

High Country News



EPIC
JOURNEYS

Solar farms on
public lands

Cowboy culture in
Nevada

Keeping livestock
safe with drones

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HIGH COUNTRY NEWS

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The seed vault at Native Seeds/SEARCH in Tucson, Arizona. **Roberto (Bear) Guerra / HCN**

Know the West.

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A compact with the Earth

IT'S RIDICULOUS how great we have it here on the central coast of California when it comes to local food. The farmers market this morning was brimming with enormous strawberries. I kid you not, these berries were so big there were a dozen per pint container. There were several varieties of mandarin oranges, including my favorite, the Ojai pixie, and little gem lettuce as far as the eye could see. (It appears to be the year of the little gem.) There's always an incredible array of produce in season.

I couldn't help thinking that all the winter rain we had is coming back to us in the form of delicious food. And flowers: The deserts are abloom as I type this, beckoning visitors from near and far. Gardens are going gangbusters, plant sales are happening, and people are preparing garden beds. The Southern California coast and deserts are among the first places in the West for planting season to arrive, but by the time you read this, your own neighborhood may be blossoming, too. The seasons continue to turn, even if they are turning differently than they once did.

Growing things requires paying attention to the weather, an awareness of how light moves across the land, some understanding of different types of soil, an affinity for leaves and blooms and roots and shoots and bulbs. It is a compact with the Earth and the atmosphere: That if we plant wisely, the planet will supply the conditions for good growth. In recent years, the idea of planting native varieties has become popular, because plants that evolved to thrive in local conditions are more likely to succeed and spread without choking out other vegetation. The fact that more people are gardening with native plants, rather than exotic ones, seems like a good thing. But the proliferation and commodification of native seeds and seedlings can have negative impacts on the Indigenous communities that have stewarded these plants over millennia and continue to use them for food and medicine, as Megan Ulu-Lani Boyanton writes in "The complex case of growing native plants" (p. 14).

Boyanton's story kicks off a months-long *High Country News* series, "Gardening with Agency." Some of these stories will appear in print, while others will be published exclusively online. Join us as we look at the ways that gardening has become more political, more complex, more communal, and also more joyous. Thank you for reaping the stories we sow.

Jennifer Sahn, editor-in-chief

Kazim Ali has published books of poetry, fiction, essays and cross-genre work. "Crumpled Up" was part of "The Gifts," a project by artists Lenka Clayton and Phillip Andrew Lewis. The project can be viewed at www.lenkaclayton.com/thegifts.

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ON THE COVER

Mule Deer 665 is brought in via helicopter for biological testing in early December near Superior, Wyoming. The doe caught researchers' attention after she made a surprising migration, traveling more than 220 miles from Wyoming's Red Desert to summer range near Idaho Falls, Idaho.

Ryan Dorgan / HCN

A box of hand-carved wooden bird pins, a craft that became popular among Japanese Americans incarcerated during World War II.

Roberto (Bear) Guerra / HCN



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SOURCING SAGEBRUSH SEEDS

I read the “Sagebrush Steppe” segment of Josephine Woolington’s “Regeneration Underground” (March 2024) with keen interest. What was missing is what has been learned and accomplished during the eight years since the Soda Fire. All sagebrush (and other) seed collected by Fish and Game volunteers is carefully labeled with GPS data that identifies the specific microclimate it came from so that stock grown from it can be used in burns with similar environmental specifications.

I would have appreciated the added perspective of a Fish and Game habitat specialist about the restoration of the Soda Fire area and the role that miraculously diverse sagebrush plays in that effort.

Linda Paul
Boise, Idaho

FACTS CONSUMPTION

Few publications are good at displaying lots of factoids, easily digestible and understandable.

HCN’s “Highways of hazard” on the “Facts & Figures” page of the March issue exceeds that standard — many factoids displayed in easy morsels, providing a feast for a curious mind. The background complements the content as well.

John Kendall
Port Angeles, Washington

WILD CONVERSATIONS

Just wanted to say kudos on the fascinating article “Learning to Live with Musk Oxen” (February 2024). Reading this here in Kenya has led to some great conversations with friends in the wildlife sector! Keep up the good work.

Teddy Kinyanjui
Sustainability director,
Cookswell Jikos/Seedballs
Nairobi, Kenya

WOLF TALES

As a Coloradan, I was eager to read Ben Goldfarb’s story on the reintroduction of wolves in Colorado (“Can coexistence be bought?” February 2024). I

anticipated a balanced, factual and insightful story on a contentious topic — an area where I believe HCN excels. However, about halfway through it, a particular sentence caught my attention, bringing my reading to an abrupt halt: “Another theory is that if a rancher knows he’ll be covered by his losses ...”

Goldfarb’s use of “he” for the generalized rancher in this article renders women ranchers invisible. Read more deeply, it could send a discouraging message that they were overlooked, or, more menacingly, unwellcome in the narrative. Using “they” to represent a general subject is a simple solution and should be the lowest bar HCN clears. However, I would ask for more: Embracing the use of “she” as the default pronoun would challenge traditional gender biases that are, clearly, deeply engrained in the West.

Gina Nichols
Cañon City, Colorado

“Can coexistence with wolves be bought?” spent too much ink talking about compensation for losses imagined or real. Livestock producers are interlopers on public lands who pay a pittance or nothing to use our public lands for their private economic benefit.

My question is simple: Why should these public-land users be compensated at all?

Hugh S. Jameson
El Paso, Texas

ALTERNATIVES WITHOUT INJUSTICE

Thank you so much for your February 2024 article “Who’s Protecting Badger Mountain?”

Clearly, this reckless “land grab” by alternative energy developers and contractors is facilitated by Washington state land-use policies, government

bodies and Gov. Jay Inslee’s Climate Initiative Proposal of 2021.

While we need to explore alternatives to fossil fuels for energy, we also need to ensure that more robust and accurate assessments of carbon and environmental footprints of alternative energy sources are obtained before declaring them “green” or “clean.” Our tribal nations should be given the final authority for decisions on alternative energy installations that impact their sacred lands. But here we go again, putting profits before our environment.

John M. Endres
Newport, Washington

ALL-ELECTRIC ISN’T SIMPLE

Nina McConigley’s article “Cookstove Scientist” (January 2024) implies we should all do away with gas appliances. There seems to be a lack of understanding of the actual living circumstances of many. Those of us who live in rural areas — and there are millions of us — do not have natural gas piped to our houses. Instead, the option is propane, a fossil fuel. In rural areas like ours, utility electric power is very unreliable, and sometimes can be off for *days* for hundreds, sometimes thousands, of customers! With propane, one can still cook, heat water and keep warm, either with propane or a wood stove. A solar electric system sufficient for an all-electric house would require a solar power system with batteries of unaffordable and impractical size. Those with all-electric houses in areas like ours need a generator during power outages. Small generators are very inefficient at making electricity, yet very efficient at making pollution. So, what is the non-fossil fuel option?

Bill Trabucco
Nevada City, California

CORRECTIONS

In “The state of the West’s cannabis economy” (March 2024), we mistakenly said marijuana was legal in Idaho in a bullet point about sales in Malheur County, Oregon. A sharp-eyed reader reminded us that marijuana sales are so large in Malheur County precisely because marijuana is illegal in Idaho. In “Who’s Protecting Badger Mountain?” (February 2024) we misattributed a quote: Chief Justice John Marshall, not Supreme Court Justice Oliver Wendall Holmes, actually spoke the words. We regret the errors.



REPORTAGE

Managing predators from the sky

How to harness drones for conservation.

BY KYLIE MOHR

IN THE SUMMER OF 2022, several researchers with USDA Wildlife Services held their breath as a drone pilot flew a large drone, equipped with a camera, toward a wolf standing in a pasture in southwestern Oregon. The team members, watching from a distance, expected the wolf to freeze or run away the minute the whirring rotors approached it. But to their disbelief, it did neither.

Instead, the wolf wagged its tail, stretched out its front legs, lowered its head and lifted its butt — a classic canine invitation to play and precisely the opposite of the response researchers were hoping for. The project, led by Paul Wolf, the Southwest Oregon District

supervisor for Wildlife Services, was designed to find ways to use drones to scare wolves away from livestock, not give the animals a new toy.

Later that night, the researchers tried again, this time outfitting the drone with a speaker that broadcast human voices. This time, the wolf took off running. For the rest of the summer and fall, the field staff focused on using drones to discourage wolves from approaching cattle, in one case using a speaker-equipped drone to halt an ongoing attack. The three wolves fled, and the wounded steer survived. “We know for sure that we saved at least one (animal) doing this,” said Dustin Ranglack, the

Daniel Anderson holds a drone on his family’s ranch in Montana’s Paradise Valley. **Louise Johns**

Predator Ecology and Behavior Project leader for Wildlife Services’ National Wildlife Research Center and a collaborator on the Oregon project. (An arm of the Department of Agriculture, Wildlife Services kills more than a million animals each year — predators like wolves, as well as invasive fish, birds and mammals — in addition to researching nonlethal livestock-protection measures.)

Ranglack and other

researchers hope drones will help keep the peace between predators and livestock. “Early detection is your best means of mitigating conflict before something negative occurs,” said Jared Beaver, an assistant professor and wildlife management specialist at Montana State University. “Before livestock gets killed or before a wildlife species gets in trouble and has to be killed as well.”

DRONES ARE ALREADY USED for population surveys and even health assessments of hard-to-reach species, such as orcas. This can reduce the need for going up in small aircraft, one of the riskiest parts of a wildlife biologist’s job.

But Beaver would like to see the technology more widely used with predators. He said

that drones would likely be most effective when used with existing methods of predator deterrence, like range riders — people who accompany herds in order to deter wolves through their presence — guard dogs or strings of flapping flags, called fladry. If equipped with thermal sensors, cameras and artificial-intelligence systems trained to recognize large predators, a drone could theoretically fly over a calving pasture at night and alert a sleeping rancher to possible trouble. Drones could also monitor areas where wolves or bears have been sighted, guiding range riders in their livestock-monitoring efforts.

Ranglack’s analysis of the drones’ effects on wolves in Oregon showed that they can reduce attacks. Prior to the 2022 drone flights, a wolf killed a cow in

the study area almost every other night. But when drones were used to detect wolves near cattle and then scare them away with recorded voices, wolves killed only two animals over 85 nights.

While wolves are only responsible for about 1% of cattle deaths in the Rocky Mountain states, predator attacks can be costly and emotional for ranchers. Some federal and state wildlife protections permit landowners to kill wolves that are caught in the act, but by heading off conflicts before they start, drones could reduce the use of lethal control.

Daniel Anderson, founding director of the nonprofit Common Ground Project, has been experimenting with drones on his family’s ranch in Montana’s Paradise Valley since 2017. Tucked inside Tom Miner

Basin, the land is a haven for grizzlies and wolves. A licensed drone pilot, Anderson uses his drone to look out for his cows, surveying the landscape via his smartphone, which is connected to a handheld controller. If he detects a cow carcass, he can use his drone to check for nearby predators. “It’s a little dangerous to walk into those settings,” Anderson said. “Maybe we can use a drone to flush out animals, go in and do some recon to see if there’s a bear on that carcass.”

After a neighbor was chased by a bear during a horseback ride, he asked Anderson to look for evidence of livestock predation by flying a drone into the densely wooded drainage where the incident occurred. Anderson’s drone saw no sign of cow carcasses, but discovered that the sow had two cubs, a possible explanation for

“Early detection is your best means of mitigating conflict before something negative occurs.”



her defensive behavior. “That’s obviously helpful,” Anderson said. “That’s a good use of the technology.” He’s also used a drone to monitor elk populations over the course of the year, and to watch how different animals — deer, moose, sandhill cranes — respond to drones. Anecdotally, he’s found they’re all sensitive to the disturbance, acting startled even when the drones are still hundreds of yards away.

IN HIS OFFICE at Montana State University, Beaver is modeling the kind of simplified drone that he hopes to see become commercially available to landowners — a flying robot that can be operated without the help of computer scientists, software developers or wildlife biologists. “I’m looking for those win-wins,” Beaver said. “From an ag standpoint, helping (ranchers) sleep better at night, and a win from a wildlife conservation standpoint, too.” He imagines a “Roomba for ranch operations” that could be activated with a smartphone.

But drones still face barriers to widespread implementation. “We’re all keenly aware of the limitations of this tool,” Ranglack said. For one thing, they’re expensive: Drones mounted with the thermal imaging capabilities necessary for nighttime monitoring and with speakers like the ones tested by Wildlife Services can cost \$20,000 or

more. Anderson purchased his own drone, a simpler model, for about half that.

Federal Aviation Administration regulations also require drone pilots to pass a certification test. And operators need to keep a line of sight on drones while they’re in use; the Oregon researchers were working in flat, open pastures where wolves could be easily spotted, but trees and rugged topography can obscure the view and make flight more challenging.

Then there’s battery life: A drone’s rechargeable batteries must be changed every half-hour or so. In at least one instance in Oregon, a drone that detected a wolf ran low on power and had to return to base before it could scare off the animal. While a ground crew was able to reach the site and stop the attack, the cow was injured so badly that it had to be euthanized. Anderson is also concerned that flying at high elevation, especially in the summer, can overheat drone batteries. “This isn’t something any producer can just decide, ‘Hey, I’m going to go do this and pick up and do it,’” Ranglack said. “At least not yet. But it has some real promise under the right conditions.”

For his part, Anderson worries about the effects on wildlife. “I don’t fly nearly as much now, just because of the impact,” he said. Flying a drone, he surmises, is akin to introducing another predator, and it could drive off or stress birds and other animals he’s not trying to keep away from his cattle. He also realizes that no single tool can fix everything. The number-one killers of his cattle aren’t wolves or bears but rather noxious weeds like larkspur, and, at least for now, Anderson can only find those by riding through pastures himself, on the back of a horse. ✨

POEM

Crumpled Up

By Kazim Ali

Shard have this ember
rendered member of the body whose
urge surged swerve and shine
ocean opens shone hours
ours to contrail pretends
to sketch a shape of a flower against
infinite information of the sky
data mined eternal I in formation of a
day to mind the steeple wore
steep war mined the memoir of shore
meme war fought on the internet
where however there are interments
fast parsing the rationing shore
endlessness warned between each
wounded party marked
intersects insects in sects descend
to spend the real their wings
beginning that season’s gnawing groan
of sex summer leaves shirring you can
at these moments open your mouth
imagine the San Francisco Chronicle
May 15, 1974 crumpled up sent forth
first paper to read then discarded
released found by Lenka one of an
endless piece of information met
for a moment given to Philip recited
received resited reseeded recedes
given to Kazim passed through the city
the situation an ovation oration
oblation ablation show me what you
pray for and eat save now in this flesh
archive what ought not be lost maker
of most light tossed sun rise up from
Rodeo Beach leaf me be reft left all
those bunkers in the hills their doors
rusted shut by metal or paper or
human touch weather concrete metal
paper or flesh we mark time on this earth

WEB EXTRA Listen to Kazim Ali read his poem at hcn.org/crumpled-up

Two wolves attack cattle. The drone successfully hazed the wolves out of the pasture (left). A wolf looks at the flying drone (right). The small circles are the heat signatures left by its paws, showing how it moved around while watching the aerial drone. Both images are from drone videos made during a night watch in southwest Oregon. **USDA Wildlife Services**

The great solar build-out

Public-land managers ponder where to allow utility-scale solar projects.

BY ERIN X. WONG

THE WESTERN U.S. IS HOME to some of the most abundant solar energy in the world. The Southwest region, from California to New Mexico, receives on average more solar radiation per day than anywhere else in the country.

In January, the Bureau of Land Management released a draft environmental analysis of the updated Western Solar Plan, a federal blueprint that shows where developers can apply for permits to build solar projects on BLM-administered public lands in the West. The new version revises a 2012 plan, adding more states and redrawing the lines around which areas should be protected from and which should be open to large-scale solar development. The agency has proposed five alternatives for where to draw those lines.

The plan is focused on utility-scale solar projects that sell energy to utility companies that power cities and towns. Most utility-scale projects use the same technology as rooftop solar, but they operate on a much larger scale, sometimes covering thousands of acres in solar panels.

After the BLM announced the upcoming revisions in late 2022, hundreds of public comments were sent in. People applauded the timely update, raised concerns about key natural habitats, and emphasized the need for early and ongoing consultation with tribes.

Some of these ideas are now reflected in the current draft. Meanwhile, the BLM is accepting comments until April 18. Once the new Western Solar Plan is finalized, possibly by the end of this year, all proposed solar developments will undergo an individual review before approval. ☀

The solar imperative

The U.S. needs solar development to meet its renewable energy goals, which include a 100% carbon-pollution-free power grid by 2035. If the country succeeds in meeting this goal, the 11 Western states in the Lower 48 could have 548.6 GW of electricity generation capacity by 2045, according to data from one potential scenario published by the National Renewable Energy Lab.

In this scenario, approximately one-third of capacity will come from solar energy, and more than three-quarters of that will come from utility-scale solar.

The Palen solar site on BLM land in Riverside County, California. **EDF Renewables North America**

How much land will that take?

The updated Western Solar Plan assumes that Western states will build more utility-scale solar capacity by 2045 than is expected in the National Renewable Energy Lab's scenario. Using high estimates to ensure sufficient land, the BLM expects the West to produce 174.2 GW — enough to power 52.8 million American homes — with up to 75% of the energy developed on BLM land and the remainder on private, tribal, state or other federal land. As of December 2022, the BLM had already permitted 73,000 acres of public land for solar projects totaling 9.2 GW.

Here are three of the BLM's five proposed alternatives, along with its estimate of how much land will actually be developed.

The BLM administers **approximately 173 million acres** in 11 Western states, including the majority of Nevada and large swaths of Wyoming and Utah.

