

High Country News

A large herd of bison is gathered in a snowy, mountainous landscape. The bison are dark brown with thick, shaggy fur and curved horns. They are standing on a snow-covered ground, with some looking towards the camera. In the background, there are steep, snow-dusted mountains under a bright, overcast sky.

THE CREATURES
IN OUR MIDST

Vol. 56 / February 2024
No. 2 • hcn.org

How wildfire drives
species evolution

Reviving Puget
Sound's kelp beds

Geoengineering
antics on tribal land

HIGH COUNTRY NEWS

EXECUTIVE DIRECTOR/PUBLISHER

Greg Hanscom

EDITOR-IN-CHIEF Jennifer Sahn

ART DIRECTOR Cindy Wehling

EXECUTIVE EDITOR Gretchen King

FEATURES DIRECTOR McKenna Stayner

NEWS & INVESTIGATIONS EDITOR Kate Schimel

INDIGENOUS AFFAIRS EDITOR

Sunnie R. Clahchischiligi

SCIENCE & CLIMATE EDITOR Emily Benson

VISUALS EDITOR Roberto (Bear) Guerra

ASSOCIATE VISUALS EDITOR Luna Anna Archey

ASSOCIATE EDITOR Anna V. Smith

STAFF WRITER B. "Toastie" Oaster

COPY EDITOR Diane Sylvain

BOOKS & CULTURE EDITOR Melissa Chadburn

POETRY EDITOR Paisley Rekdal

CONTRIBUTING EDITORS

Nick Bowlin, Jane C. Hu, Michelle Nijhuis,
Jonathan Thompson, Raksha Vasudevan

CORRESPONDENTS

Ben Goldfarb, Ruxandra Guidi, Tiffany Midge,
Kylie Mohr, Leah Sottile

EDITORIAL FELLOWS Brooke Larsen, Natalia Mesa,
Susan Shain, Erin Wong

PROOFREADER Kate Wheeling

DIRECTOR OF PHILANTHROPY Alyssa Pinkerton

CHARITABLE GIFTS ADVISOR Bradon Schwarz

FUNDRAISING ASSOCIATE Eva Videla

FUNDRAISING COORDINATOR Carol Newman

DIRECTOR OF PRODUCT & MARKETING Gary Love

MARKETING COMMUNICATIONS MANAGER

Michael Schrantz

COMMUNITY OUTREACH MANAGER

Michael Leveton

GRAPHIC DESIGNER & SOCIAL MEDIA COORDINATOR

Marissa Garcia

DIRECTOR OF BUSINESS ADMIN. Erica Howard

FINANCE & PAYROLL ADMINISTRATOR Mary Zachman

HR ASSOCIATE Gina Gurreri

CUSTOMER SERVICE MANAGER Mark Nydell

ASSOCIATE PRODUCT MANAGER KHowe

CUSTOMER SERVICE

Barbara Harper, Jessica Kiernan, Tammy York

FOUNDER Tom Bell

BOARD OF DIRECTORS

Estee Rivera, president (Colo.), Samaria Jaffe, treasurer
(Calif.), Fátima Luna, secretary (Ariz.), John Belkin
(Colo.), Wendy Fisher (Utah), Dina Gilio-Whitaker
(Calif.), Andrea Otáñez (Wash.), Marla Painter (N.M.),
Bryan Pollard (Calif.), Raynelle Rino (Calif.),
Peter Schoenburg (N.M.), Jim Spencer (Ore.),
Rich Stolz (Wash.), Andy Wiessner (Colo.)

DIRECTOR EMERITUS Luis Torres (N.M.)



A visitor takes a photo of "Cruz," a mountain lion at the Arizona-Sonora Desert Museum that was rescued as a cub in California. **Roberto (Bear) Guerra**

Know the West.

High Country News is an independent, reader-supported nonprofit 501(c)(3) media organization that covers the important issues and stories that define the Western U.S. Our mission is to inform and inspire people to act on behalf of the West's diverse natural and human communities. High Country News (ISSN/0191/5657) publishes monthly, 12 issues per year, from 119 Grand Ave., Paonia, CO 81428. Periodicals, postage paid at Paonia, CO, and other post offices. POSTMASTER: Send address changes to High Country News, Box 1090, Paonia, CO 81428. All rights to publication of articles in this issue are reserved. See hcn.org for submission guidelines. Subscriptions to HCN are \$45 a year, \$47 for institutions: 800-905-1155, hcn.org. For editorial comments or questions, write High Country News, P.O. Box 1090, Paonia, CO 81428 or editor@hcn.org, or call 970-527-4898. For correspondence addressed to High Country News, HCN or to the editors, permission to publish will be considered implicit unless specifically stated otherwise.

Coexistence

THE OTHER NIGHT, a great-horned owl followed me down a canyon at dusk. I spotted it perched in a tree after hearing a call-and-response between it and one, maybe two, other owls. I observed it for a minute or so before it flew off, then I continued down trail. I soon reached the base of the tree where it had landed. Again, the owl alighted, and this time I could see its great big wings spread wide as it sailed off through the treetops, a visitation.

It's thrilling to encounter the other creatures in our midst, to have mutual acknowledgement of one another. At the trailhead, a sign that wasn't there a few weeks ago: A mountain lion has been observed in this area. I have never encountered a lion face-to-face, but I know that feeling of being watched by a predator. *Breathe deeply, stay calm, look BIG.*

I have no wish to disrupt the lives of the wildlife around me. An ethos of respectful coexistence is what I seek to practice. We are the interlopers here. "Despite our arrogant sense of superiority over nature," writes Ruxandra Guidi in "Room for all" (p. 44), "we are all absolutely dependent on each other." There is give and take. In Colorado, where wolves are being reintroduced, ranchers are compensated for attendant livestock losses. Residents of Nome, Alaska, are learning to live with introduced musk oxen. In Puget Sound, kelp beds are being restored because they are key to maintaining healthy fisheries. In Utah, the Northwestern Shoshone have bought back ancestral lands to restore culturally significant native plants that also provide food for wildlife.

You'll find these and other important stories in this issue of *High Country News*, because we believe that the rights of all creatures to sustenance, survival and a place to thrive need to be recognized and reinforced, both here in the West and beyond. And that, given all the conflicts taking place around the globe, human rights are in equal need of recognition and reinforcement. We believe in taking care of one another, in being on the side of the humane. We believe in a humanity that can exist alongside other peoples and species in this messy and glorious place we call home.

Jennifer Sahn, editor-in-chief

Hilary Beaumont is a freelance investigative journalist, covering climate change, Indigenous rights and immigration. @hilarybeaumont

Megan Gannon is a journalist and writer based in Nome, Alaska. She is a staff reporter for *The Nome Nugget*, a weekly newspaper covering Alaska's Bering Strait region.

Madhushree Ghosh is a San Diego-based memoirist and food writer and the award-winning author of *Khabaar: An Immigrant Journey of Food, Memory and Family*. Her 2023 TEDx talk highlights refugee farmers of San Diego. @writemadhushree

Ben Goldfarb is a *High Country News* correspondent and the author of *Crossings: How Road Ecology Is Shaping the Future of Our Plane* and *Eager: The Surprising, Secret Life of Beavers and Why They Matter*. @ben_a_goldfarb

Ruxandra Guidi is a correspondent for *High Country News*. She writes from Tucson, Arizona. Follow her on Instagram: @ruxguidi

Laureli Ivanoff is an Inupiaq writer and journalist based in Un̄alaq̄liq (Unalakleet), on the west coast of what's now called Alaska.

Brooke Larsen is the Virginia Spencer Davis Fellow for HCN, covering rural communities, agriculture and conservation. She reports from Salt Lake City, Utah. @JBrookeLarsen

Maya L. Kapoor writes about climate change, biodiversity and environmental justice. She is an engagement manager at Covering Climate Now. Previously, Maya was an associate editor at *High Country News*. mayalkapoor.com

Nia MacKnight is a photographer and educator based in Los Angeles. Her reporting centers on Indigenous ecologies, urban health and youth rights.

Jill McDonough is a three-time Pushcart Prize winner who teaches in UMass-Boston's MFA program. Her books include *Habeas Corpus*, *Where You Live*, *Reaper*, *Here All Night* and *American Treasure*.

Natalia Mesa is an editorial fellow for *High Country News* based in Seattle, Washington.

Tiffany Midge is a citizen of the Standing Rock Nation and the author of *Bury My Heart at Chuck E. Cheese's*. Midge resides in Idaho near the homeland of the Nimiipuu. @TiffanyMidge

Kylie Mohr is a correspondent who covers wildfire and conservation for *High Country News*. She writes from Montana. @thatsMohrlikeit

B. "Toastie" Oaster (Choctaw) is an award-winning Indigenous affairs journalist and a staff writer for *High Country News* who writes from the Pacific Northwest. @toastie@journa.host

J.D. Reeves is a graphic designer and member of the Cherokee Nation based in Tulsa, Oklahoma. He has over 15 years of experience creating thoughtful and memorable design solutions for brands and publications.

Susan Shain reports for *High Country News* through *The New York Times'* Headway Initiative, which is funded through grants from the Ford Foundation, the William and Flora Hewlett Foundation and the Stavros Niarchos Foundation (SNF), with Rockefeller Philanthropy Advisors serving as fiscal sponsor. All editorial decisions are made independently. She was a member of the 2022-'23 New York Times Fellowship class and reports from Montana. @susan_shain

Jonathan Thompson is a contributing editor for *High Country News*. @Land_Desk

ON THE COVER

A herd of musk oxen grazes in a saddle between two mountain peaks on Alaska's Noatak River, during a windstorm where the temperature with wind chill was minus 41 degrees Fahrenheit.

Kiliii Yuyan

Recess at Benton Lake School in rural Montana, one of roughly 50 active one-room schools in the state.
Rebecca Stumpf / HCN



FEATURE**Who's Protecting Badger Mountain? 28**

Washington state's solar permitting system leaves tribal cultural resources at the mercy of corporations.

BY B. "TOASTIE" OASTER | ILLUSTRATIONS BY J.D. REEVES

Learning to Live with Musk Oxen 34

Musk oxen were introduced to the Seward Peninsula decades ago, without local consent. Now they pose danger to life and property. BY MEGAN GANNON

REPORTAGE**Can coexistence be bought? 7**

When Colorado voted for wolf reintroduction, it also mandated compensation for ranchers. The hard part: figuring out the details.

BY BEN GOLDFARB | ILLUSTRATION BY MARTY TWO BULLS SR.

Rivers of opportunity 9

In Alaska and British Columbia, climate change could open new rivers to salmon — and to mining.

BY MAYA L. KAPOOR | ILLUSTRATION BY XULIN

Reviving the Samish Tribe's kelp 10

Researchers are documenting the decline of once-plentiful kelp beds in an effort to reverse the trend.

BY NATALIA MESA | PHOTOS BY DAVID MOSKOWITZ

Evolution in the Pyrocene 14

How animals adapt to fire, or don't, can determine the fate of generations to come.

BY KYLIE MOHR | ILLUSTRATION BY JILL PELTO

LandBack, WaterBack 16

The Northwestern Shoshone are restoring the Bear River Massacre site and returning water to the Great Salt Lake.

BY BROOKE LARSEN | PHOTO BY RUSSEL ALBERT DANIELS

Inside a one-room school 18

Montana's Benton Lake School has nine students, one teacher — and lots of fun.

BY SUSAN SHAIN | PHOTOS BY REBECCA STUMPF

What to make of Make Sunsets 20

'Move fast, break things' approach runs into issues of tribal authority.

BY HILARY BEAUMONT | PHOTO BY BALAZS GARDI

The state of the West's cannabis economy 22

A booming industry is reviving communities and suffering growing pangs.

FACTS & FIGURES BY JONATHAN THOMPSON

BOOKS, CULTURE & COMMENTARY**Still Dead 13**

POEM BY JILL MCDONOUGH

Room for all 44

Humans don't have to behave like an invasive species.

ESSAY BY RUXANDRA GUIDI

PHOTO BY ROBERTO (BEAR) GUERRA

A hybridness in life and food 46

Chef Preeti Mistry charts their own path.

PROFILE BY MADHUSHREE GHOSH

PHOTO BY TASH KIMMELL

Timm's first bear hunt 48

Can the gift of a harvested creature deepen a marriage?

THE SEASONS OF UNĀLAQĪQ

BY LAURELI IVANOFF

#iamthewest 52

Montserrat Hidalgo, co-founder of Youth Action Club South Gate, California.

BY NĪA MACKNIGHT

OTHER MATTER

EDITOR'S NOTE 3

LETTERS 6

HCN COMMUNITY 24

DEAR FRIENDS 27

HEARD AROUND THE WEST 50



Access to subscriber-only content:

hcn.org

hcn.org/56-02

Follow us @highcountrynews

LETTERS

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

A DASH OF HOPE

Just read your package about the “Smokehouse Collective” (January 2024), and I loved it. What a beautiful message, one that I needed. Too often I stop reading stories about the climate crisis, because honestly it breaks my heart. But this story offered something different — optimism, community, hope. Thank you. Great effort by Emily Sullivan and Joaquin Estus, and much appreciated.

Van Williams
Anchorage, Alaska

GUIDI IS A MASTER

Ruxandra Guidi’s writing is prize-winning journalism (along with Bear Guerra’s photos). I have read Guidi’s work in *High Country News* for as long as she’s written for you, but “Marsh Matters” (January 2024) is a masterpiece.

Bob Skaggs
Jackson, Wyoming

INHOSPITABLE RIVERS

Kori Suzuki’s article “California’s Central Valley chinook are getting lost on their way home”

(November 2023) is an excellent read and well researched. However, the emphasis on trucking misses the forest for the trees. The fundamental threat to salmon comes from federal and state water policies that have compromised the survival of salmon runs already deprived by dams of most of their ancestral spawning habitat.

The problem is that rivers have become inhospitable to salmon. Yes, trucking salmon leads to an increase in straying, i.e., “getting lost.” Salmon stray naturally, although the rate increases with trucking. But survival dramatically increases.

I would gladly see the trucking of hatchery salmon eliminated in exchange for healthy, productive natural habitat with adequate flows. Unless and until that happens, trucking keeps the population alive. In the meantime, we need to keep the salmon runs from disappearing altogether.

Marc Gorelnik
San Francisco, California

FACTS AND FIGURES FOR FEATURES

My favorite column each month is Jonathan Thompson’s “Facts and Figures,” but I’m often frustrated by the total inadequacy of the two-page format for important stories. A recent example was “Clean Energy Boom” (October 2023).

Since you introduced “Facts and Figures” a few years ago, I can’t recall any feature articles that could be considered quantitative or semi-technical; a two-page format is no substitute for feature articles. I searched through some old features for an example of what’s currently missing and found Thompson’s 10-year-old article, “Haywired” (5/27/13). This nine-page feature does a deep dive into the complexities of our electrical grid and the challenges of adapting to a warmer climate. Consider bringing back such feature articles, as this type of important information has relevance to the general public but is often found only in specialized publications.

Neil Snyder
Evergreen, Colorado

IDENTITY AND JOY

Growing up queer in the rural Black Hills of South Dakota, I often didn’t feel I belonged despite the natural queerness that existed all around me and surely had a hand in shaping me into the person I’ve become. Perspectives like those in Miles Griffis’ column, “Confetti Westerns,” are important for this reason. When a few playful gray jays follow me on hikes through the woods, I’m reminded of the joy that comes with my identity; when a cold and rainy spring gives way to the most wildflowers I’ve ever seen, I’m reminded of the perseverance to thrive by those who have been marginalized. I so appreciate *HCN* and Griffis for casting light on and

celebrating the queerness that exists in people and their natural environments.

Nathan Steele
Custer, South Dakota

HOUSING IS THE ANSWER

The article about a new park in North Denver and residents’ fears of displacement (“Green Acres,” December 2023) let the people with the most responsibility off the hook — those who block new construction in wealthier Denver neighborhoods.

If you build enough housing elsewhere in the region, young new residents will have no need to push into established communities like Globeville Elyria-Swansea.

Nobody should have to fear a project that makes their neighborhood a better place to live.

Nick Hagerty
Assistant professor of economics,
Montana State University
Bozeman, Montana

ENCOUNTERING ART

Sterling HolyWhiteMountain’s “We must go beyond it” (November 2023) is perceptive, personal and compelling. He reminds us that the power of art when first encountered depends on our previous experiences and current mindset, both influenced by former teachers, other mentors, even personal setbacks.

Whether it’s McCarthy’s *Blood Meridian* or any other finely crafted work, its initial impact is a “perfect storm” in time and place of the work itself and what we bring, knowingly or not, to the moment. Later reactions may evolve, but their roots in the first one remain.

John Whitmer
Bellingham, Washington

CORRECTION

In “Holly Hunters” (December 2023), we stated that David Stokes was a doctoral student at the University of Washington Bothell when it was the University of Washington. Stokes later taught at UW Bothell.



REPORTAGE

Can coexistence be bought?

When Colorado voted for wolf reintroduction, it also mandated compensation for ranchers. The hard part: figuring out the details.

BY BEN GOLDFARB | ILLUSTRATION BY MARTY TWO BULLS SR.

ON DEC. 18, DIGNITARIES watched as five wolves bounded from crates, loped across snow and brittle grass, and vanished into scraggly forest. Tranquilized with darts fired from helicopters in Oregon a day earlier, the quintet had been fitted with tracking collars, flown to Colorado and driven to a remote corner of Grand County, where they

became the first wolves released under the state's voter-led reintroduction program. In the following days, Colorado Parks and Wildlife freed another five wolves; over the next several years, it plans to release up to 40 more.

In theory, the canids are well-positioned to flourish: Colorado boasts 8.3 million acres

of public land and the West's largest elk herd. But the Centennial State is also home to more than 3 million head of cattle and sheep — a powerful temptation to wide-ranging carnivores.

Although livestock depredation is rare — wolves are responsible for around 1% of unwanted cattle deaths in other Rocky Mountain states — it can be costly to ranchers. In 2022, Montana shelled out nearly \$100,000, and Wyoming almost twice that, to compensate ranchers for wolf-killed livestock.

Proposition 114, the 2020 Colorado ballot initiative mandating wolf reintroduction, required the state to “pay fair compensation” for “any losses of livestock caused by gray wolves.” But it said nothing about the circumstances under which ranchers would be paid, how much they'd get, or what constituted “fair.” The program the state eventually devised is perhaps the country's most comprehensive. It is also an experiment — and the fate of the state's new wolves may depend on its success.

AFTER PROPOSITION 114 PASSED, the state of Colorado convened a 17-person panel known as the Stakeholder Advisory Group, which included ranchers, outfitters, Southern Ute tribal biologists and conservationists. For around 18 months, they debated every aspect of reintroduction, from the pace of releases to wolf-handling techniques. Yet no topic dominated the deliberations like compensation — the “most contentious” among the issues discussed, according to Pitkin County Commissioner Francie Jacober, an advisory group member and a pro-wolf rancher. Proposition 114 required compensation for losses, but which losses? For every slain cow or sheep that inspectors can definitively blame on wolves, others may be dragged off, never to be found. And counting fatalities omits less tangible costs, such as cows' failure to gain weight when they're harried by predators.

Western states have varied approaches to handling these subtler harms. While Oregon and California pay straight market value for dead livestock, Washington coughs up double on large ranches and allotments where carcasses are harder to find. Most munificent is Wyoming, which in some cases pays seven-fold for dead stock, a multiplier known as the

“compensation ratio.”

In Colorado, most of the advisory group’s members ultimately supported a generous ratio. They proposed that Colorado ranchers be paid for up to seven missing calves or sheep for every confirmed kill — provided they’ve also attempted to deter predators with “conflict minimization” measures like guard dogs and range riders. Producers who *don’t* employ such techniques are eligible for a five-to-one payment. (Ranchers who scrupulously document weight losses and other wolf-related costs can also skip the ratios and submit itemized losses instead.) If you deploy wolf repellents but lose livestock anyway, in other words, you’re eligible for more money than your neighbor who doesn’t.

When Colorado Parks and Wildlife incorporated the group’s suggestions, it made some tweaks: The group proposed paying up to \$5,000 per dead animal, for instance,

but the agency bumped the cap to \$15,000. It preserved the dual ratio system, though — an incentive for conflict minimization that “is a comprehensive and fair approach,” according to Brian Kurzel, Rocky Mountain regional executive director for the National Wildlife Federation and an advisory group member. “That’s something that’s going to set Colorado apart.”

