at ground level and did not "crown out." Our forest thinning operation from 2009 saved our forest in 2022.

Of special value, as a unique habitat feature was a very tall, 30-inch diameter pine snag. Riddled with abandoned flicker cavities, it was nesting habitat for at least thirty pairs of violet green swallows. A very special place. Every evening, as the sun set, the swallows would fly back and forth over the beaver pond searching for insects for their young. Sadly, the fire destroyed the snag. A few lone swallows return each year, but nothing like the couple of hundred that came in previous years. They are sorely missed.

Climate change has also hurt our animal population. We had two years in a row that the creek dried up completely. Our population of fish and frogs started their decline then. Also an unprecedented mid-September snow storm froze many migrating songbirds or starved them when their food, the insects, froze.

Many of our bees have been lost to chemicals such as glyphosates, used elsewhere, so there are fewer flowers with no bees to pollinate them. We are, however, noticing new little pollinators, such as the red belted bumblebee.

A long, narrow, eight-acre, nearly pure stand of 30-to-40-foot tall Gambel's oak trees produces a bumper crop of acorns nearly every year. The oaks are growing on moist soil at the very foot of a north-facing slope. Our home is in the oak stand, which is partly on our land and partly on our neighbor's land. Many species of wildlife are attracted to our patch of acorns. Not only bears and Abert's squirrels, but also mule deer, elk, wild turkeys, red squirrels, and many species of birds.

Above: Bill Zeedyk has a lifetime of experience in natural resource conservation. Photo by Sally Thomson

Left: In areas, post-fire floods impacted the landscape more than the fire itself. Photo by Quivira Coalition

We are so grateful that our oak stand survived the fire. Most of it unburned or mostly unharmed where it did burn.

Recovery of the burned area is ongoing, especially in areas not damaged by the crown fire. Much recovery will happen by natural processes, but some recovery will not occur without human assistance. The upstream migration of native fish species that were eradicated by the floods is blocked by irrigation diversion dams. Restocking will be necessary, not only for missing fish species, but also for missing frogs, turtles and other species, if natural species diversity is to be restored. Thousands upon thousands of acres of ponderosa pine forest need to be replanted. What other plant species are also now missing? Who will accomplish the restoration efforts and how will it be paid for? Or will it never happen?

The Natural Resources Conservation Service (NRCS) and the Federal Emergency Management Agency (FEMA) have been very cooperative with us in designing, processing, and awarding the funding to undertake recovery work. We are happy with their assistance and the funding process we have experienced. We have been compensated for our fire-and flood-related losses, and have initiated repair and recovery efforts. We will rebuild three miles of burned and flood-damaged fences. We have hauled away the remains of our RV and our camper. We will reconstruct our badly eroded driveway, damaged by flood runoff from the burned area, and we will build a berm around our severely flooded barn to protect it from future flood flows. We are building a structure to save our outbuilding from flooding. With help from the NRCS, we will rebuild our totally destroyed irrigation system. We will also dig away all the road debris (about two feet deep over about eight acres). We will restore damaged wetland.

We are very, very grateful that our home survived the fire, and that we still have our trees that survived. Mary and I will sit on our deck in the evening and watch the sunset and the moon rise. Now that all the helicopters have finished their tasks and are no longer flying over the house, we can listen for the great horned owl to hoot and the robins to tell each other goodnight. The gratitude we feel for the survival of our house is immense. Other things can be replaced, repaired, and forgotten. Stepping Stone is still here!

YOUNG FARMERS
LAND ACCESS NOW!
LAND ACCESS NOW

A FARM BILL FOR THE NEXT GENERATION OF WORKING FARMERS

Erin Foster West

Adolfo Alzuphar

Photos by Tom Daly

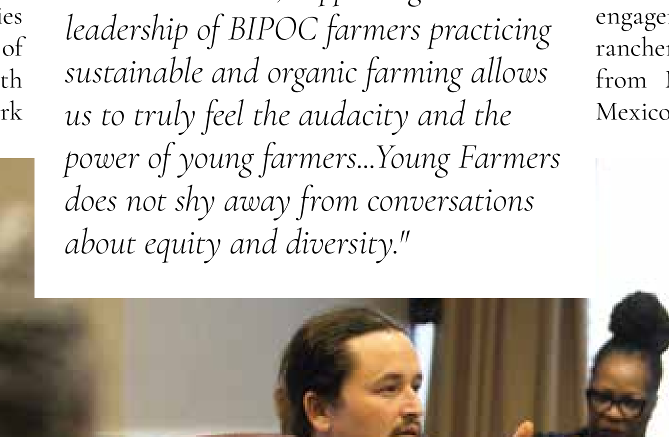
As an organization with a mission to resource young farmers by shifting power and changing policy, National Young Farmers Coalition (Young Farmers) is discussing the 2024 Farm Bill with farmers all over the country. Through text messages or phone calls, at conferences or by hosting events, we pride ourselves in our ability to connect through honest and empathetic communication that embraces the role that the government plays in farming and ranching.

In Colorado, and throughout the West, where Young Farmers has a very exciting presence, conversations about equity and diversity abound. Young Farmers chapters in Colorado are dynamic and inspiring, and the Flatirons chapter's Hoe Down — an annual celebration in community, dancing, and good food — is not to be missed. Young Farmers organizers are in constant communication with Hunger Free Colorado and other organizations that seek to connect Coloradans to food resources, all the while working with groups such as Women in Ranching, who champion rural women's leadership.

Young farmers gather in Washington, D.C., for Farm Bill Lobby Day in 2023.

In Pennsylvania, Young Farmers organizers work both with Pittsburgh-based organizations and coalitions and rural organizations, with the aim of bridging the two. In House Committee on Agriculture Chairman Glenn Thompson's district, Young Farmers visit farmers who, like in Colorado, believe that the policies that we advocate for should support families and communities; our policies should address the historic disenfranchisement of people and communities, including Black, Indigenous, and people of color (BIPOC) and rural communities. By bringing together urban and rural communities, Young Farmers builds common ground.

In the Northeast, where Young Farmers was founded and community is central to our work, the message is simple: we need policies that tangibly support this generation of young farmers and bridge optimism with real resources. Some of our chapter work even includes grant-making to farmers.



"In the Southeast, supporting the leadership of BIPOC farmers practicing sustainable and organic farming allows us to truly feel the audacity and the power of young farmers...Young Farmers does not shy away from conversations about equity and diversity."

Throughout the Midwest, young farmers in chapters and those working with our organizers do not shy away from a holistic future for agriculture, whatever the challenges may be. In Michigan, we met farmers at a Farmer Wellness series that we co-hosted, and supported farmer leaders through constant conversation with young farmers about the disenfranchisement of people and communities, and how we can create the world we want to see. Supporting queer farmers in Detroit is central to our work, which Young Farmers does by networking with queer farmers in order to address isolation, and collaborating with the Queer Farmer Network.

Farmer Joseluis Ortiz advocates for Young Farmers in Washington, D.C.

In Iowa, Young Farmers collaborates with a wide range of groups, from environmental groups to young graziers to food banks. This allows us to not lose touch with one of the most important states for agriculture in this country. In the Southeast, supporting the leadership of BIPOC farmers practicing sustainable and organic farming allows us to truly feel the audacity and the power of young farmers. There, optimism takes root alongside okra, and despite setbacks, Young Farmers does not shy away from conversations about equity and diversity.

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In Young Farmers chapters across the country and through the efforts of our field organizers, we learn to speak to each other and work together. Farmers, as our national survey has shown, are an intellectual bunch. There is absolutely no way that a Young Farmers organizer can get away with a one-sided conversation, which explains both excitement and vulnerability that goes into being an organizer. Whenever a farmer takes time out of their schedule, especially during the harvest season, they are stepping onto a front porch with us, and we pull out our best chair for them.

It would not be forthright to pretend that meetings on the farm bill jump directly into the latest statistics. Discussing life, love, a picture of a newly-born calf, are integral to thinking and acting in common. When it comes to the farm bill, in our engagements, young farmers and ranchers across the country — from Michigan, Georgia, New Mexico, Louisiana, Colorado and beyond — are hugely concerned with land access. Which means we are also concerned about it. It's not news to anyone that land is not easily accessible for young farmers and ranchers. What's unique about our network of farmers is that many have a land story, many of which include having lost a farm, and they want new policies.

Every five years, the farm bill directs billions of dollars to food and agriculture programs. These funds are not meeting these young farmers' challenges. They don't support these producers who are working to address the climate crisis, feed their local communities, or even purchase their own land. Congress is currently writing the next farm bill in Washington, D.C. This is

Young farmer Sarah Bell speaks at a land access press conference at the United State capitol.

a major opportunity to directly support this next generation of working farmers.

Young Farmers has been working closely with Congress to support three key pieces of legislation that would address the challenges of access to land and capital, and help them adapt to the changing climate: Land Access, Securities, and Opportunities Act; the Farmer to Farmer Education Act; and the Small Farm Conservation Act.

At a recent rally we hosted, one of our land access fellows shared with us that they had recently lost their farm, due to not being able to access capital. It was a sad moment, one that we hear much more often than when, for example, a staff member announced that they had finally purchased land for an apple farm. Both stories are evocative of the trials and tribulations of young farmers today. In both instances, young farmers deserve our solidarity and support in order to succeed.

In fact, land access is the number one challenge that farmers and ranchers face across the country. A farmer's ability to access land extends far beyond just their fields. Unstable land access can affect their access to markets and capital. Secure land tenure, such as ownership or a long-term lease, is essential to providing farmers with the certainty they need to invest in and grow their operations.

Congress has an opportunity to support BIPOC farmers by including the Increasing Land Access, Security, and Opportunities Act (LASO) (H.R.3955, S.2340) in the farm bill. LASO would provide funding for equitable land access, transition, and retention through projects led by community-based organizations. These projects would help producers start and grow resilient farm businesses.

Strong pathways to land access for new farmers not only keeps land within agricultural communities, but also retains land and knowledge within these groups. Farming communities are already responding to the issue of land insecurity through community-led land access efforts, but policy change is necessary for long-term and lasting change.

Land access isn't the only need that must be addressed in the farm bill. Most farmers and ranchers, especially those newer to farming, are operating on paper-thin margins. Climate change further threatens their farm viability as farming becomes less and less predictable. Policies like the Small Farm Conservation Act (S.2180, H.R.5354) and the Farmer-to-Farmer Education Act (S.2614) would provide more funding and technical assistance for young farmers to adapt to and mitigate climate change. Conservation practices, like cover cropping, don't just benefit farmers — they also benefit their communities and broader ecosystems. However, farmers face many barriers when it comes to using these conservation practices. These include lack of access to the right equipment and materials and insecure land tenure, to name a few. These bills would improve access to small farms to existing USDA conservation programs and invest in farmer-led education.

Young Farmers wants the farm bill to help make agriculture a much more viable way of life. At a recent event we hosted in Kentucky, a farmer even proposed that with land access we could bring an end to hunger in communities across this country. Not only do young farmers want land to start small businesses, but also to contribute to how local democracies go about addressing community issues.

Belonging in Queerness

Hannah Breckbill

Photos by Rory Photography

I am a first-generation farmer, on land where my family has no history. I grew up in a city, Lincoln, Nebraska, raised by parents who had grown up in Ohio, Indiana, and Iowa. As a kid I spent most of my time indoors, reading books and writing stories. Although I learned about the Salt Creek tiger beetle — a critically endangered insect that lives only in a creek bed on the north side of Lincoln — and the sod houses of the pioneers, and absorbed a somatic appreciation of wide skies and unbroken winds, otherwise, the specificity of place was not given much attention.

The idea of *home* was ungrounded.

Home, instead, was in people, in community.

My family is Mennonite, a pacifist Christian denomination, many of whom share ethnic identities. When Mennonites meet each other, there's usually an exchange of questioning: Do you know this person? Are you related to this person with your same last name, or are you on a different wing of that family? We call it the Mennonite game. I've gone to farming conferences in other states and had strangers tell me that they know my dad, or my aunt, or my grandpa, and I've done the same to others. We place each other by understanding our connection to a wider, intergenerational web of culture and community.

From the Mennonite game I learned that it matters who people belong to. That if a person matters to you, then

their relatives, their friends, even their colleagues must also matter. So, when I followed my college girlfriend to the rural community of Decorah, Iowa, to work on vegetable farms, I naturally wanted to place the people I met onto a map of relationship. I learned the stories of a generation or two before me; I learned who moved to town when, who was born here, what legacies they built, and how their positions and relationships have changed over time. It is a sheer delight to have that mental map, that understanding of who is whom to each other, and to this place. And I think it's true that by learning and caring about that intergenerational web of relationship and history, we can begin to belong to it.

As a queer person, though, sometimes belonging is troubled. I am lucky enough to be free of trauma around queerness — my family had been well prepared by my lesbian aunt, and I didn't experience any loss of relationship with friends or family when I came out. But I still am hyper-aware of living in a heteronormative society, and of being engaged in an agriculture system where the idea of a "family farm" is promoted regularly despite having a particular weight and set of meanings that my queerness is not included in, let alone the fact that I'm a first-generation farmer.

Don't get me wrong — I love the vision that is conjured with the words "family farm," a landscape dotted with small, independent, diversified farms where people of many ages live and work. Many of us have ancestral memories of this kind of rural place. But that vision is hardly a reality these days; the ideal of an independent family farm is largely imagined, and simply doesn't match economic reality when most farmland is run by tenant farmers.

Many queer people are not particularly fond of the term "family farm," given that we are excluded or forgotten in many conceptions of family. But in queerness, there is a superpower: when we aren't given a place in a system, we get to create our own systems. For example, when queer people are ostracized by their blood families, they may create chosen families, groups of people who are committed to supporting each other as families do.