55 million-acre alternative

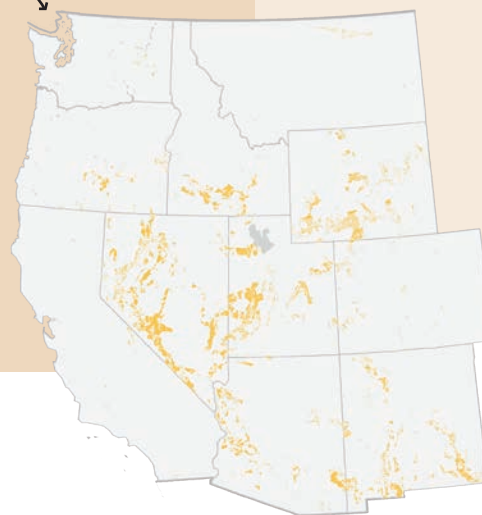
The broadest alternative proposed would leave all areas open except for those with known cultural and ecological resources, such as sacred tribal sites, scenic byways, sage grouse habitat and old-growth forests.

22 million-acre alternative

The BLM's preferred alternative would also exclude all those cultural and ecological resources, while opening only regions within a 10-mile radius of existing and planned transmission lines.

11 million-acre alternative

Another alternative would also exclude those resources and open only previously disturbed land.



Ultimately, about 1 million acres of BLM land in the West will need to be developed to meet the nation's clean energy goals, according to the draft analysis. This includes nearly 700,000 acres under the Western Solar Plan, along with roughly 283,000 acres of BLM land in California, which are covered under a separate renewable energy and conservation plan.

Altogether, the estimated acreage required for utility-scale solar is only a fraction of the 19 million acres of BLM land in the Western states with active oil and gas leases as of 2022.

How states make money off tribal lands

To this day, 10 states own 1.6 million acres of land within 83 tribal nations' reservations.

BY ANNA V. SMITH
AND MARIA PARAZO ROSE

BEFORE JON EAGLE SR. began working for the Standing Rock Sioux Tribe, he was an equine therapist for over 36 years, linking horses with and providing support to children, families and communities both on his ranch and on the road. The work reinforced his familiarity with the land and allowed him to explore the rolling hills, plains and buttes of the sixth-largest reservation in the United States. But when he became Standing Rock's tribal historic preservation officer, he learned that the land still held surprises, the biggest one being that much of it didn't belong to the tribe: Standing Rock straddles North and South Dakota, and both states own thousands of acres within the tribe's reservation boundaries.

"They don't talk to us at all about it," Eagle said. "I wasn't even aware that there were lands like that here."

On the North Dakota side, nearly 23,500 acres of Standing Rock are owned by the state, along with another 70,000 subsurface acres, a land classification that refers to underground resources, including oil and gas. The combined 93,500 acres, known as trust lands, are held and managed by the state and produce revenue for its public schools and the Bank of North Dakota. The amount of reservation land South Dakota controls is

unknown; the state does not make public its trust land data and did not supply it after a public records request.

And Standing Rock isn't alone.

Data analyzed by *Grist* and *High Country News* reveal that a combined 1.6 million surface and subsurface acres of state trust lands lie within the borders of 83 federal Indian reservations in 10 states.

State trust lands, which are managed by state agencies, generate millions of dollars for public schools, universities, penitentiaries, hospitals and other state institutions, typically through grazing, logging, mining and oil and gas production. Although federal Indian reservations were established for the use and governance of Indigenous nations and their citizens, the existence of state trust lands reveals a shocking truth: States rely on Indigenous land and resources to support non-Indigenous institutions and services for non-Indigenous people. Tribal nations have no control over this land, and many states do not consult with tribes about how it's used.

The world of state trust lands is itself rather obscure, but these states' holdings within reservations have been almost completely unknown until now. Many of the experts *Grist* and *High Country News* reached out to, including longtime policymakers and leaders on Indigenous issues, were unfamiliar with state trust lands' history and acreage. However, what sources did make clear is that the presence of state lands on reservations complicates issues of tribal jurisdiction in regard to land use and management and undercuts tribal sovereignty. According to Rob Williams, University of Arizona law professor and citizen of the Lumbee Tribe of North Carolina, this has broad implications for everything from the handling of missing and murdered Indigenous people to tribal nations' ability to confront climate change.

"When there's clarity about jurisdiction over Indian lands, it is easier for tribes to work with others to protect public safety, public health and the natural environment," said Bryan Newland, assistant secretary for Indian Affairs at the Department of Interior and citizen of the Bay Mills Indian Community. "It's been the long-standing policy of the department to reduce 'checkerboard' jurisdiction within reservations by consolidating tribal lands and strengthening the ability

of tribes to exercise their sovereign authorities over their own lands."

The creation of Indian reservations was followed closely by states entering the Union, which, in turn, was followed by successful attempts by state governments to carve up and dissolve those tribal lands.

Once states became part of the U.S., they received millions of acres of recently ceded tribal lands, many of which became trust lands. But as more settlers moved west, states pushed for more land. In the late 19th and early 20th centuries, the U.S. government responded by carving up Indian reservations, parceling out small amounts of land to individual tribal members, then handing over "surplus" lands for states, settlers and federal projects. During this period, known as the Allotment Era, approximately 90 million acres of reservation lands nationwide were moved from tribal hands to non-Native ownership.

According to Monte Mills, professor of law at the University of Washington and director of the Native American Law Center, allotment served a dual purpose: It broke up tribal power and gave non-Native citizens access to tribal lands and natural resources.

The allotment system, Mills explained, provided "a whole other set of opportunities for non-Indian settlers to get access to surplus lands and for the states to come in and get more state trust lands on lands that had been expressly off-limits."

As Williams put it, "The conquest was by law."

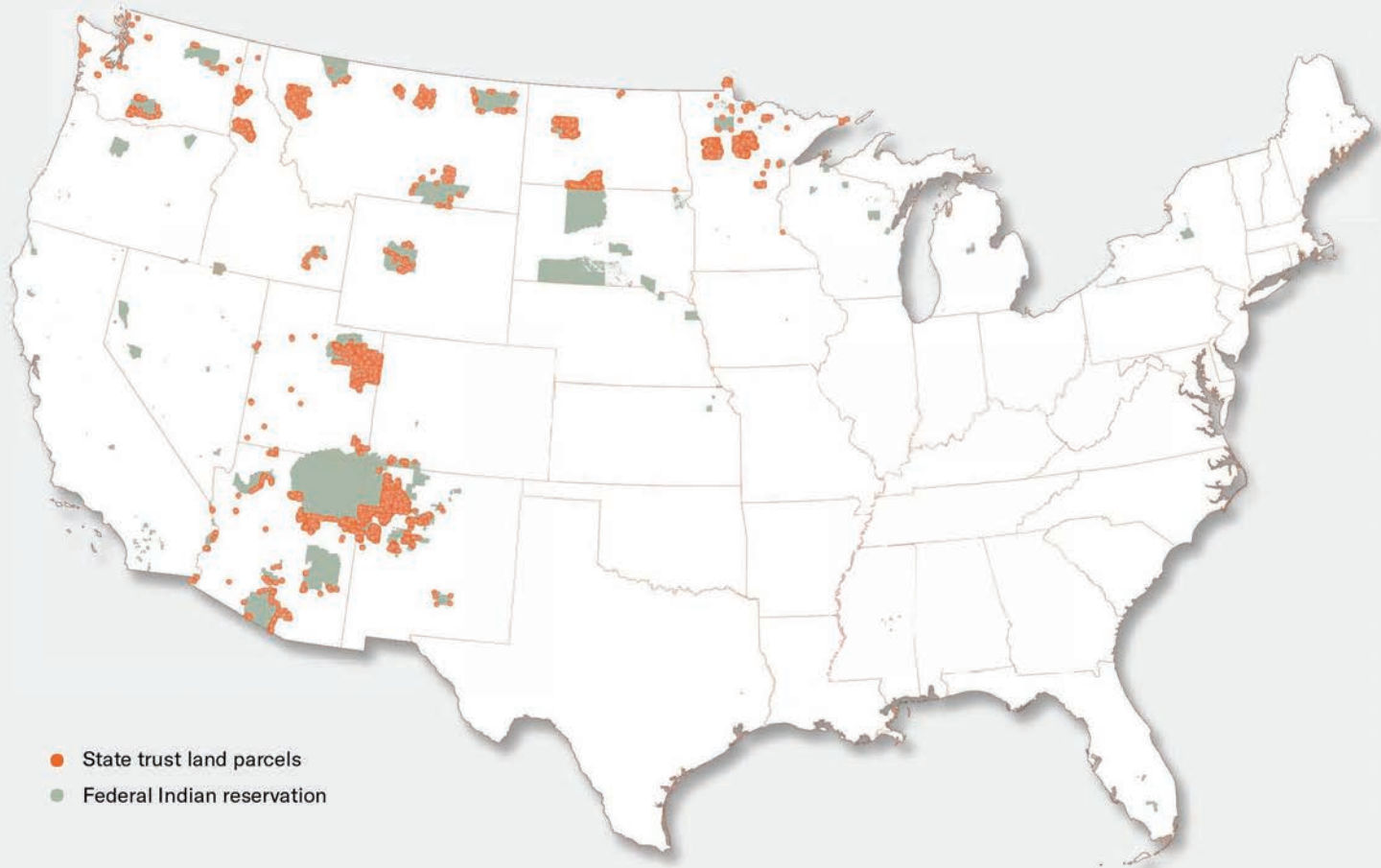
"The implications of that policy are just devastating," Williams said. "It's hard to think of a single problem in Indian law that you can't blame it in part on."

For example, nearly 512,000 surface and subsurface acres on the Ute Tribe's Uintah and Ouray Reservation came into Utah's possession after a series of murky state and federal policies and land transfers. A quarter of the tribe's 4 million-acre reservation was taken by President Theodore Roosevelt for a national forest, while other land went to provide townsites and establish trust lands. By 1933, 91% of the Uintah and Ouray Reservation had been allotted.

In other cases, as with the Yakama Nation, states acquired parcels when reservation boundaries were redrawn. Shortly after the tribe ceded over 12 million acres in central

State trust lands on reservations

1.6 million acres of state-owned land fall within Indian reservation boundaries



Maria Parazo Rose and Clayton Aldern / Grist

“When there’s clarity about jurisdiction over Indian lands, it is easier for tribes to work with others to protect public safety, public health and the natural environment.”

Washington, the agreed-upon map of its new reservation simply disappeared, sparking nearly a century of border disputes between the Yakama Nation, the state and the federal government, specifically over a 121,000-acre section known as Tract D. In the 1930s, the map was rediscovered by an employee in the federal Office of Indian Affairs — apparently misfiled under “M” for Montana. In 2021, the 9th U.S. Circuit Court of Appeals ruled that Tract D was still a part of the original reservation. But in the meantime, Washington state had established trust lands inside the area. Today, 108,000 surface, subsurface and timber acres inside the recently recognized borders of the Yakama Nation are still providing revenue for the state’s K-12 schools, scientific schools, and penal and reform institutions.

This makes up 78% of all state trust lands on the Yakama Reservation.

Washington’s Department of Natural Resources, or DNR, is responsible for managing these lands. An agency spokesperson said, “The Yakama Treaty retained many rights for tribal members on public lands throughout the ceded territory of the Yakama, and DNR’s management of these trust lands continues to be done with much input from the Yakama Nation.”

Michael Dolson has spent most of his life on the western side of the Confederated Salish and Kootenai Tribes’ Flathead Reservation, living on the family ranch, which his great-grandparents started before allotment. Today, a map of the reservation shows large squares of state trust land parcels lo-

cated not far from his family's land: a total of 108,000 surface and subsurface acres that fund Montana's K-12 schools and the University of Montana.

Dolson — now the tribe's chairman — says that the state lands on the reservation are managed separately; the tribe has no input over how or whether Montana decides to log or lease them. Since different groups have different objectives, Dolson says, this complicates the tribe's ability to manage its own reservation.

"I think we've gotten used to lands on the rez being owned by others, and they make use of those lands the way they want to," Dolson said. "Do we appreciate that? Well, no. Especially when it's parcels that have some sort of cultural significance to us, and we have no control over it, even though they're on our own reservation."

For more than a decade, the Confederated Salish and Kootenai Tribes have carefully planned for climate change, documenting and developing tools, like drought resiliency plans, to limit its possible impacts. Meanwhile, Montana continues to prioritize oil and gas and coal production, making extraction one of the biggest sources of its trust land revenue.

Like many other tribes, the Confederated Salish and Kootenai Tribes has had to buy back its own land, at or above market value. After allotment, less than a third of the reservation — about 30% — remained in tribal ownership. According to Dolson, about 60% of the Flathead Reservation, or 791,000 acres, is currently back in tribal ownership, following decades of strategic work. Yet Montana still controls 8% of the reservation as state trust land.

States are legally obliged to make money from state trust lands to benefit state institutions, so they are unlikely to return any land without getting something in exchange. But the Confederated Salish and Kootenai Tribes may have created a model for how tribes can negotiate for large-scale transfers of land back to tribal ownership. In 2020, Congress passed a water-rights settlement that cleared the way for a transfer of nearly 30,000 acres of Montana state trust land back to the tribe. In exchange, the state will receive federal lands elsewhere; the acreage is currently in the process of being selected over the next five years. It's a creative and

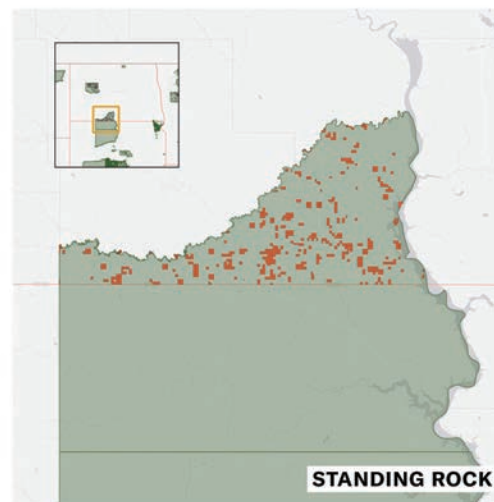
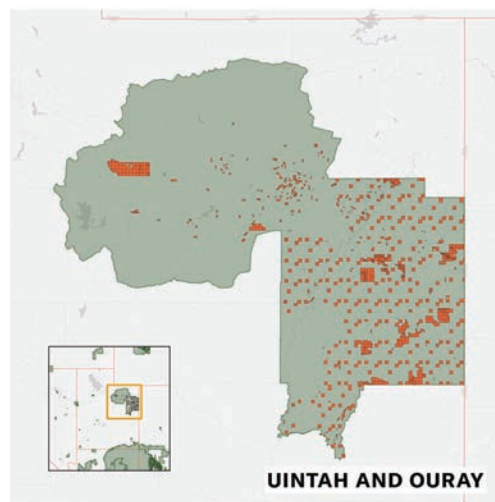
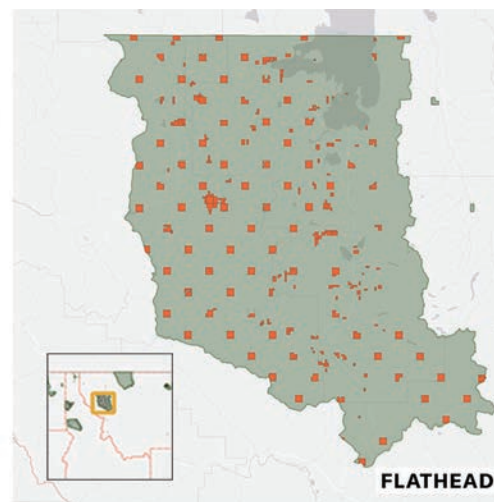
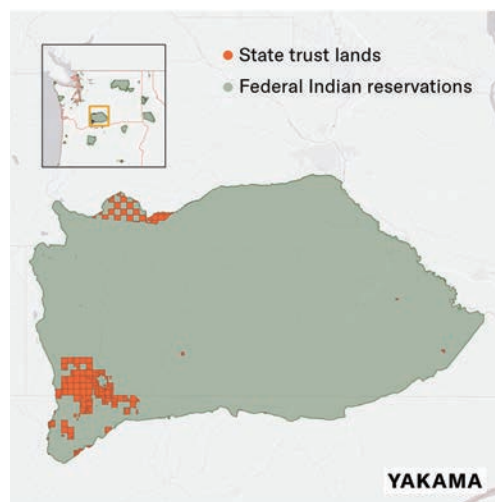
unique arrangement, but one that presents opportunities — if states are willing to work with tribes.

The Biden administration's policy is to assist tribes in reacquiring tribal homelands. But the policy is silent on the issue of state trust lands on reservations. There is currently no clear mechanism to return those lands to tribes, meaning tribal nations are left with buying land outright, sometimes for millions of dollars.

According to Rob Williams at the University of Arizona, "The big issue now — and this is the burden on the tribes — is land back." ☀

This story was published in partnership with Grist.

"The implications of (the Allotment Era) are just devastating. It's hard to think of a single problem in Indian law that you can't blame it in part on."



In 10 states, trust lands exist within the reservation boundaries of 83 tribal nations. These maps show four examples. (The Standing Rock data is only available from North Dakota.)

Maria Parazo Rose and Clayton Aldern / Grist



A garden with native
plants in Tucson, Arizona.

The complex case of growing native plants

As the use of native plants becomes more widespread, Indigenous communities could lose out.

BY MEGAN ULU-LANI BOYANTON | PHOTOS BY ROBERTO (BEAR) GUERRA

HOUSEHOLDS ACROSS the West are increasingly ditching the smooth green lawns of the stereotypical American dream and attempting to grow native plants instead — a practice Indigenous communities mastered centuries ago to sustain themselves.