WHY COMPENSATE RANCHERS at all? One reason, scientists suggest, is equity: Predators are a state-owned resource that benefits the public, but the costs fall largely on livestock producers. Another theory is that if a rancher knows he’ll be covered for losses, he’ll be less likely to grab a rifle when wolves appear. (Because the U.S. Fish and Wildlife Service considers Colorado’s wolves “a non-essential experimental population” under the Endangered Species Act, landowners can kill wolves that are caught attacking livestock.) Compensation, by this rationale, benefits carnivores themselves.

All this sounds intuitive, but there’s not much evidence for it. In Wisconsin, surveys showed that ranchers who were compensated had no kinder feelings toward wolves. A 2018 *High Country News* investigation found that paying more for dead cows didn’t make Oregon kill fewer wolves at ranchers’ behest. According to Hallie Mahowald, chief programs officer at the Western Landowners Alliance and an advisory group member, the concept of “buying tolerance” offends some ranchers, insofar as it ignores their emotional attachment to their livestock. “There are psychological impacts to these losses,” Mahowald said. “It’s not just economics.”

Indeed, despite a compensation plan that Lenny Klingsmith, a Meeker-based rancher and an advisory group member, calls the “best in the nation,” wolves remain *Lupus non grata* to many Coloradans. “Most of my colleagues are extremely anxious and, frankly, still pretty bitter,” said Klingsmith. In mid-December, two cattle groups sued to stop the releases — a request that a judge denied, in part because the compensation program, funded by Colorado’s Legislature at \$350,000 per year, shielded ranchers from “irreparable harm.” But Andy Spann, president of the Gunnison County Stockgrowers’ Association, noted that conventional compensation doesn’t cover the labor costs

of conflict prevention. “If I have someone out there in the middle of the night keeping the wolves away in calving season, that’s a cost imposed on me,” he said.

If ranchers aren’t satisfied, neither are some conservationists. According to Matt Barnes, a rangeland scientist and an advisory group member, traditional compensation “rewards the outcome nobody wants.” Better, perhaps, to incentivize a desirable result — the *absence* of conflict — through “pay for presence” programs, which reward ranchers for hosting predators on their land. In Mexico, conservation groups pay ranchers for camera-trap photos of jaguars, cougars and other felines, thus allaying ranchers’ desire to kill them. In 2014, pay-for-presence received a trial run in the Southwest, where the Mexican Wolf/Livestock Coexistence Council launched a program that, in addition to paying ranchers ex-post compensation, disbursed funds through a formula that included factors such as pup survival and the number of wolves on an allotment. Barnes established a subcommittee to evaluate similar approaches in Colorado, but the concept never gained traction among the group’s ranchers; Klingsmith said it seemed difficult to implement and potentially unfair to producers who suffered disproportionate losses. “I think it was just too out-of-the-box” for some members, Barnes said.

Even so, the perspective shift that pay-for-presence seeks — from after-the-fact depredation payments to proactive conflict reduction — is, to some extent, already happening. Colorado Parks and Wildlife is making noise cannons and other wolf deterrents available to ranchers near release sites; the Rocky Mountain Wolf Project has created a license plate that funds conflict mitigation; and Colorado State University’s Center for Human-Carnivore Coexistence is soliciting donations for range riders, guard dogs and other preventive measures. And in Colorado’s North Park, now home to wolves that migrated from Wyoming on their own, some ranchers are collaborating with Working Circle, a nonprofit that works with ranchers to reduce their herds’ vulnerability. “You’re never going to eliminate conflict, but you can minimize it,” said Karin Vardaman, Working Circle’s co-founder. The most important test of a compensation program, in the end, is how little a state has to use it. ✨



“There are psychological impacts to these losses. It’s not just economics.”

Rivers of opportunity

In Alaska and British Columbia, climate change could open new rivers to salmon — and to mining.

BY MAYA L. KAPOOR
ILLUSTRATION BY XULIN



AS HUMAN-CAUSED climate change points a giant hair dryer at Western North America’s glaciers, melting them ever more rapidly, potential Pacific salmon habitat is opening up. New river systems are starting to flow, and rain and snowmelt will keep many running even after the ice disappears. In some, salmon are appearing for the first time.

But mining companies are homing in, too. According to peer-reviewed research published in *Science* last November, there’s substantial overlap between potential future salmon habitat and new mining claims in Southeast Alaska and in western British Columbia, where many Pacific salmon spawn. But there is hope: The establishment of Indigenous protected areas in British Columbia could protect at least some of these new waterways, and their fish, for future generations.

“The science is very clear,” said Naxginkw Tara Marsden (Gitanyow Huwilp), who co-authored the study. Marsden is the Wilp Sustainability director for the Gitanyow Hereditary Chiefs, whose unceded traditional territory lies in what today is British Columbia. “There are both risks and potential short-term benefits with salmon finding new habitats and

adapting, and we need to do what we can to ensure that those areas are protected.”

In North America, Pacific salmon include five species that migrate to the ocean, then return to their natal rivers to spawn. But a small percentage of “stray” salmon visit different rivers. Because Pacific salmon have evolved in incredibly dynamic river systems, straying may be an adaptation that keeps populations resilient, explained Jonathan Moore, the article’s lead author and head of the Salmon Watersheds Lab at Simon Fraser University.

Without human-caused climate change, the region’s glaciers would still be shrinking. They have been since the last ice age, but now they’re melting much more quickly because of human activity. By the end of the century, 80% of the region’s glaciers may be gone. And mining laws in Alaska and British Columbia do not adequately protect future habitats.

“As these newborn ecosystems are encountering the Earth, society is faced with this decision,” Moore said. “Are we going to protect them for salmon? Or are we going to dig them up for gold?”

Gold companies in particular are staking claims in a gold rush. It’s relatively easy and

inexpensive to stake claims, even underneath glaciers that haven’t melted yet. Mine tailings could pollute potential salmon habitat hundreds of miles downstream, possibly for thousands of years.

Researchers don’t know how quickly new salmon habitat will emerge on landscapes exposed by thawing, and mining may not immediately threaten salmon in some locations, cautioned Daniel Schindler, a watershed ecologist at the University of Washington who researches salmon ecosystems in western Alaska. Schindler, who was Moore’s doctoral research advisor, said that salmon have appeared already in emerging rivers close to the coast, where riverbeds are less steep and more stable. But farther inland, steeper, more turbulent rivers with tumbling gravel beds may not develop into suitable spawning habitat for thousands of years.

Still, the overarching idea that conservation and management strategies need to keep up with climate change and protect future Pacific salmon habitat is “bang on,” Schindler said. “Conservation tends to grasp desperately at what we have now. And that may be a losing cause.”

For now, a ray of hope may be Indigenous protected areas. The Gitanyow Hereditary Chiefs

established the Wilp Wii Litsxw Meziadin Indigenous Protected Area in 2021, just a short drive from the Alaska border, after noticing more salmon in the area associated with glacial retreat. Meziadin will protect emerging salmon habitat from mining, while allowing other uses. The British Columbia government has not yet recognized the protected area, however, and is still selling mineral tenures in the watershed.

“Where colonial governments are failing, and where they are not acting quickly to ensure that those areas are protected in the face of mining, Indigenous people (in British Columbia) are picking up the slack and trying to use their own laws to protect those important areas,” Marsden said.

A broader solution could emerge: A court ruled last September that British Columbia must reform its Mineral Tenure Act to include First Nations consultations, which could help protect future salmon habitat. As of publication, the province has yet to act.

“If we allow nature to take its course, the salmon will continue to thrive,” Marsden said. ☀

“On the move” is a column covering how the climate crisis is shifting life in the West.



REPORTAGE

Reviving the Samish Tribe's kelp

Researchers are documenting the decline of once-plentiful kelp beds in an effort to reverse the trend.

BY NATALIA MESA
PHOTOS BY DAVID MOSKOWITZ

TOBY MCLEOD grew up on a fishing boat. Before he could walk, he said, he swears he remembers dozing off in bed and waking up among fishing gear, his father having carried him aboard in the early morning darkness.

McLeod's father and grandfather were both tribal fishermen; his father started at

the age of 11, in 1957. On fishing trips, he and his dad would take their boat up to Cattle Point, a lookout on the southeastern tip of San Juan Island, the second-largest island in the San Juan Archipelago in Washington's Puget Sound. There, in the heart of Samish traditional territory, grassy dunes rose from the calm sea water, ringed

with jagged glacier-carved rocks. Just offshore, thick kelp stalks reached up from under the surface, connected to bulb-shaped heads and slick, hairlike fronds that swayed in the current, like kite tails.

"As a tribal fisherman, the existence of kelp has always been important. It's where you go fishing," McLeod said. His

father would tell him stories about elders parking canoes on huge floating kelp islands, above a wealth of forage fish.

Puget Sound boasts 17 species of kelp, but despite its historical ubiquity — McLeod said that kelp and eelgrass used to be almost annoyingly plentiful — kelp beds are becoming increasingly rare. Across the



Bull kelp in the Salish Sea off of the south coast of Lopez Island, Washington.

“As a tribal fisherman, the existence of kelp has always been important. It’s where you go fishing.”

it. The Samish Department of Natural Resources wants to understand why kelp is disappearing in parts of the San Juan Islands, hoping to bring it back. “Trying to understand what’s going on is the first step in the process,” McLeod said.

ON A LATE October day, a Samish Department of Natural Resources boat streaked across the cobalt-blue waters of Puget Sound, kicking up briny seawater. On a narrow channel between Lopez Island and a small grassy islet, bull kelp peered over the ocean surface, their spherical, golden heads bobbing in the boat’s wake.

Perched on the edge of the boat in a dry suit and hot pink flippers, Jennie De La Cruz, a technician and dive lead at the Samish Department of Natural Resources, waited for the current to settle. The engines quieted as the boat came to a standstill atop a kelp bed a few hundred feet from the exposed volcanic bedrock of Watmough Head, a lookout on the southeastern tip of Lopez. Compared to elsewhere in the Sound, the kelp in this bed appeared healthy.

As they prepared to enter the frigid waters, De La Cruz and fellow researcher Charlie Donahue donned masks and checked their air hoses and regulators. Their goal was to anchor

a sensor to the sea floor, where bull kelp clung to the rocky bed. The sensor, a rusty tube as thick as a forearm, would measure the water’s pH and temperature; in a month, De La Cruz and Donahue would retrieve it and download its data. The Samish Department of Natural Resources also does Reef Check surveys, employing the nonprofit Reef Check Foundation’s standard protocol to monitor kelp beds. Citizen divers across the world conduct these surveys documenting the extent and density of reefs and kelp beds, as well as the sediment, fish and invertebrates.

De La Cruz called the time: 2:45. Splash time. “Pool’s open,” she said. “Dive, dive, dive.” She and Donahue rolled backward off the side of the boat into the water.

The sensor is one of six the Samish Department of Natural Resources maintains in Puget Sound in locations like this, both in places with robust kelp beds, as well as in areas where it’s no longer thriving. Kelp’s importance in the ecosystem is hard to overstate. A recent study in *Aquatic Conservation* confirmed that endangered and threatened species like young salmon depend on kelp, while rockfish, sea stars, urchins and shellfish rely on it for shelter.

Kelp is a staple of Samish cuisine and culture. Traditionally, it has been used in medicines, and

South and Central Sound, bull kelp populations have decreased by two-thirds since the 1870s, according to a 2021 study published in *PLOS ONE*.

McLeod wants to know why. After working as a crab fisherman as a teenager, he studied oceanography at the University of Washington, then became a technician at the Samish Department

of Natural Resources. Early in his tenure, kelp became a source of concern for the tribe. Samish elders reported difficulties finding fronds, which are traditionally used to envelop salmon before cooking. The department started documenting the places where kelp once flourished, and eventually, McLeod helped assemble a dive team to study



its hollow, gas-filled bulbs have been used to hold eulachon, or candlefish, oil, which was burned for heating and light, and also have been used to make rattles for children. The Samish tell the story of the Maiden of Deception Pass, who married a man of the sea to ensure that her people retained access to the seafood bounty of Puget Sound. Her hair, the kelp, trails the water as she watches over her people.

their elders. In 2017, McLeod handed his father and uncle a map and asked them to trace the places where they'd seen bull kelp thrive in the past. The team merged McLeod's map with aerial imagery and concluded that bull kelp had declined by about 36% overall across Samish traditional territory from 2006 to 2016.

HISTORICAL DATA on kelp in Puget Sound is scant, explained Helen Berry, a coastal ecologist with the Washington Department of Natural Resources, and that makes conservation decisions difficult. "To understand our environment, we need to be able to move our baseline back in time and to be able to talk about what's happened in the last century," she said.

Some places saw no decline, or even an increase, however, while others saw a 70% to 80% loss, said Todd Woodard, the tribe's infrastructure and resources executive director. The Samish Department of Natural Resources team is still analyzing the data collected in 2022, hoping to understand whether rising temperatures and changing pH levels can help explain why some kelp beds are shrinking.

So, the Samish turned to

Rising temperatures are thought to be one of the biggest stressors. Puget Sound is



Jennie De La Cruz and Charlie Donahue prepare to make a dive during an October trip to replace a data collection sensor in the water (top).

De La Cruz and Donahue in the water during their dive to replace the data logger (above).

De La Cruz holds a data logger that monitors the pH level of the water and collects temperature data (right).

Charlie Donahue looks out at the Salish Sea during an October bull kelp research outing (far right).



warming rapidly, and recent research suggests that kelp are unlikely to grow or survive when temperatures consistently reach about 60 degrees Fahrenheit, as some sites already have.

The department has added its data to the Kelp Vital Signs Indicator, a state-run tool that officials use to monitor the extent and health of kelp beds and to make conservation decisions, including whether and where to designate marine protected areas.

IN THEORY, kelp could recover quickly, given the right conditions. The Samish Department of Natural Resources is partnering with an environmental nonprofit called Puget Sound Restoration Fund, which has successfully planted kelp on long lines of string anchored to the ocean floor. In partnership with the Suquamish Tribe,

Puget Sound Restoration Fund started replanting kelp in 2018 at Doe-Kag-Wats, an estuary in central Puget Sound where the now-vanished seaweed once grew in thick rafts, and, in 2020, kelp reached the surface for the first time in almost three decades. More recently, the group has had tentative success in the South Sound. In 2022, researchers found that a kelp bed near Squaxin Island had declined by 97% over the previous 10 years. The Squaxin Island Tribe worked with Puget Sound Restoration Fund to attempt restoring it in March 2023, and that summer, the kelp on their lines sprang to life. But whether this technique can reseed kelp beds on the ocean floor remains unknown.

For now, the Samish Department of Natural Resources is still working to understand where and why kelp are disappearing. Later, it can decide where to focus restoration efforts. The department hopes to start a pilot restoration in the San Juan Islands within the next few years, and the temperature data may help. If sites are consistently reaching temperatures above 60 degrees, kelp might have to be planted elsewhere. But there are many other factors involved in choosing a site, including water quality and the invasive seaweed sargassum, which competes with kelp for light and nutrients.

To McLeod, the Samish Department of Natural Resources' kelp work is part of its larger mission to preserve, enhance and protect the natural environment in traditional Samish territory. "The big picture idea is we're trying to create a positive impact in our community," McLeod said. But there's still a lot to learn. "The only thing we can do is take things one step at a time." ✨



POEM

Still Dead

By Jill McDonough

Billy is still dead and we shake our heads over it all the time, text his daughters, call his dad, his friends. The stupid, unforced error of a suicide, this *huge* mistake, this one thing you can't take back. *Sad friend, you cannot change*, Elizabeth Bishop said to Lowell. Or about him, since he was dead. These days my heart rises, races, so tender I'm feral, eyes quick to brim with tears. I used to be embarrassed but now I love the feelings. The *Change!* Hilarious, manic, such a human thing. Not-so-fresh sense of wonder. *You are a thirteen-year-old with the experience and daily life of a forty-five-year-old*, Mary Ruefle says. *You have on some days the desire to fuck a tree, or a dog, whichever is closest*. I want to fuck the tulips I planted, eat them, buy a house with a fireplace and a huge bathtub in the middle of nowhere, throw my phone away and drive to Naples, Florida, eat grouper sandwiches, drink gin. Billy's daughter Rose is thirteen for real and I get it all so hard, want to get her anything she wants. I tell her she is adorable and she says *More like fearsome and brooooooding* and I text back *YESSSSS* and *THAT'S MY GIRL*. Pearl is ten, calls me *Jilly of Darkness, Jill of Destruction*. *GOOD NIGHT SHE WHO IS JILLY* she texts. Billy called me Jilly, bellowed *Jilleh!* all the time; the girls kind of thought it was my name. *Your dad was the only person who called me that*, I told them that first week, when I was just making chicken soup for everyone, buying the stuff to make slime. *But we call you Jilly, Jilly*, Rose said. And I said, *That's right. You do.*

WEB EXTRA Listen to Jill McDonough read her poem at hcn.org/still-dead

Evolution in the Pyrocene

How animals adapt to fire, or don't, can determine the fate of generations to come.

BY KYLIE MOHR
ILLUSTRATIONS BY JILL PELTO

INCREASINGLY FREQUENT and intense fires are shaping how species change, according to a paper published last year in the journal *Trends in Ecology & Evolution*. While previous research tended to focus on a blaze's immediate impacts — *Did population numbers go up or down?* — scientists are starting to consider a longer timeline, said study co-author Gavin Jones, a Forest Service research ecologist at the Rocky Mountain Research Station.

Fire kills some animals but helps others survive, thereby determining which animal's genes are passed on to future generations. The process of some individuals surviving better than others is natural selection, the driver of evolution. Sometimes, the survivors have traits that allow them to not only live through a fire but actually thrive in the burned ecosystem and later reproduce successfully.

Fire can also act as a connector, creating habitat that encourages members of a species to mingle over a larger range. Conversely, it can sometimes split populations into smaller, more isolated groups. That may result in inbreeding and eventual extinction — or the need for human intervention to keep an isolated population alive.

Can wildlife adapt to a fiery future quickly enough to thrive? Species with large populations and short generations, like insects, tend to evolve faster than those with longer generations, which might have a harder time. "A lot of species are not going to be able to adapt," Jones said, and will likely go extinct. "But we're not at a total loss. Some species will be able to adapt."

Animals with fire-adapted traits have already been identified throughout the West. Here are five examples of what Jones calls "evolution in action." ✨



Black fire beetle

Black fire beetles love fire. In fact, they chase it — seeking out newly burned stumps to lay their eggs. Fires also drive off predators that might eat the beetles' eggs before they hatch. So the bugs have developed sensory pit organs on their sides, tucked behind their legs, that can sense heat, letting them know where active blazes or smoldering, charred areas are, even from dozens of miles away. Highly sensitive infrared receptors within these organs contain small pockets of water that expand when they detect heat, which triggers the beetle to follow the heat to its source.



Black-backed woodpecker

Black-backed woodpeckers nest in charred snags and standing dead trees, where their plumage blends in with their sooty surroundings. But research on juveniles' survival rates found that the closer nests are to unburned forest — where there's more protective tree cover — the more likely they will survive to adulthood and pass on their genes. Offspring hatched in the middle of severely burned forests likely won't survive, which selects for the genes of birds who nest closer to undisturbed forest. Additional research found that the woodpeckers flock to burned areas three to five years post-fire looking for beetles, which allows different populations to mix and share genes if they mate.



Western fence lizards

If an animal's skin, scales or feathers match the surface it's on, it's camouflaged from potential predators and therefore more likely to survive and procreate. Mismatches can be deadly. Western fence lizards, common reptiles that live throughout the West, have sky-blue bellies and backs that range from black to gray to brown. In Southern California, they perch on the blackened stalks of burned shrubs for several years after fires and avoid white surfaces that don't match their scales. Over time, this behavior can boost the number of darker-colored lizards.



Spotted owl

Spotted owls need lush old-growth forests to survive. But even after a big fire, not all the birds will die or relocate. GPS tracking found that spotted owls actually like to hunt in severely burned patches of forest — particularly patches that are relatively small, between about 2.5 and 25 acres, and still surrounded by intact green trees for nesting. The ideal size of a burned area corresponds with the patches created by historically high-severity fires in the Sierra Nevada, suggesting that, over centuries, spotted owls have adapted their behavior to their habitat's wildfire patterns.