So what happens when we apply the queer superpower to land ownership and stewardship? Let me share the story of my farm.

Nowadays, Humble Hands Harvest is a worker-owned cooperative farm that employs four to five people during the growing season who raise two acres of vegetables for direct market sale; we're also planting fruit and nut trees into 20 acres of sheep pasture.

Farmers gather in a circle at a Queer Farmer Convergence.

Eight years ago, though, the land that we're on was undeveloped hay ground, recently having come off of decades of corn on corn. A group of about 20 neighbors had pooled their money and bought the land to prevent it from going to auction, fearing what might happen to the neighborhood if a hog confinement operator bought the land. All across Iowa, livestock have been removed from the landscape, and instead, are confined in feedlots and buildings. The land that they once grazed — and which before that was a diverse, indigenously-managed prairie with deep, rich topsoils — is tilled and mono-cropped in corn and soybeans, eroding into the Gulf of Mexico and bringing nitrates with it. Our neighbors used their collective power to protect one small piece of land from that kind of use.

Emily Fagan (left) and Hannah Breckbill developed Humble Hands Harvest into a worker-owned co-operative.

I, a single, queer farmer, had been renting land in the neighborhood, building up a market vegetable business, and was becoming increasingly disillusioned. Farming by myself didn't feel sustainable, and neither did farming on land that I leased year-to-year. I couldn't invest in infrastructure or soil building in the way that would make sense in a longer-term arrangement. But farmland ownership is nearly impossible to access for people who are not coming in with considerable wealth. Farmland in Iowa costs an average of $11,835 an acre, so cash-flowing a mortgage on farmland requires significant production and profitability from the get-go – or continual investment of outside income. Neither of these options is easy to come by for a beginning farmer, especially one trying to farm full-time like me. According to the USDA, most of the household income of farming families is generated by off-farm jobs.

I was one of the co-owners of the hayfield, and the spot seemed just right for a small, diversified farm. But I couldn't imagine managing the farm by myself, let alone financing a land purchase. I spent a year or so dreaming of intentional community (another term, perhaps, for chosen family) with a group of people before realizing that if the farm was to keep going in the short term, I needed a co-farmer. I invited Emily Fagan, a farmworker new to the area, to join me in the farm business, and I went about arranging with each co-owner of the hayfield how I might access their share of the land. By the spring of 2017, I had purchased or been gifted ownership of eight acres of the hayfield, and had an arrangement to rent the other 14 acres. We raised funds to bring electricity to the farm and dig a well, put up a deer fence and a greenhouse, and built a yurt that I moved into. Wha-bam! A long-term farm home was started.

Emily and I ended up working well together, have developed Humble Hands Harvest into a worker-owned co-operative, and finished buying the entirety of the collectively-owned land. Even though the kind of production we do is what people might imagine when they think "family farm," we are not a family farm at all: we have an on-boarding and off-boarding process for worker owners that will allow the farm to continue beyond any one farmer's tenure there, and that passes the equity of the farm to the workers rather than heirs; we have committed, through an internal financial structure that we call the Commons, not to hoard the wealth of our farm that we accessed with community support; some workers live on the farm and some do not, as we each prefer. We are a queer farm.

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Nevertheless, we still live in a heteronormative culture. For me, it is alienating and isolating when coupling up and establishing nuclear families is The Way that is expected, celebrated, and supported. I feel invisibilized in the constellation of relationships that constitutes belonging when my social circles are saturated with straight expectations.

I was feeling that kind of lonely once when I called a friend about it. They told me that I needed more queer people in my life, and that so many queer people want what I have been building. We want to connect to each other and to the land. We want to work with our bodies, hearts, and minds; some of us even want to make life together intentionally. So, we decided to host a gathering at Humble Hands Harvest that would draw in people who shared these longings. That was the birth of the Queer Farmer Convergences, which led to the Queer Farmer Network.

Convening a gathering is one of my favorite things: it invites belonging in a way that nothing else does. When I express a clear vision for what will happen when we gather, I know that the people who accept the invitation are going to support that vision. And so the Queer Farmer Convergences that I have hosted have always been about belonging. No one is not queer enough, no one is not farmer enough. If you are called to come, you are precisely who we need.

A Queer Farmer Convergence is made of many physical details: tents for all to camp on the host farm; meals, both potluck style and catered, always featuring local ingredients; workshops, with topics and hosts sourced from the attendees, about seed saving or natural dyes or meditations on oak savannas or farmworker organizing; a dance party.

The most meaningful parts of a Queer Farmer Convergence are usually less planned, and more about the magic that happens when people are together and able to attune to each other's energy. We have kept gatherings to a size where everyone can be in a circle, seen and heard. We facilitate small group connection and conversation. We allow for lots of spaciousness between scheduled activities. We even hold a variety show that gives everyone a chance to show their stuff — singing, dancing, drag, poetry, maybe even an arm-wrestling tournament. People come away from a Queer Farmer Convergence energized and affirmed, seen and held. Sometimes they come away with new professional connections or friendships... and yes, there have even been romantic relationships that have emerged.

Emily Fagan pounds a post while setting up fences for the farm's livestock.

As we have held Queer Farmer Convergences over the past five years, there has been a community developing, a network of comrades that is sparked by in-person gatherings and continues through connections online. In the past couple years, we started a website and even came upon some grant funding for administration. So, from that initial seed of one person feeling isolated in a heteronormative world, a whole team of queer farmers has built an infrastructure for belonging: a directory of farms, a job board, a listserv, and an Instagram page where we all can connect.

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Early on, when I was farming by myself at Humble Hands Harvest, I participated in a nature-connection activity in which we were guided to walk in the woods for a few minutes and find something, anything, that we were drawn to. We were instructed to sit with what we found, observe it, and come up with a description of what we liked about it, before we returned to the rest of the group.

I wandered through the woods. As a vegetable farmer, I'm often drawn to look at what's growing on the ground, but this time I cast my attention to the trees, and soon came upon an oak, bigger than everyone else, with nicely curved branches. I thought about how strong those branches were and how deeply connected they were to the main trunk. As I circled the tree, I noticed that at the bottom, between some roots, was a hole that some creature was living in, having left nut shells around the entrance to the hole. And that was it: I saw the tree as a home, not only to a squirrel, but to birds, insects, to all the plants growing under its canopy. The tree expressed hospitality, simply by rooting down and growing, by being its best self. It fed the beings around it, it sheltered them, it gave them beauty and structure.

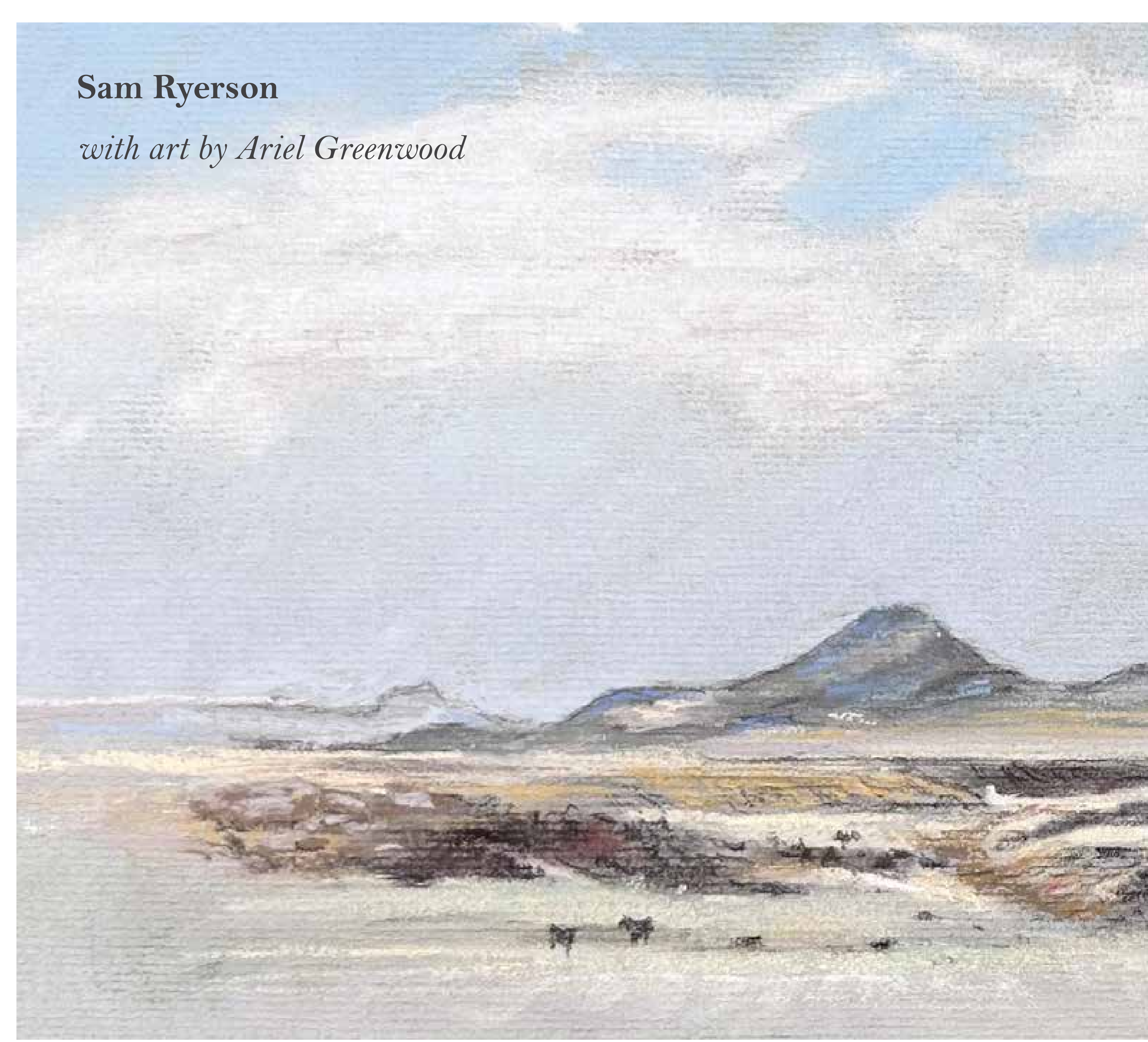
"Convening a gathering is one of my favorite things: it invites belonging in a way that nothing else does. "

When we came back to the group, the leader asked us to share what we found in the woods, and say, "I like x because..." And then, she had us replace x with "myself." This meant that I found myself saying that I like myself because of the hospitality that I can give simply by growing into my own place in the world. I like myself because of the home that I can become by sharing openly.

I think about the key roles that each of us, each being, plays in our community. The oak provides structure and nourishment; the bee pollinates; the moss soaks up excess moisture and generates oxygen; the squirrel plants the next generation and enlivens the forest with its acrobatics. And I, with the great fortune of long-term land access for my farm, get to play the role of the oak, cultivating space for a whole community to belong to. Meanwhile I rely on the contributions of everyone else for my offering to feel worthwhile — each attendee of a Queer Farmer Convergence matters as much to the whole as I do. Each person who chooses to eat the food that we grow at Humble Hands Harvest is contributing to the success of our business, and their participation in the local food system is supported by their jobs, the people they share meals with, their unique place in the fabric of community.

By establishing a diversified farm in the middle of the Iowa corn-and-soy landscape, we created an oasis, not only for ourselves, not just for queer farmers, and not just for the people who eat the food we grow, but also for non-human life. Migratory bird species that rely on grasslands to hatch their eggs found this patch of ground within a couple years of us farming here. Now every spring we're delighted to hear the lilting whistle of the meadowlark and the chaotic chattering of bobolinks. They have found home ground with us, and they, in reciprocity, give us a belonging to the world.