The new approach to landscaping is championed by activists, government agencies and universities as a simple solution to water and climate woes. But the Indigenous farmers who originally cultivated and cared for some of these plants are often left out of the narrative sold to consumers. And the native plant movement could impact Indigenous communities unexpectedly by taking away resources like crops, seeds and income.

“What’s growing out there is not considered a commodity for us,” said Michael Kotutwa Johnson, a member of the Hopi Tribe and assistant specialist at the University of Arizona’s School of Natural Resources and the Environment. “It’s considered a way of life and our key to survival.”

Take the chiltepin chile pepper, for example, which grows wild throughout much of the Sonoran Desert. It’s considered a traditional food of Indigenous peoples in the region, including the Tohono O’odham Nation, but can be sold for hundreds of dollars per pound.

Unregulated harvesting of wild chiles “can be very destructive to the environment,” said Ian McFaul, co-chair of the Phoenix chapter of the international movement Slow Food USA, and can “certainly take food away from folks like the Tohono O’odham people.”

Crops endemic to different parts of North America fall under the wide umbrella of native or indigenous plants, which Native American tribes have cultivated for millennia. The current push to make indigenous

plants trendy bothers Johnson because it fails to respect their inherent sacredness to Indigenous people.

“Talking about it as being ‘vogue’ — it’s missing the whole point here, and that’s part of the problem,” he said.

Meanwhile, the commercial industry reaps the financial benefits of selling native crops and other plants, with Johnson pointing to “Big Ag” corporations as violators that have

Gardening with Agency

Over the coming months, *High Country News* will examine the many roles that gardening plays in the lives of Westerners and their communities. Through a limited series online and in print, we’ll explore what gardening means in this moment. The series will include stories that are hyper local or focused on the personal. We chose to launch with this piece on native plant gardening because it shows the broader ramifications of the decisions we make in our own gardens. Gardening is not done in isolation. The seeds we choose to plant and the ecosystems we foster have social and environmental impacts. Examining each decision is like looking at a spider’s web dotted with dew: The droplets illuminate the intricacies of an interconnected and delicate system that is nearly invisible without attention.

taken advantage of Indigenous cultivation to develop their new crop varieties. For example, Monsanto, which was acquired by Bayer in 2018, has patented seeds derived from native varieties and sued farmers who cultivate them over claims of patent infringement.

“We have a history here of exploitation,” Johnson said. He argued that Native American people should be among the first to get proper credit for their contributions.

Johnson suggested developing partnerships with them and supporting Indigenous-led food organizations. For instance, the Plant Conservation Alliance — a non-Native public-private partnership backed by the U.S. government — launched the National Seed Strategy in 2015 to tackle native seed shortages by ensuring seed availability, enhancing seed production technology and engaging tribal communities. Johnson depicted it as “a start” toward recognizing the contributions of Indigenous people, although he’s pushing to expand its access to more Native Americans.

Native Seeds/SEARCH in Tucson, Arizona, conserves and distributes seeds — primarily food crops like corn and beans — to tribal members in the Southwest and north-west Mexico, as well as non-tribal retailers, community gardens, food access initiatives and the general public. For Andrea Carter (Powhatan Renape), the nonprofit’s director of agriculture and education, giving proper credit to Native American seeds means specificity: labeling a variety as Hopi blue corn instead of just blue corn, for example, and at times including its cultural use.

Native Seeds/SEARCH goes beyond the standard practice of donating a portion of its proceeds to Indigenous communities; it also offers knowledge and technical assistance to Native American agricultural producers to help them successfully grow from seed to plant.

“These are someone’s seeds — these are a people’s seeds, these are a culture’s seeds, and to ignore that is a great disservice,” Carter said.

The Diné Native Plants Program, a grant-funded program established in 2018 in Fort Defiance, Arizona, under the Navajo Nation’s tribal government, uses outreach and education to reconnect people with native plants. Jesse Mike (Diné), program coordinator and forester, said the team teaches them the plants’ names and brings in traditional

practitioners to explain the memories interwoven with the plants and teach related uses and traditions like basket weaving.

"We're losing a lot of the traditional knowledge," he said. "It's not being passed down to our younger generations."

The program also restores ecologically degraded areas across the Navajo Nation and collects seeds from native plants, including grasses, wildflowers, shrubs and trees, for a seed bank. Although Mike's team follows strict rules that limit the number of plants and seeds that can be collected, he worries that others in the commercial industry won't take the same precautions as the native plant movement grows.

"You definitely want to make sure that you're buying and sourcing your plant material from people who know what they're doing and people who respect all the nuances of native plant production," Diné Native Plants Program horticulturist Dondi Begay Jr. (Diné) added.

And while books like *Native Harvest: Authentic Southwestern Gardening* by Kevin Dahl encourage everyday gardeners to plant corn, squash, beans and more as an opportunity to "benefit from the centuries-old agricultural legacy of this region," they skate over the historic injustices that prevented Native Americans from doing the same for hundreds of years.

Indigenous people were forced onto newly created reservations in the 19th century by the U.S. government and compelled to abandon their traditional farming practices. The federal rations they received often included unhealthy foods, such as lard, wheat flour and canned meats, which led to health disparities and high mortality rates from heart disease and diabetes. According to the Center on Budget and Policy Priorities, the problem remains, with one in four Native people experiencing food insecurity.

Now, government institutions from the U.S. Forest Service to the Salt Lake City government are encouraging the public to make use of native plants. Native plants differ from other flora because they've adapted to specific habitats and regions after thousands of years. Their deep root systems help the soil absorb heavy rains, reducing runoff that sweeps surface pollutants into local watersheds, meaning they can serve as a cost-effective, easily maintained means of cutting water pollution, while also reducing erosion.



One in four American adults intentionally bought native plants in 2021, jumping to 25% from 17% in 2020, according to the National Gardening Survey. Close to 20% of survey respondents planned to turn part of their lawns into native wildflower landscapes, which more than doubles the results from 2019 at 9%.

The Southwest in particular faces serious issues like drought and overgrazing, so "native plants are absolutely key in xeriscaping," or landscaping based on the natural water needs of an area, said Mary Phillips of the National Wildlife Federation. Xeriscaping

Michael Kotutwa Johnson, photographed in Tucson at the University of Arizona in March (above).

Andrea Carter, director of agriculture and education at Native Seeds/SEARCH, in the organization's seed vault (facing, left).

A chiltepin chile pepper plant grows in a greenhouse at Native Seeds/SEARCH in March (facing right, top).

Raramuri Espinaca, a species of mustard green native to northern Mexico, growing at Native Seeds/SEARCH (facing right, bottom).



utilizes plants that aren't extremely thirsty.

Ian McFaul, who has worked with various Indigenous communities as a Slow Food board member in Arizona and California, spent the past few years "re-indigenizing" his yard with plants native to Arizona and other North American deserts. Now, hundreds of plant species, including wolfberries and saguaro cacti, are thriving feet from his house.

However, McFaul considers growing native plants to be a "complex" issue, particularly when it involves crops stewarded by Indigenous communities.

For example, Ramona Farms, an Indigenous-run farm on the Gila River Indian Reservation, serves as the biggest supply of tepary beans for food. Farmer and co-owner Ramona Button and her family helped save the beans, traditionally known as bavi (pronounced *bahfv*), from extinction for their community.

"If this is an Indigenous food, and non-Native folks are planting it to themselves sell in commerce, does that take away from what the Buttons and other Native businesses and communities are doing with their crops?" McFaul asked, referring to the potential

impact on the market demand for their beans.

Ultimately, gardeners who seek to grow native plants ethically are encouraged to start by acknowledging where their plants come from. But that alone is far from enough.

They need to be mindful of the fact that "they'll never understand them completely," Johnson, the specialist at the University of Arizona, said. "They don't have that intimate relationship."

As Carter at Native Seeds/SEARCH put it: "There'd be nothing to preserve had communities not saved seeds for generations, and that's a really remarkable thing." ✨



Outside Circle founder Justin Reichert performs at the group's gathering in Elko, Nevada, in 2023. **Colin MacMillan**

REPORTAGE

The co-opting of cowboy poetry

And the story of one man who tried to reverse it.

BY MEG BERNHARD

WHEN JUSTIN REICHERT was 18, he caught a ride with a friend from his family's farm in McPherson, Kansas, to Elko, Nevada, 1,200 miles away. It was 1992, the seventh year of Elko's National Cowboy Poetry Gathering, a series of readings and musical performances created to celebrate all the Westerners whose lives revolve around raising cattle. Reichert had never been to the event, which its fans call, simply, "the gathering," but he'd heard a lot about it. The son of a horse trader, Reichert competed in rodeos — he could, he said, "ride anything with hair" — but he wanted out of Kansas. He wanted to live and work as a cowboy out West.

Reichert arrived in Elko, a cow town in the sagebrush flats at the foot of the snow-capped

Ruby Mountains, with \$10 and a book of his own "shitty poetry" to read at the gathering's open mic events. "It was electric," he said. He went to the Commercial Casino, where bartenders slipped him alcohol despite his age, and he sneaked into the Stockmen's Casino, where a hundred people at any given time would splinter into small groups to jam and sing and dance. The gathering made such an impression on him that he returned to Kansas and packed his bags. He moved to Idaho, where he apprenticed with a guy who made leather chaps and drifted between ranch jobs in the Great Basin, the start of a decades-long career as a cowboy.

Twenty years after that first event, Reichert finally returned. What he saw this

time, though, left him cold. Elko was different now, a gold-mining boomtown. The gathering had changed, too. Gone were the spontaneous jam sessions; events were now meticulously organized, managed by people who, for the most part, didn't actively work on ranches. He felt that the gathering's target audience had shifted from ranch workers to folklorists and well-to-do cowboy cosplayers in buckskin jackets who "didn't know which end of the cow gets up first." Reichert spent the five days of the gathering getting drunk and lamenting the old days. "The soul had been sucked out" of it, he said.

In 2014, Reichert decided to do something about it. He started the Outside Circle, now a two-night show held at The Star Hotel & Bar, a Basque restaurant in downtown Elko, during the same weekend as the National Cowboy Poetry Gathering. "Outside circle" is a cowboy term; if you're assigned the outside circle, it means you're in charge of the biggest piece of land on a given day. The show aimed to recapture what Reichert sees as the gathering's original spirit — raucous, organic, an all-around good time. Each year, the setlist includes talented musicians and poets, with one catch: They have to have grown up on a ranch or be actively working

as a cowboy. Reichert created the event with the help of his partner, Nicole Grady. Grady wasn't born on a ranch, but, after packing mules in the Eastern Sierra and breaking horses across the West, she'd come to revere the lifestyle. She and Reichert saw their project as a response to the National Cowboy Poetry Gathering's perception problem — that it's an event aimed at people who appreciate the cowboy culture but don't actually work in it.

On the first Friday in February, three musicians who also worked on ranches in Texas arrived at the Star shortly before their sets began, guitars in tow. They headed to a back room near the kitchen, where performers congregated around a cooler of beers, strumming guitars and talking about their homes, where they learned to ride, their travel plans once the weekend was over. "We're grateful to be here," said Hayden Redwine, the evening's first performer. "There's a lot of history in this town."

THE OUTSIDE CIRCLE involves more than music and dancing. On Feb. 3, in the atrium of the Stockman's Casino, Reichert and Grady held a panel dedicated to mental health. Five panelists spoke to a room of more than 50 people about the depression that accompanies work-related injuries, the loneliness of cowboying, and the temptation to use alcohol as a fix for pain and isolation. Jeremy Morris, a cowboy in Idaho and host of the Wild Courage podcast, said he'd had five DUIs. "I'm so grateful I didn't kill anybody," he said. "I'd drink so much I'd wake up in another state." For years, he hid behind his occupation, moving twice a year to new ranches as an excuse "to live life on the run, trying to outrun the messes I was making."

The panel was the Outside Circle's second-ever discussion of mental health and addiction. These are difficult topics to broach in a culture that values toughness and self-reliance, but conversations of this kind are desperately needed in the West. Between 2000 and 2020, suicide rates in rural areas increased by 46%, outstripping the growth rate in cities, according to the Centers for Disease Control. And for cowboys, larger economic forces like low wages and agricultural consolidation aggravate the stress of an already lonely and unstable occupation.

Today, ranchers earn 39 cents for every dollar consumers spend on beef, compared to 60 cents 50 years ago, and the financial disparity trickles down to the ranch hands. According to the Bureau of Labor Statistics, agricultural workers — a category that includes a range of jobs involving work with crops and livestock — earned \$33,290 a year on average in 2022, significantly less than the average income for single-earners in all states that year. Today, \$3,000 a month is considered good pay. Reichert and Grady have held auctions to help struggling cowboys and their fami-

*"We're grateful to be here.
There's a lot of history
in this town."*

lies, raising somewhere between \$200,000 and \$250,000, including for the daughter of a leatherworker who suffered a debilitating stroke in 2022.

Ranch work has always been dangerous. Panelists had been kicked by steers and bucked off horses. They spoke of the pressure to drink, often to excess, with other ranch hands when they were off work, and described how the stereotypes of ranch life in the rural West overlook its harsher realities. Scott Van Leuven, who oversees a ranch in Lovelock, Nevada, said it was hard for an alcoholic like him to be in the Stockman's Casino; he joked he'd been to every jail cell in Elko County. Getting sober was a lonely experience, he said. "Our culture is so based on having a drink and having a good time, and then you go back to the ranch and go to work."

THE OUTSIDE CIRCLE'S mood shifted at night, when the music began around 10 p.m. at the Star. On the first Friday in February, the restaurant was hot and airless, so crowded that people had to push through the sea of bodies at the bar just to reach the dining room where the musicians were. Inside, the crowd was loud, drowning out the musicians. Around 3 a.m., as Canadian country

star Colter Wall was getting ready to perform, Reichert grabbed the mic and looked out into the crowd, noticing that his cowboy friends, who'd come there from ranches in Wyoming, Arizona and Canada, had been pushed to the sides of the room, up against walls. "If you want to talk about trucks and dicks, there's another room," he said, borrowing a line from the musician Mike Beck, who would play the following night. He sounded frustrated.

"The Outside Circle has a chip on its shoulder," said Randi Johnson, a poet and teacher from eastern Oregon. She characterized it as a party for folks like her who grew up on ranches, while the Cowboy Poetry Gathering catered more to people who appreciated that lifestyle but didn't necessarily live it. But she also saw a symbiosis between the two events. Performers like her and attendees often cycled from one to the other.

Kristin Windbigler, the chief executive officer of the Western Folklife Center, which runs Elko's National Cowboy Poetry Gathering, said that everyone who performed at the larger event's many shows had some tie to ranch work. Her organization, she said, gave out 246 free day passes to cowboys and ranchers this year.

Today, the Outside Circle faces the same concerns about scale and accessibility that inspired its creation in the first place. What started as a small-budget show with low-quality audio has morphed into something much bigger, so big, in fact, that this year, Colter Wall's fans drove 15 hours to listen to his gravelly baritone. Whether the Outside Circle can preserve its original flavor remains to be seen. "That's the dangerous part about where we're at," Reichert said. "This is about cowboys, but now our cowboy friends are tucked in the hallway behind the bar, and there are all these people who aren't making space for them." There was a fine line, he said, between protecting the Outside Circle and becoming its gatekeepers.

Near the end of the Friday show, Reichert swooped up Grady and the couple began to swing dance. Other couples followed suit, stomping and spinning, and the room felt like something between a barn dance and a revival, joyous despite the weekend's occasional frustrations and heavier topics. "Never stop!" someone shouted as a performer from North Texas crooned. The singer kept playing. ✨

What's going on with natural gas exports?

The U.S. is the world's largest exporter of LNG, but President Biden just paused new permits.

BY JONATHAN THOMPSON
ILLUSTRATIONS BY HANNAH AGOSTA

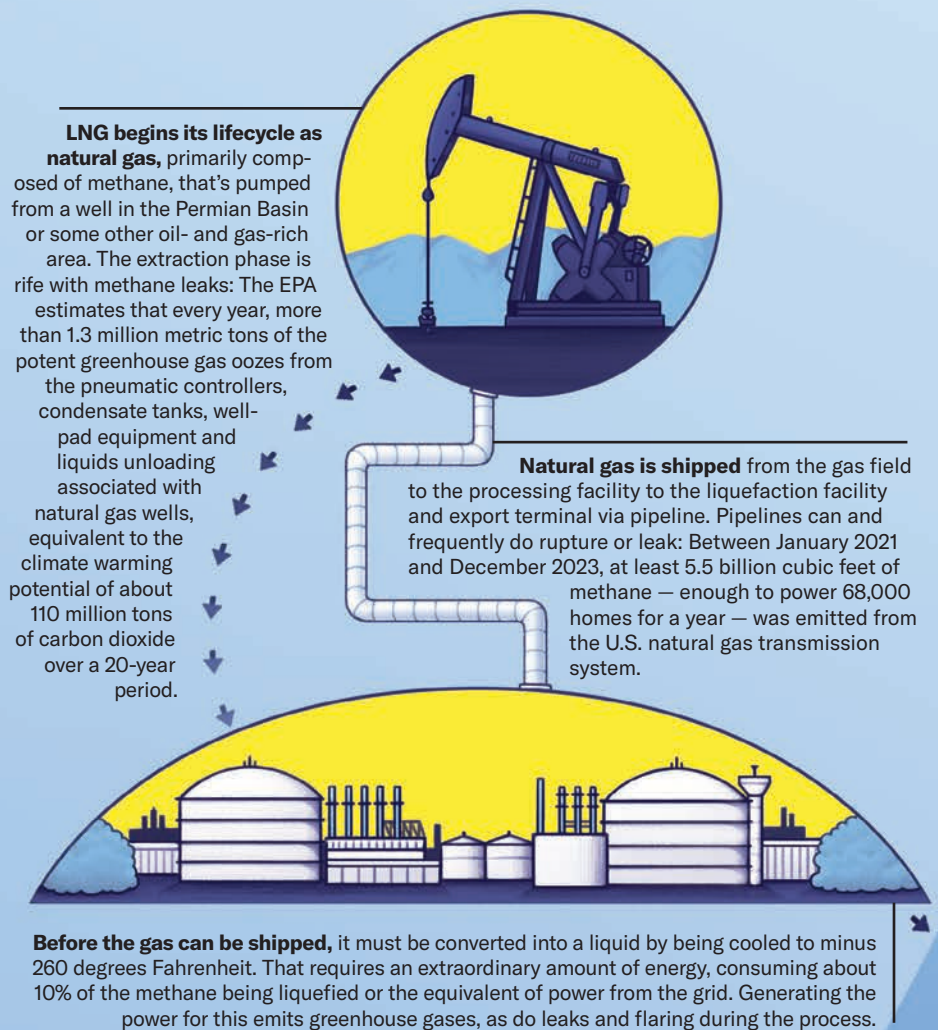
THIS JANUARY, AFTER the Biden administration said it would temporarily pause new natural gas export permitting, climate advocate Bill McKibben wrote: "Um, I think we all just won. ... This is the biggest thing a U.S. president has ever done to stand up to the fossil fuel industry."