Boisduval's blue butterfly

Lupine wildflowers, a popular food choice for the larvae of butterflies and other pollinators, flourish after wildfires. In California's Yosemite National Park, wildfires have encouraged isolated populations of Boisduval's blue butterflies to interact, boosting their genetic diversity and the species' overall health and resiliency. The butterfly, a silvery blue-winged species with 25 recognized subspecies (including one listed as federally endangered and another as federally threatened), isn't the only animal that benefits from the vegetative bursts that often occur post-fire: Many invertebrates rely on the new growth that emerges after a blaze. Prescribed burns can stimulate the same effect.



REPORTAGE

LandBack, WaterBack

The Northwestern Shoshone are restoring the Bear River Massacre site and returning water to the Great Salt Lake.

BY BROOKE LARSEN
PHOTO BY RUSSEL ALBERT DANIELS

ON A CRISP and sunny November morning, the Northwestern Band of the Shoshone Nation welcomed nearly 400 people onto their land to plant 8,500 trees and shrubs. Steam rose from the

Bear River's hot springs. As volunteers arrived, the tribe's conservation partners unloaded black plastic trays filled with cuttings of willow, cottonwood, chokecherry and more. Brad Parry, the tribe's vice chairman,

stood in a pickup truck bed and greeted tribal members, environmental activists, college students and church groups. "This is the Bear River Massacre site," he said, "what we call Wuda Ogwa, or Bear River."

Here, on Jan. 29, 1863, the U.S. Army murdered an estimated 400 Shoshone people, decimating the Northwestern Band in one of the deadliest massacres of Native people in U.S. history. Afterward, Mormon settlers dispossessed the Shoshone of their land throughout the Intermountain West. Some surviving Northwestern Shoshone went north to the Fort Hall Indian Reservation or east to the Wind River Reservation, but many stayed, joined the Church of Jesus Christ of Latter-day Saints and moved onto land

the church claimed in northern Utah. The tribe wasn't federally recognized until 1987, and it still lacks reservation land.

The settlers diverted water from the Bear River — the Great Salt Lake's largest tributary — for water-intensive agriculture and livestock. "That was one of the starts of the problem for the Great Salt Lake," Parry told *High Country News*. Today, as climate change-induced drought exacerbates the effect of over a century of unsustainable water use, the lake verges on ecological collapse.

In 2018, the tribe purchased roughly 350 acres of its ancestral land at the massacre site, making it the largest area owned by the Northwestern Shoshone. Now, the tribe is restoring the area, estimating

Volunteers plant native vegetation along the banks of Battle Creek at the Bear River Massacre site in Preston, Idaho.

that it can return 13,000 acre-feet of water to the Great Salt Lake annually by shifting vegetation from invasives to native plants, cleaning up creeks and restoring degraded agricultural fields to wetlands.

The day after the land was purchased, then-Tribal Chairman Darren Parry, Brad Parry's cousin, shared plant journals and other cultural information collected by tribal members with scientists at Utah State University. They included illustrations of plants such as serviceberry and wild rose alongside details about their characteristics and cultural and medicinal uses. Darren Parry asked the USU scientists for help restoring the area, and they quickly agreed. Brad Parry, who became project manager, brought on BioWest, an environmental science consulting firm, while conservation nonprofits, the Utah Conservation Corps, and the U.S. Fish and Wildlife Service and other federal agencies signed on as partners.

Northwestern Shoshone and other tribal members play key roles on conservation and research teams. "It feels good to help another Indigenous community, even if I'm not necessarily a part of that Indigenous community, to have that land restored to what it used to be," said Aidan Klopfenstein, a member of the Navajo Nation

and environmental specialist with BioWest, who guided volunteers during the planting day.

The Northwestern Shoshone's oral history and knowledge ultimately lead the work. Rios Pacheco, the tribe's cultural and spiritual advisor, has extensive knowledge of culturally significant plants. Before the volunteers began planting, he offered a blessing. "I come to prepare the land because this land was walked through by people that had to give their life," he said.

"FOR THOUSANDS of years, this wasn't a massacre site," Brad Parry told the crowd last fall. The area — now known as Preston, Idaho, just 10 miles north of the Utah border — was a gathering place where the Northwestern Band lived, celebrated, performed the Warm Dance and connected with other bands of the Shoshone. "By inviting you all out and doing this, we want to recapture that," Parry said. "We want to make this a place to come again."

The planting event was the first of its kind since the Northwestern Shoshone reacquired its land. The tribe hopes to plant 300,000 native trees and shrubs, a goal set by BioWest based on the site's acreage and the survivability of seedlings. To create space for them, the Utah Conservation Corps spent the past three years removing hundreds of thousands of invasive Russian olives, which consume 75 gallons of water per day.

The volunteers dispersed along Beaver Creek — or Battle Creek, as it became known after the massacre — which runs like frothy chocolate milk along the edge of the site until it meets the clearer Bear River. Conservation partners distributed the plant

cuttings. Groups of friends, families and colleagues dug into the muddy exposed creek bank and gently placed the twig-like cuttings into the soil.

Meanwhile, Jason Brough, a Northwestern Shoshone tribal member who is pursuing a Ph.D. in anthropology, ran between groups of volunteers to make sure that no one dug up important cultural material or human remains. "For a lot of our community members, this is where their ancestors passed on," Brough said. "We have a responsibility not just to the ancestors, but to the plants and the animals that used to be there and can be there again."

The willows and cottonwoods will provide habitat and food for wildlife. Nizhonii Begaye (Diné), a USU senior studying ecology, has been working with USU professor Eric LaMalfa to install and monitor wildlife cameras. She has documented deer, birds, bobcats and coyotes, and hopes to see elk and moose return, too.

The native vegetation will also stabilize the creek bank, furthering the tribe's goal of cleaning up the watershed and restoring wetlands. BioWest is fencing off part of the creek to keep cattle out. USU students led by the nonprofit Sageland Collaborative are building beaver-dam analogs to filter out sediment and agricultural runoff. Once the creek is cleaned up, the tribe will work with Trout Unlimited to reintroduce Bonneville cutthroat trout. Eventually, the creek will be restored to its ancestral braided, meandering path.

"THE BYPRODUCT of what we're doing should have a huge impact on the Great Salt Lake, which really plays into our whole story," Darren Parry

said. The tribe's creation story takes place on Antelope Island. Shoshone traded salt from the lake with other tribes, while the deer, rabbits, ducks and plants around the lake provided food and medicine.

Currently, Utah lacks adequate monitoring infrastructure to ensure that downstream farmers don't take the water the tribe returns to the Bear River. State boundaries also complicate things: Wuda Ogwa is in Idaho. "We're considered a Utah tribe, but we are trying to teach people that state lines don't mean anything to us when it comes to our aboriginal territory," Brad Parry said.

Darren Parry has been outspoken about Indigenous leaders' exclusion from Great Salt Lake decision-making bodies, but Brad Parry said the situation is improving. The tribe has met with Utah's lieutenant governor and state agencies who have expressed their determination to get water to the lake. Both Parrys also sit on local watershed councils, which were created by Utah's Legislature in 2020 to provide a forum for water-policy discussions.

The tribe is also raising millions of dollars to build a cultural interpretive center. Brough hopes to make the center Indigenous-designed, -run and -interpreted. "We don't want to be just a museum," Brough said. "We want our perspectives told, even if it's difficult for people to hear."

In the meantime, Pacheco said, "You don't even need a center to be healed. Right now, you're healing people with the land." ✨

This story is part of our Conservation Beyond Boundaries project, which is supported by the BAND Foundation.

Inside a one-room school

Montana's Benton Lake School has nine students, one teacher — and lots of fun.

BY SUSAN SHAIN

PHOTOS BY REBECCA STUMPF

FROM HELENA, MONTANA, drive about 90 miles, winding past mountains and the Missouri River, to Great Falls. Keep driving, until there are no more buildings, not even houses, just a two-lane road splitting endless fields of wheat and barley. Wave to some trucks, sail past silos. And then take a left. Soon a small building will appear. Look for the American flag, the swing set, the John Deere.

This is Benton Lake School.

It's one of roughly 50 active one-room schoolhouses in Montana, the state that may have the most in the country. "It's just like the olden days," said Dawn Dawson, Benton Lake's teacher (and custodian, and librarian, and lunch monitor). "Except our school was built in the '60s."

The building, constructed when two nearby schools merged, doesn't resemble the one-room schoolhouses of storybooks: It's tan and brick and sturdy, a prototypical public school in miniature. The classroom looks like classrooms everywhere: a ring of desks, walls covered in ABCs.

But as the kids roll in from recess — which Dawson can hold at any time — it's clear this school is different. When Dawson notices that Hudson, a second grader, has wet jeans from the slide, she pulls out a tub of clothes and tells him to change.

She'll throw the wet jeans in the dryer in her apartment, which is just down the hall.

When Dawson started teaching here at the age of 24, she didn't hang pictures because she didn't think she'd last long. She has now spent nearly 26 years — more than half her life — living and working at the school.

She said the time has flown by, except

maybe the year she had 18 students: "That was a lot."

Dawson's role comes with unique pressures. Her job depends on whether kids enroll — other one-room schools have closed due to lack of students — and, as she put it: "You're everything. The light goes out, the furnace stops, you're gonna fix it." Her many titles include "secretary": The school phone also rings in her living room.

Once the kids sit down, Dawson quizzes them on the multiplication table: "Addie, 6s, please; Alex, 8s, please." They flip over sheets of paper, solving as many problems as they can in a minute. It's like any timed math test — except that each student's test is different, matching their grade level.

This year, Benton Lake has a few more students than usual: nine. They come from five different families, mostly on nearby farms, and range from preschool to fifth grade. Dawson said, "It's like each of them are on their own (Individualized Education Program)" — the specialized support plans for kids that need additional help. Elsewhere, parents have to push for IEPs; here, every student gets special attention.

Since Dawson can't tell everyone to, say, "turn to page 23," she puts an assignment chart on the overhead projector each morning. It outlines what students should work on, customized by subject and grade. "You have to become an independent learner," Dawson said, "which I think helps in the long run."

Hudson strolls back in wearing blue sweatpants, after changing out of his wet jeans. He likes school, but not the fact that there are only two other boys. And that three of the other students are his older sisters and stepsister, who aren't afraid to boss him around. "I wish there were four more boys," he said.

As Dawson reads from *When You Trap a Tiger*, a chapter book based on Korean folklore, Alex, a chatty fourth grader whose favorite time of day is lunch, heads to the restroom. He doesn't ask for a hall pass. Who would check one?

In Montana, one of the least densely populated states, one-room schools are essential, said Jayne Downey, director of Montana State University's Center for Research on Rural Education. They allow rural kids to receive an education without spending hours commuting — and they serve as community hubs.

Downey said kids in small, multi-grade



classrooms show "some really strong social outcomes: positive self-concept, positive perceptions of other students." Some research also suggests such students perform as well or better academically compared to their peers in larger schools. "Teachers can really focus on their strengths and identify where they're struggling," Downey said.

Dawson agrees. "If you know all the first-grade skills, and you're still in first grade, we just go right into second grade," she said. "We don't slow down." And if a student hasn't mastered a skill, they spend more time on it, rather than rushing to keep up with the class.

The school's oldest student, Yvonne, is in fifth grade. She could stay through eighth grade but plans to transfer in two years to Fort Benton, nearly 32 miles away. While she is excited about the change, she will miss this cozy room where she has spent much of her childhood.

"We have a lot of fun," she said. "More than big schools." ✨



Olivia works on painting a holiday figurine during arts class (*above*).

Addie shares during “show and tell” at Benton Lake School in Floweree, Montana (*left*).

Dawn Dawson has been the head teacher at Benton Lake School for 20 years (*below left*).

Childrens’ drawings hang above winter boots and coats in the hallway at Benton Lake School (*below*).





Luke Iseman, co-founder of the solar geoengineering startup Make Sunsets, holds a weather balloon filled with helium, air and sulfur dioxide at a park in Reno, Nevada, last February. **Balazs Gardi**

REPORTAGE

What to make of Make Sunsets

‘Move fast, break things’ approach runs into issues of tribal authority.

BY HILARY BEAUMONT

LAST FEBRUARY, TWO balloons that were launched from Reno, Nevada, flew to Northern California. Along the way, as planned, they released a small amount of

sulfur dioxide, a gas that has a cooling effect when erupting volcanoes release it.

In their six-to-eight-hour journey, according to a *High Country News* flight-path

analysis, the balloons crossed the airspace of at least five tribes, including the Colfax-Todds Valley Consolidated Tribe. But when I called Pam Cubbler, the tribe’s vice chair and lead cultural preservation officer, in April, she said it was the first she’d heard of it.

Her response? “What a strange thing to do.”

Make Sunsets, the company behind the balloons, believes that releasing sulfur dioxide could mitigate global heating. Cubbler, however, had questions: What research supported this? What does sulfur dioxide do to the environment, and can it be cleaned up? “It’s the unknown that concerns me,” she said.

Make Sunsets wants to release sulfur dioxide into the stratosphere to reflect sunlight away from the earth — a type of solar geoengineering known as stratospheric aerosol injection. If implemented at a large-enough scale, it could help cool the planet, but it wouldn’t halt rising greenhouse gas emissions, according to the Intergovernmental Panel on Climate Change’s 2021 report. When used at a small scale, as Make Sunsets is currently doing, there’s little risk, but at a larger scale, it could cause acid rain, respiratory damage and abrupt changes to the water cycle, including torrential rains and droughts. It could prevent a heat wave in one location while causing a drought in another — even widen the Antarctic ozone hole.

Make Sunsets, Cubbler thinks, is trying to play God. “They’re taking over the way of the Creator,” she said — and they never consulted the tribe. “They should have contacted us, and I think they should have contacted every single tribe in that path,” she said.

Make Sunsets was founded by Luke Iseman and Andrew Song, two men who’d worked at venture-backed tech startups. Their company is backed by venture capital and angel investors. They sell “cooling credits” that individuals or companies can purchase, like carbon credits; one cooling credit corresponds to the release of at least one gram of sulfur dioxide. Iseman and Song’s

website describes them as “self-starters” who are “not afraid to take on big challenges and pursue ambitious goals, even in the face of adversity.”

When the *Wall Street Journal* asked Iseman if he worried about “playing God,” he paraphrased a quote from the writer Stewart Brand: “We are as gods and we need to get good at it.” He added, “You can hand-wring about how crazy it is. ... People can have the power to change global temperatures, and yeah, I get it. The other version of that is we can buy the world time to decarbonize while minimizing harm in the meantime.”

When I spoke to Iseman, he noted that the world is racing past its climate-change goal — limiting warming to below 1.5 degrees Celsius (2.7 degrees Fahrenheit). Iseman is driven by fear of a hotter planet, “where regions of the world with millions of people in them become uninhabitable unless you have AC, and if the AC breaks, you die. Like, literally, that kind of climate horror.” The World Meteorological Association recently warned that the earth is likely to breach the 1.5-degree limit by 2027. Iseman believes solar geoengineering is necessary to save lives. “We’ve only seen the slightest start of it,” he said.

Iseman said his company has already made a positive impact by prompting conversations about solar geoengineering: “The more people think about this idea, and the more they read about it, and the more they research it, the more likely it is that they will support it.” But the company’s early tests and methods have also prompted backlash: Following Make Sunsets’ launch in Baja California Sur — done without government permission — Mexico banned real-world solar geoengineering experiments.

Iseman acknowledged that he lacked data showing the balloons’ effectiveness, but added that, in large amounts, sulfur dioxide has a demonstrated cooling effect. Scientists and experts I spoke with, though, said Make Sunsets’ claims regarding their cooling credits have little scientific basis. “You cannot be reckless when it comes to our climate systems,” said Shuchi Talati, founder and executive director of the Alliance for Just Deliberation on Solar Geoengineering. There is no consensus on solar geoengineering, she said, and “the fact that there’s this much hubris around claiming that deployment is

the right answer is really unjust, to be quite honest.” Talati fears the company’s activities and financial ambitions could erode trust in this nascent field.

Gernot Wagner, climate economist at Columbia Business School and founding co-director of Harvard’s solar geoengineering research project, warned that the combination of incentives — low cost, potential profitability and the urgency of climate change — encourages private companies focused on financial gain, rather than serious research, to dive into geoengineering when scientists should be leading the way. “This can’t be a race toward who flies more balloons sooner,” he said. “That would be really, really bad.”

And the affected communities should be included in the conversation, Talati said. Someday, she said, they may want to use the technology, but the company’s actions are “taking away the rights of communities to be part of decisions that dictate their own futures.

“It’s essentially another form of colonialism.”

MANY CLIMATE VENTURES, including mining projects, renewable energy and carbon offsets, are developed on sensitive lands or waterways without tribal approval, in what has been dubbed “green colonialism.” Another solar geoengineering project, SCoPEX, was halted in 2021, when the Saami Council in the Nordic region called for it to be shut down, citing environmental concerns and a lack of consultation. Energy storage projects and solar developments in Washington — developed as part of the state’s green boom — have faced opposition because they threaten tribal resources.

It’s part of a long history of private companies’ general disregard of tribal authority, said Will Haney, a lawyer and a citizen of the Seminole Nation of Oklahoma. “There’s this mentality of ‘we’re going to move through and move fast and break things,’” with little consideration for Indigenous people.

Solar geoengineering is not currently regulated, but if Make Sunsets begins to have an environmental impact, regulatory hurdles will arise, including environmental reviews and tribal consultation, according to Edward Parson, environmental law professor and faculty director of the Emmett Institute on Climate Change and the Environment at the UCLA School of Law.

Make Sunsets could face fines if a tribal court found it had infringed on tribal airspace, although tribal authority wanes the higher you go. “If something crashes on tribal land,” Haney explained, “there’s a stronger nexus for tribes to be able to assert that jurisdiction with a good possibility of it being upheld, ultimately, when it’s appealed. If we’re talking about flying over tribal lands, especially at very high altitudes, it’s going to be very difficult for even the most legally developed tribe to assert jurisdiction over that.” But if chemicals are released and fall on tribal land, it’s possible that “the tribes have some kind of claim against the folks who are doing this.”

Cubler pointed out that tribes face significant hurdles when they try to engage in climate mitigation. After a massive wildfire in fall 2022, the Colfax-Todds Valley Consolidated Tribe restored the use of cultural burns to prevent future conflagrations. But the tribe had to prove itself to government agencies first, and Cubler wondered what hurdles Make Sunsets had cleared to launch balloons. Tribes, she said, should have a say over their airspace — or at least be informed about what’s going on up there.

“It would just be nice to have the notification if there’s something that is being spread over our territory.”

Three of the other tribal nations the balloons passed over — the Reno-Sparks Indian Colony, Shingle Springs Band of Miwok Indians and United Auburn Indian Community — declined to comment. But Mike DeSpain, natural resources director for the Buena Vista Rancheria of Me-Wuk Indians of California, said that companies should not fly anything over tribal land “without the tribe being well aware and approving.”

Iseman said he’ll notify tribal nations in the future, though he believes the launch was legally sound. The Reno balloons flew “above commercial aviation by a good margin,” he said, and planes release more sulfur dioxide anyway. “If I actually violated tribal airspace, I’ll be happy to pay any reasonable fine. I’m pretty confident I didn’t.

“I would be curious if the same tribes object to Reno International not notifying them of exact flight routes,” he said. Still, he acknowledged that tribal nations, like other groups heavily impacted by climate change, should get a say in climate action. ✨

The state of the West's cannabis economy

A booming industry is reviving communities and suffering growing pangs.

BY JONATHAN THOMPSON

TRINIDAD, COLORADO, a town of about 8,000 nestled in the foothills of the Sangre de Cristo Mountains, has long drawn dreamers and seekers. In the late 19th century, its bountiful coal deposits drew immigrants to work the mines and run local businesses. Later, people came from all over to see Stanley Biber, one of the nation's only skilled gender-reassignment surgeons.

But the coal seams emptied and the mines shut down and Biber's practice moved to California, leaving many of the town's stately Victorian storefronts vacant and the economy in ruins. In 2012, however, Colorado residents threw Trinidad a lifeline: They voted to legalize recreational marijuana.