YOU OWN THE GROUND YOU LAND ON



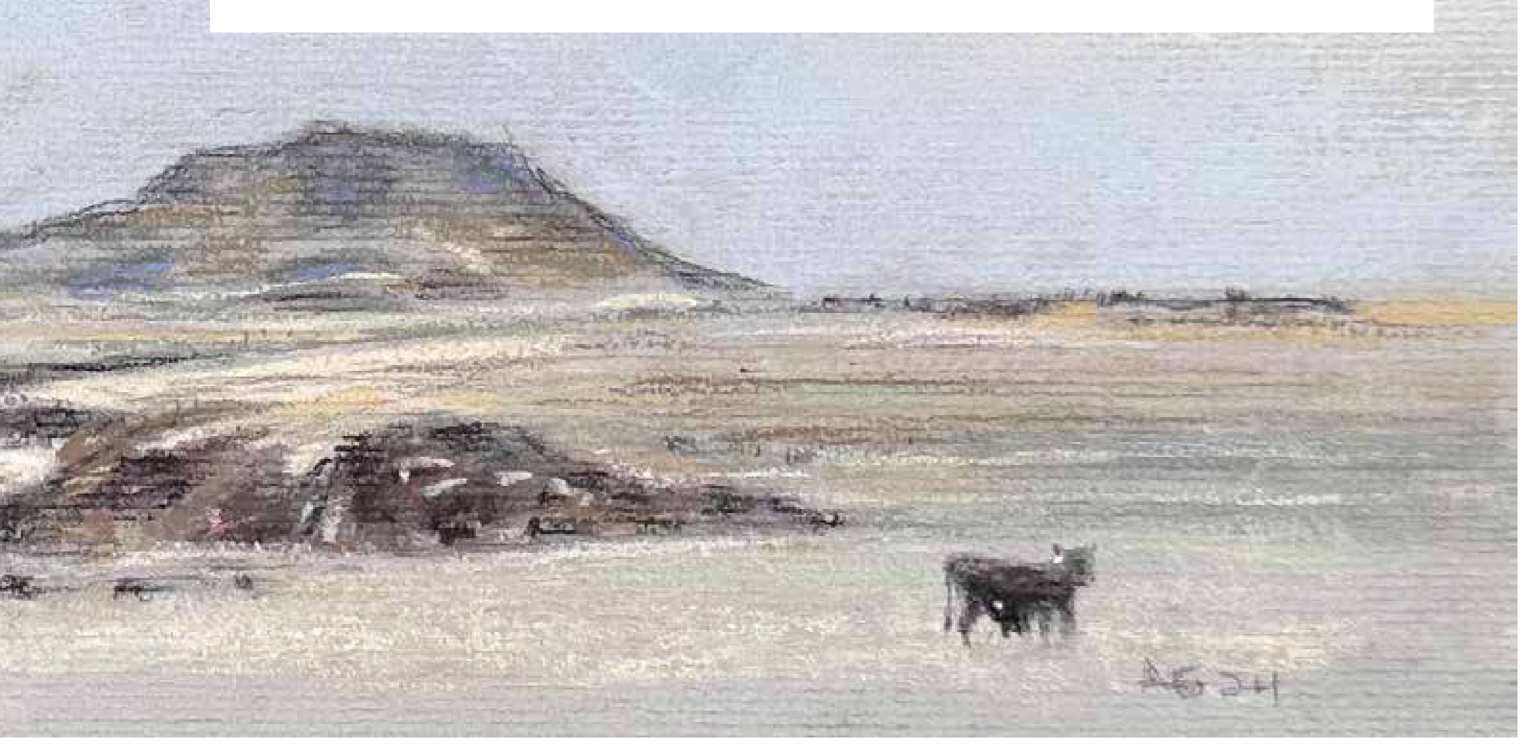
Sam Ryerson

with art by Ariel Greenwood

"Always take care of a place like it's your own, and someday you'll own your own place," I remember Thad Harris telling me when we were heading out to fix fence one day, getting pastures ready to receive cattle early in the spring in 2006. Thad was 21, already a seasoned buckaroo, and my first mentor in my first ranch job. The ranch, south of Roscoe, Montana, leased out the grazing and provided care for 2,500 yearling heifers from June to October. I had spent the winter caretaking a place near Red Lodge and cooking in a café in town, and rode my little black horse bareback 20 miles to the ranch when I started. Right away, I felt like I belonged. Everywhere I've worked since then, I've treated the land like I belonged to it, like it was my own; I felt connected to the land, and I felt at home. For the last ten years, I've owned part of the cattle I've cared for, and I've always cared for them like they were all my own. And I can say for sure that I don't need to own land to love working on it.

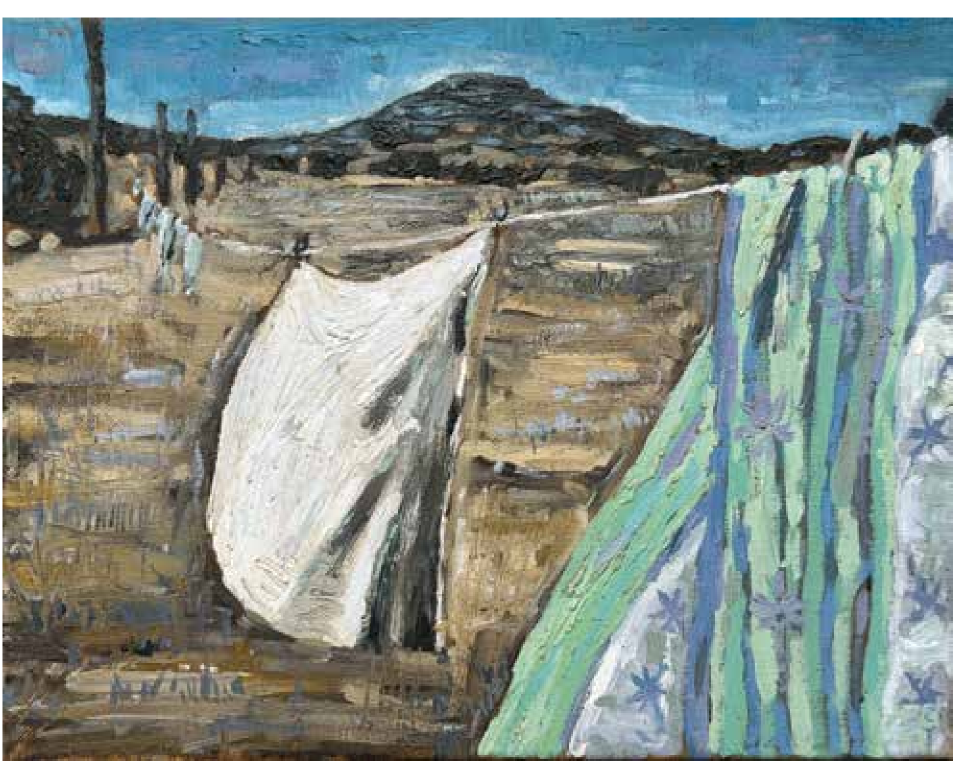
"If you get bucked off, you own the ground you land on," was another reassuring saying of Thad's — and a generally accepted fact in cowboy wisdom. I purchased some prime Montana rangeland in the early years of my career. The worst real estate transaction I made, on some bog bumps next to Big Beaver Creek, happened after a close call with a red dun horse named Pal. That decision helped lead me to find better ways of getting along with horses to strategically avoid purchasing land outright. I've been doing this work ever since, I haven't bought much ground lately, and I still don't own my place, but I've felt at home where I've been for many years now. The senses of home, belonging, community, or querencia, do not require possession of title, and might sometimes be stronger for the lack of it. The partnerships are the most important part, and my partnership with my wife, Ariel, is the foundation of our work.

My cowboy education was based on good teachers, wandering, working hard, and close observation. My entry into this work might not have been typical, but it is traditional that young cowboys should work on a variety of places as informal low-paid apprentices, and they are usually generously supported in this by the elders whom they work with and learn from. (I use cowboy as a gender-neutral noun because although basic biological facts in the primitive living conditions of the early days made the work suited for young men, now there are plenty of women doing the same work just as well or better). Working for a variety of owners and livestock operators, working as a hired hand in different states and seasons, learning to ride horses and get along with the tough ones, tending cows, yearlings and even goats, studying changes on the land — all these things made my accidental cowboy education compelling. After a few years, when I got serious about trying to work as a ranch manager, I applied to be an apprentice



in Quivira Coalition's Conservation and Ranching Leadership for Youth program, which helped me take that step. Everywhere I worked, there were lessons to learn. Everywhere I worked, the leased or permitted grazing land was a critical part of the whole operation; managing that land was often the most challenging and fulfilling part of the work.

I've worked on ranches in every state from Montana to New Mexico, and every ranch I've worked on has had at least some component of leased or permitted grazing land. This included Forest Service, Bureau of Land Management, state trust lands, wildlife refuges, Indian reservations, private grazing leases, and adverse possession. When you lease land, you have to consider your management from multiple perspectives — especially if you want to keep your lease. This can be challenging and frustrating when different stakeholders have conflicting priorities for the same piece of ground. But the patience and humility that the process requires can make the work more meaningful. More people can find fulfillment and connection in the same place. This is especially true on lands with wider public or community access, like federal and state lands, and reservations.



When my partners and I leased part of the Mescalero Apache Reservation in southern New Mexico, we felt honored to work in a place that is both sacred and functional for the community it belongs to. The land is productive and mysterious, holding secrets that our friends from the tribe hinted at, but we could never really know. We spent five years there, built our cattle company, rebuilt a house and corrals, left fences and pastures better than we found them — until, as we expected might happen, the tribe decided they needed more acres for their own expanding cow herd. We moved to the lease we're on now.

"I don't need to own my own ranch," my friend, Jeff Gossage, said when he spoke at Quivira's conference in 2011. He said that owning his own ranch was not his goal because he realized he could never afford to buy a place big enough to work at the scale he wanted to work at. He was glad to work for people who owned or leased the land. At the time, he was managing a ranch for an outfit that leased a couple of big ranches in Colorado on very creative terms, just south of the wildlife refuge where the outfit I was an apprentice for had cattle grazing on very creative terms.

Jeff's boss had a long-term lease on a property owned by The Nature Conservancy to graze cattle, manage and harvest bison, and run a guest program. My boss had a deal to graze cattle on a national wildlife refuge just north of Jeff's place to manage their grazing for habitat improvement, where the lease fee was paid in electric fence materials and our labor. Meanwhile in California, Ariel started her career with cattle when she managed a grazing lease on a private research preserve in suburban Sonoma County, living in a camper, moving temporary electric fences and portable water infrastructure every day, and taking her salary in the form of beef on the hoof, which she then had to sell to local customers. Each of us needed those opportunities to build our careers; each of our employers needed ambitious, optimistic, hard-working young people like us to make their deals work.

Creative lease terms, creative housing arrangements, willingness to compromise, optimism, ability to work with minimal infrastructure and equipment, commitment to improving land and resources without a guarantee of long-term tenure — these are required of graziers working on leased lands. And most of all, commitment to partnerships. A grazing lease is a relationship between at least two parties, and often more. The contract is only as good as the relationship between the partners. I've been fortunate to be involved in some great partnerships, and I wouldn't have been able to do much without partners, or without the relationships that led to the partnerships. Partners and leases both come and go. That's part of the deal, and it means our relationships and reputations matter more.

"You know, private property is a pretty recent phenomenon in human history," said one of my partners a few years ago. We were driving to look at some cows we were partnered on near Clayton, New Mexico. We were talking about taxes — property taxes, inheritance taxes, and a recent effort in New Mexico to allow

landowners to receive agricultural use classification for property tax purposes without practicing agriculture. This partner of mine is fairly conservative politically, so this conversation was really interesting and stuck with me over the years. I'm paraphrasing here, but he went on to say, "It's hard to keep land in the hands of people who actually want to work on it. Maybe the inheritance tax should be higher. Stop using land as an asset to park cash in, as a hedge against inflation. Make it affordable for younger people who want to work it."

Historical pastoralist traditions existed within societies structured to support a relatively consistent way of life based on movement across landscapes comprised of common land tenure. Their cultural traditions celebrated this work while their social customs enabled families and communities to function in complement to this lifestyle. For a brief period in American history, early cowboys practiced some aspects of transhumance across landscapes under a sort of common tenure — the unappropriated, unfenced lands of the western territories after the forced removal of their native people and bison and before statehood, homestead claims, and barbed wire fences. The cattle market in those days was primarily speculative, with many investors from the East Coast and Europe seeking short-term profits by investing in relatively liquid livestock grazing on "free" land, rather than the long-term, equity investments in land, livestock, improvements, and equipment that appreciate over time (and carry tax benefits in the interim) that motivate many ranch owners now. The system that created cowboy culture was not set up to support cowboys owning their own spreads, nor to prioritize long-term ecological, economic, or social value, though some cattle owners and stock companies did build systems to support cowboys in their work. Cowboys created their own cultures, customs, and skills to sustain themselves — as they still do now.

The work was suited for single young men, not for stable family life. Chuckwagons, bedrolls, horse wranglers, remudas, rope corrals, line camps, and other innovations were practical responses to the demands of working large numbers of semi-feral cattle and moving them across wild, rough country. Living conditions were coarse and primitive, but the job required certain refined skills — many of them introduced by Spanish settlers on California's ranchos and adapted to this continent — to manage cattle on undeveloped rangeland without the benefit of fences or corrals: working cattle from a rodear or hold-up, roping calves from a distance using long ropes made from grass or rawhide thrown with precise loops, and neighbors collaborating to gather and sort commingled cattle from shared ranges. The days of truly open range and the great trail drives are gone, but vast areas of grazing land, some of it contained within individual large ranches, still require these strategies and skills to manage cattle. Formal corporate structures like grazing associations still allow smaller producers to benefit from economies of scale, hiring migrant cowboys to manage combined herds while seasonally commingling cattle and resting their private home ranges or hay meadows. Flexible, responsive, collaborative, skillful

Private ownership of grazing land, especially across the semi-arid grasslands of the world, is a relatively new development, which may be antithetical to the nature of the land and the most appropriate ways of working on it. The settled, fenced-in, permanent, capital-intensive kind of ranching now practiced in the North American West and elsewhere allows for careful management of specific parcels, but also confines people, livestock, and wildlife within arbitrary boundaries. Transhumance — the seasonal migration of herding communities with their livestock — has a long history throughout the grassland regions of the world. Seasonal migrations and nomadic life in close proximity with livestock have advantages for land, wildlife, and pastoralists whose production models require them to respond flexibly to changing climatic and forage conditions on extensive, wild rangelands full of predators. There are also plenty of advantages to people for settling down, living inside solid houses, removing predators, and building fences around their livestock and forage.