The news came as the feds debated whether to permit a liquefied natural gas export terminal in Louisiana. The facility, called CP2, would expand the nation's capacity to send natural gas to Europe, where demand has soared following Russia's invasion of Ukraine. But it's also regarded as a climate-heating "carbon bomb" — an expansion of the fossil fuel industry precisely when the opposite is needed.

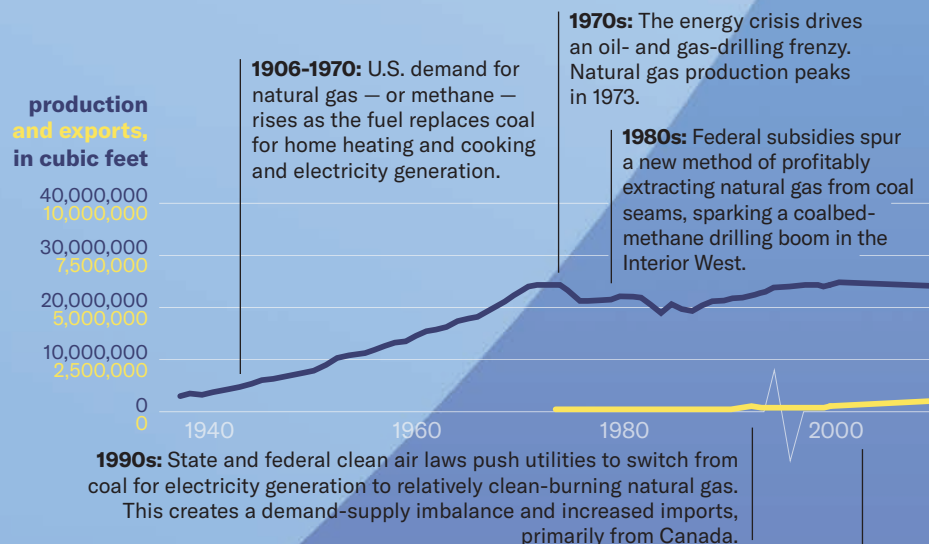
For many activists, a green light for CP2 would be the final straw that dashed hopes that Biden would be a climate champion.

When the administration said it not only would delay CP2's permit, but also pause consideration of 16 other proposals to determine whether they were in the public interest, the climate protectors reacted with relief — even elation. Meanwhile, congressional Republicans, a few oil-state Democrats and the fossil fuel industry responded with dismay, accusing Biden of waging war on American energy. Some even argued that exporting LNG would be good for the climate, since it would displace dirty coal-burning in some countries.

Is this helping the climate? Or hurting it? And how did the U.S. go from importing gobs of the fuel to being the world's biggest exporter? We follow a shipment of LNG from the Western gas patch to overseas homes and power plants to find out. *



LIQUEFIED NATURAL GAS PRODUCTION AND EXPORTS FROM U.S. BY SEA AND LAND



SOURCES: Energy Information Administration/Department of Energy, Clean Air Task Force, Environmental Protection Agency, IEEFA, Federal Energy Regulatory Commission, *The Crucial Years*/Bill McKibben, The White House.

You can't ship LNG in any old tanker; you have to keep the fuel compressed and supercooled. These gigantic ships use a lot of energy and generate more emissions traveling the 5,000 nautical miles between the U.S. and Europe.



Once the natural gas is gas again, it can be sent to homes and power plants via pipelines. Natural gas does burn cleaner than coal, but that only matters if the gas is displacing coal use, and in most cases U.S. LNG is merely replacing Russian gas — not coal.



When the tanker arrives at its destination, the import terminal, the LNG must be re-gasified for transport. This process consumes up to 2% of the gas as fuel.



2005: All-time-high natural gas prices spark a new drilling method that frees “tight” oil and gas from shale formations. Fracking — and the “shale revolution” — are born.

2009: The global financial crisis diminishes demand even as supplies continue to grow, creating a nationwide supply glut. Natural gas prices plummet by more than 70%, crushing the economies of Western gas-producing regions in Wyoming, western Colorado and northwestern New Mexico.

2019: The Western States and Tribal Nations Natural Gas Initiative is established to open global markets and support new LNG export terminals. Members argue that replacing coal with natural gas will lower carbon emissions, though methane leaks can offset the gains.

2024: The Biden administration temporarily pauses new LNG export approvals. This does not affect existing terminals, the 18 projects in the proposal or development phases that have already received a federal go-ahead, but it does delay the massive CP2 permit in Louisiana.

The Federal Energy Regulatory Commission grants a permit for the Saguaro Connector Pipeline, which would carry Permian Basin natural gas across the border to the Saguaro Energia LNG export terminal in Mexico.

2020: U.S. natural gas production reaches 41 trillion cubic feet, nearly twice the 1970s peak.

2007: U.S. natural gas production climbs as drillers target previously untapped shale formations.

2010: Drillers shift from natural gas to oil in shale formations, spurring new booms in North Dakota, the Permian Basin and northeastern Colorado. Because natural gas accompanies oil, methane production continues to climb, keeping prices depressed.

2010

2014: Western politicians call for increased LNG exports to Europe after Russia invades Crimea, even though experts warn this will raise fuel prices in the U.S. Proposals are floated to build LNG export terminals in Oregon, Alaska and along the Gulf Coast, as well as in northern Mexico.

2021: Russia — one of the globe's largest natural gas producers and a supplier to Europe and Asia — invades Ukraine, sending tremors through energy markets. The U.S. increases LNG exports to Europe to stem a looming fuel shortage and domestic natural gas prices — and American utility bills — jump considerably.

2023: The U.S. becomes the world's largest LNG exporter, as well as a major consumer — with Americans spending \$269 billion on natural gas, an all-time high. Several additional export terminals are in development, including two facilities on Mexico's West Coast, which would draw from Western U.S. gas fields.



Cache la Poudre River, Colorado, from the series Stillwater. Gelatin silver print, 2000.
William Wylie, from the exhibition "From Here to the Horizon: Photographs in Honor of Barry Lopez," Sheldon Museum of Art, 2023.



The Color of the River Is Light

Reflections on Barry Lopez.

By Terry Tempest Williams

BARRY LOPEZ ONCE SHOWED ME how to drive the back roads of Oregon near Finn Rock at night with no headlights. *Why?* I asked. “So you can learn to see in the dark like animals do and not be afraid.” He was disarming. Playful. Beyond serious. Demanding. At times, exhausting. Always, illuminating. And like all writers, sometimes self-absorbed. I loved him. He taught me to not only see the world differently, but to feel it more fully. I cannot believe he is gone. Now where do I look?

Before he was a writer, he was a photographer. A good one. In fact, the cover image of *River Notes*, his collection of short fictions based on his own experience of living along the McKenzie River, was taken by him. It is a soft-focus rush of river met by a pair of moccasins placed on a rock facing the water. A credit is given inside the flap of the book: “Western Sioux moccasins courtesy of Lane County

Museum, Oregon.” The composition is studied and deliberate, aesthetically pleasing and evocative like each of his stories.

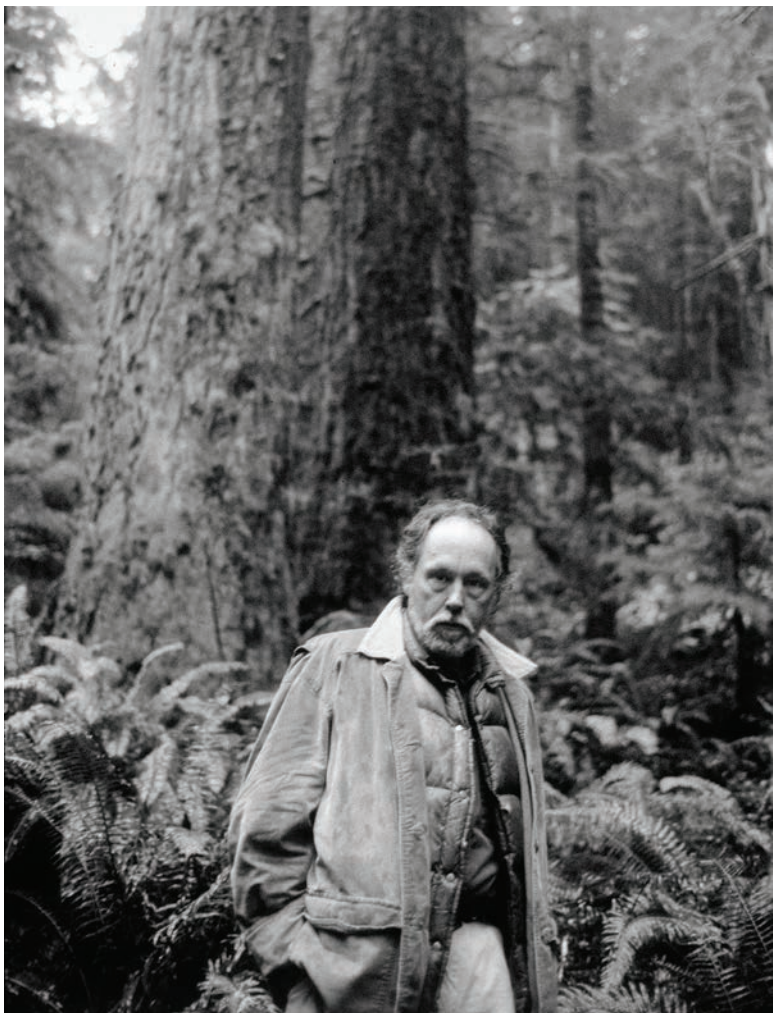
On the back of *River Notes* is a horizontal strip of four black-and-white photographs of the author, reminiscent of the four flashes of pictures one would spontaneously pose for inside a photo booth with friends. The first shot is Barry looking down, with his index finger resting vertically on his upper lip, the tip of his finger just below his nose; he is deep in thought. The second frame shows him looking upward, his eyes glancing to the right. The third frame is a straightforward gaze, direct. In the last frame, he is looking down, slightly toward the left. Had there been a fifth frame, I imagine Barry’s eyes would have been closed, his head in a slight bow with his two hands pressed together in prayer.

In our long, deep and complicated friendship, I came to rely on his varied moods of mind and heart. I believe part of his genius as a writer was rooted in his access to

the extremities between his vulnerability and strength; his knowing and unknowing — call it doubt; and the exquisite arc of revelations created from the depth of his searing intellect to what some critics saw as the naiveté of his beliefs in Nature. In truth, this is where the urgency and wisdom of Barry Lopez dwelled. His hunger to understand the roots of cruelty was located in his wounds. His longing to believe in our species was housed in his faith. When my grandmother died, I gave Barry her silver cross with a small circle of turquoise placed at its center. His own particular devotion to God and the power of our own creativity landed elegantly on each page he wrote, be it his fascination with travel and the intricacies of a ship or plane or an imagined community of resistance on behalf of peace with Earth, where people took care of one another in the midst of darkness. Very little escaped his closely set eyes. You could say, with a smile, that Barry was the Michael Jordan of environmental writing, and when my father gave us his tickets to see the 1987 NBA championship game in Salt Lake City between the Chicago Bulls and the Utah Jazz, Barry never spoke; he was transfixed on Jordan’s every move, with his game stats squarely on his lap. We were rooting for different teams. When the Bulls won, he just looked at me and said, “It wasn’t even a contest with Jordan in the game.” Barry brought this same kind of dramatic intensity to every occasion. His fidelity was to his work where his devotion to language and landscape gave birth to stories — many beautiful stories.

BARRY AND I MET in 1979 in Salt Lake City when he came to read at the University of Utah, paired with Edward Abbey for a special fundraiser for the Utah Wilderness Association. Two thousand people came to hear the rowdy irreverence of “Cactus Ed” court and cajole disruptive behavior. He did not disappoint. People howled like coyotes after Abbey finished reading. When the next speaker took the stage quietly, elegantly, with his head bowed, few had heard of Barry Lopez. But after he read from *River Notes*, with his deep, sonorous voice, a great and uncommon silence filled the ballroom. No one wanted to leave. A spell had been cast by a Storyteller. We left the reading altered, recognizing that we had not only heard a different voice, one of reverence and grace, but a voice that offered “a forgotten language,” which brought us back into relationship with the sensual world of humans and animals living in concert.

In the story “Drought,” from that collection, Barry Lopez shows us how one sincere act born out of love and a desire to help had the power to bring forth rain in times



Barry Lopez in Salem, Oregon, c. 2010. **Robbie McClaran**

of drought if someone was “foolish” enough to dance. “I would exhort the river,” his narrator says, and then a few paragraphs on, “With no more strength than there is in a bundle of sticks, I tried to dance, to dance the dance of the long-legged birds who lived in the shallows. I danced it because I could not think of anything more beautiful.” And, with a turn of the page, we learn, “A person cannot be afraid of being foolish. For everything, every gesture is sacred.”

The next day, I drove Barry back to the airport, located near Great Salt Lake. Curious, he asked me questions about the inland sea. I must have gotten lost in my enthusiasm about the lake, how it was our Serengeti of birds — with avocets and stilts, ruddy ducks and terns — how one could float on one’s back and lose all track of time and space and emerge salt-crusted and pickled, and how the lake was a remnant puddle from the ancient Lake Bonneville whose liquid arm reached as far west as Oregon 30,000 years ago. Before Barry boarded the plane, he turned to me and said, “I exhort you to write what you know as a young woman living on the edge of Great Salt Lake.”

There was that word again, *exhort*. I went home and looked it up in my dictionary: “to strongly encourage or admonish.” It is a biblical word, “a fifteenth-century coinage (that) derives from the Latin verb *hortari*, meaning ‘to incite,’ and it often implies the ardent urging or admonishing of an orator or preacher.”

Barry Lopez had given me an assignment. I took his assignment seriously.

IN 1983, I FIRST VISITED Barry and Sandra, the artist he was married to for 30 years, at their enchanted home in Finn Rock, Oregon. Sandra offered me my first cup of coffee ever, on their porch. Coming from the arid country of Utah, I had never seen such lushness — the softness of the air, the smell of water, and so many shades and textures of green, from the delicacy of ferns, yews and the density of alders below to the Douglas firs and red cedars that drew your eyes up toward a hidden sky. There was no horizon, but a vertical worshipping of trees. I recognized our differences: He was of the forest and I was of the desert. Our friendship grew from what was hidden and what was exposed. We pushed each other, trusted and challenged each other, and we relied on one another’s perceptions.

Barry taught me early on that the color of the river is light. For him, the river was the McKenzie, which fed his life force for 50 years and where salmon spawned each year in the shallows just east of Eugene, Oregon. As

an exercise, he would often put on his waders and walk across the river as the mergansers swam around him.

For more than 40 years, I have known that wherever Barry Lopez was in the world — whether he was kneeling on the banks of the McKenzie in prayer awaiting the return of the salmon or watching polar bears standing upright on the edge of the Beaufort Sea in the Arctic or flying his red kite in Antarctica with unbridled joy — the world was being seen by someone who dared to love what could be lost, retrieve what could be found, and know he was listening to those whose voices were being silenced as he was finding an intimacy with, rather than a distance from, the ineffable. In those luminous moments, he would find the exact words to describe what we felt, but didn’t know how to say. He exhorted his readers to pay attention through love.

After a pause in our friendship, we met in Jackson Hole, Wyoming. We held each other close for a long time — and then, for several days, our conversation continued where we had left off. We spoke of home, health, family and shared stories. Always, the stories. And we laughed about all we had learned since we had become older. He had a cane due to a knee injury and he momentarily hung it in a tree. We stood on top of Signal Mountain facing the Teton Range. It began to snow, with large goose-down flakes in full sunlight against a clear blue sky. He looked up and said, “Well, I’ve never seen this before.”

Barry Lopez’s very presence incited beauty. Even as his beloved trees in Finn Rock burned to ash in 2020, his eyes were focused on the ground in the name of the work that was now his — “the recovery and restoration of Finn Rock,” the phrase he used in our last correspondence, even as Barry understood what was coming — his own death.

In one of his last essays, “Love in a Time of Terror,” Barry wrote, “In this moment, is it still possible to face the gathering darkness, and say to the physical Earth, and to all its creatures, including ourselves, fiercely and without embarrassment, I love you, and to embrace fearlessly the burning world?”

Grief is love. Barry’s heartbreak, wisdom, and love in the world remain. At the end of the story “Drought,” the narrator tells us, “Everyone has to learn how to die, that song, that dance, alone and in time. ... To stick your hands in the river is to feel the cords that bind the earth together in one piece.”