Many communities jumped on the bud-tending bandwagon, but Trinidad was uniquely positioned to succeed. Its leaders generally welcomed the industry. The infrastructure was already there, left over from the coal-mining days, and real estate was cheap, making it relatively affordable to set up shop. Perhaps most importantly, the town sits along a well-traveled interstate highway just 13 miles from New Mexico — where marijuana wasn't legalized until 2021. Before long, a couple of dozen dispensaries lined the streets, raking in millions of dollars a month and earning the city the

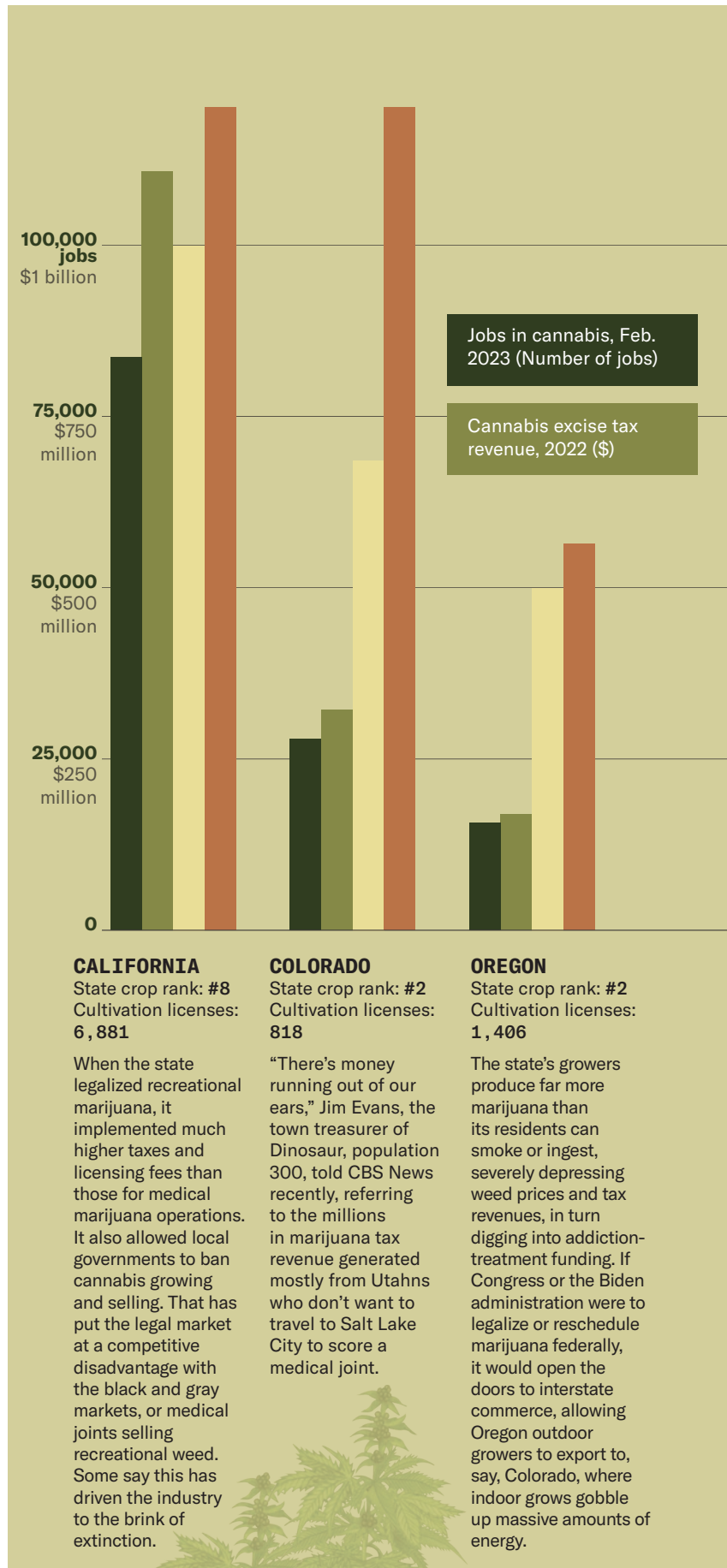
moniker "Weed Town." Trinidad was a destination once again.

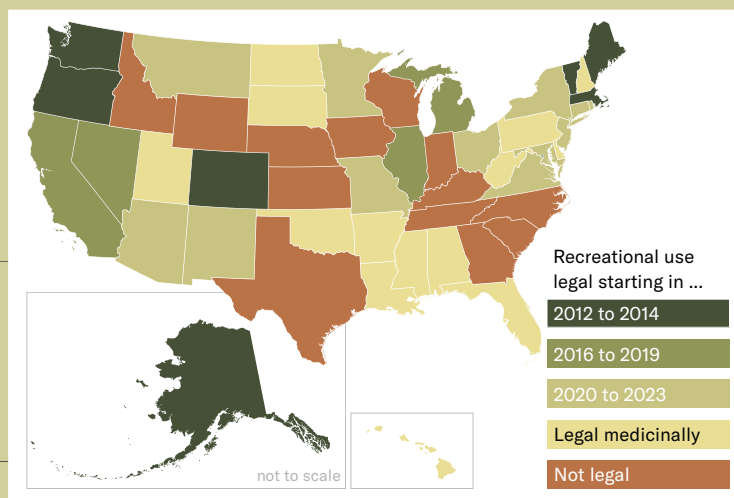
Ever since California legalized medical marijuana in 1996, the West has led the nation in making the once-taboo drug acceptable. Now recreational marijuana is legal in every state in the West except Utah, which permits medical use, and Idaho and Wyoming, where you better steer clear of wacky tobacky even if you've got a medical card.

Legalization has been a boon to communities that border non-legal states. And it has generated billions for public services, from schools to addiction programs.

But now, following a pandemic-era spike, the industry seems to be coming down from that first-toke buzz. Oversupply is an issue now; marijuana tourism has taken a hit as more states legalize weed, and black-market competition is intense. Does that mean the party's over? Or is the industry simply settling down, becoming a bit more mature and stable? Here's a look at the highs and lows of the Western marijuana economy.

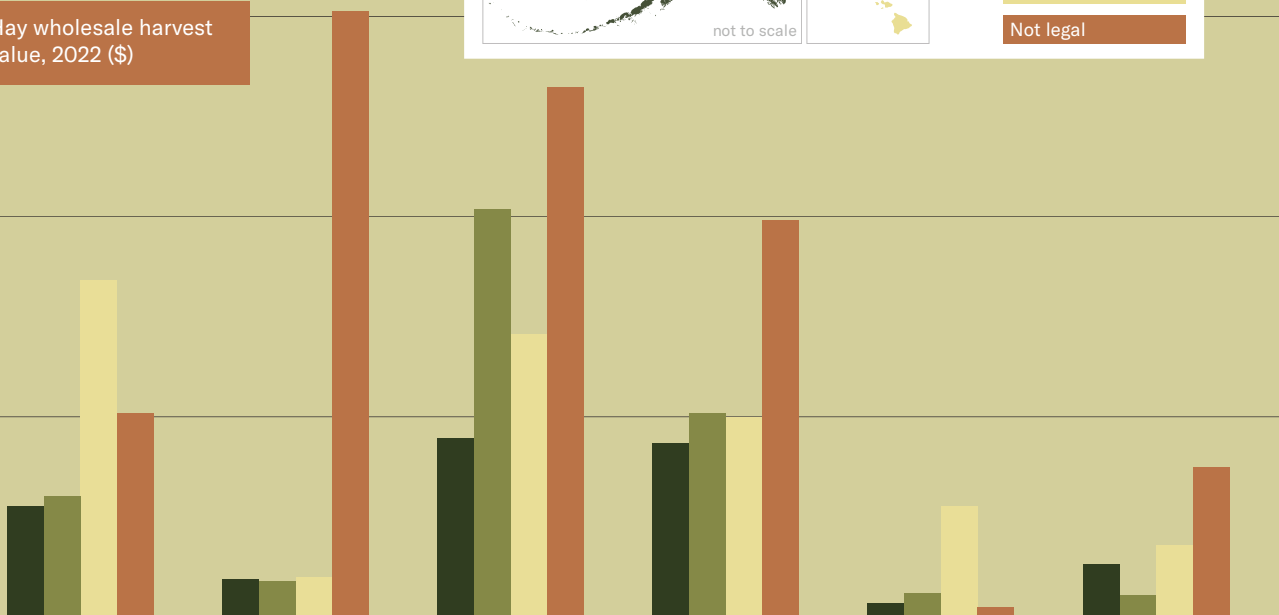
SOURCES: Colorado Department of Revenue, Oregon Liquor and Cannabis Commission, Real Estate Witch, *MJBizDaily*, State of Nevada Department of Taxation, Nevada Cannabis Association, Vangst, New Mexico Regulation & Licensing Department, Leafly, California Department of Tax and Fee Administration, Montana Department of Revenue, Tax Policy Center, California Cannabis Enforcement Taskforce, Marijuana Policy Project, Uncle Ike's i502 Robbery Tracker, Nevada Cannabis Association, Arizona Department of Revenue, *High Times*.





Cannabis wholesale harvest value, 2022 (\$)

Hay wholesale harvest value, 2022 (\$)



NEVADA

State crop rank: #2
Cultivation licenses: 143

15,000: Number of people convicted of marijuana-related offenses pardoned by Nevada Gov. Steve Sisolak, D, in 2020.

\$147 million: Marijuana tax revenue allocated to Nevada's K-12 education fund in 2022.

**Utah legalized medical marijuana in 2021. Data was not available.*

MONTANA

State crop rank: #4
Cultivation licenses: 278

\$9 million: Approximate amount of marijuana generated tax revenues Montana Republican lawmakers attempted to divert from wildlife habitat improvement programs to law enforcement and correctional officers this year.

WASHINGTON

State crop rank: #7
Cultivation licenses: 1,070

\$67: Washington's cannabis excise tax revenue generated per capita in 2022, accounting for 1.5% of the state's total tax revenue, the nation's highest.

ARIZONA

State crop rank: #3
Cultivation licenses: 132

The late cannabis bloomer — legalizing adult use sales in 2021 — grew its marijuana industry rapidly. By fiscal year 2023 it was generating about \$68 million per year in severance taxes, compared to just \$20 million in severance taxes from mining. Arizona's economy was traditionally fueled by the Three Cs: copper, cotton and climate. Now it looks like it's time to add a fourth: cannabis.

ALASKA

State crop rank: #1
Cultivation licenses: 249

Long before the state legalized marijuana, Alaskans grew the stuff, becoming famous for their Matanuska Thunderf&*@ that hails from the valley of the same name. Now cannabis is the state's number one agricultural crop and a major generator of tax revenue.

NEW MEXICO

State crop rank: #3
Cultivation licenses: 496

\$23.7 million: Total marijuana sales in San Juan County, New Mexico, between April 2022 — when legal recreational pot sales began — and November 2023.

\$20 million: State energy transition funds allocated to economic development in San Juan County, New Mexico, following the 2022 shutdown of the San Juan coal power plant.

\$57: Estimated total tax an Alaskan paid for one ounce of cannabis flower in 2022, the highest in the nation.

\$19: Tax a New Mexican paid on an ounce of cannabis in 2022.

121,000: Number of illegally grown marijuana plants eradicated by the California Cannabis Enforcement Taskforce in the second quarter of 2023.

\$17,113: Amount property value increases in legal-marijuana states exceeded those of non-legal states between 2017 and 2021.

\$12,701/lb: Average wholesale price for cannabis extracts/concentrates in Oregon in May 2017. It was \$4,536/lb in November 2023.

\$22: Per capita marijuana sales in Multnomah County, Oregon, population 800,000.

\$265: Per capita marijuana sales in Malheur County, Oregon, population 32,000. Malheur County borders Idaho, where marijuana is legal.

80%: Percent of Oregon's legal marijuana that's grown outdoors.

34%: Percent by which marijuana sales tax revenue declined in Las Animas County, Colorado, after recreational became legal in New Mexico in 2022. The county, home to Trinidad, borders New Mexico.

102: Number of armed robberies, burglaries or "smash-and-grabs" targeting Washington cannabis dispensaries in 2022; federal banking rules force many dispensaries into cash-only business, making them vulnerable to theft.

1/1/2024: Date that a Washington state law banning employers from using cannabis testing as a condition of employment went into effect.

Send the West to Washington, D.C.

Every year since 2013, readers have pitched in to send a full subscription to each of the 535 legislative offices of Congress, so that they can be better informed about the critical issues facing communities in this region of the country.

You can help *High Country News* continue this important work of **informing** and **inspiring** our nation's lawmakers with your donation today. A donation of \$27.78 will make an immediate impact and cover one legislator and their whole office for a year — and give our nation's lawmakers a deeper understanding of the complex West.

Give online: hcn.org/Congress24

Call us: 800-905-1155

Mail your donation to:

HCN, PO Box 1090, Paonia, CO 81428

High
Country
News

Thank you, readers!

Your generous and dedicated support makes these pages possible.

If you would like to make a tax-deductible contribution, please scan the QR code to the right, visit hcn.org/give2hcn, call 800-905-1155 or mail a check to: P.O. Box 1090, Paonia, CO 81428.



CHAMPION OF THE WEST (\$50,000 AND ABOVE)

Anonymous
Bobbie & Stanton Cook Family Foundation | Winnetka, IL
George B. Storer Foundation | Jackson, WY
Wilburforce Foundation | Seattle, WA

INDEPENDENT NEWS GUARDIAN (\$25,000-\$49,999)

Jay Kenney & Emily Sinclair | Paonia, CO
Charles Stewart Mott Foundation | Santa Barbara, CA

MEDIA LEADER (\$10,000-\$24,999)

Anonymous
Borgen Family Foundation | Denver, CO
Tom & Sonya Campion | Seattle, WA
Alison Davis | Sonoma, CA
Nancy Stephens & Rick Rosenthal and the Rosenthal Family Foundation | Los Angeles, CA

PUBLISHER'S CIRCLE (\$5,000-\$9,999)

Anonymous (2)
In memory of Liz Johnson | Missoula, MT
In memory of Ron of the mountains
Tamia Marg & Tom Anderson | Berkeley, CA
Laurel & John Hobby Catto | Aspen, CO
BF Foundation | Snowmass, CO
Annie Douden & Richard Messer | Fraser, CO
Fred & Megan Eiden | Bainbridge Island, WA
Linda & Charles Frick | Mendenhall, PA
Gary Philanthropy | Denver, CO
Peter Kirsch & Pat Reynolds | Denver, CO
Ann R. McAlpin | Carbondale, CO
The Page Foundation | Hailey, ID
Jane Ratzlaff | Roseburg, OR
Michael & Jennifer Tansey | Evergreen, CO
Tom Udall & Jill Cooper | Santa Fe, NM

PHILANTHROPIST (\$2,500-\$4,999)

Anonymous (4)
Bill Johnson & Cheri Ferbrache | Denver, CO
Florence W. Jones | Boulder, CO
Kimberley Jordan | Fort Collins, CO
Janet McAlpin | Burton, WA
Maria Fernandez-Gimenez & Devin Odell | Fort Collins, CO
Raymond Goodrich & Rebecca Patton | Ketchum, ID
Ian Simmons | Truckee, CA
Dennis Wentz & Betty Brickson | Portland, OR

STEWARD (\$1,000-\$2,499)

Anonymous (5)
In memory of William H. Wing & Jessica Grace Wing
Paul Alaback & Carol Brewer | Boulder, CO

Anya & Henry Bagley
Paulette Bierzychudek | Portland, OR
David M. Covey | Fraser, CO
James Dreyfous | Salt Lake City, UT
Thomas Engelman | Park City, UT
Susan F. Fleming | Salt Lake City, UT
Pat & Howard Frederick | Cortaro, AZ
Mike & Karen Fried | Broomfield, CO
Jonathan Gibson & Eliza Mabry | Shrewsbury, VT
Mary & Joe Gifford | Denver, CO
Mark & Meredith Giordano | Washington, DC
Thomas Gougeon & Donna Middlebrooks | Denver, CO
Gwydion Fund For Wild Nature | New York, NY
Brad Hall & Jo Ann Campbell | Glen Ellen, CA
William Hamann | Grand Junction, CO
Janice Hand & Rick Sanders | Bozeman, MT
Allen & Sheila Henry | Fountain Hills, AZ
John Heyneman Jr. & Arin Waddell | Sheridan, WY
Mary Humstone & George Burnette | Fort Collins, CO
Gene & Christine Hunner | Portola Valley, CA
Joel Hurd | West Linn, OR
Leon L. & Judith Jones | Ogden, UT
Malcolm & Pam Kinney | Sandpoint, ID
Mark Kraft | Madison, WI
John P. & Laurie McBride | Old Snowmass, CO
Linda McMullen | Big Timber, MT
Philip Mingle | Oakland, CA
Martha Newell & Mike Kadas | Missoula, MT
Audra Oliver | Prineville, OR
Margaret E. Piety | Indianapolis, IN
Hanna Pitkin Estate | Berkeley, CA
Lollie Benz Plank | Tucson, AZ
Steve Price | Seattle, WA
Carol Rigmarch & Thomas A. Byrnes | Corrales, NM
Randall Rutsch | Boulder, CO
Sonia Tamez | Oakland, CA
Dalton & Nancy Tarwater | Alto, NM
Nicholas Wilson | Colorado Springs, CO
Kelsey Wirth | Cambridge, MA
Kathleen Worley | Portland, OR

GUARANTOR (\$500-\$999)

Anonymous
In memory of Russell L. Brenneman, environmental champion & friend to HCN
In memory of Jim Pinkerton | Fayetteville, AR
Scott Barnhart & Ourania Malliris | Seattle, WA
Sharon & Randy Campbell | Frederick, CO
Gerald Clark | Eugene, OR
Debra & Thomas Corbett | Anchorage, AK
William Cutler & Elisabeth Suter | Topeka, KS
Ira Dauber & Sylvia Brice | Denver, CO

S.T. Denison & Kara Horner | Edwards, CO
Victoria Dye & Douglas Kelt | Port Angeles, WA
Robert Ewing | Boulder, UT
Paul & Katie Fellows | Seattle, WA
Beth & Randall Ferguson | Denver, CO
David Frey | Great Falls, VA
Mark & Meredith Giordano | Washington, DC
Heather Hagen & Karl Olson | Mountain Home, ID
Ann Harvey & Mike Campbell | Wilson, WY
Laura Helmuth | Derwood, MD
Dennis Hibbert | Seattle, WA
David Hogle & Janice King | Elko, NV
Peggy Kavookjian & David Nora | Westcliffe, CO
K-Lynn Cameron & Bob Keller | Fort Collins, CO
Robert Keller & K-Lynn Cameron | Fort Collins, CO
Ted Labbe | Portland, OR
Sydney Shafroth Macy | Boulder, CO
Richard Manch | Phoenix, AZ
John & Maryann McGee | Cody, WY
Lisa McKhann & Pete Krieger | Duluth, MN
James & Diana McWilliams | Los Angeles, CA
Sharon Metcalf & Randy Smith | Vashon, WA
John Molenaar | Fort Collins, CO
Lawrie Mott | San Anselmo, CA
Jan Mulder & Greg Bedinger | Tucson, AZ
Spencer Nelson | Albuquerque, NM
Andy & Tara Neuman | Boulder, CO
Susan W. Newell & Dick Walton | Billings, MT
Lynn Nichols & Jim Gilchrist | Basalt, CO
David Nimkin & Dorothee Martens | Salt Lake City, UT
John & Rebecca Petrik | Davis, CA
Potter-Garcia Family Fund | Albuquerque, NM
Jay & Kathy Puckett | Fraser, CO
Sandy Righter | Denver, CO
Mark Rogers & Janet Davis | Sandy, OR
Pete Sandrock | Portland, OR
Elizabeth K. Schultz | Broomfield, CO
Sue Schulz | Littleton, CO
Margo Sensenbrenner | Menlo Park, CA
Carolyn & Jim Shelton | Kanab, UT
Gary Smith | Sebastopol, CA
Gilbert Stayner & Teri Fox | Sherman Oaks, CA
Alex Takasugi | Eagle, ID
John & Linda Taylor | Burlingame, CA
Steve & Amy Unfried | Wilson, WY
Celia VandeCreek | Grand Rapids, MI
Wren & Tim Wirth | Washington, DC

BENEFACTOR (\$250-\$499)

Anonymous (9)
In honor of Jim Spencer
In memory of John & Judy Krist
In memory of Chuck Kroger | Telluride, CO
In memory of Phillip Rule | Paonia, CO
Margit & Bernard Aarons | San Mateo, CA
Ackerman Farm | Ignacio, CO
Susan Allred | Salt Lake City, UT
Jeffrey Anderson & Elizabeth Scanlin | Red Lodge, MT
Joan Anderson | Cheyenne, WY
Anne Beckett | Youngsville, NM
Janet Behrens | Arvada, CO
Charles & Marjorie Bolles | Boise, ID
John & Anita Briscoe | Taos, NM

“Although I no longer live in Arizona, I find reading HCN monthly keeps me up on news from such a wide area of the U.S. ... The entire country is important to me!