Cover:
Heifer pairs by Jaroso Creek

Page 34:
Laundry - Pajarita Mountain

Page 35:
Yearlings above Morris Creek

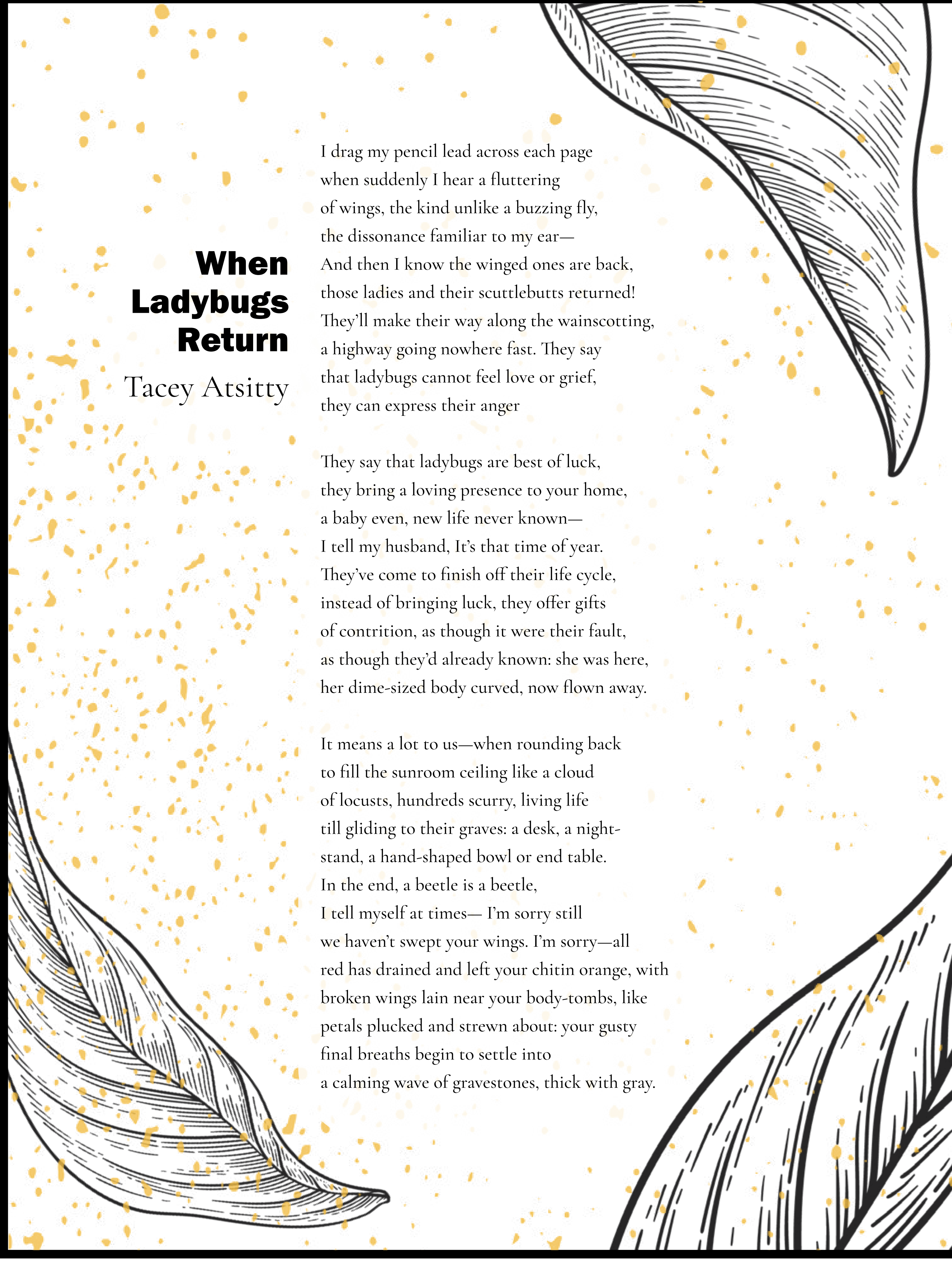
Page 36:
Yellowstone and Sam

management of livestock and forage still makes an ecologically-appropriate land use and economically-viable enterprise for semi-arid rangelands and rural communities.

Modern American society and the contemporary cattle industry are not structured to support pastoralism, transhumance, nomads, or cowboys. Our culture cultivates the myth, but not the reality. Still, thousands of people are making it work, and young people are joining in and sticking with it. The current typical model of individually-owned, marginally profitable private cow/calf ranches is not conducive to flexible, responsive, or collaborative management. It takes a great deal of creativity and hard work to make even an unmortgaged deeded ranch running a couple hundred cows support one family without an outside source of income. The contemporary cattle industry is structured to support these kinds of operations just enough to stay in business, and stay dependent on the same supply chain.

The cattle industry is very well-equipped to support grazing leases, especially seasonal leases for young, stocker cattle. These arrangements can provide ways for smaller operations to increase flexibility in stocking and marketing at larger scales, and offer opportunities for ambitious, hard-working younger operators, cowboys, and graziers to use their skills. Good grazing planning and grass management — along with traditional cowboy and stockmanship skills — are especially important for running naïve young cattle on seasonal grazing leases. Through these arrangements, the cattle industry does still support nomadic young cowboys moving across the land. We, and many people like us, have been doing that for years. Ariel and I support ourselves and pay our bills with our work tending land and cattle, while we try to realize longer-term profit and build equity through the cattle we own with our partners. Our partners, families, friends, and neighbors support us practically and culturally; so do both the commodity cattle industry and Quivira.

When we moved into a wall tent in Elk Canyon on the Mescalero Reservation, Ariel and I set up a company to structure our work together and called it Grass Nomads LLC. Sometimes we've moved from one ranch or state to another seasonally; sometimes we've stayed for years. Since our first months in the wall tent, we've lived in campers and switched houses with the seasons. Sometimes the cattle have moved with us; sometimes we moved from one herd and one partnership to another. The saddle horses and the dogs always go with us. After five years migrating between summers tending yearlings in Montana and winters with our cows in New Mexico, we decided to have a baby and stay in one place for a while. Now we're living with our daughter in a solid old stone house with new windows on a beautiful and efficient ranch in northeastern New Mexico, where we and our partners just renewed and extended our grazing lease with the landowners. We realize we won't be here forever, but we're fortunate to be here now — trying to make the most of our opportunity and take care of the place the best we can.



When Ladybugs Return

Tacey Atsitty

I drag my pencil lead across each page
when suddenly I hear a fluttering
of wings, the kind unlike a buzzing fly,
the dissonance familiar to my ear—
And then I know the winged ones are back,
those ladies and their scuttlebutts returned!
They'll make their way along the wainscotting,
a highway going nowhere fast. They say
that ladybugs cannot feel love or grief,
they can express their anger

They say that ladybugs are best of luck,
they bring a loving presence to your home,
a baby even, new life never known—
I tell my husband, It's that time of year.
They've come to finish off their life cycle,
instead of bringing luck, they offer gifts
of contrition, as though it were their fault,
as though they'd already known: she was here,
her dime-sized body curved, now flown away.

It means a lot to us—when rounding back
to fill the sunroom ceiling like a cloud
of locusts, hundreds scurry, living life
till gliding to their graves: a desk, a night-
stand, a hand-shaped bowl or end table.
In the end, a beetle is a beetle,
I tell myself at times— I'm sorry still
we haven't swept your wings. I'm sorry—all
red has drained and left your chitin orange, with
broken wings lain near your body-tombs, like
petals plucked and strewn about: your gusty
final breaths begin to settle into
a calming wave of gravestones, thick with gray.

Home is generally associated with a physical place,

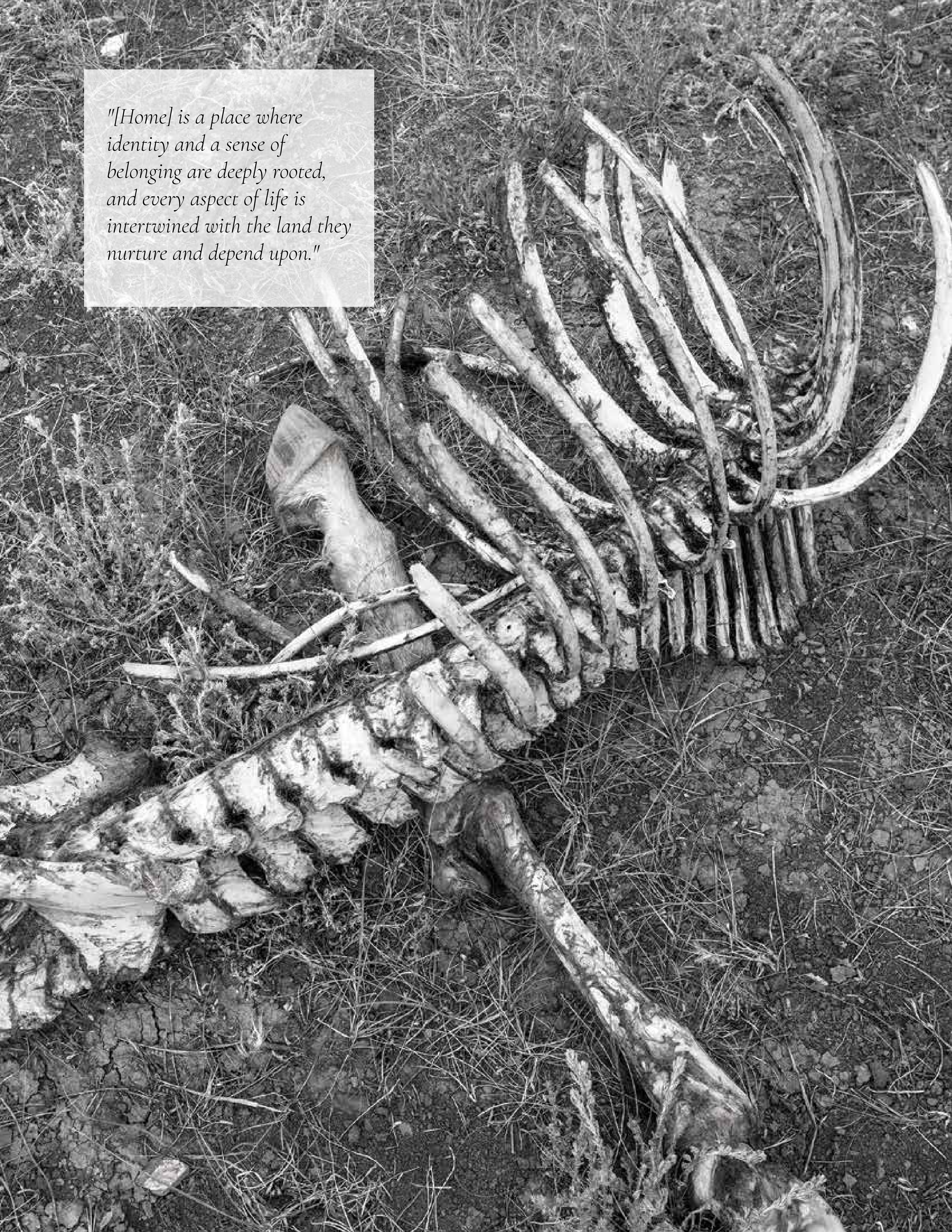
but it is much more than that. It's a space where emotional connections, identity, community, stability, shared experiences, safety, and personal expression come together to create a sense of belonging. Each of us has our unique interpretation of what home means based on our experiences and background.

For the ranchers, farmers, and land managers I've met over the past 15 years, the idea of home is deeply connected to the land and ground they work. Hence, the title of my book - HOMEGROUND. Many adhere to Aldo Leopold's concept of a land ethic by adopting a view of "home" that extends well beyond the barns and other structures to include the entire ecosystem. It is a place where identity and a sense of belonging are deeply rooted, and every aspect of life is intertwined with the land they nurture and depend upon.

Today, less than two percent of our population earns a living working the land. For most of us, the idea of home has evolved into a dynamic blend of tradition and innovation, reflecting our diverse and highly mobile world. It is one that is often far removed from the land of our forebearers and ancestors. In our rapidly changing world, finding that connection can seem increasingly elusive, yet it is essential for our well-being, sense of belonging, and the health of our planet. By spending time outdoors, whether through hiking, gardening, or simply walking in a local park, we can reconnect with the rhythms of nature and the beauty of our surroundings. Engaging with the land allows us to appreciate the intricate web of life that sustains us and fosters a sense of belonging, stewardship, and responsibility for its care.

Photos captured in Colorado, New Mexico, and Wyoming and featured in Sally's book, HOMEGROUND.

Photo essay and words
by Sally Thomson



"[Home] is a place where identity and a sense of belonging are deeply rooted, and every aspect of life is intertwined with the land they nurture and depend upon."

Leah and Jesse Pinkner learned about regenerative agriculture by being apprentices in Quivira Coalition's New Agrarian Program. They took their knowledge back to Jesse's family ranch in Texas.

The Heart of Home

Jesse Pinkner

photos by Phoebe Pinkner

I know that it will sound cliche to start this by reminding you that "home is where the heart is." But that phrase gives weight to the fact that, for 28 years of my life, a piece of my heart has resided on a small property in the panhandle of Texas. There, two square miles of land sit in the Wolf Creek Valley. Folks around there call this land the LZ Ranch. For many thousands of years, this land was home to the Native peoples of the Comanche and Kiowa tribes. This land still carries evidence of this history in the form of arrowheads, old dug outs, bison jumps, and even burial grounds. Local archaeologists have established that Wolf Creek and parts of the current LZ Ranch used to be very important trading, hunting, and farm grounds for many Indigenous people. And it is not hard to see why; to this day, the land is still covered in a delicate but fertile spur clay-loam soil that gives rise to sprawling fields of prairie clover, big bluestem, indian grass, and switchgrass, to name a few. This abundance of native grasses supports an abundance of wildlife such as bob white quail,

sage grouse, white tail deer, mule deer, and bobcats, not to mention the flocks of wild turkeys that can reach numbers of 50 per group.