Peace, my dear Barry. The color of the river is light. You are now light. Hands pressed together in prayer. We bow. ☀

This essay is excerpted from *Going to See: 30 Writers on Nature, Inspiration, and the World of Barry Lopez*, edited by James Perrin Warren and Kurt Caswell, forthcoming in May from Mountaineers Books. (It was originally published by ASLE.) All rights reserved. Reprinted with permission.

“

Growing up in a very rural community in southern Arizona, I have always felt most at home in wild places. Now, as a busy professional (and mom) with a career centered around stewarding public lands, spending my limited time volunteering as president of this organization is one of the most effective ways to amplify my passion for protecting the ecology of the American West. The stories empower communities to act on behalf of their environments, while also training generations of journalists to continue doing high-impact work nationally and globally.

- Estee Rivera
HCN board president

These stories are bigger than all of us. But they begin and end with you, dear reader.

Our journalism — the powerful stories, analysis, investigations, photos and artwork on these very pages — is made possible because of funding from readers just like you and me. A whopping 76% of our entire budget comes from you, through your subscription dues and donations. That makes our readers *HCN's* biggest stakeholders. Thank you!

This month, we are sending fundraising appeals to subscribers and to many social media or newsletter readers who haven't yet subscribed or made a donation. We encourage them (and you!) to pitch in to support this valuable nonprofit work.

Because it's vital.

In a time when trustworthy journalism isn't a given, and when political divisiveness, the climate crisis and rampant injustices overwhelm our sensibilities, nonprofit news is essential. *HCN* is a light in the darkness.

You can help shine a light by making a donation today or by giving a gift subscription to a neighbor, friend, colleague or relative.

Donate today! Return this envelope, call 800-905-1155 or donate online at: hcn.org/giveinapril

We need you in order to continue this work.

At HCN, she found a job — and a community

In early March, *HCN*'s director of philanthropy, Alyssa Pinkerton, told the staff and board that, after 15 years with the organization, she's moving on. With her youngest kiddo about to graduate from high school, she plans to return to her career in art. Alyssa is a gifted painter and illustrator, as well as a self-described thespian.

"It's a terrifying leap," she said, "and I'm just so excited."

In her travels, Alyssa loved to ask people about their *HCN* stories. Many of us talk about how a friend or a mentor introduced us to the magazine, or how we stopped by the office in Paonia, Colorado, or attended a gathering of readers, and realized that we'd found not just a magazine, but also a community.

As she prepares for her end-of-May departure, Alyssa shared a little of her story. It's something special.

Alyssa was at a crossroads when she found *HCN*, recently divorced and solo parenting two young kids. She landed a part-time job doing support work in our fundraising department and worked after-hours cleaning the office. Her kids explored and "helped out" while Mom scrubbed and vacuumed the place.

Looking back today, she wonders how she survived, working long hours to pay her bills, sharing childcare with a couple of friends. But for Alyssa and her family, life in rural Colorado was "rich soil." She recalls river rafting and camping trips, community theater and fashion shows, feasting on organic fruit from the local orchards. And after about a year and a half at *High Country News*, her pay in fundraising increased to the point where she was able to drop the cleaning job.

Still, those were difficult times. This was during the Great Recession, when readers were forced to pull back on their support. One day, Alyssa picked up the phone when it rang for her boss, the director of development. A reader from California asked how things were going. Alyssa responded candidly that *HCN* had been forced to cut back staff hours to save money. (Anyone who knows Alyssa knows that she always tells it like it is.)

"Oh!" the reader said — and promptly sent in a check for \$10,000.

"I had never talked to a donor before. I had never asked for money," Alyssa says. "But just being honest, and telling people how things were, was powerful."

It didn't hurt that she genuinely loves *HCN*'s readers. "They're passionate, curious. They're all working to make things better in their communities." We can be a quirky bunch, she laughs, but "*HCN* is an authentic and beautiful organization, from the readers to the community to the content."



Photo illustration by Marissa Garcia/HCN

As she rose through the ranks, Alyssa's efforts to strengthen relationships with readers and share the power of our journalism enabled the organization to grow and blossom. The salaries and benefits we're able to offer today are a fitting legacy to her time here.

Alyssa now lives in Fort Collins with her second husband, a talented musician and teacher — who, fittingly enough, she met through *High Country News*. Asked if she might return to the East Coast, where she grew up, she says "no." Alyssa fell in love with the West in her 20s, when she hiked the Pacific Crest Trail, and says, "I won't ever go back. I am a Westerner forever."

If you're interested in being HCN's next director of philanthropy, or know someone who might be, email us at careers@hcn.org.

Continued on page 29

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"HCN provides us with a way of circulating news of the West's lands and people. It is the only vehicle we have to connect us together in our struggle for the well-being of this place we love. I'm proud to be a supporter and serve on HCN's board of directors."

— Marla Painter, HCN board member, Albuquerque, New Mexico

All together now

In January, almost the entire *HCN* staff and Board of Directors gathered in Portland, Oregon, for a long weekend of conversation and camaraderie. The last time the whole crew was together like this was so long ago nobody could recall exactly when or where it was — before COVID, at any rate. A lot has changed since then: For many of us, this was our first face-to-face meeting with folks we'd worked with for years! Such is life when your organization is scattered across the West: We know each other best through the smiling *Brady Bunch*-style images of our faces on Zoom.

We spent Saturday afternoon doing team-building exercises led by local facilitator/coach/storyteller **Frayn Masters**. Sunday, we meandered around town, learning indigo-dyeing techniques at WildCraft Studio School and touring the massive industrial-era laundry facility that the **Native Arts and Cultures Foundation** is transforming into a vibrant exhibition and gathering space for Indigenous artists. We're grateful to **Heather Brown** of Mind the Bird Media for helping us connect with these local groups and handling logistics.

Of course, we also had business to take care of, so the staff devoted a few days to departmental planning. And at the winter board meeting, staff updated everyone on our progress toward the goals we laid out in our three-year strategic roadmap last winter. A few highlights of our accomplishments so far:

- We created a digital news strategy and doubled our budget for news in 2024.
- We came up with metrics for measuring the impact of *HCN*'s journalism, with the goal of producing more stories that drive discussion, encourage new policies and create real change on the ground in the West.
- We identified the key audiences we want to reach and began to build a network of friends, ambassadors and peers to help us do exactly that.
- We grew *HCN*'s monthly giving program by 12% and expanded our community of major donors and foundation supporters.
- And we commissioned an outside review of our efforts to advance justice, equity, diversity and inclusion, which included strong suggestions for advancing this work.

The stars of the show were members of our Product and Marketing team, who gave us the behind-the-scenes story of the new website and software upgrades you read about in last month's Dear Friends. That work is crucial to advancing the broader goals in our strategic plan: Reaching larger, more diverse audiences and giving Westerners the information and the tools they need to create positive change.

All this work gives us a strong foundation for 2024, a year of intense experimentation, learning and adapting. We're thrilled about the new tools we now have available.

Greg Hanscom
Executive director and publisher



Photo illustration by Marissa Garcia/HCN

Embracing change

It's official: Members of the *High Country News* staff have voted to form a union, adding to a wave of labor organizing in the news business and nonprofits nationwide. The High Country News Union is organized with the Denver Newspaper Guild, a branch of the Communications Workers of America. About 80% of eligible employees voted to join the union, which now represents a little over half of *HCN*'s staff, including members of the editorial, customer service, marketing, fundraising and business teams.



While the vote to unionize changes how managers interact with unionized employees on the terms and conditions of their employment, there's much that remains the same: We are all here because we believe in this organization, created 54 years ago by a Wyoming rancher and wildlife biologist, and kept alive by generations of passionate people who have served as its caretakers. And we all want stability and security for *HCN*'s staff.

The management team will begin working with the *HCN* Union to get a contract in place as quickly as possible, and *HCN*'s Board of Directors stands firmly behind us.

Welcome Sunnie!

Among those who came to Portland was our new Indigenous Affairs editor,

Sunnie R. Clahchischiligi,

Diné. Sunnie, who spent 11 years reporting for the *Navajo Times* and has written for *Sports Illustrated*, *The New York Times*, *The Guardian* and other outlets, just finished a Ph.D.

in rhetoric and writing at the University of New Mexico. She has traveled extensively in Indian Country, is from Teec Nos Pos, Arizona, and serves on the board of the Indigenous Journalists Association.

In addition to managing the Indigenous Affairs team, Sunnie will sit on the editorial management team and collaborate with staff in other departments to ensure that our efforts to connect with Indigenous communities are culturally competent and positioned for success.





Perilous Paths

For mule deer, pronghorn and elk,
migration is a means of survival. But the
routes they follow need protection.

By Christine Peterson
Photos by Ryan Dorgan





T

HE FIRST MULE DEER to become famous was named Jet, after the University of Wyoming graduate student who MacGyvered her tracking collar. The name fit an animal that walked, bounded and sometimes ran 150 miles north every spring, chasing greener pastures, and then trekked 150 miles south each fall to escape deep snow.

Thousands of people followed Jet's seasonal journeys on Facebook and Twitter, and mourned when she died of exposure in December 2016.

The following year, a deer that researchers named Mo for her momentum caught the public's attention. Julie Legg, a 49-year-old woman living in the almost-ghost town of Superior, Wyoming, was so inspired by Mo's long migration that she's spent the last seven years driving two-track roads and hiking hillsides and creek bottoms, photographing and videoing deer for a growing online audience.

Deer 255 didn't need a name. Between 2019 and 2022, four animated videos of her 240-mile annual trek from southwest Wyoming to central Idaho — the longest one-way mule deer migration ever recorded — racked up almost 4 million views online. Her collar number became synonymous with marathon feats.

"Oh! A celebrity!" chirped a University of Wyoming student as scientists weighed a 2.5-year-old female deer on a frigid day last December near Superior. Like 255, Deer 665 had acquired a reputation for epic walkabouts, migrating more than 220 miles in

the spring of 2022. Researchers captured her, using a net shot from a helicopter, then blindfolded her to keep her as calm as possible while they drew blood and measured her body fat, all part of an ongoing effort to understand why some mule deer travel so far.

It's no wonder that deer like 255 and 665 fascinate us: Despite migrating almost 500 miles over multiple mountain passes in just six months, they finish the year fatter than deer that stay home. But this story is about more than just a few celebrity cervids. Countless mule deer, pronghorn and elk have made such long-distance journeys, year after year, for thousands of years, from sagebrush steppe to alpine meadows and back again. Paradoxically, these grueling trips help sustain herd

numbers when conditions are harsh and food is scarce. More and more, however, the West's migrating ungulates must navigate a treacherous human landscape.

Deer, pronghorn and elk leap over or crawl under fences and dodge highway traffic. They skirt rural subdivisions and race across oil fields, often with offspring in tow. They time their movements to avoid deadly trudges through crusty snow. But the fact that many ungulates still survive their long and increasingly dangerous journeys doesn't mean they always will. Many of their routes have already been blocked by roads, subdivisions and industrial development. All this stymied movement — combined with chronic wasting disease, drought-diminished food supplies and loss of habitat — is taking a toll: Colorado's mule deer population plunged from 600,000 in 2006 to about 433,000 in 2018, while Wyoming's dropped from about 578,000 in 1991 to about 330,000 in 2021.

"I am significantly concerned about mule deer," Brian Nesvik, Wyoming Game and Fish Department director, said in November.

Yet efforts to conserve migratory routes are also struggling to move forward, facing pushback from critical lawmakers, wary landowners and skeptical industry leaders. Meanwhile, deer like 255 and 665 still follow the ancient pathways they likely learned from their mothers, headed for the best food they can reach.

HALL SAWYER documented the longest migration of land mammals in the Lower 48 somewhat by accident. Sawyer, a wildlife biologist, lives in

Opening pages: Roughly 5 miles separate the wildlife overpass just north of Daniel Junction, pictured, from the Trappers Point overpass outside Pinedale, Wyoming. Overpasses like these, along with underpasses and wildlife fences, have helped reduce wildlife-vehicle collisions in the state by 80% to 90%, according to the Wyoming Game and Fish Department.

A young mule deer travels south toward the Prospect Mountains in late November. Mule deer often linger here to enjoy the dense forage until heavy snows push them farther south into the Red Desert (*facing*).

Below, researchers with the Wyoming Migration Initiative and Monteith Shop run biological tests and fit mule deer with tracking collars during an aerial capture operation in early December near Superior, Wyoming.

southeast Wyoming, where he studies deer, pronghorn and elk for government agencies and energy companies. In December 2011, he collared dozens of deer in the southern end of Wyoming's Red Desert for a Bureau of Land Management study. He knew the animals moved around but wasn't sure how far or where they went, so in early 2012, he hired a pilot to track the collars' radio signals.

The pilot flew in widening circles over the sagebrush, covering much of the Red Desert, but heard nothing. Then, on his way north to refuel, he dipped toward the base of the Wind River Range. There, he heard a beep — a signal indicating that a deer had traveled about 80 miles from its December location.

Must be a fluke, Sawyer thought, a deer pushed unusually far south by bad weather. Surely no deer moved that far every year. But the following fall, the same deer returned to the Red Desert. By 2013, Sawyer and

his colleagues had established that some deer walked from the Red Desert to the Hoback Basin southeast of Jackson, Wyoming, and back every year — a round-trip journey of about 300 miles.

Native peoples have long known that some deer travel with the seasons. Jason Baldes, an Eastern Shoshone tribal member and executive director of the Wind River Tribal Buffalo Initiative, said it was traditional knowledge, passed down from ancestors. "We also have the archaeological evidence that holds up those stories and beliefs," he said, including artifacts found at bottlenecks along the Red Desert-to-Hoback migratory route.

Anecdotal reports from local hunters, ranchers and biologists suggested that some Red Desert deer migrate. But Sawyer and his colleagues were the first to use GPS satellites to map the migration from start to finish.

News of the results spread like dirt in a Wyoming windstorm, from *The New York Times*



to *National Geographic* and *Al Jazeera*. The Wyoming Migration Initiative, a University of Wyoming program co-founded in 2012 by Wyoming Cooperative Fish and Wildlife Research Unit leader Matthew Kauffman, began tracking and mapping migrations throughout the state. Professors, graduate students and volunteers spent weeks each year fitting deer, pronghorn, moose, bighorn sheep and elk with satellite collars, mea-

oming to Montana and another that wanders on and off the Wind River Reservation.

"I like thinking that these migrations that are happening right now on the reservation have always been there, and we have always tracked them," said Albert Mason Jr., an Eastern Shoshone tribal member and graduate wildlife researcher with the Wind River Tribal Buffalo Initiative. "I like thinking and assuming that my ancestors

Game and Fish Commission voted to formally designate the Red Desert-to-Hoback migration corridor as vital wildlife habitat. Two years later, not long after the Trump administration also recognized the importance of migration corridors, the commissioners designated two more.

The designations are intended as guidance for land managers and county planning boards, indicating where development could harm migration as well as where fence removal could benefit it. They also help federal agencies decide whether to grant leases for oil and gas development.

This was not the first time the commission had designated vital wildlife habitat. But migrating wildlife cross private land as well as public, and some landowners feared corridor designations would lead to land-use restrictions. By late 2019, after Game and Fish proposed designating another two corridors, conservative state lawmakers decided that the recommendations should go no further and considered drafting bills to undercut future designations.

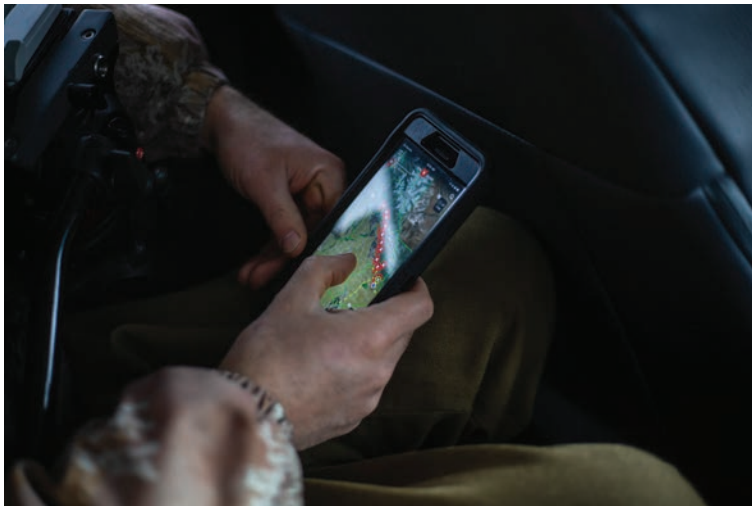
Wyoming Gov. Mark Gordon, R, had already created a task force on migration corridors, and in 2020, he issued an executive order stipulating that only the governor's office could designate new corridors. Some conservationists denounced the order as political, arguing that wildlife decisions should be made by wildlife professionals. Others saw it as a middle ground of sorts — a way to conserve deer without alarming conservative lawmakers.

Three years passed without any new designations. Meanwhile, the slicing and dicing of Wyoming's migration corridors by roads, developments and subdivisions continued.

IF DEER CAN BE LEGENDS, 255 already is one. After researchers collared her in the Red Desert in March 2016, they tracked her as she walked 90 miles farther than the rest of her herd — from southern Wyoming through ranches and subdivisions, over mountain ranges and highways, and into eastern Idaho. Researchers wrote off the walkabout as a fluke. Two years later, after her collar malfunctioned, they recaptured her by chance. After analyzing the data stored in her collar, they realized her Idaho trip was a regular migration.