— Linda Gonzales, Pewaukee, Wisconsin



“Best Western journal for the money. Writing and timeliness of topics are unsurpassed in my mind. I have been a fan of HCN since my first introduction to Ed Marston in the mid-1980s”

— Don Rodriguez, Timnath, Colorado

Barb & Ed Chamberlin | Grand Junction, CO
Linda Clark
B.G. Colby | Tucson, AZ
Carol Cooke | Reno, NV
Seth Cothrun & Harper Hall | Tucson, AZ
Peter Crabtree | Hercules, CA
Herman Damek | Niwot, CO
Lynn Davison | Patagonia, AZ
Carol Delker | Erie, CO
Pam Doucette | Sun Valley, ID
Buck Drew & Becky Klassen | Ketchum, ID
Roy Ekland | Chico, CA
Linda & Jerome Elkind | Palo Alto, CA
Lorraine Fuller | Louisville, CO
Margaret Fuller & Matthew Scott | Stanford, CA
Jane & Norm Gagne | Albuquerque, NM
Joe Godleski | Fort Collins, CO
Barbara G. Hager | Bremerton, WA
Jeffrey Hager | San Diego, CA
Edward Haimes | Drake, CO
Richard Heermance | Palo Alto, CA
Cal & Henrietta Howe | Hayden, CO
Joanna Hurley | Santa Fe, NM
Judith Hutchins | Heron, MT
Nicholas Jacobson | Medford, OR
Tim Johnson | Santa Fe, NM
Jeanne Knepper & Marcia Hauer | Portland, OR
Tracy & Scott Kozak | Denver, CO
David & Jan Labiner | Tucson, AZ
Steven Lamy | San Gabriel, CA
Arthur Latterell & Nancy Rollins | Portland, OR
Madelyn Leopold & Claude Kazanski | Madison, WI
Deborah Lieberman | Fort Collins, CO
Terry Logue | Casper, WY
James Lovett | Boulder, CO
Connie & Vernon Matzen | Raleigh, NC
Michael & Patricia McCoy | Imperial Beach, CA
John B. & Betsy Messer | Dallas, OR
John Middleton & Susan McRory | Boulder, CO
Joan E. Miller | Seattle, WA
James & Hensley Peterson | Aspen, CO
David & Ann Phillips | Boulder, CO
Marcia Politovich | Liberty Lake, WA
Roger Pool | Littleton, CO
Peggy Porter | Winthrop, WA
Grant Putney | Fort Collins, CO
Kim Ragotzkie | Ashton, ID
Tracy Rekart | Winthrop, WA
Chad Roberts | Davis, CA
Molly Ross | Castle Rock, CO
Melanie Roth | Nathrop, CO
Bonnie Shetler | Bellvue, CO
Mike Shonsey | Sequim, WA
Harold Singer | South Lake Tahoe, CA
Philip & Sue Smith | Prescott, AZ
Burke & Krista Stansbury | Seattle, WA
Peter Stoel & Karen Josephson | Corvallis, OR
Glen & Bonnie Strand | Louisville, CO
Diane Uren | Denver, CO
Todd Vogel & Christine Iversen | Bishop, CA
Fred Walls | Lafayette, CO
Todd Warnke | Castle Rock, CO
David Wegner & Nancy Jacques | Tucson, AZ
Julie Zahniser | Boulder, CO
Melanie Zwick | Tabernash, CO

SPONSOR (\$150-\$249)

Anonymous (7)
In honor of Mark & Meredith Giordano
In honor of Jim Sample | Denver, CO

Len Ackland | Boulder, CO
Dave Bell | Ketchum, ID
Alison Berry | Davis, CA
W. Scott Berry | Santa Cruz, CA
Paul & Kathy Bjornstad | Ann Arbor, MI
George & Susan Boehlert Fund | Redmond, OR
Julie Boyle | Lyons, CO
Dennis Brown | Denver, CO
Thomas Butts | Thornton, CO
Elizabeth Byron | Fort Collins, CO
Otis Calef | Santa Barbara, CA
Robert Casey | Seattle, WA
Judy Reid & Richard Collins | Boulder, CO
Andrea Commaker | State College, PA
Gladys Connolly | Denver, CO
Deedee & Peter Decker | Denver, CO
David Drake & Patricia Perkins | Redmond, OR
Steve & Dena Duke | Boise, ID
David & Penny Eckert | Orleans, CA
Robert Follett | Highlands Ranch, CO
Elizabeth Gemmill | Lafayette Hill, PA
Judy Gilbert | Bourne, MA
Emily & Peter Gladhart | Lafayette, OR
John Harbuck | Sandpoint, ID
Natalie Houghton | Prescott, AZ
Sandra Jackson | Glenwood Springs, CO
Carolyn Jones | Larkspur, CO
Donald Jordan | Prescott, AZ
Andrea Kahn | Denver, CO
Thomas B. King & Patricia N. King | Arvada, CO
Thomas Krainz | Elmwood Park, IL
Laurie & Cam Kuelthau | Steamboat Springs, CO
Lydia La Perle | Redding, CA
Sydne & Troy Luebe | Mountain View, WY
Miki & John Magyar | Boulder, CO
Russell & Janice Martenson | Ranchos de Taos, NM
Sara Mattes | Lincoln, MA
Richard Mazzini | Mill Valley, CA
William McIntyre | Billings, MT
Joseph Miller | Portland, OR
David Moir & Ruth Tatter | Los Alamos, NM
Cliff & Joan Montagne | Bozeman, MT
Raule Nemer & Robert Topp | Evergreen, CO
Claudia Newbold | Los Altos, CA
Susan Nimick | Helena, MT
Clete Nolde | Lakewood, CO
Urs Ochsner | Boulder, CO
Carl & Barbara Popp | Socorro, NM
Nancy Ranney | Corrales, NM
Ken & Emily Ransford | Basalt, CO
Gene & Polly Reetz | Denver, CO
Donald Roberts | Boulder, CO
Ann Ronald & Lois Snedden | Reno, NV
Victoria Rosenfield | Culver City, CA
Louis & MaryAnne Rudolph | Cosby, TN
Allen Russell | Santa Fe, NM
Leon Shaul & Kathleen Jensen | Douglas, AK
Ema Lea Shoop | Yuma, AZ
Becca Smith | Pagosa Springs, CO
Alan L. Stewart | Longmont, CO
Muriel Strand | Sacramento, CA
Bill Sutherland & Judy Gilbert | Camas, WA
Matt Swanson | Port Orford, OR
Marc Sylvester | Tucson, AZ
Tyler Thompson | Eagar, AZ
Craig Weir | Salt Lake City, UT
William Wellman | Santa Barbara, CA
Gayle & Richard Wells | Carbondale, CO
Sharon Zoars | Clinton, WA

PATRON (\$75-\$149)

Anonymous (26)
In honor of Russell Saxon
In memory of Dave Hoefer
In memory of Tom Pick | Bozeman, MT
In memory of Joe Twitchell | Mountain Home, ID
David Adams | Salem, MA
Joe & Marilyn Adler | Blaine, MN
Shawn Anderson | Salt Lake City, UT
Andes Georges Family Charitable Fund | Longmont, CO
Loretta Annala | Durango, CO
Emma Ansara & Stephen Engle | Denver, CO
Philip Archibald | Cashmere, WA
Daniel & Sherri Arosteguy | Grand Junction, CO
Scott Ashleman | Missoula, MT
Karen Aviles & Dan Eberhart | Denver, CO
Julene Bair | Santa Rosa, CA
Vaughn Baker | Estes Park, CO
Joanne Barnes | Palo Alto, CA
Rick Beauheim | Grand Junction, CO
Vic & Sally Bellerue | Durango, CO

FRIEND (\$50-\$74)

Anonymous (34)
In honor of the Fabulous Five — 2302-OR, 2303-OR & their packmates in Colorado!
In honor of James Gregson
In honor of Scott McKay
In memory of David W. Schaub
Su Check & C.R. Abele | Littleton, CO
MacGill Adams | Anchorage, AK
John T. Allison | Hamilton, MT
Todd Anderson | Seattle, WA
Jon Archer | Bend, OR
David Armstrong & Susan Jessup | Loveland, CO
Diane Austin | Tucson, AZ
Crystal & John Babos | Sedalia, CO
Mark & Rita Baglini | Waitsfield, VT
Anne & Jim Banks | Bozeman, MT
Linda Baran | Grass Valley, CA
Nina Barnes-Thomas | Joyce, WA
Pat Baron | Troy, MI
Marty & Suzanne Bauman | Madison, WI

WELCOME TO THE SUSTAINERS' CLUB

In honor of Milo Nichols
Jesse Cruce | Lakewood, CO
Ernesto Cupo | Olathe, CO
Elizabeth Doris | Denver, CO
Eric Hirst | Bellingham, WA
Susan Jacobson | Denver, CO
Michael Kretzler | Olympia, WA
Neal Krug | Livermore, CA
Paul McGuff | Stockton, CA
Carl Reese | Juneau, AK
Tyrone & Deidra Steen | Colorado Springs, CO
Joe Taylor | Longmont, CO
Joyce Tokar | Scottsdale, AZ
Susanne Twight-Alexander | Eugene, OR

Want to tell us why you support HCN?

Email us at: fundraising@hcn.org

DEAR FRIENDS

Working together

In January, a group of employees at *High Country News* set out to form a labor union, joining a growing trend at news organizations and nonprofits nationwide. Members of our staff had been collecting signatures on union cards, and on Tuesday, Jan. 9, representatives of the Denver Newspaper Guild, a branch of the Communications Workers of America, filed a petition with the National Labor Relations Board. The petition asks for an election so that *HCN* employees in a proposed bargaining unit can vote on whether they want to be represented by the union.

HCN's senior managers and board of directors are not taking a position on unionization. We respect employees' right to union representation if a majority of employees in the appropriate unit wish to unionize. Whatever the outcome of the election, we will continue to support our people and work collaboratively to support *HCN*'s mission. We all — managers, board and staff — share the goals of continuing to improve pay and benefits, to provide job security and opportunities for advancement, and to build an organization that reflects the diversity of the amazing region we serve.

Jolly good fellows

Since the 1970s, more than 240 young people have come through *HCN*'s storied Intern and Fellow Program. Dozens have built successful careers in journalism, working as reporters, editors and photographers for news organizations including the *Los Angeles Times*, *The Washington Post*, *National Geographic*, *The Salt Lake Tribune*, *The Oregonian*, *High Country News* and a multitude of smaller, local outlets. Others have gone on to careers as educators, authors, lawyers, and leaders for organizations like The Nature Conservancy, Trout Unlimited and the Greater Yellowstone Coalition.

Now, we're working to reimagine the program for a new generation. We've found, over the last few years, that a six-month internship

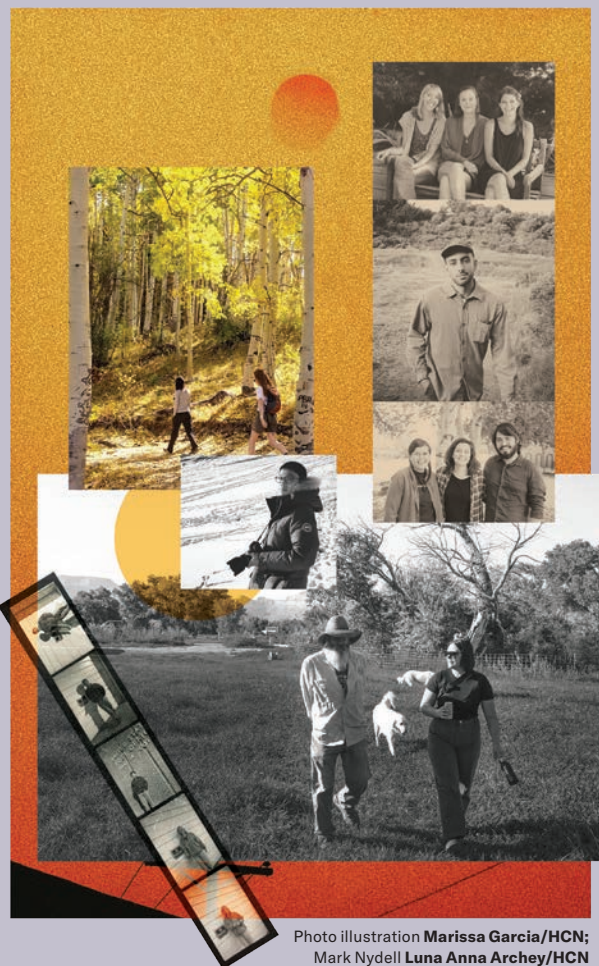


Photo illustration **Marissa Garcia/HCN**;
Mark Nydell **Luna Anna Archey/HCN**

with modest pay and no benefits was a hard ask for aspiring journalists. And we're hearing from applicants and participants that six months isn't as useful as it used to be for kickstarting a freelance writing career or landing a staff job.

For 2024, we've decided to double down on full-time, yearlong fellowships. Our fellows come to us with a little more experience than interns typically do; many have been to journalism school and have master's degrees or a couple of years of working for a local news outlet.

Fellowships pay more than internships, and we'll provide health care and paid leave benefits. When they leave us, seasoned by good mentorship and with a strong portfolio of work in hand, they will hit the backstretch up to speed and ready for a tough job market.

In the meantime, we'll spend some time this year exploring ways to create pathways for folks who are just starting to explore journalism as a career option: college newspaper staffers, recent graduates, folks with just a few clips to their name but a lot of gusto. That's where you come in. We want your thoughts on what a successful internship program might look like today — one that supports interns, builds a more diverse community of experienced Western writers, and contributes to a *High Country News* you want to read.

Email your ideas to dearfriends@hcn.org, and consider this the start of the *HCN* internship listening tour.

Greg Hanscom, executive director/publisher



A fond farewell

Finally, a shout-out to **Mark Nydell**, *HCN*'s customer service manager, who is departing at the end of January. Anyone who has ever called the Paonia office and gotten Mark on the line knows what a patient, warm and welcoming person he is — he and his team adore our readers, and it shows. He is also a man of principle and faith, and the very funny mind behind High Peaks Beard Company, which makes natural oils for folks of the beardy persuasion. We wish Mark a silky smooth, fresh-smelling next chapter, wherever his path takes him.

Who's Protecting Badger Mountain?

Washington state's solar permitting system leaves tribal cultural resources at the mercy of corporations.

By B. "Toastie" Oaster | Illustrations by J.D. Reeves

IN THE AUTUMN of 2021, an 800-page report crossed the desk of Washington state lands archaeologist Sara Palmer. It came from an energy developer called Avangrid Renewables, which was proposing to build a solar facility partly on a parcel of public land managed by the state. Palmer was in charge of reviewing reports like these, which are based on land surveys intended to identify archaeologically and culturally significant resources. Developers have proposed dozens of similar solar and wind projects across the state — a “green rush” of sorts amid rising fears of climate change. With the projects came more reports.

Often, Palmer, who worked for the Washington State Department of Natural Resources (DNR), read the reports and signed off; sometimes she shared notes on any concerns or told the developer to have the archaeologists they'd contracted with do additional fieldwork. This time, as she looked at the report, she grew concerned. The consulting company that Avangrid had hired, Tetra Tech, had included a lot of boilerplate language about human history on the Columbia Plateau, but fewer details than Palmer expected about what was actually found on the land.

Palmer knew that the parcel, located on a ridge called

Badger Mountain, near the confluence of the Wenatchee and Columbia rivers, was historically a high-traffic corridor for the škwáxčənəxʷ and šnpəšq'áwšəxʷ peoples (also known as the Moses Columbia and Wenatchi tribes). The area would likely be rich in cultural resources, including historic stone structures and first foods, the ingredients that make up traditional Indigenous diets.

Palmer was used to helping developers improve their technical reports to meet state standards. So, as soon as the snow melted, she drove out to Badger Mountain to look at the land herself.

As she walked the sagebrush overlook, Palmer quickly found signs of current-day Indigenous ceremonial activity, as well as ancient sites, such as stone structures that can look like natural formations to the untrained eye but serve a variety of purposes, including hunting and storage.

Most of the proposed development is on private lands, which Palmer lacked the authority to access. But in about 20 hours of fieldwork on the state-owned parcel, over the course of several days, Palmer said she found at least 17 sites of probable archaeological or cultural importance that were not list-





ed in Tetra Tech’s survey. She would find more on subsequent visits.

Over the next year, Palmer’s findings — and how she shared them — would pit her against corporate and political forces that seemed determined to push the project through.

As soon as she returned from her initial trip, Palmer emailed her findings of “serious deficiencies” in Avangrid’s report to her colleagues at the Department of Natural Resources, which manages lands like the Badger Mountain parcel for the purpose of generating revenue for public services. Palmer called the situation “extraordinary,” noting that

she had found a significant network of interconnected archaeological sites from before the arrival of white settlers.

Palmer also forwarded her findings to two tribal nations whose resources would be impacted: the Confederated Tribes of the Colville Reservation and the Confederated Tribes and Bands of the Yakama Nation, where the *škwáxcənax̣w* and *šnpášq̣wáwšax̣w* people are enrolled today. The tribal nations retain the right, via treaty and other legal mechanisms, to continue cultural practices like harvesting on any public lands in their ancestral territory. Treaties are considered the “supreme

Law of the Land,” according to the U.S. Constitution, and the courts are supposed to view them as “equivalent to an act of the legislature,” according to U.S. Supreme Court Justice Oliver Wendell Holmes Jr.

States play a role in upholding treaties, which require them to protect cultural resources on public lands. To do that, the state needs to know what resources are out there. For energy projects in Washington, state officials like Palmer generally rely on developers to conduct the surveys to find out.

Developer-conducted surveys have caused issues elsewhere: Officials in Mecklenburg

County, Virginia, for example, pressured their consulting archaeologists to change a report that concluded a Black cemetery was eligible for historical designation, while in Louisiana, an archaeological firm, under pressure from its clients, edited a report to downplay evidence that a grain facility threatened notable Black historic sites.

Joe Sexton, an Indigenous rights attorney with the Washington law firm Galanda Broadman, said developer-funded archaeologists are a chronic problem in the state. Their reviews “are at best deficient and at worst deliberately negligent in overlooking tribal inter-

ests, overlooking clear potential for, for example, human burials, not considering sacred sites, not discussing with tribal elders and considering oral histories in particular,” he said.

Tetra Tech did not respond to repeated requests for comment.

In an emailed statement, an Avangrid spokesperson said the company has followed “all relevant law and regulation” with regard to the Badger Mountain solar project. The company “has taken additional steps to accommodate stakeholder feedback where possible,” the spokesperson wrote. “We will continue to do so as the project moves forward.”

In late May and early July of 2023, the Colville Tribes and the Yakama Nation officially registered their disapproval of the survey for Badger Mountain with the state agency in charge of permitting the solar project. Last fall, the agency took the rare step of requiring Avangrid to pay for a second, independent survey.

But even a perfect cultural survey only tells the state where cultural resources are; it doesn’t necessarily prevent them from being damaged, removed or destroyed.

In June, at a tribal summit with state agencies and developers in Tacoma, Washington, Yakama Nation archaeologist Noah Oliver criticized the state’s green rush. “It’s a land grab,” he said, pointing to the entire method of siting, permitting and consultation for renewable energy projects. “The system we work under is broken.”

THE YAKAMA NATION considers all of Badger Mountain to be a traditional cultural property — government parlance for a place the tribes have identified as significant and eligible for

federal protections. It is also an important harvesting site for the heirloom foods that make up much of Colville people’s diets. Andy Joseph Jr., an elected member of the Colville Tribal Business Council, estimated that the Badger Mountain project would destroy roughly half the root vegetable harvest in the area.