The LZ Ranch and LZ Hereford cattle company were established by my great-great-grandparents, Tom and Elvira Ellzey, in 1917. They had four boys who grew into ranch hands and ministers, and when these four married and began having children, the entire family started the LZ boys camp. This was a sleep-away style camp for young boys from the city to come to the ranch and learn about cowboys, campfires, hunting, music, poetry, and more.

Fast forward to the early 2000s; my brother, sister, and I were young kids from the city whose parents drove us from St. Louis to the LZ Ranch to see our grandparents once a year. We'd fly out of the car after pulling up under the elm trees, hug our grandparents, and then flee to the creek to start playing and wrestling like dogs. As my siblings and I grew into more capable people, we took on more responsibility during our yearly visits, saddling horses, branding calves, gardening, making applesauce, and more. Eventually an idea hit me: people live like this. Why can't I?

In high school I met Leah. We fell in love and throughout our college years, I would bring her to the LZ Ranch and teach her all of the things that I learned about the ranch when I was young. To my amazement, Leah loved these things as much as I had come to. You can probably see the question coming again but this time the two of us asked it a different way. People around here live like this; how can we make this happen for ourselves?

In 2021, at the height of the pandemic, Leah and I were living in St. Louis City. I was working for a nonprofit and Leah was working for St. Louis University extension studying plant biology. It was through her lab manager that Leah first heard about Quivira Coalition and the New Agrarian Program (NAP). Leah came home from work one evening with the email in hand from her manager outlining an "interesting program." She read it to me and I think we both thought NAP sounded great. After all, NAP is meant to be a stepping stone for young people with little to no experience in agriculture. The prospect of getting to learn from experiencing these things first-hand is what got us so excited about the program. Still the doubt was hard to shake: why would anyone pick us to work at their ranch? Even though I had spent summers in Texas and Leah had a background in plant biology, we really knew nothing about ranching. We applied anyway and during the next three months of waiting for

a response, we became obsessed with regenerative agriculture, determined that one way or another, we were going to be a part of this community of producers saving United States agriculture.

Leah and I were on a camping/rock climbing trip when, with what little cell service we had, we got a call. A rancher in central Montana was interested in having us work at his place. After a couple of virtual interviews over the next months, Leah and I packed up our house, fit everything we could in our Ford Escape and with our two cats and a dog, we drove 22 hours to Two Dot, Montana, population 26.

Over the next three years we changed into different people. Not to say that we lost who we were, but the community of apprentices in NAP that we now call our friends helped us to rethink everything we thought we knew about land stewardship, animal husbandry, industrial food systems, stockmanship, communication, and just how to be a good person in this new agricultural climate. It was learning from experts and making connections to other ranchers and mentors in the NAP program that we became confident enough to make another leap.

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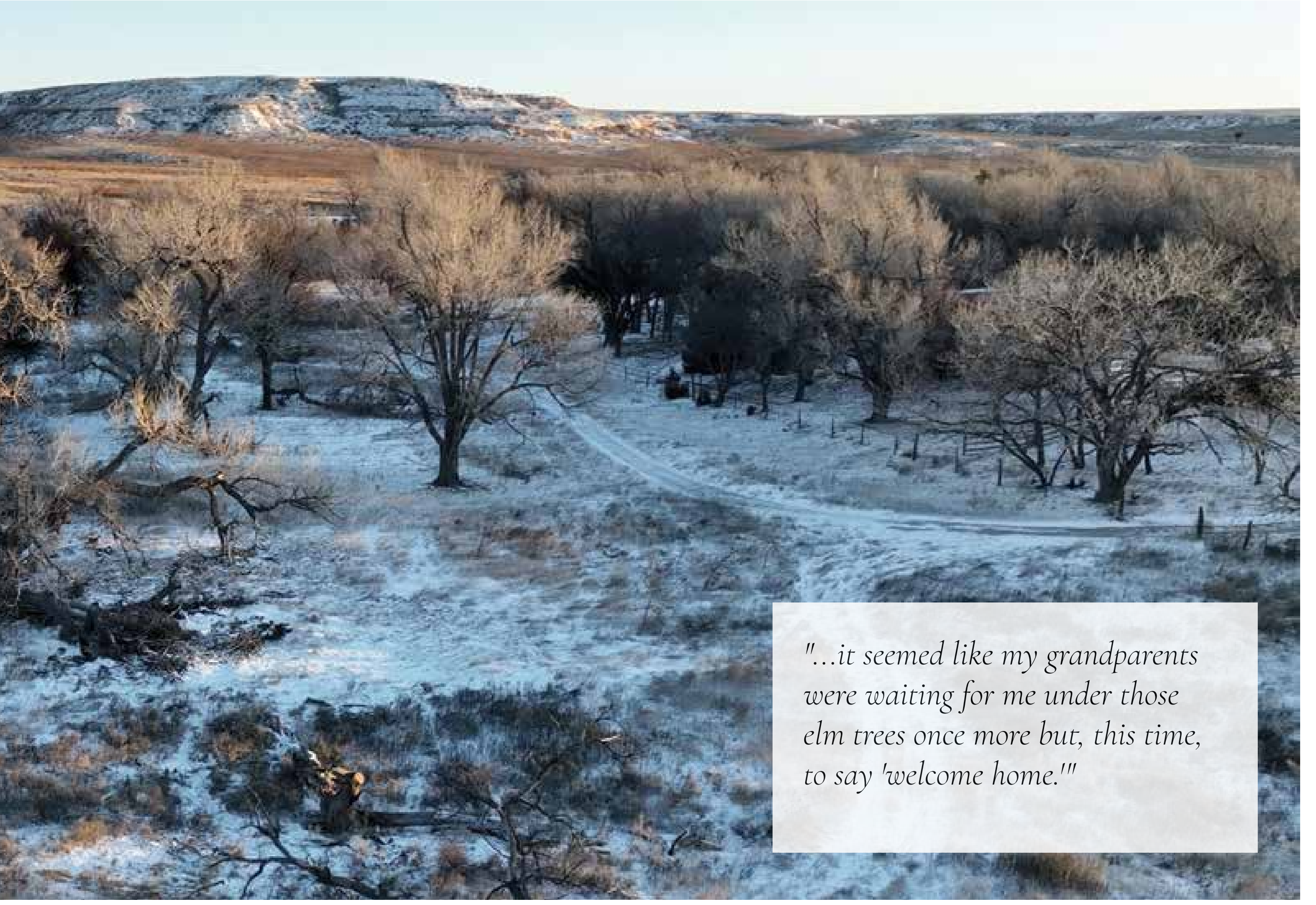
These days, the LZ Ranch is governed by my extended family as an undivided interest. This can be a unique challenge because of all the different opinions on the family council, but it offers a pretty incredible opportunity as well since there is always more than one way to solve a problem or build something new. Leah and I worked long nights after long days of ranch work in Montana to build a presentation for the family council. This powerpoint outlined the water cycle, cattle health, American rangeland history, intensive grazing management plan, low stress livestock handling, and more. To our delight, the family council was thrilled about everything we learned and were proposing to do at the LZ Ranch. After several arbitrations and tons of individual calls to family members, we signed a lease that keeps everyone involved and gives us the freedom to graze and manage the way we have learned.

On November 1, 2023, Leah and I packed up all of our things once more and headed to the LZ Ranch. We drove for 20 hours this time, with a pickup truck and a stock trailer full of all of the tools we had accumulated for grazing over the past three years. We still had two cats and a dog, but in the back of the trailer were two pigs for breeding stock. We didn't listen to music at all on this drive because we had so much to talk about: our hopes



The LZ Ranch sits in the Wolf Creek Valley in the panhandle of Texas.

for the future, friends we were sad to leave behind, and the way we left ranching in Montana. After 17 hours, we were so tired we had to sleep in a Tractor Supply parking lot. The next day we woke up in a below-freezing truck and started the last leg of our journey home.

Pulling up under the elm trees this time was an almost unbearably emotional experience as we thought about all that brought us to this point, all of the hard work and planning. Even though they are gone now, it seemed like my grandparents were waiting for me under those elm trees once more but, this time, to say "welcome home." We opened the doors of the truck and had a moment to take in the smell of juniper and sounds of mourning doves before my brother and sister-in-law (who had moved to the ranch four months prior to start their own businesses) came barreling out of the house with music and a piñata to celebrate our arrival. Leah and I were both in tears.

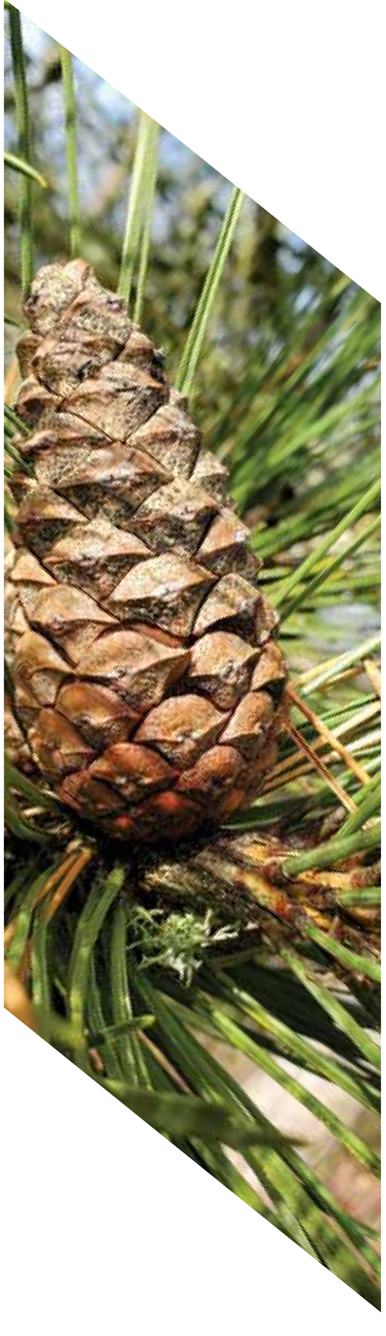
Over the next 24 hours we began to take stock of where we were. In Montana, we learned from neighbors and friends that agriculture is a journey into peace and a labor of love. This lifestyle takes a tremendous amount of patience — with yourself, your community, and nature. We are always learning to be at peace with our changing environment and to meet it with the patience to respect it for what it is, yet all the while, determined to gently nurture its abundance and beauty. To look at the LZ Ranch with the eyes of beginning land stewards, we saw the degradation and decay but by looking at the marks of love left to us by relatives and friends, we were inspired to make this place into our home. We saw the bare wires hanging out of the ceiling and the plumbing fixed by 40-year-old duct tape, but it filled me up with hope and excitement to be here sustaining this place for the next generation.

After being at the LZ Ranch for three weeks, we found out that Leah is pregnant. Lately, I am filled with an incredible weight. To be on the property I have longed to live on since I was nine, to see my best friend and partner wandering around feeding pigs and building electric fences, pregnant with our daughter, is a feeling that is hard to describe. Most of the people in the generations before me who built this ranch into what it is today have never met me, Leah, or our child but it is their pioneering spirit that always made the LZ Ranch feel like home to me. And it is with that spirit that our daughter will come to call this place home.

SUSTAINING NEW MEXICO'S PONDEROSA PINE ECOSYSTEMS

A collaborative approach across the reforestation pipeline

Photos and words by
Aalap Dixit
and
Joshua Sloan



Climate change threatens the sustainability and productivity of forests across New Mexico and the American Southwest. In New Mexico, ponderosa pine forests have great economic, ecological, recreational, and cultural value. However, climate change has increased the intensity, frequency, and severity of abiotic and biotic stressors such as wildfires, droughts, heatwaves, and pests, resulting in a loss of ponderosa pine forest cover along with declines in natural regeneration.

Artificial regeneration by planting high-quality, nursery-grown ponderosa pine seedlings can be used to overcome these losses and help maintain forest cover in this region. However, early survival of planted seedlings is often low and needs improvement, and not enough seeds are currently available from appropriate seed sources to meet New Mexico's reforestation needs. To help address these and related reforestation challenges, the Target Plant Concept was developed as a practical framework for planning effective reforestation operations. According to the Target Plant Concept, effective reforestation operations must: 1) clearly identify one's reforestation objectives, 2) identify the characteristics and limitations of the site needing reforestation, 3) identify ways to overcome those site limitations, 4) identify the species, genetics, and stocktypes most appropriate for the site and objectives, 5) identify the optimal planting tools and techniques for the site and stocktype, and 6) identify the optimal planting season for the site being reforested. Additionally, achieving reforestation success through the Target Plant Concept requires communication and collaboration among partners, including landowners, foresters, seed collectors, nursery managers, planting crews, and other stakeholders in order to ensure effective coordination and to create a positive adaptive management feedback loop where all partners can

learn from each other and from their collective experience working on reforestation projects. This planning process needs to be integrated throughout the reforestation pipeline to improve the survival of planted seedlings relative to historical efforts. Notably, in New Mexico alone, current estimates suggest that about 1 to 2.6 million acres of moderately- to severely-burned forests need to be replanted, requiring nursery production and planting of about 150 to 390 million seedlings if a typical low historical planting density of 150 seedlings per acre is assumed. This, in turn, translates to as much as 60,000 pounds of tree seeds that must be collected. To meet these needs and overcome New Mexico's reforestation challenges, an all-hands-on-deck approach is needed that builds and strengthens partnerships between local communities, nurseries, scientists, and agencies across all areas of the reforestation pipeline, including seed, nurseries, and planting operations. Many activities are already underway and much progress is already being made through the work of the recently created New Mexico Reforestation Center and its partners.