Deer 255 is fat and elusive and, according to researchers, can get huffy with her fawns, nudging them to keep moving with body language familiar to the parents of *Homo sapiens*. During her journeys, she crosses land managed by the National Park Service, the U.S. Forest Service, the Bureau of Land Management and the state of Wyoming, not to mention innumerable private parcels and busy roads. I wanted to understand why she, and her fawns, went to all this trouble. And so, on an early October day last year, I stood on a rutted two-track road on Forest Service land north of Jackson, Wyoming, with Game and Fish migration coordinator and habitat specialist Jill Randall and Jackson wildlife biologist Aly Courtemanch, staring at a map of Deer 255's most recent coordinates.

Every few hours, Deer 255's collar transmits her location to a satellite, which sends the data to the Wyoming Migration Initiative's servers every couple of days. We didn't have her real-time location, but we knew where she spent most of the summer. Even if we didn't glimpse her, we could tour her summer home and even peek into the refrigerator.



Greg Nickerson, a staff writer and filmmaker for the Wyoming Migration Initiative, checks Deer 255's progress as she migrates south along the Wind River Range toward the Prospect Mountains in late November.

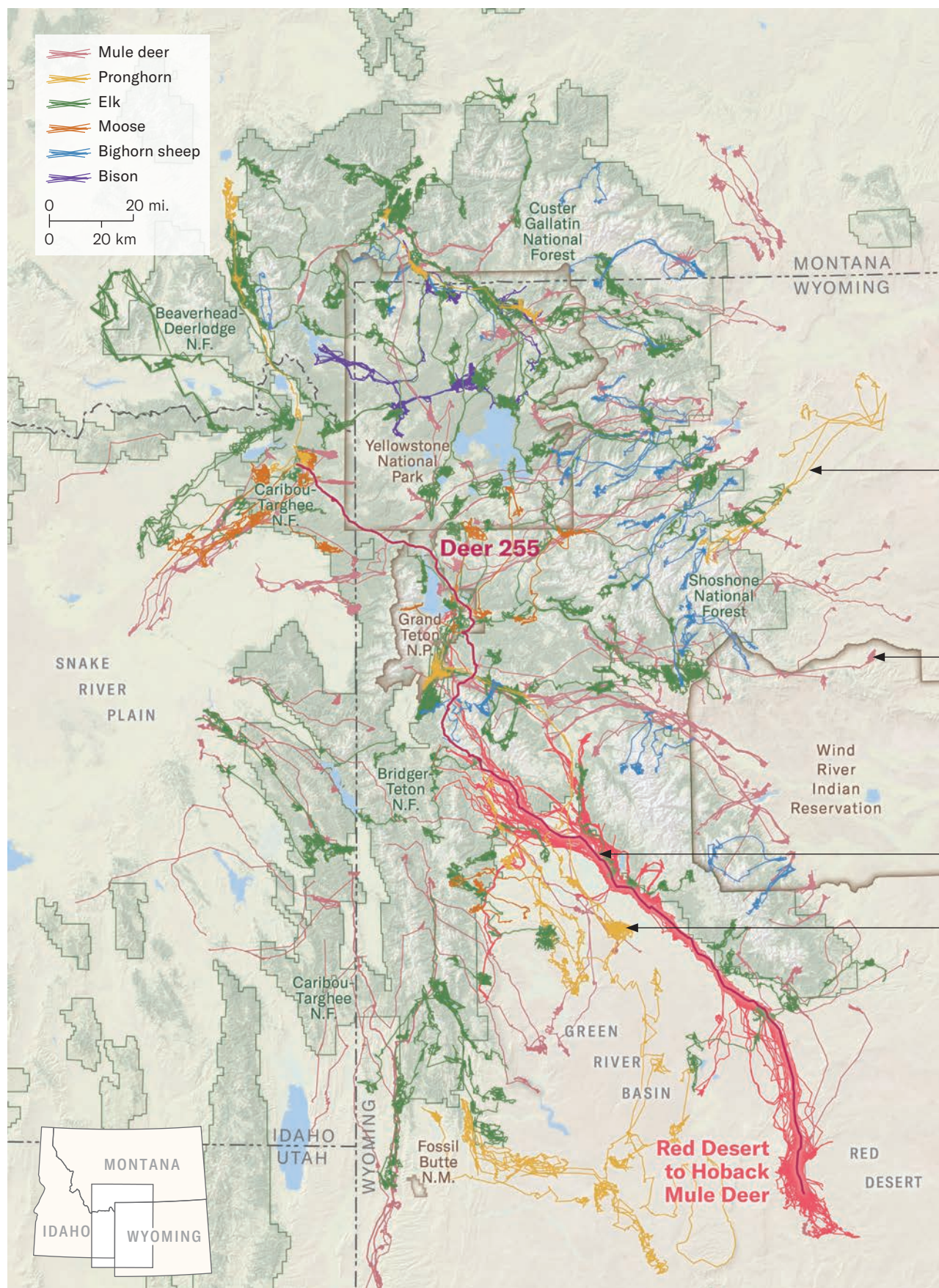
suring rump fat, collecting poop samples and checking for pregnancies with ultrasound wands.

By 2019, Western wildlife agencies were working with the U.S. Geological Survey and UW researchers to map migrations in places like Arizona's Kaibab Plateau, where mule deer travel up to 90 miles from canyon country to flats each spring and fall, and northwest Colorado, where some of the Bear's Ears herd move up to 70 miles each spring and fall. Researchers have now mapped dozens of deer, elk and pronghorn routes in Wyoming, and they keep documenting more, including one that extends from northeast Wy-

oming to Montana and another that wanders on and off the Wind River Reservation. "I like thinking that these migrations that are happening right now on the reservation have always been there, and we have always tracked them," said Albert Mason Jr., an Eastern Shoshone tribal member and graduate wildlife researcher with the Wind River Tribal Buffalo Initiative. "I like thinking and assuming that my ancestors

followed the same deer down the same paths they used, and now see their two descendants relying on each other." All the complicated scientific equipment — the helicopters, net guns, collars, algorithms, satellites, ultrasound machines and maps — led the graduate students and professors who use it to one conclusion: Migration leads deer to better food; better food makes fatter deer; fatter deer survive harsh winters better; and the deer that fare best in winter deliver bigger fawns who grow up to be bigger, fatter, healthier deer. The same is true for elk, pronghorn and bighorn sheep.

So, in 2016, the Wyoming



The Greater Yellowstone's epic mammal migrations

Carter Mountain Pronghorn

This herd, which winters on the plains southeast of Yellowstone National Park, summers on 10,000-foot-high mountain plateaus — perhaps the world's highest pronghorn range.

Owl Creek Mountains Mule Deer

The several thousand deer that trek through the Wind River Reservation face few risks, because the Eastern Shoshone and Northern Arapaho tribes manage these lands for wildlife. Off the reservation, many of the deer have to navigate a major highway, fences and residential areas.

Sublette Mule Deer

The world's longest recorded mule deer migration stretches 150 miles from Wyoming's Red Desert to the Hoback Basin. Research shows that the animals that migrate farthest often return to their winter range fatter than their stay-at-home kin and with more fawns.

Sublette Pronghorn

The Wyoming Game and Fish Commission is considering protections for this famous route. The animals migrate more than 100 miles from southwest Wyoming over two highway overpasses and across sprawling gas fields on their way to Grand Teton National Park.

Pullout information from *Ungulate Migrations of the Western United States* and Wyoming biologist Hall Sawyer.

Map adapted from: *Atlas of Yellowstone*, Second Edition © 2022 University of Oregon. Published by University of California Press. Additional data from *Ungulate Migrations of the Western United States*, Volume 1: U.S. Geological Survey Scientific Investigations Reports 2020.



We followed overgrown trails through aspen stands, then up a steep, barren hillside in the Bridger-Teton National Forest. The official Red Desert corridor stops south of here, but this area is the summer range of some of the herd's most ambitious migrators. As we approached the top of the knobby mountains, stepping through sagebrush and grass still green from summer, we saw what made this country worth the trip.

"This is classic summer range," Randall said, pointing to open meadows bordering tangled forests. "There's cover here, they can get away from predators and get in the shade when it's hot in the summer, but then they have foraging and feeding where they'll have more forbs out in the open."

On one hillside were clumps of dried yarrow and remnants of the summer's flowery asters, clover and protein-rich vetches. We knew from 255's collar data

that she had spent much of the summer in the wooded area nearby. We also knew from the plants that either deer or elk had feasted here this summer.

"Look at this — gone, gone, gone, gone, all those flowerheads are gone," Randall said, pointing to a balsamroot's headless stems. Balsamroot, wild geraniums and lupines are a mule deer's summertime meat and potatoes.

Researchers with the Migration Initiative use the phrase "surfing the green wave" to describe how large ungulates like deer, pronghorn and elk follow the choicest bits of food up in elevation as spring advances. And while some deer will eagerly munch backyard ornamentals, migratory deer are strategic about what they eat.

Young plants have high protein and low fiber — the best combination for mule deer — but lack volume. Older plants are larger but about as

nutritious as pencils. Deer prefer plants of intermediate age, the Goldilocks stage of growth, said Anna Ortega, a former UW graduate student who studied the Red Desert deer for seven years. "That's why tracking this green-up of plants is really good for deer," she said.

That healthier food is migration's reward, said Kauffman.

After a decade of research, biologists learned that the Red Desert deer develop migration portfolios of a sort: Part of the herd lingers in the desert, another chunk goes 50 or so miles, and the final group travels about 150, with rare deviations in routes. (An individual doe, for example, may deliver her fawns near the hillside where she was born.)

Ortega believes that the various strategies evolved because, depending on conditions, each one paid off in different ways. But as climate change deepens droughts and development fragments winter range, the

Greg Nickerson and Luke Wilde of the Wyoming Migration Initiative use a VHF telemetry antenna to search for Deer 255 in late November, high in Wyoming's Prospect Mountains. The notoriously elusive deer wowed researchers after making a nearly 250-mile migration from Island Park, Idaho, to Wyoming's Red Desert.

short-distance migratory population keeps shrinking. More and more, the long migration to the mountains is the only winning strategy.

IN 1888, before Wyoming became a state, Kip Alexander's great-grandparents moved from the Nebraska Sandhills to southwest Wyoming, the ancestral territory of several tribes including the Eastern Shoshone, Cheyenne and Crow. His family held on to that original 160 acres and expanded the property, raising cattle and growing hay. Alexander, who just turned 80, still lives on that land, which is ringed by the snow-covered peaks of the Wind

River and Wyoming ranges.

His house sits just to the west of the designated Red Desert migration corridor, near the face of the Wind River Range and about halfway between the deer's summer and winter ranges. Alexander also owns and grazes almost 1,800 acres that jut into the route like a pointed finger. He watches mule deer cross that land each fall, flowing up and over the sagebrush and grass-covered hills before hopping fences, crossing a highway and continuing south. Meanwhile, his neighbors sell their land to developers, who divide it into 40-, then 20-, then 10-acre ranchettes — each with its roads, fences, houses and dogs.

About 12 years ago, after realizing that his adult children weren't going to take over the ranch, Alexander worked with the Wyoming Stock Growers Land Trust to create a permanent easement on the land he owns in the corridor. He can still graze cows and grow hay on it and it can be sold, but it can't be sliced up or developed.

While some landowners donate easements to land trusts, others, like Alexander, sell their development rights in exchange for direct payments.

"If you're going to ask people to change management or do some things on their private land to benefit a public resource," said Jim Magagna, who runs sheep in the Red Desert corridor and is executive vice president of the Wyoming Stockgrowers Association, "the public ought to be willing to pay for it."

Money for easements generally comes from private donors, state or federal entities, or some combination of the three. Because the federal government prioritizes easements on land with agricultural or wildlife habitat value, the state's corridor

designations have helped some landowners secure easement funding.

Easements for corridors got a serious boost in 2021, when the U.S. Department of Agriculture allocated more than \$20 million for fence improvements, wildlife habitat restoration and easement purchases — a pilot project that eventually established 17 easements on 11,830 acres on designated migration corridors in Wyoming. In 2023, the USDA created the Migratory Big Game Initiative, which expanded the program across Wyoming, Idaho and Montana.

Arthur Middleton, a USDA senior advisor for wildlife conservation and a professor at the University of California, Berkeley, said the money represents one very tangible way to save migration corridors from death by a thousand subdivisions.

"Habitat restoration and enhancement and protection takes time to get done, either because of the relationships that need to be built, or because of the ecology," Middleton said. "And one thing you don't often have, when there's a political pendulum swinging back and forth, is time."

Mark Anselmi and his sister, Gina, own two adjoining parcels, amounting to about 300 acres of rolling grass and sagebrush in the middle of the Red Desert-to-Hoback migration route, just east of Alexander's property. Mark, who served on the Wyoming Game and Fish Commission, understands the importance of intact prairie and foothills, not only to mule deer and elk but also to sage grouse and songbirds. In early December, he received a letter from the Stock Growers Land Trust informing them that their easements were under review for purchase and could take about three years to finalize.

Developers and real estate agents are pressuring him to sell his land, Anselmi said, but he doesn't want to subdivide like some of his neighbors. He sold 75 acres years ago, and he worries that, without an easement, he or his children might someday sell the rest. Enough development, and the deer won't be able to move through at all anymore.

"So, what do you tell your grandkids? 'I remember the good old days,'" he said, sitting at a round kitchen table in the little cabin he built on his land. "That's terrible. They should be able to see this stuff."

Easements do help, but a map of the Red Desert migration corridor — arguably the most well-known and best protected in the West — shows dozens of parcels with no easements, some covering almost 5,000 acres. And while development has been prevented in some areas, such as a migration bottleneck near Fremont Lake, it hasn't stopped completely. In 2022, the Sublette County commissioners approved rezoning 299 acres into 51 lots in the middle of the corridor. Later that year,

it approved the construction of a 32,400-square-foot trauma therapy center, along with more than 130 parking spaces, on the edge of the corridor. One of the commissioners reminded the crowd during the vote that the corridor designation "does not apply" to private land, reported *Wyofile*, a nonprofit news site.

One development won't necessarily sever a migration route, said Kauffman. But it could; scientists can't predict exactly when a corridor will cease to function — when deer or pronghorn will no longer be able to squeeze through it or go around.

"Some days I look at it and think, 'Man, how are we ever going to stop this juggernaut of development?'" said Brandon Scurlock, a Wyoming Game and Fish wildlife supervisor in Pinedale. "But I still try to be optimistic. This herd is pretty resilient."

Conservation-minded developments show promise. Say a developer wants to subdivide 5,000 acres, and migration data shows that pronghorn or deer generally move through the east side of the property. With the cooperation of



A mule deer carcass on the shoulder of U.S. Highway 191 just shy of the South Rim of the Hoback Basin in November. This busy stretch of highway along the migration route sees a high number of wildlife-vehicle collisions.

the state, landowners and developers, houses could be concentrated on the west side, allowing migration to continue.

As Alexander drove his pickup along a highway through the deer migration route in October, he shook his head as he pointed out subdivisions on former ranchland. He gestured at a sagebrush- and grass-covered hill, where deer hooves had carved trails into the ground; a post where biologists installed a trail camera to monitor progress; the gates he leaves open during peak migration. Not nearly as many deer pass through these days, he said, and there are even fewer pronghorn.

But, he added, "it's hard to stand there and tell somebody who owns some ground what he can do with it."

IN LATE NOVEMBER, after the deer run the gantlet of private land in Sublette County, they reach the Red Desert, where they spend the winter munching old sagebrush tips and bitterbrush stems. Most of the Red Desert is managed by the Bureau of Land Management, which for the last dozen years (and across three presidential administrations) has been trying to update its plan for 3.6 million acres — an area roughly the size of Connecticut. The plan, which would be in effect for up to 20 years, includes the herd's entire winter range and could determine its fate.

President Joe Biden's appointees inherited the standard four alternatives: Status quo (don't change anything); development heavy (encourage more oil and gas drilling, renewable-energy projects and grazing); conservation heavy (protect more land from development, leave wide buffers for migration corridors, and limit

some grazing); and middle of the road (basically status quo, but with some tweaks).

In August, the agency announced its choice: the conservation-heavy alternative. Depending on who you asked, or listened to, the decision would either conserve and protect wildlife and open space (according to the Wyoming Wilderness Association) or kill jobs in a state that was already doing more to address wildlife migration than any other state (according to Gov. Gordon). Wyoming legislators called it misguided at best and illegal at worst; one even said, during a town hall broadcast, that it would affect more people than "the Civil War, Pearl Harbor and 9/11 combined." Public meetings with state BLM staffers, held across southwest Wyoming, overflowed with passionate opposition.

Federal land-management plans tend to be exhaustive processes, and the agency usually chooses the middle-of-the-road alternative, said Joy Bannon, executive director of the Wyoming Wildlife Federation. The BLM's surprising choice, combined with its release of an erroneous travel management plan that suggested it planned to close thousands of miles of roads, contributed to the uproar.

Even some conservation advocates questioned the decision, fearing the political repercussions. Joshua Coursey, founder, president and CEO of the Muley Fanatic Foundation, a deer conservation nonprofit, said the plan, if adopted as is, could discourage the state from mapping or protecting additional corridors. Some local groups that had been working with the BLM on the middle-of-the-road alternative felt undermined by the decision.

"If it is imposed, let's say, from the federal government,

you're going to have resistance, you're going to have a certain amount of 'like hell,'" Gov. Gordon told me in an interview. "Plus, I don't think the science is going to be as well understood or as well developed or as locally calibrated. I think it's really going to become much more of a political football."

Exactly why the BLM chose the conservation-heavy alternative is anyone's guess — and everyone has one. In an email, the BLM's national public-affairs office stated that the agency had considered many uses for the area, including energy and minerals development, renewables, livestock grazing, and cultural and wildlife resource protection.

"Preferred Alternative B balances these multiple uses by increasing special management areas, adding additional protections for sensitive wildlife habitat and cultural and natural resources, while allowing continued energy development," the office wrote. (A federal information request filed to better understand the decision-making process had not been filled by press time.)