Joseph said the destruction of tribal food systems began when white settlers arrived, eroding community health and forcing assimilation. The building of Columbia Basin hydroelectric dams in the mid-20th century extirpated salmon from much of the upper Columbia River. The impacts were so severe that the Yakama Nation called the construction of one dam “cultural genocide,” committed to develop renewable energy, and Joseph said the new development plans continue that practice.

Joseph, who has also served on the National Indian Health Board, said protecting the healthy foods on Badger Mountain is vital to the well-being of Native people, who experi-

**“It’s a land grab.
The system
we work under
is broken.”**

SOURCES, pages 29, 30:
USGS; Library of Congress;
Flickr Creative Commons;
Oregon Department of
Transportation; Washington
Department of Natural
Resources via a public records
request; Sara Palmer.

ence some of the nation’s worst health disparities. Tribal leaders have declined to describe or identify their heirloom crops out of concern that the non-Native public might overharvest or commercially exploit them.

“This is one of the last places where our roots aren’t being sprayed by anybody or they’re not grazed over by animals,” Joseph said. “It’s our food cache, and we don’t want it ruined.”

As well as being a source for foods, Badger Mountain is culturally critical as an active ceremonial ground, and some of the rock features crafted by tribal ancestors are spiritual in nature. As they do with root vegetables, the tribal nations keep ceremonial information private to protect it from appropriation or commodification by non-Natives. But Joseph said root harvesting begins with a prayer ceremony, which tribal elders teach to the youth, feeding both the body and spirit.

POLITICAL PRESSURE to advance the Badger Mountain



project has been growing for years. In 2018, the DNR developed a plan to lease out state lands for solar and wind projects. Three years later, Gov. Jay Inslee, D, signed his blockbuster Climate Commitment Act, formalizing a statewide goal of reducing net climate pollution to zero by 2050 and opening the doors to a sweeping array of development opportunities. As of early 2023, developers had proposed 50 new solar and 12 new wind projects across the state, according to government data. Most are in eastern Washington where the ancestral lands of the Colville Tribes and the Yakama Nation are.

By March 2019, the DNR was discussing developing Badger Mountain with Avangrid, which had become a powerful player in the Northwest's push for green energy. The company built Washington's largest solar facility, the Lund Hill solar project, south of Badger Mountain in Klickitat County, and it also operates the largest solar facility in Oregon.

Avangrid, its subsidiaries and its parent company, Iberdrola, have faced legal and economic tumult in recent years, including millions of dollars in fines related to service issues with its subsidiary Central Maine Power and opposition to a now-canceled merger agreement with New Mexico's public utility. In a statement, a company spokesperson said that Central Maine Power had improved its standing and "met or exceeded service quality benchmarks for more than three consecutive years." Concerns regarding the merger were not relevant to Badger Mountain, the statement reads, and the merger "had wide support." The company is "dedicated to being a socially responsible business and corporate cit-

izen," the spokesperson said.

In Washington, as Avangrid was in talks with the DNR about Badger Mountain, the company was also negotiating leases for private lands around the state's parcel and was ready to move ahead.

Before Avangrid could build, however, it would have to satisfy the State Environmental Policy Act, in part by documenting potential cultural resources. That's where the developer-conducted surveys come in.

To conduct its survey of Badger Mountain, Avangrid hired Tetra Tech, a Pasadena-based company that has previously faced criticism for insufficient scientific work. In 2018, two Tetra Tech supervisors pleaded guilty to falsifying records on a shipyard cleanup project in San Francisco, part of an ongoing legal battle over the allegedly inadequate cleanup of a Superfund site. The U.S. Department of Justice joined three whistleblower lawsuits against Tetra Tech. In response, Tetra Tech sued the companies that the Navy hired to look into the cleanup work. This year, a group of homeowners sought class status against Tetra Tech, alleging the company had falsified work that stunted property values; Tetra Tech challenged a separate class action lawsuit about the same site, filing a motion to dismiss and arguing the case was based on "unsupported speculation about alleged widespread data falsification."

Given the issues she found with the survey, Palmer said, "it always seemed like the simplest thing to do would have been to tell Avangrid, 'Look, we're going to need you to hire a different consultant.'"

But the Department of Natural Resources didn't do that.

Critics say the DNR's dual responsibility for both protecting and monetizing state lands has sometimes worked against the interests of tribal nations. "We've seen prioritization of monetary interest, certainly over tribal resources and resources important to Indigenous people," said Sexton, who has represented the Yakama Nation against city and county governments, as well as federal agencies, to protect tribal rights on treaty lands.

The DNR "is committed to engaging Washington's Tribes when it comes to safeguarding lands and resources," agency spokesperson Courtney James wrote in an emailed statement. "While we are committed to using state lands to build the clean energy future we need, we understand the care we must take to ensure projects don't impact critical cultural resources."

In an interview, Michael Kearney, head of product sales and leasing at the DNR, said, "I do understand the concerns with the project proponent hiring their own specialists," adding that "there are potential pitfalls with that." But he said the agency doesn't regulate renewable energy developers and can't force developers to edit their cultural survey reports.

"We generally consider that to be a proprietary or business relationship," Kearney told *High Country News* and *ProPublica*. "We're not really playing that regulatory function."

PALMER, HOWEVER, felt compelled to step in.

After conducting her field work, Palmer emailed her colleagues: "I consider it unlikely that Tetra Tech will be able to produce a legally defensible technical document."

Palmer said her findings quickly escalated tensions. "What I had seen was very inconvenient to the development plans out there, and it was clearly something that the project proponents did not like," Palmer told *HCN* and *ProPublica*. She believed that it put the DNR leadership in a "very uncomfortable situation where they had an unhappy, politically connected developer." Neither Avangrid nor DNR would comment on this characterization.

Avangrid itself pushed back.

On May 5, 2022, about two weeks after Palmer emailed her findings to DNR colleagues, Avangrid's director of business development, Brian Walsh, sent her a string of urgent text messages, which *HCN* and *ProPublica* obtained through a public records request. After Palmer said she wasn't available to talk, Walsh insisted that she keep her findings private and not share them with the tribes.

"I wanted to make sure any comments or concerns based on your field visit to Badger Mtn remain internal until we have had a time to discuss w peer professionals," Walsh wrote. "We would like the opportunity to discuss any of your concerns before they are communicated externally, especially w the tribes."

In fact, Palmer was at Badger Mountain that day — showing her findings to a Colville tribal archaeologist. The DNR shares cultural surveys with the tribes, and Palmer regularly communicated with tribal archaeologists.

"Can you respond to my question on any external communications that you have made on Badger cultural?" Walsh persisted. "Specifically the tribes." Palmer did not respond.

On May 12, 2022, after Palmer told the Yakama Nation about

her findings on Badger Mountain, tribal leaders sent a letter to the state, saying the deficiencies in Tetra Tech's report had far-reaching implications, since the company was doing other work on Yakama lands as well. "At this time we will not accept cultural resources work conducted by this contractor," wrote Casey Barney, manager of Yakama Nation's cultural resources program.

In response, the DNR held a series of meetings with other agencies, Avangrid and tribal representatives. Handwritten DNR meeting notes obtained through a public records request show that Walsh told DNR officials that Palmer had gone "rogue." The DNR confirmed that this was Walsh's characterization of Palmer.

According to Palmer, DNR leadership stopped including her in meetings with Avangrid and appointed the agency's clean energy program manager, Dever Haffner-Ratliffe, as the sole point of communication with Walsh.

Agency group chats show that Tetra Tech instructed its staff not to speak with Palmer, even regarding other projects, for "political" reasons.

Emails from June 10, 2022, show that Walsh asked for the power to vet external agency communications before they went out to the tribes or other agencies and threatened to pull Avangrid's business — by moving the project forward on private lands only, depriving the state of any potential revenues — if the agency didn't comply. He also asked the DNR to issue Avangrid a lease before the state's environmental review process was complete; the DNR and Walsh acknowledged this was something the agency had done for him before under other circumstances. Haffner-Ratliffe

told Walsh that neither would be possible.

But the DNR had been sending Walsh mixed signals. Before his exchanges with Haffner-Ratliffe, the agency had already given Avangrid a letter of intent to lease once the review process was complete, for Walsh to show to his superiors. And the agency had allowed Walsh to vet a draft of the letter before sending it out.

Emails show that the DNR intended the letter to assure Avangrid that Walsh was making progress securing the land, even while the environmental review process was pending. And the agency knew it had to be careful, because the letter could give the impression externally that it had made the decision to lease before the environmental review was complete.

Even after Haffner-Ratliffe denied Walsh's requests for a lease and approval to vet communications, he kept pushing. He kept repeating these requests and asked her to cite state laws supporting her denial of them; he also asked her to loop in a supervisor who could authorize her reply.

By the end of the year, another state lands archaeologist besides Palmer had emailed Haffner-Ratliffe regarding Walsh's behavior in meetings, saying he had been "combative and provocative to me in particular," and tried to "bully me into giving him the answers he wanted." The interactions, she wrote, left her shaking and in a cold sweat.

On Dec. 21, 2022, Haffner-Ratliffe emailed DNR leadership asking them to address Walsh's behavior toward at least three women within the agency. "I've experienced him yelling at me in meetings," she wrote, adding that he had demanded preferential treatment and asked staff to violate state laws. "So far, the

direction I've received has primarily been that I should listen, be cooperative, and communicative." Avangrid and Walsh, who has since left his position at the company, denied asking the DNR to violate any state laws.

DNR spokespeople said the agency addressed some of Haffner-Ratliffe's specific concerns, like making sure managers were present in meetings with Walsh and giving staff the authority to end meetings or phone calls if they became uncomfortable. Nevertheless, Haffner-Ratliffe left the agency in January 2023. In her resignation letter, she said she was leaving because of a "lack of support" and "unprofessional behavior by clients and peers going unaddressed."

Haffner-Ratliffe declined a request to comment for this story.

Walsh told *HCN* and *ProPublica* that Avangrid conducted an internal investigation into his conduct and cleared him of any wrongdoing. Avangrid declined to respond to repeated questions about Walsh's claim.

Palmer continued to advocate for accurate documentation of cultural resources. On Oct. 31, 2022, Tetra Tech updated its cultural survey to reflect some of Palmer's findings, listing more stone structures.

But Palmer told DNR colleagues that the updates were inadequate. "A number of resources that I have observed in the field are not included in this documentation or in previous documentation I have seen from Tetra Tech," she wrote in an email obtained through a public records request.

Palmer added that date estimates were also off, and some stone features were mischaracterized as natural formations, while others were missing entirely.

Still, in May 2023, Avangrid submitted Tetra Tech's updated survey, which then became available to the Colville Tribes and Yakama Nation for feedback.

Avangrid representatives said they were unaware of the issues with the initial survey and, when they became aware of them, modified their project plans to accommodate the tribally significant sites. They acknowledged that the state concluded that the updates were inadequate.

A NUMBER OF tribal officials and sources in state agencies told *HCN* and *ProPublica* that tribal opposition to a cultural survey rarely, if ever, makes a difference. But this time it did.

The permitting authority for the Badger Mountain project is a state agency called the Energy Facility Site Evaluation Council. The agency has the power to recommend proposed renewable energy developments to the governor for project permits. Additionally, it will produce the environmental impact statement and oversee the process of satisfying state environmental regulations.

The Colville Tribes and Yakama Nation both filed official comments with EFSEC stating that Tetra Tech's updates failed to address their concerns. According to the Colville Tribes' comments, the survey included only four of the archaeological sites that Palmer had found and missed additional sites recorded by a Colville tribal archaeologist. The Yakama Nation requested a full redo of Tetra Tech's cultural survey by an independent third party. And this time, tribal concerns were echoed by comments from the DNR and the Washington State Department of Archaeology and Historic Preservation.



SOURCES: USGS; photo courtesy of Andy Joseph; Washington Department of Natural Resources via a public records request.

By October 2023, EFSEC commissioned an independent cultural survey. Karl Holappa, EFSEC’s public information officer, told *HCN* and *ProPublica* that agency leaders do not recall ever previously commissioning an independent cultural survey, and a public records request shows that there’s no record of one at least in the past decade.

Holappa said in an email that EFSEC took this step to “ensure confidence in the outcome of the Survey by all parties.” He added that the new cultural survey will replace Avangrid’s and that the date of completion will partly depend on when the snow melts, making the ground visible again.

The new cultural survey doesn’t necessarily mean that EFSEC will recommend against issuing a permit for the Badger Mountain project. “I’ve never had EFSEC stop a project on cultural resources — not that I’m aware of,” said Allyson Brooks, the historic preservation officer in charge of the Department of Archaeology and Historic Preservation. Holappa said EFSEC doesn’t have the authority to

stop a project during the site evaluation process. The DNR and the Department of Archaeology and Historic Preservation also said they lack the power to approve or deny a project.

Still, EFSEC can advise the governor not to permit the project, and the DNR could also withhold a lease. State law does authorize agencies to deny a proposed project if it would have significant impacts and insufficient mitigations.

In an email to *HCN* and *ProPublica*, Holappa said EFSEC thoroughly examines impacts on cultural resources and tribal concerns during the site evaluation process. “EFSEC will complete its review before making any recommendation to the Governor either to reject this project, to approve it as proposed, or to approve it with additional conditions,” he wrote.

Oliver, the Yakama Nation archaeologist, said having tribal nations take the lead on renewable energy development would be one way to solve the bigger problem. “They’re the ones who have the knowledge” to avoid sensitive sites, he said.

The developers themselves can also include tribes: For the Lund Hill renewable project, Avangrid contracted directly with the Yakama Nation to survey the land. Oliver also recommended the state survey public lands and catalog cultural resources before any developers propose projects.

Brooks, the state historic preservation officer, has been working with the governor’s office on a pilot project to do that, allocating about half a million dollars for the Department of Archaeology and Historic Preservation to inventory cultural resources on some state lands.

Some critics say that plan still overlooks the core issue: Federal and state governments don’t recognize tribal nations’ authority to stop or alter development projects that threaten cultural resources on off-reservation lands where they hold legal rights.

“It’s incredibly important for tribal nations to have a decisive say over their land, territories, resources and people,” said Fawn Sharp, vice president of

the Quinault Indian Nation and former president of the National Congress of American Indians. “For us to fully engage and fully exercise the broad spectrum of authorities that are inherent to our sovereign interests, we absolutely must have free prior and informed consent as a recognized policy.”

Meanwhile, the Yakama Nation is using federal funds to build solar panels of its own, in a way that it says supports tribal communities. “Non-carbon emitting energy projects are positive advancements our state and country needs, but not at the cost of our traditional grounds and resources,” Yakama Nation officials wrote in an emailed statement to *HCN* and *ProPublica*. “Yakama Nation supports responsible energy development efforts. The Badger Mountain project, and the developer’s approach to advancing the project, fall far short of responsible energy development.”

In early 2023, Palmer left the DNR, in part due to her frustration with the Badger Mountain project. “I would like to think that we can model a better way to do rural economic development,” she told *HCN* and *ProPublica*. “I would like to think there are alternative ways of operating that aren’t just corporations preying on people, and no regulation.” ✨

Mariam Elba contributed research.

This article was produced in partnership with ProPublica’s Local Reporting Network.



Cruise ship tourists visiting Nome, Alaska, approach a herd of musk oxen, causing the animals to form a protective circle.
Diana Haecker/The Nome Nugget



LEARNING TO LIVE WITH MUSK OXEN

Musk oxen were introduced to the Seward Peninsula decades ago, without local consent. Now they pose danger to life and property.

By Megan Gannon

BY THE AFTERNOON of Dec. 13, 2022, idyllic winter conditions had finally arrived in Nome, Alaska. Famous for hosting the finish of the Iditarod sled dog race, this remote town is closer to Russia than it is to Anchorage; here, vast tundra landscapes meet the sea ice that forms over the Bering Strait. A series of dreaded rain-on-snow events earlier in the month had made winter travel miserable. But now, a fresh white blanket covered the rolling hills, reflecting the pinks and blues of a clear sub-Arctic sky. Snowmachines were whining, and the local mushers were looking forward to another season of exercising their sled dogs. One of them, Curtis Worland, took a break from work to visit his kennel on the outskirts of Nome.

Worland was a court services officer for the Alaska State Troopers, a job that involved prisoner transport and court security. At the kennel, though, he had other obligations. Keeping a dog lot anywhere requires a constant loop of chores: feeding dogs, running dogs, scooping up dog poop. But keeping one in Nome comes with additional responsibilities: monitoring threats from musk oxen, stubborn, shaggy animals with formidable horns and a record of attacking dogs. During his decade as a musher, Worland, 36, had seen Nome's musk oxen problems increase. He shared the dog lot with his wife and their friends, and about once a week, when musk oxen got too close, he took on the task of keeping them away. On Dec. 13, he was on a snowmachine, trying to scare off a herd that had come within a quarter-mile of the lot. No one else witnessed what happened, but one of the animals charged him. Worland received a fatal laceration to his femoral artery, and by the time emergency responders arrived, he had bled out.

The portrait that the Alaska State Troopers released in their announcement of his death shows a serious-looking man in a uniform and a fur hat. But in the slideshow during his memorial service at the local recreation center, Worland is often wearing an open-mouthed smile, or tearing it up on a dance floor. Sudden deaths are painful in any small town — Nome has around 3,700 people — and Worland was a well-liked member of the community, remembered for his adventurous spirit and love of hunting and the outdoors.

Worland was also Nome's first musk

ox-related human fatality.

On the Monday afternoon following his death, nearly 20 residents crowded into a small conference room at the University of Alaska Fairbanks campus in Nome. The Northern Norton Sound Fish and Game Advisory Committee was meeting for its biannual discussion of policy recommendations for state decision-makers. It's the kind of meeting that rarely excites the public, but this one turned into an impromptu hearing on the town's musk oxen problem. A dozen locals either called in or showed up in person, with several testifying to frequent run-ins and fears of more encounters. Musers said that dogs were getting gored and it was getting harder to protect their kennels — but they were worried that any deterrence efforts would lead to accusations of wildlife harassment.

The Nome Nugget, the local newspaper where I work as a reporter, published Nome resident Miranda Musich's statement to the panel. "What happened to Curtis was the final straw for me," she said. "We understand that musk oxen are here and that they will not go away, but we feel that they have been mismanaged and that we don't have the right to protect ourselves and our property without risk of us being prosecuted for defending ourselves." After the tragedy, Musich helped compile testimonies from other residents. To many in Nome, Worland's death wasn't a freak accident; it was an indictment of the region's musk oxen management and the century of decisions that brought them here.

ONE IÑUPIAQ WORD for musk ox is *umiñmak*, a term that refers to the animal's beard-like coat. The word's existence speaks to the Iñupiat's long relationship with musk oxen, which once roamed the Arctic. Their decline is often attributed to climatic changes after the last ice age, along with predation and hunting. Around Nome, few if any Indigenous stories about the animals survive.

MaryJane Litchard, an Iñupiaq artist and healer who grew up in Lost River, Teller, Anchorage and Nome, told me that she never heard stories about musk oxen growing up, "not even (from) my granduncle when he told me true ancient stories." Elders told her that people sometimes saw creatures that were extinct, like mastodons. As a teen-



ager in the 1960s, Litchard heard someone describe seeing a blue-colored musk ox and asking an elder if they'd seen a ghost.

Records from early European settlers suggest that by the time they arrived, the animals were already rare in the region, mostly restricted to far northeastern Greenland and Northern Canada. "Epidemic disease associated with exploration and colonization — 1837 smallpox, 1900 measles, 1917 influenza — caused massive culture disruption," said Jim Magdanz, who worked for the Alaska Department of Fish and Game's Division of Subsistence from 1981 to 2012



and has searched for stories about musk oxen. “In some villages, only children survived. Indigenous histories of musk ox use either died in the epidemics or were rarely recorded when oral histories were written by explorers and settlers.”

The average visitor to Nome today would never guess that musk oxen were ever ghosts on the landscape. The animals adorn guidebooks and artwork at gift shops and draw wildlife viewers and photographers. With their bulky coats, sloping shoulders, short legs and upturned horns, it’s not hard to picture them roaming alongside saber-

tooth tigers, woolly mammoths and other big-bodied beasts of the Pleistocene. But all the musk oxen around Nome today have ancestors that saw the inside of a train station in New Jersey. Their reintroduction to Alaska was the result of a decades-long campaign by early 20th-century settlers and promoters, one that followed a template used many times over before and since: it was a plan for developing the Arctic, drawn up without the consent of Indigenous people.