New Mexico's Reforestation Pipeline

The New Mexico Reforestation Center (NMRC) was founded in January 2022 as a partnership between the New Mexico Energy, Minerals, and Natural Resources Department's (EMNRD) Forestry Division, New Mexico Highlands University's Department of Forestry (NMHU), New Mexico State University's John T. Harrington Forestry Research Center (NMSU), and University of New Mexico's Department of Biology (UNM). The mission of the NMRC is to meet the current and future reforestation needs of New Mexico and the greater Southwest through its comprehensive seed bank, nursery, and planting operations combined with research, education, and outreach activities. To accomplish this mission, the NMRC has adopted an integrated approach to reforestation that brings together a broad range of stakeholders, including landowners and community representatives, state and federal agencies, tribes, non-governmental organizations (NGOs), and universities to meet New Mexico's reforestation challenges across the three major areas of the reforestation pipeline: 1) seed collection and storage, 2) nursery production, and 3) planting.

Seed Collection and Storage

The collection, processing, and storage of high-quality tree seeds is the first step in the reforestation pipeline. For ponderosa pine, local, climate-adapted seeds are needed to support large-scale reforestation operations in New Mexico to help mitigate losses of forest cover caused by wildfires and climate change. Successful reforestation requires the use of seed sources adapted to both current and future climates, as well as local conditions on a reforestation site, and this often requires the use of locally-collected seeds. This, in turn, requires information and research about the genetics and adaptability of potential seed sources, and the use of screening techniques (e.g., common gardens and provenance trials) combined with scouting efforts to identify mother trees and populations that may be more adaptable, stress-tolerant, and resilient under future climates. In the early stages of seed collection, workforce needs typically include scouting for cone crops and mother trees, and community partnerships are important for identifying potentially valuable and productive mother trees. Later in the seed collection process, these same partners often provide valuable assistance with monitoring cone crops, providing access to private lands for seed collection, and assisting with seed collection in roles such as tree climbers, ground crews, and technicians.

Seed collection is expensive, but these costs are usually hidden in the price that landowners pay for seedlings from the nursery, which leads to the true costs and value of seed collection often being overlooked. Many factors contribute to seed costs, including: personnel time and travel associated with scouting and monitoring of cone crops; tree climbers and ground crews collecting the cones from mother trees; transportation of cones to the extractory and/or seed bank for processing; cone processing and seed cleaning; seed testing; seed storage; equipment and supplies for seed-related work; vehicles and maintenance for field crew transportation; and many others. Currently, newly-collected ponderosa pine seed in New Mexico may cost around $0.05 per seed. This sounds cheap until we scale up this seed cost to reflect the amounts likely needed to overcome New Mexico's reforestation backlog. If we assume a current reforestation seedling need of 150 to 390 million seedlings and an average sowing rate in the nursery of 1.5 seeds per seedling produced, this would add up to $11,250,000 - $29,250,000 just to cover the costs of seed collection, processing, and storage at the scale needed to address New Mexico's reforestation needs to date.

At this stage, ongoing and planned projects encompass several initiatives. These include a ponderosa pine provenance trial in Mora, New Mexico, with over 75 seed sources of ponderosa pine, and a common garden study in Flagstaff, Arizona, with 21 seed sources of ponderosa pine evaluating differences in survival, growth, and physiology under field conditions with direct implications for reforestation in New Mexico. Additionally, the NMRC's seed extractory and seed bank, housed at NMHU, lead the state's efforts to collect, process, and store the seeds necessary to meet New Mexico's reforestation needs. In 2023, the NMRC trained over 25 seed collection tree climbers and collected approximately 3.8 million seeds that will be used to support reforestation efforts in New Mexico and Arizona. The amount of seed collected annually is expected to increase as we build additional capacity and expand the workforce. Additionally, the NMRC uses its seed collection operations as opportunities to partner with landowners, agencies, tribes, and NGOs to provide trainings in seed scouting, monitoring, and collection, which allows its operations to double as professional and workforce development activities. This will ultimately increase New Mexico's reforestation capacity while helping people develop the knowledge and skills needed to meet their community's reforestation needs and participate in the developing reforestation economy. However, even with a growing supply of locally-adapted seed for reforestation in New Mexico, seed will remain a limited and valuable resource for the foreseeable future. Therefore, it is important that we also invest in the nursery infrastructure and programs needed to increase the supply of

"Tree tubes" are used to improve post-transplant seedling survival.

high-quality reforestation seedlings needed to plant New Mexico's burn scars while making the best and most efficient use of our available seed resources.

Nursery Production

Successful post-fire reforestation relies upon an adequate supply of high-quality, locally-adapted seedlings that are likely to survive and establish after transplant. In New Mexico, the vast majority of such reforestation seedlings are grown in the nursery at NMSU's John T. Harrington Forestry Research Center (JTH FRC) in Mora. NMSU's JTH FRC has been in operation since 1972 and in recent years has served as the de facto reforestation seedling nursery for the state of New Mexico. The JTH FRC has played an important role in training researchers and students from across the nation and around the world in nursery management, tree improvement, seedling ecophysiology, and reforestation science. They routinely collaborate with faculty of partner universities, as well as state, federal, and tribal agencies to use research-based approaches to develop new knowledge, plant materials, and techniques to help continually improve reforestation outcomes and solve our nation's most pressing reforestation challenges. Under Dr. Owen Burney, the JTH FRC's current director and a professor at NMSU, the JTH FRC is playing a leading role in meeting New Mexico's need for large numbers of reforestation seedlings. Although the JTH FRC's current seedling production capacity is approximately 300,000 seedlings per year —well below the needs of the state — the JTH FRC's location in Mora was recently announced as the site of the NMRC's new nursery. This new, state-of-the-art nursery facility will have a production capacity of five million seedlings per year, almost 17 times the state's current capacity. Many of these seedlings will be distributed to landowners and communities impacted by fires through EMNRD's Conservation Seedling Program or similar wildfire-specific programs that may be established as part of the NMRC's operations to improve landowner access to high-quality reforestation seedlings.

Although this increase in capacity will put New Mexico on a much better trajectory to meet its reforestation needs, significant logistical and economic challenges remain. If we again assume that New Mexico needs somewhere in the range of 150-390 million seedlings to overcome its post-fire reforestation backlog, this would translate to approximately 30-78 years' worth of this new facility's full production capacity (at an estimated seedling cost of $225,000,000 - $585,000,000 in 2024 dollars if we assume an average cost of $1.50 per seedling) just to catch up with the current backlog, not including reforestation needs resulting from future fires. Although seedling costs can vary widely by stocktype and from one nursery to another, it is important to remember that not all seedlings are created equal. A nursery's production practices, quality of seed and materials used to grow the seedlings, and handling and shipping practices all significantly impact the survival and performance of seedlings, in addition to their cost. As with many things, in reforestation, you get what you pay for. Seedlings produced by the JTH FRC and NMRC, when incorporated into a Target Plant Concept approach that combines improved seed sources with improved nursery and planting practices, have been found to improve survival and performance on harsh sites in New Mexico compared to historically-reported outcomes. Additionally, a major benefit of integrating the NMRC with the JTH FRC and other university partners is the ability to integrate cutting-edge university research with the NMRC's operational scale seedling production in a way that allows for continual improvement and innovation in the NMRC's seedlings and operations based on feedback from landowners, community and agency partners, and formal faculty research. This iterative, feedback-based approach to troubleshooting is a key aspect of the Target Plant Concept and should be a foundation of any reforestation program.

At this stage, there are several ongoing projects investigating the use of nursery cultural practices to enhance seedling quality and improve adaptability and survival on harsh post-fire sites. These include studies evaluating the use of drought-conditioning of seedlings in the nursery, different seedling stock sizes to identify optimal stocktype options for different sites and soils, investigating the impacts of seed source genetics on ponderosa pine seedling quality and performance, and the potential for locally-produced materials such as biochar to serve as components in nursery media mixes for seedling production. These research efforts are led jointly by NMSU, NMHU, and UNM faculty, along with graduate and undergraduate students being trained to serve as the next generation of reforestation scientists, and often with the assistance of, and in collaboration with, landowners, and community, agency, and NGO partners. Such research is critical to the continual improvement of nursery practices and the production of high-quality seedlings, but even the best seedlings grown from the best locally-adapted seed sources must be transported, handled, and planted properly in order to ensure the greatest likelihood of success for a reforestation operation. For this reason, the NMRC is also focusing on the improvement of planting research and operations in the Southwest.

Planting Practices

Although most reforestation planting operations in New Mexico have been, and will continue to be, performed by contractors working for landowners, the NMRC and its partners have long been engaged in research and outreach to identify and share climate-adapted planting practices likely to improve seedling survival and performance during post-fire reforestation. When planning a reforestation planting operation, one must ensure that seedlings are being planted on favorable microsites (e.g., small, sheltered areas of better, higher moisture content soils on a site likely to improve seedling survival), using the best tool for the seedling stocktype and the soils on the planting site (e.g., using planting bars rather than hoedads, which are good planting tools for the deep moist soils of the Pacific Northwest but entirely inappropriate for the shallow dry soils of the Southwest), that seedlings are being planted during a time of year when there will be good soil moisture on the planting site during and after planting, and that seedlings are transported, handled, and stored appropriately throughout the planting operation in order to ensure that planting stock quality is maintained and not lost through exposing seedlings to high temperatures, excessive drying prior to planting, or rough handling. However, in addition to these comparably well-established considerations, the NMRC is investigating novel approaches to reforestation, such as nucleation planting. Nucleation planting is an experimental approach which mimics observed patterns of natural regeneration by focusing planting efforts on the more favorable parts of planting sites where seedlings will have a better chance of survival. This creates a mosaic that can rapidly re-establish groups of trees across a burned landscape that can serve as a seed source for natural regeneration of surrounding unplanted areas in the future. Research into nucleation planting and planting densities is being combined with experimental remote-sensing-based seedling survival probability models developed by UNM's Drs. Matthew Hurteau and Christopher Marsh that offer the possibility of identifying which parts of a site to focus reforestation nucleation plantings on and which to set aside for natural regeneration. While still experimental, these approaches offer the potential for more efficiently reforesting a greater number of burned acres by focusing planting efforts where they are most likely to be successful by improving post-transplant seedling survival. Other areas of active research include the impacts of using nurse objects like logs and shrubs to improve seedling survival, as well as the use of browse prevention devices (e.g., "tree tube") to protect seedlings from herbivory. The NMRC is in the process of combining existing reforestation science with the findings from this research as they come available, all of which is being developed into a set of updated reforestation best management practices specific to New Mexico. The NMRC began offering reforestation planning and tree planting workshops for landowners in 2023 conducted by NMHU staff and often hosted on reforestation sites belonging to community members, and we will continue to share this information with landowners and agencies through both new publications and additional workshops in 2024 and future years.

Conclusion

Historically, most reforestation in New Mexico and the Southwest has followed a "plant and walk away" model, where seedlings were planted with little planning and minimal post-transplant follow-up or monitoring. However, this approach is outdated, has been shown to invite failure, and is not appropriate for reforestation of harsh post-fire sites in the Southwest. Given the high costs of reforestation associated with seed, seedlings, and planting, landowners and communities impacted by wildfires should make every effort to employ the principles of the Target Plant Concept to plan and execute their reforestation operations in order to ensure they maximize their chances of reforestation success, make the best use of their reforestation investment, collect the data needed to learn from their successes and mistakes, and put their forests on the fastest and most direct path to post-fire recovery.

Additionally, landowners and reforestation practitioners should consider the following points in order to improve success: 1) use locally-adapted seed sources, high-quality nursery seedlings, and appropriate planting tools, techniques, and timing; 2) early and effective planning and communication among all stakeholders is essential for reforestation success; 3) the economics of reforestation operations should examine the cost per surviving seedling rather than just the price tag of seedlings and planting operations, thereby emphasizing performance and quality rather than focusing on quantity alone; 4) research, education, training, adaptive management, new economic models and funding sources, and integration across all stages of the reforestation pipeline are all needed to maintain ponderosa pine forests in New Mexico.

Right: All steps of the reforestation pipeline are important, from seed collection to how the seedlings are planted.