Temple Stoellinger, a UW environment and natural resources law professor who has spent decades observing public-land policymaking, speculated that the BLM was thinking strategically. After four years of negotiations among state and local officials, industry representatives, the Trump administration and others, the plan's middle-of-the-road alternative contained fewer conservation measures than the status quo. Instead of going back to the state for yet more years of negotiations, the BLM's leadership may have chosen the conservation alternative with the expectation of compromising during the comment period and between the draft and

the final version.

Which may be what happens. The BLM extended the normal 60-day comment period, and Gordon asked UW to facilitate a working group composed of representatives from the oil and gas industry and the ranching, conservation, hunting and motorized recreation communities. When I asked the agency's public affairs office if BLM Director Tracy Stone-Manning was surprised by the harsh public reaction to the plan, the office forwarded a written response: "Our experience is that the more a public discussion goes into the details, science and intention of a proposed plan, the more the heated rhetoric dissipates and the better the final product will be."

The BLM will likely release an updated version of the preferred alternative this spring. Since a new presidential administration can only reverse federal decisions made in the previous six months, observers expect the agency to push to finalize the plan by June.

DEER 665 LEFT her summer range near Wilson, Wyoming, on Oct. 13, heading south into the mountains and across the busy lanes of Highway 89. She picked her way through a sprawling Jackson suburb and into a nearby mountain range before rejoining the rest of the herd to wander in and out of private lands, cross more than 100 fences, and navigate two more highways on the journey south.

The researchers who briefly captured her when she returned to the Red Desert found that she still had about 12% body fat, more than twice as much as some of her cousins who stayed closer to home. Tayler LaSharr, a post-doctoral researcher with the University of Wyoming's Monteith Shop, pointed to

squiggly lines on an ultrasound machine showing 665's insides. "At the very top, this is all fat, and this line here, the whiter one, is the bicep," she said. "This animal is in good shape."

Volunteers helped with the trapping, and Dominic Wolf, the mayor of nearby Superior, stopped by. Kauffman and other researchers explained the various tests and described the effects of last winter as well as their hopes for the spring. Communicating with the public isn't officially part of the research, but Kauffman sees it as critical to migration's survival.

For while the future of this route is uncertain, it is much better protected than places like Carter Mountain in northern Wyoming, where thousands of pronghorn dodge Yellowstone-bound traffic on Highway 120. Or the Wyoming Range, where more than half of the mule deer herd perished during last year's hard winter and a migration route designation is, according to Wyoming Game and Fish Director Nesvik, likely a couple of years away. Or northeast Wyoming, where antelope migrate back and forth to Montana through an unmapped maze of private land and energy development.

And Wyoming, despite its slow progress on state-level protections, is still ahead of most other Western states. A 2021 joint resolution by the Colorado Legislature called on the state to develop migration policies and requested more data collection and information on species connectivity. California is building the world's largest wildlife crossing over 10 lanes of traffic, while New Mexico's departments of transportation and game and fish have a wildlife corridors action plan.

Then there's Montana,

where officials have mapped migration routes but won't reveal them publicly. They're concerned that publicizing the routes could harm the state's relationships with landowners who do not want their land identified as part of a route, or make the wildlife easier targets for hunters or people gathering shed antlers.

"The public perception is, 'We can just fix this, let's just save the Red Desert-Hoback, and all we've got to do is build an overpass or have an easement or follow the Rock Springs Management Plan.' But there's no magic wand," Sawyer said. "There are so many things that have to happen ... that it's a never-ending task."

In March, after a three-year hiatus, the Wyoming Game and Fish Commission voted unanimously to proceed with the designation process on the famous Path of the Pronghorn, which passes through a sprawling gas field and lost almost 90% of its animals during the devastating winter of 2022-2023. The Northern Arapaho and Eastern Shoshone tribes are also working to conserve migration pathways on the Wind River Reservation, part of a long tradition of con-

servation that started when the tribes set aside almost 200,000 acres of land as a roadless area in the late 1930s, decades before the 1964 Wilderness Act. In 2023, the tribes rounded up 6,500 wild horses to improve habitat for species including migratory deer and elk. While tribal fish and game biologists collaborate with colleagues in state wildlife agencies, tribal governments have not formally participated in state-level corridor management. But Baldes said it's "about time" that broader efforts to protect migration corridors made progress.

Middleton, who has studied migrations around Yellowstone for more than a decade, sounded resolutely optimistic as he spoke about the USDA's Migratory Big Game Initiative and the value of sitting down at kitchen tables to talk through thorny issues. "I will get too depressed if I just decide it's 'us versus them,'" he said. Still, he added later, "sometimes you have sleepless nights."

We can't have endless energy development and unchecked subdivisions if we want to protect migratory herds, he said. Something has to give. In some areas, it will be development; in

The Trappers Point overpass, illuminated by early-morning vehicle traffic, was built in 2012 to help reduce wildlife-vehicle collisions along important mule deer and pronghorn migration routes west of Pinedale, Wyoming.

others, it will be wildlife.

Either way, it won't happen quietly. While there may be noisy resistance to policies like the new BLM plan, there's also passionate interest in migration, as demonstrated by the more than 24 million people who have watched a trail camera broadcasting one fence crossing, and by dedicated deer groupies like Julie Legg, with her camera and her online audience.

Standing in the living room of her home in Superior, Legg flipped through the TikTok videos on her smartphone. Heart emojis from her followers festooned the images of mule deer on the move. "I guess we could do without them," she said. "But I wouldn't want to." ❀

This story is part of High Country News' Conservation Beyond Boundaries project, which is supported by the BAND Foundation.



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MAD AGRICULTURE

ENCOUNTERS

An exploration of life and landscape during the climate crisis.



Youth are leading the way on climate action

Grownups are falling down on the job.

BY RUXANDRA GUIDI | COLLAGE BY AARON MARIN

IN 2006, a pint-sized 6-year-old with hair down to his waist stood in front of a crowd of around 300 people at a climate rally. He clutched the microphone stand as if it was about to run away from him and held a sheet of notes that he barely glanced at. Then, in his little voice, Xiuhtezcatl Martinez said something remarkable.

“Most kids don’t even know that the world is sacred,” he said. “That’s because they spend most of their time in front of their TV or in front of their videogame. It’s time for their parents to get them out of their house and show them that Mother Earth is a sacred thing.” In a video of the event, you can see the audience cheering and clapping. Martinez pauses, a smile taking shape on his face.

I would never have expected a 6-year-old to understand that the planet matters more than playing videogames. A 6-year-old shouldn’t have to care about climate change. Martinez, who identifies as Mexica, a descendant of the Aztecs, is now a 23-year-old artist and activist, and one of 21 plaintiffs in 2015’s *Juliana v. United States*, which was among the first lawsuits in the U.S. to use “Atmospheric Trust Litigation” to hold the government responsible for its actions — and inactions — related to climate change. The foundations for Atmospheric Trust Litigation were laid at the University of Oregon’s Environmental and Natural Resources Law Program, but the nonprofit law firm Our Children’s Trust was the first to employ it as a legal approach. That lawsuit was followed by a series of similar ones. Most of them come from the Western U.S. — Oregon, Montana, California, Alaska, Utah, Hawai’i — and involve young people of Black or Indigenous backgrounds who represent the communities most affected. *Juliana v. United States* argued that the U.S. government “willfully ignored” the dangers of burning fossil fuels, violating the plaintiffs’ constitutional rights to life, liberty and property and failing to protect public trust resources.

Youth-led movements aren’t a novel

phenomenon. According to Australian sociologist Judith Bessant’s *Making-Up People: Youth, Truth and Politics*, young people have been at the forefront of political movements since at least the 18th century. Many of the abolitionists who were active on the Underground Railroad were barely 20. In the 1960s, youth played a major role in the civil rights and anti-war movements. Julia Butterfly Hill was 23 when she prevented the logging of a 1,000-year-old redwood in California, and Greta Thunberg was just 15 when she launched her global strike for the climate, inspiring millions to do the same.

Some aging liberals have a knack for caricaturing young people as immature, impulsive and lacking good judgment; critics often slight their intelligence and their supposed disengagement from politics. Yet the imaginative and bold approach they’re taking today reminds the rest of us how much there is at stake. They’re exposing why their seniors’ tacit or overt excuse for disengagement — “we won’t be alive to see the ravages of the climate crisis anyway” — is beyond unacceptable.

Juliana v. United States has faced many delays and hurdles in the past almost-decade; at the end of February, the Department of Justice tried to stay and dismiss the case. On the other hand, last August’s *Held v. Montana* win expanded the possibilities for using Atmospheric Trust Litigation against the government by ruling that young people have a right to a healthy environment. Cases like this are moving slowly through the legal system, with some expected to end up in the Supreme Court.

Andrea Rodgers, a senior litigation attorney at Our Children’s Trust and co-counsel in *Juliana v. United States*, has said that the impacts of climate change represent a violation of human rights and children’s rights. The Fifth Amendment of the U.S. Constitution, which Rodgers uses in her arguments, establishes that “No person shall ... be deprived of life, liberty, or property, without due process of law.” Life itself — that most seminal right — is what’s at stake here.

It is painfully obvious if you read the headlines: 2023 was the hottest year on record. The associated charts are scary: The

red line showing the temperature increase starts at zero and holds steady throughout the 1850s, a decade when slavery was still legal and Westward expansion was already fomenting Indigenous genocide and displacement. But within just seven decades, that red line climbs in an ever-sharper curve to today, when it hovers around 1.5 degrees Celsius, or 2.7 degrees Fahrenheit. This is significant, because climate experts have long agreed that, if we want to prevent potentially irreversible impacts, we need to make sure that the world’s average temperature does not exceed that of preindustrial times by more than 1.5 degrees Celsius.

We can’t keep expecting young people to carry the torch for us. While powerful grownups and politicians endanger all of us by failing to make difficult but urgent policy decisions, young people across the West continue to make the case for radical change.

We should be long past proposing “greener” policies or waiting for local and state courts to take on these cases. So what would it look like if adults joined the fray? If we think beyond litigation and use our money and our deeds in the service of science-based climate political action, we can galvanize more people around us. We can shame our representatives — the way the young plaintiffs are doing — by representing them, and us, in the courtroom.

Back in 2006, 6-year-old Xiuhtezcatl Martinez said: “There are simple things you can do in your own homes, like not let the water run, or turn off the lights when you’re not using them. You could teach these things to your children. Every choice we make is for or against our future.”

That’s a profound realization for a 6-year-old. It’s also crushingly sad, because he was talking to *adults*, urging them to teach their own children the things he already understood. But not enough adults have taken up this task, and now, obviously, we are long past needing to watch our resource consumption at home. And yet his words remain inherently hopeful: They remind us just how easy it would be to own up to ourselves and commit to doing more, not just inside our homes, but in our neighborhoods and in our towns, with our wallets, and with our everyday actions. ☀

Collage features *Juliana v. United States* plaintiff Levi Draheim and other young climate protesters. Sources: Spencer Platt/Getty Images; Erik McGregor/LightRocket via Getty Images; Youthgov.org.

Flying free

A grandfather's artistry reveals the resilience of Japanese Americans incarcerated during World War II.

BY SUSAN SHAIN

PHOTO BY ROBERTO (BEAR) GUERRA

AS A CHILD, I'd creep down the basement stairs and watch him: hunched over a table, a single lamp lighting his work. First he'd carve a walnut-sized body out of wood. Then he'd take a tiny brush and paint the figure in bright reds and greens and blues, wrap embroidery thread around its spindly wire legs, and top the whole thing with a shiny lacquer. On the back, he'd add a clasp and sign his name in *katakana*.

The end result: a bird pin so delicate it could fit into the palm of my 8-year-old hand. My grandfather, whom I called *jichan*, made hundreds of these bird pins over the course of his retirement. I always thought they were unique to him. But in recent years, I've learned that he was part of something much larger.

It all began in February 1942, when President Franklin D. Roosevelt issued Executive Order 9066, which led to the expulsion and incarceration of roughly 122,000 Japanese Americans. Many were given just 48 hours to pack, forcing them to sell their houses, farms, businesses and possessions at rock-bottom prices — ultimately costing them more than an estimated \$12 billion in lost property and income, in today's dollars.

Carrying suitcases full of clothes and little else, most "evacuees" were sent to 10 War Relocation Authority camps in remote parts of Wyoming, California, Utah, Arizona, Colorado, Idaho and Arkansas. Others were brought to lesser-known camps throughout the country, including in Alaska, Montana, New Mexico and Hawai'i.

My *jichan* was sent from his home in

California to Poston, in the Arizona desert, the second-largest camp by population. At its peak, Poston held nearly 18,000 men, women and children of Japanese descent, including more than a dozen members of my family.

Since the camp barracks and grounds were nearly empty when they arrived, the incarcerated people spent their early days making their surroundings habitable: building furniture, carving clothes hangers, planting gardens, opening schools. They also took jobs, initially for no pay. Each camp eventually had a hospital, newspaper, mess hall, dry goods store and police and fire department, so many found ways to continue their careers as doctors, journalists, teachers or farmers. By the end of 1943, 85% of the vegetables eaten in the camps came from within them.

People sought out more leisurely distractions, too. "Stuck in that one-square-mile area, it was like, how do you entertain yourself, how do you keep your sanity?" said Delphine Hirasuna, the author of *The Art of Gaman*, a book about the arts and crafts of Japanese incarceration. In addition to forming sports leagues, they taught each other pursuits like flower arranging, doll making, sewing and quilting. "If somebody had a particular skill," Hirasuna said, "the other people who were stuck in camp would say, 'Could you teach me?'"

In Poston, Roy Takahashi, who'd been an art student prior to the war, offered a bird-carving class in September 1944. Within two weeks, the camp newspaper, the *Poston Chronicle*, declared that "bird carving seems to be one of the most popular pastimes now." Archival records suggest that Takahashi offered several more sessions to meet the demand.

One reason the bird pins were so popular, Hirasuna said, is they didn't require a lot of materials. Many of the people at camp had knives they'd fashioned out of scrap metal, and paint could be ordered fairly easily from a Sears catalog. For the birds' bodies, they salvaged scraps of wood from delivery crates; for the legs and feet, they used wire from window screens.

They created all manner of birds: My *jichan*'s repertoire included cranes, wood ducks, road runners, pheasants, eagles — even a toucan. They reportedly used an Audubon field guide for inspiration, as well as copies of *National Geographic*, which was "deluged" with orders for back issues, according to Allen

H. Eaton's 1952 book *Beauty Behind Barbed Wire*. And, though bird carving spread to many other camps, perhaps through letters and packages sent between them, Eaton wrote that Poston "outnumbered all others in the quantity and quality of carved and painted American birds."

Carol Takahashi (no relation to Roy Takahashi) said her grandparents took one of the bird-carving classes offered at Poston. For them, Takahashi said, the pins served as a form of currency: "I know my grandparents traded some of the early bird pins with other ladies for diapers and stuff like that."

Then, after the war, Takahashi's grandparents were unable to find work. "Nobody wanted to hire Japanese," she said. So they turned to the skill they had learned in camp, and made and sold bird pins for the next 40 years. Over time, they became the craft's most famous makers; their pins received write-ups in the media and permanent spots in several museums. "They made the best of what they could with the situation," Takahashi said, noting that the bird pins funded her grandparents' retirement and their four children's college educations.

Kristen Hayashi, the director of collections management and access at the Japanese American National Museum in Los Angeles, said the bird pins are "very iconic to the camp experience," and one of the most common donations the museum receives.

"Maybe we're imbuing a lot of meaning onto it, but it seems very poignant that a lot of these incarcerated were recreating birds," Hayashi said. "Just the symbolism of birds having the freedom to fly and kind of go wherever they want to — something they weren't able to do incarcerated behind barbed wire."

My *jichan* eventually moved back to California, where he worked at a newspaper printing press and as a grocery clerk, among other jobs. In retirement, he returned to making bird pins, which my aunts and I sold at markets on both coasts.

I know my *jichan*'s pins are still out there, as they occasionally pop up on Etsy or eBay, complete with his signature. I'm sure that many more, from many other former incarcerated, are hidden in basements or attics or jewelry boxes. When people hold these pins in their hands, I hope they see what I do: not a story of suffering, but a story of resilience — of finding beauty, even in the rawest places. 🌿



The author holds one of her grandfather's bird pins depicting a road runner.



PERSPECTIVE

A border need not be a wall

An immigration journalist on confronting laws and encountering humanity.

BY JOHN WASHINGTON

I LIKE BORDERS. Borders are places of connection, clash, and blend. They define cultures — languages, arts, cuisines, habits — by exhibiting, testing, mingling and breaking their distinctiveness and insularity. Borders are where humans trade in goods, ideas and beliefs. They are places of ingenuity, *mezcla*, neologism and entrepôt. Borders mark difference and possibility: As sites of beauty and definition, alloy and creation, they spark vibrant and unexpected harmony. “Something only is what it is,” as the philosopher G.

W. F. Hegel put it, “in its limit and through its limit.”

Infamously, however, regimes of crushing violence and dispiriting exploitation sully the creative and polyphonic potential of borders. As we deny, cast out and crack down, we have turned our thresholds into barricades.

Given the proliferation of such walling off of human beings, of human decency and of human potential, how do we respond?

A LOT OF PEOPLE living in the world’s borderlands experience

what scholars refer to as a *human rights encounter*. In such an encounter, you meet someone who has crossed the border despite being legally barred from doing so, in which moment you’re presented with a choice: You can help the person with water, shelter or a ride — but if you do so, you risk being arrested, prosecuted, and even imprisoned. Where I live, in Arizona within an hour of the U.S.-Mexico border, offering such help may constitute a class 1 misdemeanor (or a felony) carrying a fine of up to \$1,000 and possibly months in prison. Or: You can obey the law, do nothing, and take no risk. You decide. Not deciding isn’t an option.