Even before the gold rush arrived in Nome, settlers were tinkering with the region’s large fauna. On the treeless tundra

A musk ox roams the colorful fall tundra about 30 miles north of Nome, Alaska.

Diana Haecker/The Nome Nugget

landscapes, missionaries imagined fields of grazing animals and a whole new economy that would feed — and help assimilate — Alaska Natives. Later settlers saw an opportunity to make their own fortunes. The introduction of domestic reindeer is perhaps the best-known attempt to turn this colonial fantasy into reality. But others championed musk oxen as an Arctic agricultural alternative, among them Vilhjalmur



A herd of musk ox in Fairbanks, Alaska, c. 1890-1932 (top). **Fannie Quigley Collection, Alaska and Polar Regions Collections, Elmer E. Rasmuson Library, University of Alaska Fairbanks, UAF-1980-46-85.**

A man feeds musk oxen at the University of Alaska Musk Ox Farm, c. 1964-1974 (above). **Historical Photograph Collection, Alaska and Polar Regions Collections, Elmer E. Rasmuson Library, University of Alaska Fairbanks, UAF-1983-209-53.**

Stefansson, a Canadian anthropologist who relentlessly promoted the observations he made during a series of Arctic expeditions in the early 1900s. On one expedition, he interviewed Indigenous people and settlers, who told him of a hunting party that had killed a small herd of musk oxen around 1858. “Since then,” he wrote, “no one near Point Barrow is known to have killed musk ox or seen them,” marking their presumed extirpation from the region. After encountering the animals and hunting them in the Canadian Arctic, he endorsed the species as a source for the U.S. meat market.

Though Stefansson sometimes challenged outsiders’ notions of a “lifeless” and “desolate” Arctic, some of the colonial representatives who supported him did not. Stefansson apparently made a case for repopulating the Arctic with musk oxen to Thomas Riggs, governor of the Territory of Alaska from 1918 to 1921. In his 1918 report to Congress, Riggs thanked Stefansson and wrote that musk oxen seemed “designed to make a productive country” out of “barrens now serving no purpose” — revealing the governor’s view of the Indigenous homelands of Northern Alaska.

Irving McKenny Reed, who grew up in Nome’s gold-mining camps and was an early member of the Alaska Game Commission, was also a major force behind the reintroduction. He met Stefansson in Nome, collected stories about musk oxen across Alaska, and, in 1922, traveled to New York, where he spoke with New York Zoological Park Director William Hornaday about the zoo’s experience with the species. Reed also promoted the scheme to the U.S. Congress, which in 1930 allocated \$40,000 to the U.S. Biological Survey to acquire and domesticate musk oxen for Alaska.

It would be another 40 years before the animals set hoof on the Seward Peninsula. In the summer of 1930, Norwegian sailors captured dozens of young musk oxen in eastern Greenland, and 34 of them arrived by steamship in New York Harbor that September. After a monthlong quarantine, they began an epic journey, by train and steamship and train again, from New Jersey to their near-final destination outside Fairbanks. Eventually, the herd’s habitat, in a clearing in a boreal forest, was deemed unsuitable — due in part to the cost of the fencing required to

keep musk oxen in and black bears out — and the Biological Survey’s plans to domesticate them were abandoned. Thirty-one musk oxen were moved to Nunivak Island, off the coast of southwestern Alaska, in 1936. The population grew, and a program for transplanting them to the mainland was launched by state and federal partners in 1967.

In 1970, 36 musk oxen were transferred to the Feather River watershed, about 25 miles northwest of Nome. They didn’t stay put. Within a year, they had traveled farther north and were living around the village of Brevig Mission. State and federal officials added another 35 animals in 1981 to supplement the fledgling population. After that, it took off, expanding across the Seward Peninsula. The population hit a peak in 2010, with a survey count of 2,903, but then declined until 2015, when it stabilized. The most recent survey of the peninsula’s musk oxen, in 2021, counted 2,071.

NOME HAS A TRIBALLY OWNED hospital, direct Alaska Airlines flights to Anchorage, and a gravel road system that makes it possible to access the varied landscapes of the Seward Peninsula. But no roads connect it with Alaska’s cities: Mass-produced food and supplies must be flown or barged in, and the cost of living is high. In 2022, gas prices reached more than \$7 a gallon; a gallon of milk can cost \$8. The price of remoteness is even higher in the villages scattered around the Bering Strait. Nome serves as the hub community for 15 of those villages, which are majority Alaska Native and range in size from 80 to 800 residents. Inequities rooted in colonialism mean that several still lack basic services like water and sewer systems. Residents’ ability to put local fish, meat and berries in their freezers is crucial not only to their food security but to the survival of centuries-old traditional lifeways.

“To limit describing our way of life to ‘food security’ would be like viewing the bread and wine of Communion for the poverty-stricken from purely a nutritional standpoint,” Melanie Bahnke (St. Lawrence Island Yupik), president and CEO of Kawerak, the region’s tribal nonprofit consortium, said in testimony to the Senate Committee on Indian Affairs in 2013. “Our subsistence way of life provides us with sustenance, a sense of well-being and purpose, a feeling

of belonging, the understanding that we are part of something much bigger than us as individuals, pride in carrying on a way of life passed down from generation to generation, joy in sharing, and also serves as the core of our identity as an Alaska Native civilization.” She also described the barriers that impede the survival of these traditions: In order to harvest resources such as salmon, moose and, now, musk oxen, Alaska Natives must navigate a thicket of multi-jurisdictional policies, all while contending with the colonial legacy of exclusion from resource governance. Bahnke told me that she stands by those words today.

Before musk oxen were introduced northwest of Nome in 1970, state and federal officials typically didn’t consult, let alone inform, nearby residents. And the main purpose of the introduction — to provide meat for residents — wouldn’t be fulfilled for another two decades, because the population had to multiply before hunting could be authorized. As a result, the imported musk oxen had to coexist with human communities that had not consented to their presence, saw no immediate benefit from it, and had little or no recent experience with the animals.

Friction between the new neighbors was, perhaps, inevitable. Kate Persons was the area biologist for the Alaska Department of Fish and Game’s Nome office between 1997 and 2007, when musk oxen had reached the periphery of Nome but had not yet become regulars in town. Most of the complaints about the animals that Persons fielded came from the villages. “People just really didn’t like them, and that was a pretty prevalent feeling throughout the villages at that time,” she recalled. Musk oxen often move in herds, which can range in size from a handful of animals up to 75. And while many animals flee from humans, musk oxen tend to hold their ground, forming a tight line or circle. That makes them easy to hunt, but hard to scare off if they are, for example, trampling traditional gathering grounds for berries or tundra greens.

When musk oxen hunting finally became a possibility in the Seward Peninsula in the mid-1990s, its management was convoluted and controversial. Many of Alaska’s resources are governed by a dual-management system, meaning that multiple federal and state authorities may share responsibility for

wildlife. And their policies don’t always align. For instance, the federal Alaska National Interest Lands Conservation Act, passed in 1980, gives priority to rural residents, who are majority Indigenous, in their use of fish and wildlife for subsistence purposes. In 1989, the state Supreme Court deemed such preferences illegal on state lands, and some in the hunting community continue to push back against the priority access held by rural Alaskans under federal law. Although some 60% of Alaska is federal land, most of the area immediately around Nome falls under state jurisdiction.

Local subsistence users weren’t the only group interested in hunting musk oxen. When sport hunting for the animals began on Nunivak Island in the 1970s and on the North Slope in the 1980s, locals in these regions had to compete for state hunting permits with sport hunters from Anchorage or Fairbanks. The Seward Peninsula is easier to access from these cities, and in the 1990s, many peninsula residents feared they would face even fiercer competition for permits. After the area’s musk oxen population dropped by nearly 25% between 2010 and 2012, the state put more restrictions on hunting. Now, all applicants for state permits to hunt musk oxen around Nome must document an economic need for the animal’s meat. During the 2022-’23 season in the Seward Peninsula, 29 musk oxen were harvested in the state hunt, and five were taken on federal land.

BEYOND THE POLITICS of hunting them, the management of musk oxen around Nome is complicated by how the animals move — and don’t move. Starting around 2007, for reasons researchers and managers can’t fully explain, musk oxen seemed to become especially keen on Nome. They began spending more time in town, and reports of conflicts accumulated: Musk oxen broke through fences, mounted doorsteps, obstructed traffic and trampled gravesites. They gored beloved pets. Before the Nome Airport installed a perimeter fence in 2019, herds sometimes interfered with flights by blocking the runways.

The state doesn’t consistently track human-musk oxen conflicts, but *The Nome Nugget* tries to document any incidents. In fact, less than 24 hours before Worland’s

death, I spoke to Shawn Pomrenke, a Nome resident and a star of the reality TV show *Bering Sea Gold*, whose 10-year-old dog Kona had just survived her second gruesome brush with a musk ox. Pomrenke said he thought more action to reduce conflicts would occur only after someone got hurt. The following day, his words felt eerily prescient.

Why are musk oxen so attracted to Nome? There are a few theories. The presence of humans might shield them from predators like brown bears. Town might offer better dining options, too: Musk oxen usually start wandering into Nome in larger numbers in May, when plant life is starting to reemerge. Claudia Ihl, a biologist who has been studying musk oxen for more than two decades and is an associate professor at the University of Alaska Fairbanks campus in Nome, suspects they're drawn to disturbed sites in and around town, where thick stands of nutrient-packed young horsetails, willows, sedges and grasses sprout early in the season. "If they can access sites like this, where they're ahead by even just a week or so, and get this nutrient peak as early as possible, it just gives them a huge advantage," Ihl said. In fact, she thinks the musk oxen help tend these urban pastures. "By coming back repeatedly, cropping these and leaving some fertilizer, they're basically maintaining their own lawns," Ihl said.

A further complication for managers — and residents — is that more than one subpopulation of musk oxen likes to hang out in and around Nome. Stefansson believed that the animals rarely traveled more than five miles a month. But musk oxen defied those sedentary expectations soon after their reintroduction to Alaska, and in recent decades, state and federal biologists have tracked musk oxen crisscrossing the Seward Peninsula in stunning walkabouts.

Managers and residents have been building an unofficial body of research in another area: musk ox deterrence strategies. Over the last 15 years, state managers, airport officials, dog lot owners and others in Nome have tried to scare off musk oxen with bean-bag guns, fire hoses, squirt guns, helicopters, bear urine, chainsaws and crumpled water bottles — no one knows why, but some musk oxen hate the sound of a plastic water bottle being crumpled. So far, it seems that heavy-duty game fencing is the only reliable



way to keep humans and animals safe from musk oxen. "If you don't want wild animals in your yard, fencing is the answer," said Sara Henslee, the Alaska Department of Fish and Game's current area wildlife biologist for Nome. Henslee said local discussions always seem to revolve around what the agency is doing to push musk oxen out of town. "Really, the conversation I think should be how do we protect our property permanently, which is through the use of fencing." Some community members resent the suggestion that fencing is the only solution. Fencing doesn't eliminate the prospect of unwanted encounters on mushing and hiking trails near town, though backcountry travel has always carried risks. And while musk oxen are less of a nuisance in town in winter, Nome's notorious snow drifts can grow tall enough to render even the strongest fence useless.

The Department of Fish and Game and

other managers have improved their consultation policies since musk oxen were introduced to the Seward Peninsula, but those changes can't solve the current problem — or erase the original insult. "I think that's where all of this contempt of the animal comes from, this feeling that we didn't even want them here," Henslee said. "That's the number one thing I hear. I can have discussions all day long with folks about what they need to do, and they just come back and say, 'Well, we never wanted them here in the first place.'"

After Worland's death, Fish and Game faced pressure to go beyond its recommendation of better fencing. The Northern Norton Sound Fish and Game Advisory Committee, whose December 2022 meeting was unusually crowded, met again in March 2023. This time, the only attendees were the committee members, Henslee, myself and a hunting guide who called in to talk



“I can have discussions all day long with folks about what they need to do, and they just come back and say, ‘Well, we never wanted them here in the first place.’”

A herd of musk oxen occupies the Nome Public Safety building, camping out on the gravel parking lot and roaming the premises. Musk oxen increasingly take up residency inside Nome city limits during the summer.
Diana Haecker/The Nome Nugget

about bears. Henslee announced that Fish and Game would raise its annual musk oxen hunting quota in the Nome area from nine animals to 30, and that the hunt would include female musk oxen for the first time in a decade. The intent is in part to make Nome less appealing to musk oxen, though a few seasons will likely be needed to test the strategy’s effectiveness.

Some committee members feared the measure went too far and could unintentionally cause the population to collapse. Other residents thought the changes didn’t go far enough. Kamey Kapp-Worland, Curtis’s widow, said the lack of more proactive deterrence measures by Fish and Game dishonored her husband’s memory. Just a few weeks earlier, Iditarod musher Bridgett Watkins had carried Worland’s ashes to Nome in her sled. She crossed under the burlwood arch at the finish line accompanied by a procession of emergency response and law enforcement vehicles.

AT THE HEART of the controversy lies a bigger question. “Would the musk ox situation in Nome be different if the people of the Seward Peninsula had managed them all along, instead of the Alaska Board of Game and the Federal Subsistence Board?” wondered Magdanz. “For me, that’s kind of the big question that faces all of Alaska. ... Would Seward Peninsula people have made different decisions? And would this musher be alive today if local people had more authority in managing these resources?”

After Worland’s death, Melanie Bahnke of Kawerak wrote an open letter to policymakers and game managers, asking for further action to protect the community. “Our Tribal Leaders and elders traditionally were the ones who made decisions about the take of fish and game in our region and what is reasonable and allowable and what measures to take to protect our people,” she wrote. “I guarantee this situation would not be as out of hand as it is now if that authority had not been replaced by the current management regimes that are woefully inadequate considering the fish crashes and the current threat to humans posed by musk ox.”

Still, locals who manage to regularly get hunting permits are finally seeing the benefits of musk oxen. They’re good eating, and in winter they have unusually lightweight

but super-warm underwool, called *qiviut*, that can be spun into yarn and is far more valuable than cashmere. Roy Ashenfelter, an Iñupiaq hunter from White Mountain who spent decades working on various subsistence advisory boards and who now chairs the board of the Bering Straits Native Corporation, has seen public opinion about musk oxen become more divided. “Now you’ve got a situation where that dynamic is not to one side — it could be argued equally on both sides,” Ashenfelter said.

There’s no time machine to reverse the situation, and no one is seriously campaigning to eliminate musk oxen from the Seward Peninsula. Bahnke and her colleagues at Kawerak are strong advocates of more co-management and co-stewardship of the region’s resources, but right now they are focused on the salmon crisis, which affects far more households. “The most urgent situation, and thus where most of our energy has been spent, is with our fish declines,” she told me.

As Nome continues to negotiate its relationship with musk oxen, the animals might serve as a cautionary case study for state and federal agencies. When I dug through the old arguments for their introduction, trying to understand the roots of current frustrations and resentments, I was struck by a sense of familiarity. The excitement about musk oxen from Stefansson and his ilk was fueled by outsiders’ dreams of untapped Arctic potential: the boom that’s just around the corner, the fix that’s bound to guarantee prosperity to a region remote from national power centers. In 2023, the details of the schemes look different — an expanded port to accommodate more cruise ships and cargo barges and military vessels, a graphite mine to accommodate the national drive for American-sourced critical minerals — but their shape remains familiar. Often these plans come from outsiders who imagine something new and grand here, whether it’s a field full of productive ungulates or a Navy destroyer in port. And, now as then, they offer vague promises of local benefits, accompanied by serious questions about the control of resources — and the specter of tragic consequences. ☀

This story is part of our Conservation Beyond Boundaries project, which is supported by the BAND Foundation.

Notice to our advertisers: You can place classified ads with our online classified system. Visit hcn.org/classifieds. Feb. 5 is the deadline to place your classified ad in the March 2024 issue. Email advertising@hcn.org for help or information.

Advertising Policy — We accept advertising because it helps pay the costs of publishing a high-quality, full-color magazine, where topics are well-researched and reported in an in-depth manner. The percentage of the magazine's income that is derived from advertising is modest, and the number of advertising pages will not exceed one-third of our printed pages annually.

EMPLOYMENT & EDUCATION

Development Director, Grand Staircase Escalante Partners — <https://gsenm.org/development-director/>.



Live and work in the Oregon Outback — Seeking Facility and Site Manager and Residency Coordinator. Two positions equals 1.5 full-time equivalent, with private two-bedroom house, garage and studio. Responsible for 75-acre property with cabins, studios, central lodge. Responsible for resident and guest services. PLAYA is an equal opportunity employer. Send résumé and cover letter to: info@playasummerlake.org. www.playasummerlake.org.



Executive Director — CalWild (formerly known as the California Wilderness Coalition).

For 47 years, CalWild has protected and restored California's public lands and wild waters for communities to enjoy and nature to thrive. CalWild's priorities include: balancing climate resilience, recreational and commercial access,

biodiversity loss, and connecting people to nature and building strong, diverse partnerships.

CalWild is seeking an Executive Director to lead the organization into a new era of environmental conservation in California. The position is a full-time, salaried CalWild employee based in California.

How to apply: Please send a cover letter explaining your interest in CalWild and summarizing key experiences, résumé and a short writing sample to admin@calwild.org. Also, please reference where you saw the job posting in your cover letter.

For a full job description, go to: calwild.org/careers.



GARDEN & OUTDOOR

Western Native Seed — Native plant seeds for the Western U.S. Trees, shrubs, grasses, wildflowers and regional mixes. Call or email for free price list. 719-942-3935. info@westernnativeseed.com or visit us at www.westernnativeseed.com.

PROFESSIONAL SERVICES

The Sharpist is a Denver-based mail-order surgical instrument-sharpening service established in 2009. Specialties include surgical scissors, dental elevators, trocar sets and gynecological biopsy forceps. Info at www.thesharpist.com or 720-277-9071.



Environmental Services — We characterize contaminated sites and locate buried drums, tanks, debris and also find groundwater. 208-501-9984. www.ecageophysics.com.



PUBLICATIONS & BOOKS

UTE LEGENDS — These carefully researched stories reflect a deep and abiding understanding of Ute culture and history. These authentic, colorful legends also illustrate the Utes' close connections to nature. Available wherever books are sold.



Homesick: Why Housing is Unaffordable and How We Can Change It — A timely, damning and ultimately hopeful investigation of housing in the United States. Essential reading in the West. bobrien.us.



William Skinner Cooper's Mountains W.S. Cooper's climbing adventures between 1904 and 1908 are set forth in this lively recollection by the man who, later in life, would persuade Calvin Coolidge to declare Glacier Bay a national monument and was the chair of the Ecological Society of America. His month of climbing in Colorado's San Juan Mountains with John Hubbard is said to be one of the most productive in the state. In hobnail boots and carrying canned pork and beans instead of freeze-dried food, the two climbed some of the most difficult peaks, including three first ascents in the rugged Needle Mountains south of Silverton. This is one of the earliest Colorado mountaineering manuscripts known and previously unpublished. Thanks to the family, it is now available to the public. Hardback. Quality production with black-and-white photographs. A mountaineering classic, and a good read. Send check for \$40, and I will mail it. John Lacher, 1597 S. Washington St., Denver, CO 80210.

REAL ESTATE FOR RENT & SALE

12 acres in Eagle, Colorado! — Tranquility and land are becoming more and more rare. This land is a haven for peace, where nature beckons and flourishes. Enjoy the mountain views from your future dream home in this natural sanctuary where wildlife and meandering Eby Creek are your constant companions. Seller has added natural pathways in the creek and hillside areas of this 12-plus-acre lot. Building site sits above the creek. Recent survey is complete. A new, permitted well is in place; gas and electricity are on property. Private, ideal location off the "beaten path," yet a mere two miles to City Market and I-70 on county-maintained road. Come and walk the land for an understanding of this precious gem! With building costs going down and land more scarce, an amazing opportunity for acreage and proximity in Eagle. <https://1950-ebey-creek-road.yourvailhome.com>. 970-688-0915. brookevailkw@gmail.com. www.SearchVailHomes.com.



Coming to Tucson? — Popular vacation house, everything furnished. Two bedroom, one bath, large enclosed yards. Dog-friendly. Contact Lee at cloler@cox.net or 520-791-9246.