NATIVE

ROOTS

Yolanda Benally

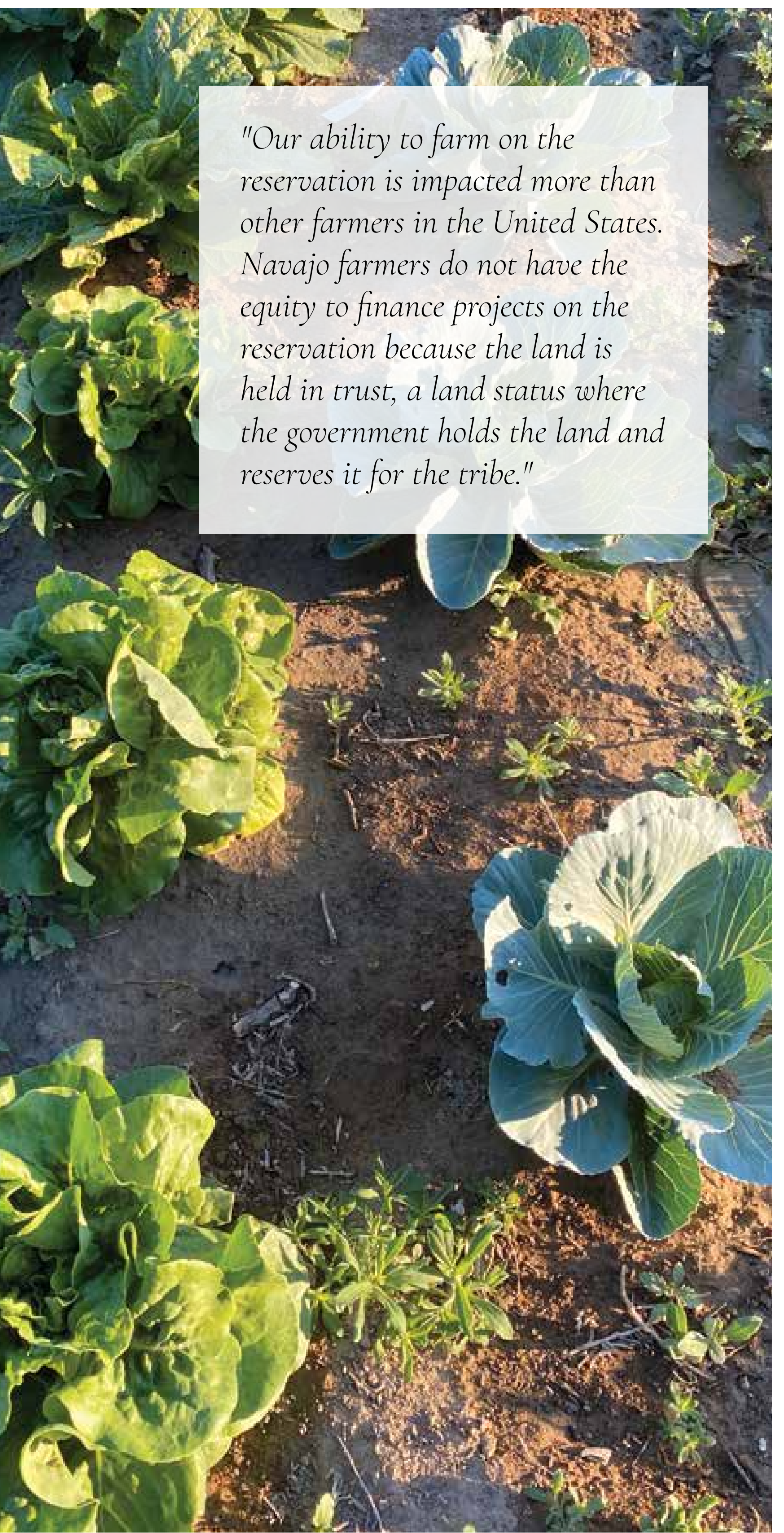
Rolling hay bales to clear the way for the tractor to make another pass is my earliest memory of working on the farm with my older sister; my father taught us how to operate a tractor by age ten. I rode on the tire well of the tractor as my sister drove. The tractor rocked back and forth as the hay was shaped into rectangular blocks.

Our childhood was about irrigating, cutting, raking, and baling hay in the summertime. We would help my mother with planting seeds, followed by hoeing weeds among the corn and melon field. My dad would pick, stack, and sell hay with his siblings twice a season. Once the money came into our hands from the alfalfa sale, we bought fuel, spark plugs, and oil for our motorcycles. When we weren't in school or farming, we played and rode our motorcycles along the route that the sheep made on their daily venture to graze and drink water six miles away.

The Four Corners Power Plant on the Navajo Nation was in our backyard, providing power for Arizona and California. Navajo Mine was the place my father worked during the week, while after hours he was farming. The power plant pumped river water to a man-made lake where the community took their livestock to drink water. Although the power plant and mine were in our backyard providing jobs, economic security, and water for our livestock, farming was my father's passion. His passion for farming was our work as his children.

After a separation between my parents, I left our farmlands to live with a Mormon family that helped me during a rough part of my life as a teenager. Living among them taught me about canning, family responsibilities, and the importance of being part of a community that had a different perspective.

Yolanda Benally's children help harvest the corn she grows on her farm. Photo by Yolanda Benally



Yolanda returned to her family's homelands on the Navajo reservation to farm. Photo by Yolanda Benally

Once I finished high school, I joined the Marine Corps. I never felt safer than when I was surrounded by Marines. They helped me survive the marches. I was the smallest and shortest on most marches, and keeping up was a struggle; my unit helped me survive them. During those times of struggle, I gained confidence by staying in the march, not quitting. But it was not boot camp that made me who I am; following and listening to my elders — whether it was my father, grandmother, or my clan sister — gave me the mental survival skills that surfaced during the marches. After an honorable discharge, I went back to school, earned bachelor's and master's degrees in the environmental field. During that time, I didn't get to farm much because by then, the farm and house where I grew up was being farmed by my sister.

These experiences of leaving home at an early age, learning to be independent and finishing my goals, were part of what shaped me to who I am today as a farmer. The discipline, sacrifices, and perseverance are the traits I have to rely on to survive.

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While I was in college, I filled out all the required papers to get a homesite lease to live near the area where I grew up. I was granted a 65-year lease to live on an acre plot across from the ditch of my childhood stone home. I knew one day I would return to the place, the land between the four sacred mountains that the Creator set aside for us to live out our lives as Navajos, the place where our language, songs, and ceremonies were practiced.

Around the same time, my dad offered me a permit for one of his two farms. I felt like a 40-acre farm was too big for me and even though I was hoping for an opportunity to have a permit for a smaller lot (10 acres) that he also held the permit to, he wasn't ready to give it up. I transferred my one-acre homesite lease to my little sister; she moved onto her newly-acquired lease to live adjacent to our childhood home with my father.

I moved forward by finding work outside the reservation. I traveled the country, living outside of the Navajo reservations while working in the environmental field for other tribes and the federal government.

Many years later, my father transferred the permit for the 10 acres to me to entice me to come home. I had to reapply for a homesite lease in order to live close to where I could farm. As a Navajo farmer and a part of a tribe collectively, one truth is constant in my mind: the land that I live on, the land that I farm on and

where I raise my family, will never belong to me for the purpose of building equity or a sense of the American dream that some Americans maintain. Many foreigners risk their lives to make their American dream come true, but I knew it would never be part of my dream if I continued to stay on the reservation. As a collective unit, we, the Navajo, belong to Earth instead of the Earth belonging to us.

After achieving my goal of getting my education, serving my country and my tribe as an enlisted member and as an officer in the commissioned corps, I moved home to fulfill my commitment to my father by accepting the permit to continue our family's legacy of farming on our homelands.

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Farming is hard, expensive, and time consuming. My success hinges on my hope and prayers that my crop will one day feed my family and have enough left over to share or sell. There are so many facets and obstacles to getting water to the plot. I pray that we get enough water to keep our crops alive long enough to get the best harvest.

One of the biggest challenges, though, for Native American farmers is federal Indian policy. While most presidential administrations believe Native Americans have the right to self-determination (the idea that each tribe gets to choose how it governs itself), the U.S. Supreme Court interprets treaties and policies from our origin, which can reduce the ability of tribes to figure out their own path to that self-determination. For 500 years, over generations of administrations, this pendulum swings back and forth; a Supreme Court ruling impacting the Navajo Nation will also have repercussions on tribes down in Florida, even if it doesn't have direct relation to what that tribe needs. A struggle to maintain our language, our ceremonies, our way of life, and our homeland that is held in trust for the benefit of people is a constant reminder of the price our ancestors paid for us to return to our ancestral lands.

Our ability to farm on the reservation is impacted more than other farmers in the United States. Navajo farmers do not have the equity to finance projects on the reservation because the land is held in trust, a land status where the government holds the land and reserves it for the tribe. Farmers cannot get most outside funding that is available to farmers off the reservation because of the land status and lack of federal agencies available to provide technical assistance locally. Trust lands cannot be repossessed or given away because it is reserved, and cannot be bought, sold or used as collateral; therefore, most funding from banks is not possible.

The Bureau of Indian Affairs' trust responsibility to assist Navajo farmers is part of its broader mandate to support tribal self-governance, sovereignty, and economic development. However, the delegation of responsibilities between the bureau and the tribe for the administration of land use permits is not clear. When Navajo farmers ask for assistance to maintain the infrastructure that conveys the water for which the tribe holds water rights to, farmers often don't feel like the bureau is held accountable for fulfilling their obligation after centuries of oversight. Lack of records and the ability to transfer permits in a timely manner creates challenges and obstacles, which discourages new farmers from taking responsibility of plots that lay fallow.

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When my children were born, I prayed while I planted their umbilical cords on the farm soon after they were born. A sprinkle of corn pollen and a prayer asking the Creator that my child would grow roots from the womb of our Mother Earth to be the best person they can be. I planted their umbilical cord where they would always be connected to home. My children grew up playing in the dirt, eating the dirt, and eventually, they planted their favorite sweet fruit or vegetable in the dirt. Soon, I will teach them how to operate the tractor to continue the legacy of farming.

I pray they will have the ability to farm for the next seven generations in the same place they are connected to Mother Earth. Sometimes I wonder how Congress will stand up for us, if they will honor the treaties, and remember that they put us on reservations to keep the peace. I wonder if the Bureau of Indian Affairs, who assigned us permits, will fulfill the trust responsibilities and obligation to provide oversight and assistance to allow farmers to continue to sustain Navajo families, Navajo communities, and feed Navajo livestock with the rights given to each permit holder. Our farming way of life hinges on ensuring the infrastructure is maintained and operated so that each permit holder is able to get water, something that is determined by Congress and supposed to be fulfilled by the Bureau of Indian Affairs.

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Coming home and farming has been a blessing. Many aspects of farming are determined by each farm permit holder and their ability to continue farming. Farmers struggle in my community because the funding that is allocated by the tribe and the federal government hardly ever reaches the farthest points of where the water flows onto each farm. I struggle to figure out where my efforts would best help my family, my community, and my people.

Once I get on the farm, my struggle, my disappointment in the federal system that hinders us as small farmers on the reservation, dissipates while I plant my seeds of hope, resilience, and courage to continue this way of life.

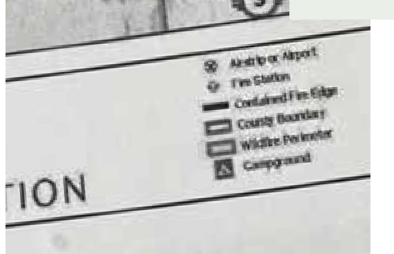
REMNANTS OF DISASTER

Recovering from the Hermits Peak/ Calf Canyon Fire with NM Earthlings

Elaine Gonzales Mitchell
& Feliciana Mitchell-Gonzales

2022 was the sixth-driest spring ever recorded in New Mexico. The Calf Canyon Fire was caused by a holdover fire from a prescribed pile burn that was improperly extinguished, and lay dormant for three months under snow. The Hermits Peak Fire began as a prescribed burn on April 6 that simply went out of control, causing spot fires that quickly merged. On April 22, 2022, high winds caused the two fires to combine, ultimately becoming the largest forest fire in New Mexico's history, crushing the record set by the Las Conchas Fire by over two times. The fire ravaged more than 341,700 acres of the northern portion of the state before finally becoming 100 percent contained on August 21.

Fast-forward to August 2023.



As residents of communities impacted greatly by the fire, the members of our New Mexico Earthlings Youth Collaborative internship cohort knew first-hand of the damage the disaster had caused to the soil, water, ecosystem, and farms in northern portions of the state. The short internship took place in one such area: the town of Mora, a community hit hard by the most intense bouts of wildfire in 2022 and ravaged frequently thereafter by flash floods along burn scar areas. The internship was very eye opening; not only were we witnessing the damage to the surrounding landscape in the form of charred trees or ashy soil, we were also actively learning about other consequences of wildfire, ones that go a bit beyond the surface level, such as damage to vital tributaries, soil permeability, and the health of an entire watershed.

The New Mexico Earthlings Watershed internship is a three-day summer program dedicated to learning about the effects of the Hermits Peak/Calf Canyon Fire and helping with restoration work. We learned how to see the effects — such as destructive flash floods or hydrophobic soil — and be able to examine them as symptoms of the larger catastrophe. Alongside our wonderful internship leaders, Carmen Taylor and Claudia Reynoso, we were guided to connect the dots from fire to flash floods to the newly-sprouting mullein taking over every bare and charred hillside; we learned to trace the path between ash-filled watersheds to increasingly alkaline soil to sick wildlife and struggling plants. We also had the privilege to visit the largest seed storage bank in New Mexico and learned about their reforestation efforts in the state. We examined the plants and the soil quality of the areas affected most intensely by crown fire, and how uprooted and dead trees left disturbed, bare soil that gave home to specific plant species. One of the most fascinating things for us was how prescribed burns have been managed, and the efforts to plant and re-introduce native species to the vast areas affected by this catastrophe. We also began to understand how important

Students in the New Mexico Earthlings Watershed internship participate in a contour-felling service project in the Hermits Peak/ Calf Canyon Fire burn area. Photos by Carmen Taylor

fire actually is to the environment, and the necessity of well-managed, controlled burns. Although at the time the fire seemed very destructive and challenging, many plants, such as oak, could not survive without the help of fire to thin out tall conifer trees that block sunlight from reaching the forest understory.

Although the internship was focused on the aspects of wildfire recovery as it pertained to the watershed and surrounding ecosystem, we had the opportunity to give back to the community members through a contour-felling service project. We worked on a badly burned slope to stabilize logs and rocks to serve as erosion control and to slow the flow of floodwater. During this project, we had the opportunity to speak to experts, such as Shantini Ramakrishnan, on how to prevent dangerous erosion that is caused by fire-damaged trees, which in turn produce mudslides and floods. The interns were even able to work with these specialists to build floodbreaks on a steep hillside overlooking a local resident's property in an effort to prevent further damage.