Instead of *encounters*, it makes more sense to call these moments *confrontations*: humanity confronting law.

My first such confrontation (I’ve since had plenty of others) took place in the mid-2000s when I met with a young border crosser

in distress in Southern California. A friend and I were driving down an empty road in the Anza-Borrego desert, about 80 miles east of San Diego and 15 miles north of the border. The valley we were cutting through lies between the peninsular mountain range to the west, from which on clear days you could catch distant flashes of the Pacific, and the flat expanse of the Imperial Valley to the east. The desert is slowly undulating scrubland with shocks of gullied badlands and occasional palm oases. Our plan was to cook over a fire, drink some whiskey, sleep under the open sky. We were only a few miles from where we’d intended to camp — a primitive site close to a series of winding canyons — when we saw a figure standing by the road.

This was before I spoke Spanish, before I knew much about the border or migration, apart from my mother’s stories of her flight from Romania. I pulled to a stop. The figure — a

kid, seemingly in his late teens — stepped into the road.

He was wearing a thin black hooded jacket, heavily dusted jeans, and a broken-billed hat. There were pimples on his cheeks. He carried an empty gallon bottle. His eyes looked recently sparked back to life.

Across the language divide — *Agua*, he said, and, instead of miming drinking, gripped his neck, as if something there had gone wrong — he let us know he was pained and thirsty, that he'd walked a long time, and that he wanted a ride to the next town. My friend and I looked at each other, then back at the kid. We handed him some water, still not sure what to do. I tried to tell him that the next town was far, that there were Border Patrol agents around. We gave him a half bag of oranges and topped him off on water. I mumbled through an apology, wished him luck, and then we drove on.

Twenty minutes later, as we were hefting supplies out of the car, I stopped. What the hell had we been thinking? How could we have left him on the side of the road? We jumped in the car and sped back toward where we had seen him. He wasn't there. We drove back and forth, walked the shoulder, called out. There was no sign of him, no trace. We weren't even sure exactly where — in the stretches of bush and cactus, wash and hummock — we had first seen him.

That night we drank our whiskey, crawled into sleeping bags, and slept rough. As I woke up the next morning to dawn's brilliance, and a slight headache, I took a long pull from my water bottle before starting on the coffee. Where had that young man, that boy, slept? How much water did he have left? Had he finished the oranges? Had he walked all night through the thornbushes, hiding in arroyos,

risking his life and freedom walking the unlit road?

I committed a violent act that day — a violent act of omission. The Germans once used the term *Mauerkrankheit*, or "wall sickness." It is a violence, a sickness — the wall creeping into the head — that is one of the most dangerous developments in the world today, imperiling millions of people who are forced from their homes by war, economic despoilment, or climate crises, and then barred (both by law and by the everyday practice of people like me who refuse to act with decency and humanity) from finding homes elsewhere.

My actions that day in the Anza-Borrego were my fault. But to take responsibility for a wrong doesn't mean that you can't also point a finger at others, that you can't call out the system that trains and expects you to favor and protect those on the inside of the wall and to disfavor and neglect those outside of it.

Looking back at that experience in the Southern California desert, what strikes me is how ignorant I was. Not only was I ignorant of the border crosser's legal situation (and mine), how likely either of us were to be caught if I had given him a ride, or what the exact charges or penalties would have been. And not only was I ignorant of his situation — where he had come from (most likely Southern Mexico or Central America), the history of his homeland and the current reality and struggles there, or of my country's stance toward and history with his country: despoiling and destabilizing it, invading and exploiting its people. But I was also ignorant of his most elemental situation as a human. I was ignorant of, and empty of, empathy.

I didn't see his most basic and obvious plight: tired, hungry, thirsty, in danger. Instead of seeing

that and having compassion, I was scared. Scared for myself despite all my surrounding comforts: the food, water and whiskey packed in my trunk, my apartment waiting for me back in the city, and my ready ability to forget his struggle. I was ignorant of his most basic state even while I looked right at it. And that is a profound and deeply rooted ignorance.

But I know something now, in a way that feels like the deepest sense of knowing there is: I should have helped that kid.

That the force of the border could have blinded me to that glaringly obvious and simple truth reveals, in turn, something else: Its tentacles had me so tightly gripped that I couldn't see its power.

"Walls cut deep into us," writes political philosopher Wendy Brown, "into our psyche, our souls." And I know, too, that I don't want something so deep inside me that so profoundly alters — that so poisons — who I am and how I am toward other people.

In the ensuing decade and a half, I've started trying to fill in some of my gaps of ignorance (plenty of them persist), to cure myself of the wall sickness. After these years of listening and reporting on migration and borders (including crossing them frequently, for both research and leisure), this is what I have come to: People should be able to move and migrate where they need or want to.

It is the abandonment of people on the side of the road that we should prosecute (in whatever constructive way we can). We should fear not the act of crossing a line but the society that compels anyone to deny a desperate person basic aid, to leave them stranded on the side of a desert road.

But not everyone lives in

*We should fear
not the act of
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deny a desperate
person basic aid.*

A stroller that was left behind after a family was taken into custody last summer by the Border Patrol near Quitobaquito Springs, Arizona (facing). **John Kurc**

the Borderlands. Not everybody is forced into a human rights encounter, to choose between helping or not helping someone desperately thirsty, hungry and tired. And yet, we are all confronted.

As members of society on "this" side of the wall (even as many who physically live on "this" side are relegated to "that" side by paper walls, or by state marginalization and oppression), as taxpayers contributing to border agencies whose officers hunt down, whip, shackle, detain and deport people trying to cross those walls, we are all, somehow and in some way, daily confronted. Each one of us decides. ☀

This perspective is excerpted from The Case for Open Borders, copyright 2024, by John Washington, out now from Haymarket Books Inc. and used by permission. All rights reserved.

TOWNSHIP AND RANGE

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



Isn't it romantic

One way of enjoying nature does not invalidate the many other ways.

BY NINA MCCONIGLEY | ILLUSTRATION BY TARA ANAND

WHEN I WAS 20, my friends and I reenacted *The Lady of Shalott* on the Cherwell River in Oxford. We rented a punt, bought a loaf of crusty bread and a bottle of Buck's Fizz, made flower crowns and began a faltering cruise down the river, crashing into the banks and stopping at intervals to read the Tennyson poem aloud. "Willows whiten, aspens shiver. / The sunbeam showers break and quiver." The line about aspens thrilled me; I hadn't seen any since landing in England. I had been at Oxford for the year, and I missed my Wyoming home. I found all the green and the trees claustrophobic. I had never been any kind of athlete, but that year I took to running around the University Parks, as that was the only place I could feel some open space in that ancient, crowded city.

I was *that kind* of English major, the kind that read poetry and felt deeply. I memorized Shakespeare and recited the first lines of the *Canterbury Tales* with glee. The spring before I came to England, I read Wordsworth and Coleridge with the kind of reverence usually reserved for religion. I deemed the Romantics the best writers and loved their love of nature and rejection of industrialization. I felt these dead poets were the only ones who could see and name the sublime in the world. During my first week in Oxford, I was crushed to see a McDonald's within walking distance from the pub where J.R.R. Tolkien drank. I wanted to float down the Cherwell not because of old Victorian Tennyson, but because of *Anne of Green Gables*. Anne and her friends have a dramatic episode in which they float in a broken boat while reciting Tennyson. I thought it was the most thrilling thing I'd read — and the only way to float down a river. You had to do it romantically.

BUT FOR ALL my love of nature, I actually spent very little time *doing things* in nature. When people find out I'm from Wyoming, they always ask, "Do you ski?" *No*. "Climb?" *Nope*. "Mountain bike?" *Never*. I tell them that I like to sit and look at things. *Look* at the mountain, not climb it. When asked what kind of outdoorsperson I am, I answer: A poetic one. I just like to *be*.

Neither of my parents grew up in America. My mother grew up in India and my father in post-World War II Ireland. Even though I was raised in Wyoming, we didn't camp, bike or rock climb. My father fishes and

occasionally cross-country skied, but during my childhood, he was always in the oil and gas fields. He missed Christmases and birthdays. I learned that the depth and operation of an oil well could mean the difference between him being able to stay home or having to head to a man camp to work. Culturally, being outside was not our thing. My mother sent me off to Girl Scout camp with a jar of curry powder and told me to smell it if I missed home. I spent the nights in a borrowed sleeping bag, opening the tiny jar, inhaling spice. I held my compass in orienteering and tried to figure out how, and whether, it was possible to walk home.

I did end up on the cross-country ski team in high school. I was the worst person on the team, and to be honest, I only joined

*When people find out
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because I had a crush on a boy. I wore wool knickerbockers and bought used skis at a garage sale. After sitting in a classroom all day, I drove my creaky VW Rabbit up mountain roads to spend the hour before sunset gliding between lodgepole pines and crystalline snow. I was lucky to have a coach who didn't care that I was slow, who didn't mind that I would stop mid-race to look at the view. I coasted across the finish line after all the others with a dreamy look on my face, gushing about how skiing through the falling snow was like being inside a snow globe.

I was talking once with another person who was raised in Wyoming, someone who seemingly did every outdoor sport. He had even climbed Mount Everest. When I told him how I like to spend time outside, he said,

"But you can't really understand what being outside is like. You don't *do* anything."

I am not sure when being outdoorsy was equated with being sporty. When I was growing up, many outdoor ventures were just too expensive. And if it wasn't in your family's cultural DNA, how were you to learn? Some of the best outdoorsmen I have known are ranchers or friends who have hunted since they were small. They don't need any fancy paraphernalia to be able to experience nature more profoundly.

The truth is, a lot of brown people I know feel uncomfortable outside, as so many of those spaces are not welcoming for us. I remember trying to buy a jacket in high school, flipping through a catalog where everyone was tanned and golden and nobody looked like me. When I left for college, I went to buy a bicycle with my graduation money so I could ride to classes. I left the store empty-handed, intimidated because I didn't know what kind of performance I wanted, what weight or wheel size. The outdoors suddenly felt technical and beyond my grasp. I ended up buying a used bike from a friend. It just seemed easier.

I WANT MY DAUGHTER Juniper and her sister, Marigold, to be comfortable in nature. To be able to read the night sky and know the stories of Orion and Cassiopeia. I want them to know that they don't have to do a 20-mile hike with 4,000 feet of elevation gain to know nature. I want them to be competent outdoors, but to also know that they don't need a lot of equipment to enjoy it. They can just sit in our backyard in the grass, looking at the sky, and that alone has value.

Last summer, while I was under deadlines, I found myself handing my girls a tablet while I tried to work. Juniper, who can't yet read, sat with the iPad and, after I was done working, said to me, "I still have to work," and then she looked back down at her screen. I immediately scooped her up and took her outside. We caught crawdads and floated paper boats down the ditch in our backyard.

I have friends who float down the Grand Canyon in high-tech rafts: a far cry from my adventure on the Cherwell in my little wooden punt. But that's the great thing about nature. There is no right way. You can be poetic. You can scale Everest. It all feeds your soul. It all makes you feel sublime. ☀

NEVADA

Mammoths and camels and sloths, oh my! In January, the *Las Vegas Review-Journal* reported, after seven years, three governors, delays courtesy of COVID and supply chain issues, Ice Age Fossils State Park celebrated its grand opening. The new park's 315 acres, three miles of trails and interactive visitor's center will introduce visitors to the very different Las Vegas of thousands of years ago, long before 24-hour roulette tables and drive-thru wedding chapels. It was created to protect the 25,000-year-old fossils uncovered during the 1962-'63 "Big Dig" at Tule Springs, on the principle that "What is fossilized in Las Vegas should stay in Las Vegas."

Park administrators plan to facilitate research opportunities for students at the University of Nevada, Las Vegas, and host student field trips and guided hikes. Visitors will have a chance to learn about the good ol' days, when the region was marshland instead of desert, and mammoths, camelops (ancient camels), dire wolves and other amazing extinct species roamed all the future casino sites. No prehistoric Elvis impersonators have been discovered, but one can always hope.

WASHINGTON

Which came first, the rare Chilean flamingo or the egg? This is one timeless, egg-old debate that doesn't require a decision by the Alabama Supreme Court. Last August, during an Alaska Airlines flight, a resourceful flight attendant rescued six rare Chilean flamingo eggs when the incubator that was keeping them warm unexpectedly stopped working. The eggs were enroute from Zoo Atlanta to their new home in Seattle's Woodland Park Zoo. A flight attendant, who identified



Heard Around the West

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

BY TIFFANY MIDGE | ILLUSTRATION BY ARMANDO VEVE

herself only as Amber, told MyNorthwest.com: "A passenger rang the call button and asked if I would help keep some eggs warm." Acting quickly, she filled some rubber gloves with warm water and nestled them in with the eggs to keep them toasty. Other passengers lent their coats and scarves for added insulation. For the remainder of the five-hour flight, Amber and other crew members tended to the VIP passengers, periodically refilling the gloves with warm water. The eggs arrived safely, and a few months later, Amber and her baby granddaughter were invited to the Woodland Park Zoo for a meet-and-greet with the now-hatched chicks. One of the flamingos was

named "Sunny," after Amber's granddaughter; the rest of the brood are Magdalena, Amaya, Rosales, Bernardo and Gonzo.

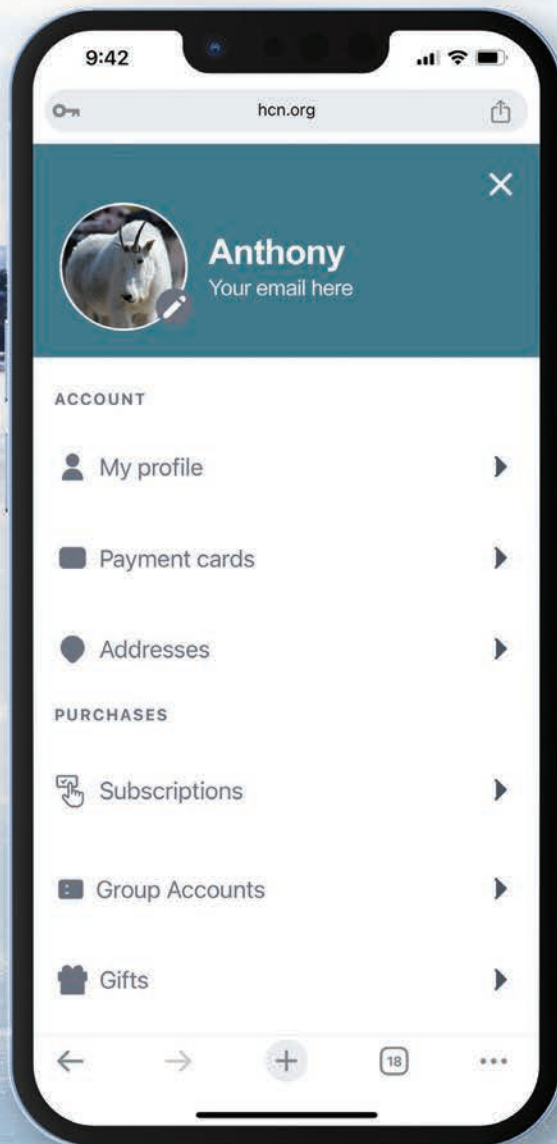
OREGON

Speaking of new arrivals, the Oregon Zoo proudly announced the birth of an eastern black rhinoceros last December, Oregonzoo.org reported. Both mama and baby are doing well, and for now, the wee rhino — named Tamu, which means "sweet" in Swahili — spends most of his time eating and sleeping and romping around like a cute little baby rhino. Chad Harmon, who supervises the rhino department, says rhino calves require a lot of feeding, noting they can

grow "about five pounds a day." Adult rhinos like Tamu's mom, Jozi, tip the scales at 2,400 pounds or more; Tamu, who was a petite 100 pounds at birth, already weighs over 250 pounds. All this is good news for the rare species: According to Kelly Gomez, who oversees the zoo's Africa area, the eastern black rhinoceros is critically endangered. Its cousin, the western subspecies of black rhino, was declared extinct in 2011, due to poaching and the illegal wildlife trade. "These rhinos represent a species that's among the most imperiled on the planet," Gomez said. "Hopefully, their story can help inspire a new chapter in their conservation."

Meanwhile, for those Oregonians who prefer their wildlife free range and native to North America, salemreporter.com reports that flocks of wild turkeys are roaming Salem. Harry Fuller, natural history author and member of the Salem Audubon Society, keeps tabs on the birds' whereabouts through the "Salem Turkey Tracker," a Facebook page that alerts the locals as to where the turkeys are running afowl. Fuller's column, "Some Fascinating Things About Birds," is published regularly in the *Salem Reporter*. According to him, the gobblers are not native to Oregon; like many other Westerners, they originally hail from the East and South Central U.S. The Oregon Department of Fish and Wildlife wanted to establish a thriving population for hunting, so some turkeys were introduced east of the Cascades in 1961, and, when that proved successful, more were released west of the mountains in 1975. But apparently at least some of the turkeys have decided they prefer roosting in town. For one thing, it's safer: As Fuller put it, it's "easier to dodge a truck than a shotgun." 🌻

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#IAM THE WEST

JACIMARIA BATISTA (SHE/HER)
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The sustainability of the Southwest's water and energy, and the difficulties we now face, rely on our diverse people and our students' education. Education can lead to better ideas, more sustainable practices with less waste, and help create systems compatible with the environment.

I am very hopeful for the future. The younger generation I am working with now, the students who graduated in the last two or three years, are more conscious and less selfish. They want to do something for other people, not just themselves. It's surprising how socially conscious they are. Students want a job they like that uses their knowledge, contributes to the community, and creates an impact that affects all of us.



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