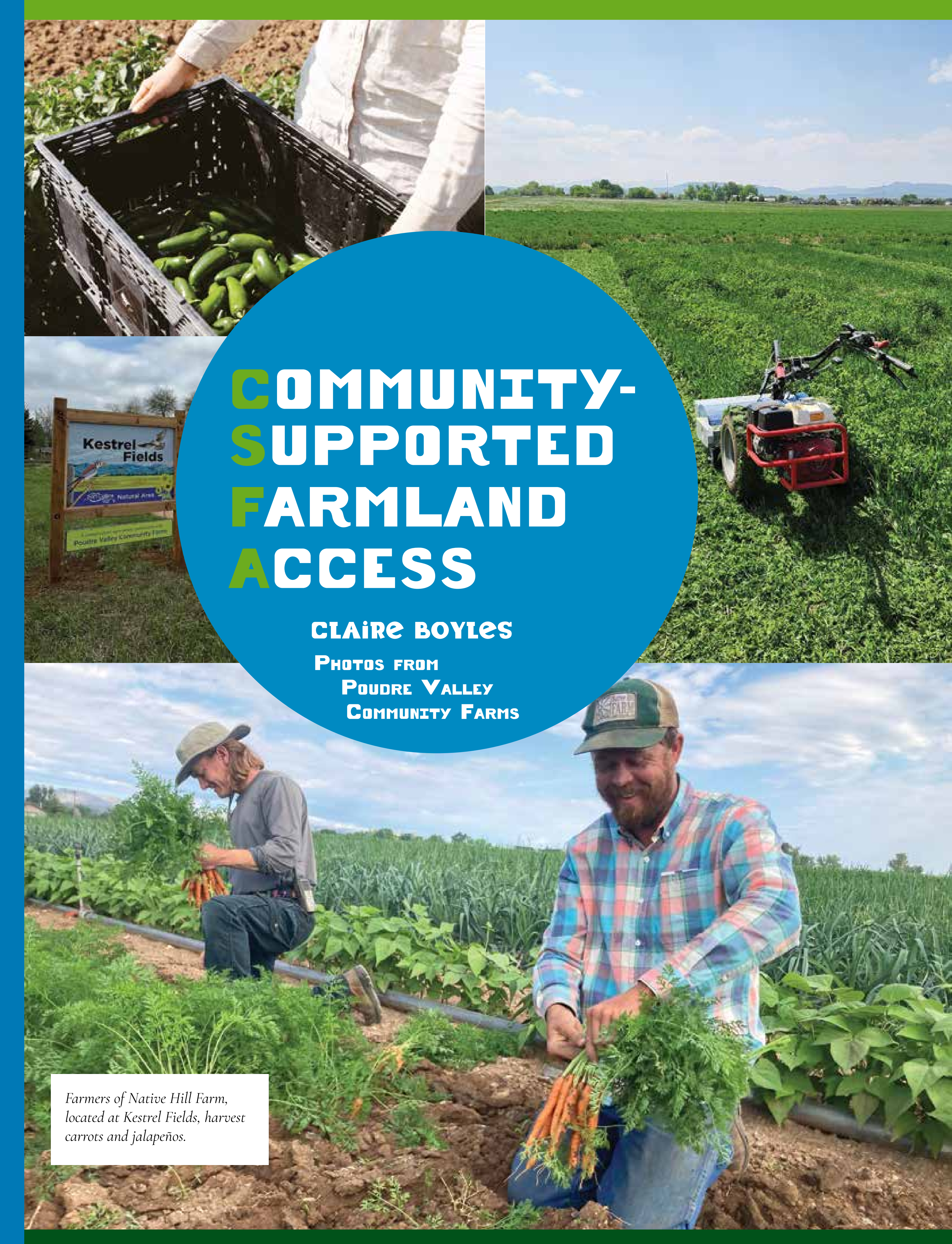
The most impactful thing, for us, was the internship gave us the opportunity and platform to be able to educate ourselves on the real, contemporary issues that our rural communities face in the broad calamity of climate change, and how understanding smaller symptoms, such as increasingly severe regional wildfires, fit into this larger global shift. Just as the smoke blew across nearly the entire northern portion of the state that fateful spring, so do the effects of the fire permeate and echo through the soil, the streams and watershed, and the multitude of organisms that rely on these resources, and the New Mexico Earthlings were essential guides on that path. Serving the Mora community and being a part of the restoration effort, being able to learn more about the impact of wildfires to ecosystems, public lands, and community members' properties, was truly an amazing experience.

We can't save what has already been burned and broken. But we can see the wildfire as an opportunity to renew the ecosystem, ease the pain and loss by working together, and help our rural New Mexican communities stand tall again.

COMMUNITY-SUPPORTED FARMLAND ACCESS

CLAIRE BOYLES

PHOTOS FROM POUDRE VALLEY COMMUNITY FARMS



Farmers of Native Hill Farm, located at Kestrel Fields, harvest carrots and jalapeños.

Fort Collins, Colorado sits just east of the arid shrublands of the Rocky Mountain foothills, which are visible from Kestrel Fields, one of the 52 city-owned natural areas established and maintained by community-driven sales tax initiatives. Kestrel Fields, surrounded by more than 300 homes, was conserved to preserve the agricultural character of the neighborhood and to connect the foothill habitat with the Cache La Poudre River corridor that runs through the city's heart, a boon to kestrels, shrikes, and other area wildlife. Neighbors can stroll the trail that winds through the site, birdwatching, visiting, or connecting with the larger trail system that leads downtown. For the past two seasons, Nic Koontz and Katie Slota, owners of Native Hill Farm, have leased 25 of the 73 acres for their direct-marketed mixed vegetable crops.

That Kestrel Fields can be used by so many different people (and animals) for so many different reasons at once is largely due to a unique partnership between the City of Fort Collins and Poudre Valley Community Farms (PVCF), a nonprofit that works to secure access to land and water for local farmers, support conservation agriculture, and foster a connected community of people who grow, eat, and care about food. Land ownership can be incredibly expensive for beginning and small-scale farmers in the area, and the region loses more than 2,400 acres of farmland to development every year. The collaboration with the City of Fort Collins is one of many strategies PVCF uses to keep farmers in the local foodshed.

"It was an experiment and a risk; the group could find no existing models of agricultural cooperatives focused specifically on land access."

A grassroots effort, PVCF was initially founded as a for-profit cooperative in 2015. A group of community members — farmers, eaters, business owners — intended to pool their financial resources to buy and conserve local farmland that could be leased to local food producers. It was an experiment and a risk; the group could find no existing models of agricultural cooperatives focused specifically on land access. In 2018, PVCF purchased a 73-acre parcel of farmland they named Dixon Station after a former railroad stop for sugar beet operations. They leased it to Jodar Farms, a local producer of pastured poultry and pork. In 2021, the organization put Dixon Station under a conservation easement to ensure the land would remain in agriculture in perpetuity.

Dixon Station was a success for PVCF, but the cooperative soon realized that the cost of land and water rights had surpassed what they could afford. In 2020, searching for other ways to achieve their mission, PVCF leased a 250-acre natural area named Flores del Sol from the City of Fort Collins and established a farm commons for multiple small producers. This included providing space for a farm incubator program, run by another local nonprofit, that offers business support and development for emerging farmers. Soon after, PVCF entered into a similar lease to manage conservation agriculture at Kestrel Fields, and in 2022, began to manage a service contract for grazing at Pryor Natural Area. This partnership offers a new way for local farmers, like those at Native Hill and Jodar Farms, to access long-term farmland leases at below market rates.

"We'd been looking for 10 years to expand our farm, and the secure long-term lease is a dream come true." Slota says. When PVCF secured the opportunity at Kestrel Fields, they gained access to land, water, and the infrastructure on-site; an existing barn allows storage for squashes and other crops during the shoulder season as well as a place to work on tractors and other necessary equipment. In an area of Colorado's front range that has seen housing prices skyrocket, a house at Kestrel Fields provides affordable housing for the farm's employees.

There was some trepidation in the planning stages about combining a public, natural area trail with a working vegetable farm, but with PVCF acting as a mediator between the farm and the city staff, Slota says it has been a positive experience. Fencing separates the operation from the trail (which is well-marked with interpretive signage), leaving the operation still visible; kids can watch the tractors and other machinery, friends wave as they bike past, and the community engages with the site. "The majority of people like to see a working landscape. Vegetable farming is beautiful, and organic farming works in harmony with nature," Slota says. She likes that the farm's practices are transparent to all.

As Slota sees it, the natural area itself provides another benefit of the arrangement. In 2021 and 2023, the city organized groups of community volunteers to plant hundreds of native shrubs at Kestrel Fields. In 2024, Native Hill will contract with the city to start a native plant seed program on the site. According to Kate Rentschlar, an environmental planner for the City of Fort Collins, the city has been pursuing sources of hyperlocal, native seed for restoration projects across the natural area system for

almost a decade, and the partnership with PVCF allowed the pieces to finally fall into place. With conservation agriculture already established at Kestrel Fields, the native plant seed project will expand the benefits to the soil and habitat for pollinators at the site, while also supporting beneficial insects that Slota and Koontz rely on as part of an organic pest management system.

The city will start with seven different native plants, such as needle and thread grass and showy milkweed. A local nursery will produce the starts, Koontz and Slota will plant in July, and seed collection, likely done mostly by volunteers from the neighborhood and larger community, will start in 2025. Rentschlar hopes that the community will draw connections between what they see happening at Kestrel Fields and what they might be doing in their own lives and gardens. She's excited by the expertise that exists in the community and the willingness to invest tax dollars in open lands. "I love projects that bring different groups together around a common goal or outcome," she says. "Fort Collins is a special place."

In truth, the neighborhoods around Kestrel Fields have invested more than just tax dollars. In 2020, worried that the acreage — historically farmland— would be developed in unsustainable ways, Doug Swartz and other longtime residents created a fundraising campaign to help the city purchase and conserve the space. Over six weeks, 120 donors gave amounts ranging from $25 to $5,000, for a total of $77,000, all of which the city put into a restoration fund for the property. The community cohesiveness that grew from that effort has persisted, and Swartz thinks it's because of the positive nature of the efforts. "We first came together around opposing something, but we were able to turn something reactive into something proactive" in helping conserve the land. Swartz believes that the neighborhood's role in preserving Kestrel Fields has increased the residents' connection to the space, which can only lead to better stewardship.

Currently, PVCF supports 12 farm operations — chicken and beef ranchers, goat milk and cheese producers, and vegetable and flower farmers — across 350 acres of land. The city has historically leased natural areas to more traditional hay and wheat operations, but small-scale farmers and ranchers have very different infrastructure needs, such as high tunnels and irrigation ponds. Because agriculture is only one part of the city's Natural Area Department's mission, there are some specific ecosystem needs that require farmers to modify their practices. Stacy Lischka, PVCF's executive director, acts as a go-between for city staff and farmers on issues like infrastructure development, irrigation, and ecosystem protections. Without PVCF as a single point of contact, city staff and farmers alike would be overwhelmed by the work of communication and negotiation inherent in supporting such a wide variety of producers. The success of the project depends on the efficiency PVCF adds to the process.

At Flores Del Sol, for example, Val Sumner of NoCo Cattle Company has modified her already sustainable practices to protect nesting birds on the site. PVCF worked with city staff to address Sumner's concern about possible loss of income and to develop a process by which local volunteers mark the nest sites each spring. Sumner, in turn, staggers her mowing and grazing schedules to avoid these areas during the nesting season. In 2024, three vegetable operations, two of which are part of a federally-funded farm accelerator program, will share irrigation and wash/pack resources at Flores Del Sol, which reduces the footprint of each individual farm on the land. The farm operations co-exist with the wilder natural area spaces to sequester carbon, reduce water usage, preserve habitat for birds and pollinators, and provide beauty in the community. These healthy ecosystems, which mitigate the effects of climate change, would disappear if the land was developed for residential or commercial purposes.

This first-of-its-kind work requires constant re-evaluation and nimble adaptation. In 2023, in the face of ever-increasing land prices, PVCF voted to shift from its original for-profit cooperative model to a 501(c)(3) nonprofit to maximize the organization's fundraising capacity. While purchasing and conserving land remains a possibility, collaborations with government agencies like the City of Fort Collins and private landowners have proven to allow the group to best serve its mission. The organization

Opposite: Agriculture and community overlap at Kestrel Fields and Flores del Sol. Photo by Jimmena Peck
This page: The sun sets on Kestrel Fields, where Native Hill Farm works on 25 acres.

is actively working to expand the amount of land it manages and the number of farmers it can support, while also working to educate the community about the benefits of local agriculture in bringing people together and mitigating climate change.

Most importantly, the land PVCF leases and manages is less likely to turn over than privately owned farmland, which retiring farmers often have no choice but to sell to developers. For Native Hill Farm, the hope is that the partnership at Kestrel Fields will continue in perpetuity, so that when Koontz and Slota are ready to retire, a young farmer can take over the operation and continue to produce organic food for the community. Kristin Maxwell, owner of Cabri Creamery, a producer at the Pryor Farm site, highlights this as well. "At PVCF, there are lots of people working together toward this one goal of farm preservation and land access to sustain the future for a next generation of farmers."

Even as PVCF works to expand into partnerships with other municipalities and individual landowners, Lischka acknowledges the difficulty of the work. Without existing models, the collaboration takes flexibility and communication from all parties involved — city officials, farmers, board members, and donors, among others. It can be time-consuming and complicated, but after eight successful years, the organization hopes to be a model for other communities with the same commitment to farmland preservation and conservation agriculture.

Find these stories of Resilience, the Down to Earth podcast, technical guides for land health, recordings of conference plenaries, information about agrarian apprenticeships, and much more at quiviracoalition.org.

Fostering resilience on working lands

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