Tranquil base — Unique, environmental, modern, back-to-the-land homestead. 20 acres forested, all-year spring, seasonal stream, pond, and good well! Organic garden and orchard (est. 1969). Four separate house units with center patio-atrium, private, accessible by good roads. Prime location for solar. Shop, garages, and woodshed for gardening, potting, recycling, implements. "Sowna" (infrared), "bunker"/generator. 24' pool, H2O catchment off rooves, eight storage tanks equaling a total of 31k gallons. Much more. ... For a 10-page color 77-picture "Owner Prospectus," send \$10 money order or bank

check (no personal checks) to D. Bowman, 16463 Terrapax Place, Grass Valley, CA 95945-9354. 530-798-6699. bowmandavidt01@gmail.com.



TOURS & TRAVEL

Canyonlands Field Institute — Field seminars for adults in the natural and human history of the Colorado Plateau, with lodge and base camp options. Small groups, guest experts. 435-259-7750. cfimoab.org.

NO-TILL GROWERS
 WWW.NOTILLGROWERS.COM
 @NOTILLGROWERS
 PODCASTS, VIDEOS & FORUM FOR ECOLOGICALLY-MINDED GROWERS

Western Leaders Network
 Inspiring a new generation of pro-conservation local, tribal and state elected officials.
 Support us with a tax-deductible contribution
 WesternLeaders.org • A non profit 501c3

Learn your craft.
 Elevate your art.
 Inspire the world.
 MASTER OF FINE ARTS IN CREATIVE WRITING WITH AN EMPHASIS ON NATURE WRITING
 LEARN MORE: western.edu/mfa
WESTERN COLORADO UNIVERSITY
 MFA. M.A. IN CREATIVE WRITING

Share Your Love for Public Lands
Great Old Broads FOR Wilderness
February Special
 Join us as we celebrate 35 years of protecting wilderness & wild lands!
 Become a sustaining member or increase your monthly giving and get a special gift that'll suit you to a "tee"!
www.greatoldbroads.org/feb-special

EXPERIENCE THE SCENIC
san juan river
 3-DAY UPPER CANYON TRIPS
 May 16-18
 May 23-25
 June 17-19
 4-DAY LOWER CANYON TRIPS
 May 18-21
 May 25-28
 June 1-4
 5-DAY FULL CANYON TRIPS
 May 9-13
 May 30-June 3
 June 6-10
 June 13-18 6-day watercolor workshop
 HOLIDAY RIVER EXPEDITIONS
 800-624-6323 • www.BikeRaft.com

Room for all

Humans don't have to behave like an invasive species.

BY RUXANDRA GUIDI

LIKE MANY OTHERS, I typically listen to my local public radio station while I'm driving, my attention drifting in and out as I gaze out of the windshield. But my ears pricked up on a recent morning once I realized the entire newscast was dedicated to local wildlife.

There was something about the pack of some 30 to 50 javelinas that ripped up a golf course near Sedona, Arizona, about 200 miles from where I live, followed by talk of the recent sighting of a jaguar, a species that ranged across Arizona and Sonora, Mexico, until construction of the border wall blocked the way last year. Finally, there was an update on Mexican wolf reintroduction efforts in New Mexico and Arizona. The results were mixed: Nine of the wolves had died or been killed recently.

Whether it's through invasive species, habitat loss, resource extraction, grazing, pollution or climate change, our own lives are constantly intersecting with those of wild animals. Of course they are: Despite our arrogant sense of superiority over nature, we are all absolutely dependent on each other and on our habitats; biodiversity and a healthy, functioning environment are essential to sustaining life. Entire ecosystems have long been altered and degraded by humans to the point that they're nearing collapse more rapidly than we had ever imagined. Human impact defines the current era — the Anthropocene, or as some pointedly call it, the Capitalocene.

As I sat in my car, listening to the news, I felt helpless, even mournful. What would it take for most of us to understand that the javelinas' raid on that heavily irrigated golf course

in the desert was a sign that maybe irrigated golf courses shouldn't be in the desert to begin with? The way I saw it, the javelinas weren't invading the site; they were reclaiming it. After all, the javelinas' needs — for food, for space — are more basic than a few privileged humans' desire to play golf. When, later, I told our daughter about this story, her response was more reasonable than mine was. Why, she asked, couldn't golf courses just be smaller and made of dirt? There could be compromise; Sedona could follow the lead of Las Vegas and ban "nonfunctional" grass. In any case, she said, the javelinas were just speaking up and demanding what they felt was theirs, too. Now it was our turn to respond.

I wish I still carried some of her innocence. Some days, I do, and compromise between species, more tolerance and humility, feels possible. The last time we visited our local zoo, my daughter pointed out the animals' faces— *look how cute!* — and delighted in their calls. But whenever I heard the squirrel monkeys' high-pitched cries, my mind immediately went to a dark place: All I could think about was how captivity might impact the animals' emotions and how those emotions may be undermined or misunderstood by us.

For years now, researchers like Marc Bekoff, professor emeritus of ecology and evolutionary biology at the University of Colorado Boulder, have acknowledged that animals are conscious beings, capable of complex feelings like empathy and emotion. Yet that awareness hasn't been enough to change our behavior toward them. Then again, it sadly — and obviously — hasn't kept us from hurting our fellow human beings, either. We haven't changed, even though we now know that our impact — not just on wild animals but on the ecosystems that they, and we, depend on — won't be easily reversed.

Let's take the Arizona Mexican wolf pup reintroduction effort that I heard about in the news. Back in the 1970s, the species was on the edge of extinction — the last sighting of a Mexican wolf in the wild happened in 1970. Then, 25 years ago, a federal reintroduction program was launched in New Mexico and Arizona; today, almost 250 Mexican wolves are believed to be in the wild, although every year, humans illegally kill one out of 10. Think about it: For the past 25 years, scientists have been working diligently to restore the native



wolf population, and yet are unable to neutralize its greatest threat. The wolf recovery effort is necessary, but it's extremely difficult because we humans keep getting in the way. We hold the key to the animals' future: Whether they survive or go extinct largely depends on us.

I know I have a romantic notion of nature; many people, particularly scientists, have told me. Recently, I felt that naiveté creeping in as I spoke with Jeff Crooks, an ecologist in San Diego, California, who focuses on coastal wetlands.

He told me it's understandable that we



A javelina passes through the author's front yard in Tucson, Arizona, last November.
Roberto (Bear) Guerra

should be concerned about the collapse of species but added that “context is everything.” Not all human impacts on the environment will lead to destruction, just as not all invasive species are bad for ecosystems. Take, for example, the eucalyptus tree, which is native to Australia and was introduced to California about 150 years ago. Today, it is a favorite winter home for an imperiled native species: the monarch butterfly. The honeybees we so love were brought to North America from Europe in the 17th century. Also, consider us: Could we be the most invasive species of all? We spread across the planet around 15,000

years ago and have been moving ever since. Historically, though, we have been a part of our ecosystem instead of separate from it. We might behave like a noxious invasive species, but we don’t have to.

We should be having candid conversations about all of this, Crooks said, especially in the age of climate change. And those conversations need to be informed by science and data, because those are the only tools that will help us make increasingly harder decisions about how to adapt or preserve life on Earth.

“What we want is for people to guard it,”

he told me, “to restore that sort of cultural landscape.”

I fight the worst-case scenarios that can keep me up at night. I don’t do well with helplessness, because helplessness leads to paralysis, to disassociation, to no longer wanting to take care of what matters to us most. Instead, I think about how it must be a hopeful sign that my local news now regularly covers the challenges of coexistence and possible solutions to our problems, and that our daughter, in her view of both humans and nature, is much more empathetic and wise than I could ever be. That’s progress. ✨

A hybridness in life and food

Chef Preeti Mistry charts their own path.

BY MADHUSHREE GHOSH
PHOTO BY TASH KIMMELL

PREETI MISTRY'S ARM TATTOO — *dharyra* in Devanagari script — signifies *patience* in Hindi and epitomizes what a chef like Mistry needs to have, both in the kitchen and in life. A two-time James Beard Foundation nominee for “Best Chef of the West,” Mistry grew up in the United States and considers Indian flavors their roots, as much as childhood burgers and pizza.

In *Plate*, they wrote, “My food is not a reach to grasp ... from halfway across the world. ... It’s just like me: too Indian to be considered American, too American to be considered Indian. We are the generation in between.”

They’re known for creating dishes that highlight their roots. Both of Mistry’s Oakland restaurants boasted very Mumbai-dishes, including a mason jar of puffed rice with a cilantro mint chutney, with a mix of red grapes, peanuts, red onion and chickpeas — reminiscent of Mumbai’s *bhel*, a street food found at every roadside corner and train stop. Paying homage to their Gujarati/Indian roots as well as to their Midwest American upbringing, Mistry’s menu included flaky *pav* — *pav*, or buns, a Portuguese term for rolls in India, a post-colonization street food — pork vindaloo sliders, Manchurian cauliflower, an homage to fusion Indian food, created in 1975 by third-generation Chinese immigrant Nelson Wang at the Cricket Club of India in Mumbai. Not to mention tikka masala mac and cheese; the name says it all.

But Mistry said their food is neither fusion nor an homage to the past.

For years, Mistry and I have corresponded via email, Zoom and in person. On our first Zoom call, when asked which regional Indian food they represent, Mistry cheekily responded, “Oakland, California.” This confidence of belonging — a “hybridness” in life and food — had always fascinated me.

“Look,” Mistry told me once, matter-of-factly, “I’m a trained chef. These days, everyone with a social media presence seems to be a chef. Being a chef is so much more.”

“Like what?” I asked.

“I mean, do you have the ability to cook for hundreds, know the vendors, source the right ingredients, make sure what’s on the dish matches your vision?”

A chef is trained to manage an establishment both operationally *and* profitably. Having led large kitchens at DeYoung Museum, San Francisco, and at Googleplex in Mountain View, Mistry knows what it takes to manage supply chains, menus and the operation of huge organizations. They dislike the “instagramization” of food, saying not everyone who calls themselves a chef is a chef.

Mistry’s ideas about media and the glamorization of food are thought-provoking, incendiary and, I believe, true. “It’s laughable, really,” they said, “to be queer, but also to be aware that the ‘powers that be’ want a non-threatening queer face who is cis/het presenting” — for chefs to be “different” but “not *that* different,” nonthreatening in the gender spectrum.

I asked whether Mistry, as an unabashedly queer activist who is most certainly not cis-het presenting, got fewer television and film projects.

“No,” Mistry replied, “that’s not it. Am I on TV? Yes, sure. Am I recognizable? Sure, but really, am I looking for that? Sure, but it’s not important. What we do right now, the very right now, is.”

WHAT DID IT MEAN TO BE Chef Preeti Mistry, born and brought up in London and America, blending California-conscious food with an Indian origin as a second-generation immigrant with a hybridized upbringing?

After stints in large commercial kitchens in Northern California and awards and nominations, including a spin as a competitor at *Top Chef* and an episode with the great

Anthony Bourdain, Mistry, along with their wife, Ann Nadeau, showcased Indian flavors in California cuisine at their two now-shuttered restaurants, Juhu Beach Club and Navi Kitchen. Yelp reviews raved about the curry-leaf coriander shrimp, Chowpatty chicken and unrelentingly spicy chutneys.

ONCE THE PANDEMIC HIT, however, Mistry moved to a cabin in Sonoma, hoping to learn about their food’s origins. “It didn’t make sense for me to cook something, but not appreciate where it comes from.” They apprenticed at local farms in Sebastopol, including Radical Family Farms, a three-acre regenerative farm growing Asian heirloom produce using no-till, no-spray, agroecological methods. (Mistry was dubbed the “Prince of Basil” for their basil-nipping technique.) Soon, they were selling to San Francisco-based Besharam, where Chef Heena Patel’s trailblazing Gujarati food is transforming American perception of Indian cuisine, and providing za’atar to Palestinian-Syrian Chef Reem Assil, whose Oakland-based restaurant, Reem’s, combines Arab hospitality with California produce.

In late 2021, Mistry and Nadeau settled in Sebastopol, on an acre filled with apple and orange trees. It was closer to Marin County, Oakland and San Francisco and boasted neighbors — even a few traffic lights.

The pandemic made it clear that Mistry needed a change. Sebastopol, once part of Mexico, was now mainly white. “Very few people of color here,” Mistry said. “But this is a fantastic opportunity, I think.”

Wasn’t it tougher in a small town?

“It’s old apple country,” Mistry said. Last year, in one weekend, they hand-cranked, juiced and bottled 55 quarts of apples; they even gave a local organic produce company over 500 tons, “so they could make apple-sauce for communities in need.”

There weren’t many second-generation queer immigrants there, but Mistry saw that as an opportunity. “There are bohemian apple blossom festivals,” they said, “and with that comes community. The BIPOC community here is tight — chefs, farmers, cider- and wine-makers. At 47, I am conscious of how I effect change; you know, the whiteness of a place, especially Sonoma, is pretty intentional.”

BIPOC people, mainly from Mexico, China and Japan, have worked in Sonoma

County for generations. With the Bracero Agreement in 1942, over 4.5 million Mexican workers were hired on temporary work permits to labor on U.S. farms, especially in California. The World War II Japanese internment caused a huge labor deficit, and people of color, particularly Mexicans, took up the slack. Sonoma's racial history wasn't hidden, but Mistry believes that they make a difference simply by being present today as a queer, non-binary BIPOC activist chef.

"We have a right to be here, dammit. I'm building an intentional community of co-conspirators, experienced and amazing wine- and cidemakers, farmers, some of whom happen to be white and/or cis. In fact, the next generation(s) — conscious, intentional and progressive — are bringing the change when equality was feeling like oppression. To be part of this change is why it's a great place to be."

When they protest, whether for BLM, Palestine, gender equality or gay rights, Mistry believes that as a minority in a small town, they are noticed, they make a difference.

Despite the apple-growing, Mistry has no desire to become a farmer.

"I'm a trained chef," Mistry replied. "I leave farming to the professionals. All I do is grow in my acre of land — and learn."

Mistry said they're helping to change the structure of food and fine dining. "You don't often see winemakers who are POC, Asian flair with wine pairing. Shouldn't be so unique, but ... gatekeeping is true in fine dining."

And they still love their work. "Cooking for others is a special feeling, especially when it is my BIPOC community. It's about making people happy. With the food, to give them an experience that only *you* can create."

Mistry now has a podcast, *Loading Dock Talks*, which focuses on food people like Hetal Vasavada, Reem Assil, pizza chef Leah Scurto and others. There's also a substack newsletter. Meanwhile, they're changing global food perspectives, one hybrid dish at a time.

Mistry spoke about once entering a women's restroom at the airport and wondering whether they had the right to be there. But when they headed to their flight, a man asked, "Hey, are you a model?" Remembering, Mistry joked: "That's my (hybrid) life!"

It's what Gen Xers aspire to be: curious, hopeful, still-strident activists, bringing justice, joy and curiosity to a world in need of it all. ✨



Chef Preeti Mistry at their home in Sebastopol, California.

*"I'm a trained chef.
I leave farming to the professionals.
All I do is grow in my acre of land — and learn."*

THE SEASONS OF UŃALAQĒIQ

An exploration of living in direct relationship with the land, water, plants and animals in and around UŃalaqĒiq (Unalakleet), on the west coast of what's now called Alaska.



A black bear in the Kanuti National Wildlife Refuge, Alaska. **Seth Adams**

Timm's first bear hunt

Can the gift of a harvested creature deepen a marriage?

BY LAURELI IVANOFF

“**YOU CAN FEEL** the berries in there,” said Timm, my husband, touching the black bear’s stomach after he pulled the organs from the body. Our young son and I felt the hard round balls through the bear’s fleshy pink stomach. We were curious, so Timm cut the stomach open. Quarts and quarts of crowberries spilled out, and we all stood in awe of how many berries it takes to sustain such an animal.

As Timm pulled heavy handfuls of viscera fat, pink and pretty, from the belly of the bear, my own belly bubbled with thanks. After seeing the berries, the little bits of green leaves mixed in, and the fat those plants created, along with a few transparent, hair-thin worms slithering through, I recognized the connection between the offerings of the earth and the nourishing and growth of this great creature. The old people always told us animals give themselves to you. But the animal isn’t yours: It’s an offering. A blessing. This animal, which offered itself to us that day, could nourish multiple families in our community. And then I wondered, *Will Timm give this bear away, or does he think he’ll keep it?*

Timm is white. He grew up in a farming town north of Seattle. After graduating from a university in Chicago, he moved to Alaska to work at a small college. Later, he worked as a dog handler for an Iditarod musher, commercial fished for salmon off Kodiak and in Bristol Bay, and then got his teaching license and a job teaching social studies in Noatak, an Inupiat community north of the Arctic Circle. A place he eventually came to call home.

“They raised him well,” I tell people with a smile, when I speak of Timm’s friends who became his family for those nine years, while he was a *Napaaqtugmiu*, a person from the trees. And while I say those words with a smile, and some people laugh at the thought, I mean it. In our communities, we live differently. And some of us are proud of it. We have different values from dominant Western society. We have our own “village English” and way of speaking. We live simply and with intention, and we love it.

So, I give thanks, all the time, for the people in Noatak who instilled their values and mindset in the white teacher who made their home his home. And while Timm is a pastor’s kid, I give thanks that he’s not another white savior Christian, hellbent on “fixing” us or teaching us how we’re supposed to live. Nor

is he the kind of American man who brings his ego to exploit a place so he can shoot animals and hang their heads on his wall. I love that he is capable of seeing goodness in another way of living and honor another value system and society through learning, growing and loving those around him. He saw that, living in relationship with the Earth and all it provides, we know how to live a good life. In the end, it’s why I married him.

I am forever indebted to the Napaaqtugmiut.

*No one goes hungry.
The bear isn’t a
possession. It’s a gift.*

IN NOATAK, one of Timm’s best friends worked in maintenance at the school. They visited every day, and Mike would invite him out hunting or fishing. Timm also had various elder friends who invited him over for birthday celebrations or Saturday morning sourdough hotcakes. He listened to the men tell stories of being stuck out in the country because of a bum motor, or hunting caribou in the fall when the herd heads south and crosses the Noatak River. He picked up Inupiaq phrases and words and later wooed me with his use of our language on the nights when we’d *pigaaq*, texting on the phone, well after bedtime.

And then I read an email, and my heart and belly told me to go ahead and marry this guy. While we were still getting to know one another — how many siblings each of us had, our middle names, that type of thing — I asked him a question that would tell me what type of white guy he was and is, and, frankly, if he was worth my time. I asked him why he loves where he lives. He wrote back that he likes the atmosphere and pace of village life, visiting neighbors without calling ahead and being “just in time,” or walking around town and finding someone who needs a hand. “I get

to ask questions and learn a lot of stuff from knowledgeable people and learning is cool,” he wrote. “And the friendship grows. And sometimes there is an Instagram picture.”

He didn’t know it, but he had me with this email. Fully. He’s humble, in the best way.

But, still, the night he shot the bear, even with knowing all this earthy goodness, I wondered. Would he want to give the bear away, because that’s what we do? Or did he think this bear was his? And, honestly, a part of me wanted him to be that entitled white hunter; that bear was fat, and I love bear fat more than most any Native here. But the bigger, more whole part of me wanted him to want to give that meat and fat away. Because that’s what we do. When you harvest your first of anything, you share all of it with elders or single mothers, those who can’t harvest for themselves. This tradition teaches young people to give and be gracious. Because, really, the bear isn’t the hunter’s. And because when we have plenty, we share and take care of the larger community. No one goes hungry. The bear isn’t a possession. It’s a gift.

“**I’LL GIVE IT** away, ah?” he whispered to me while lying in bed that night. And my heart expanded. My face softened. I was thankful. More thankful for this question than I was proud of him for harvesting the bear. I was thankful he wasn’t greedy. I was proud of him for setting an example for our son, Henning. For setting precedent for Henning and others who hunt and live here. Because most white men who fly to Alaska wear camo outfits while sitting in the passenger seat, drinking beer, and then return home with “trophies.” The nourishing bones of the animals sometimes left in dumpsters. They see the animal as not only a possession, but something to dominate. Sure, it’s fine. It’s whatever. It’s white men being white men.

But knowing Timm would give away his first catch, I softened and remembered all the people in Noatak who taught him well. I gave thanks that Timm is someone who is able to appreciate and acknowledge the Inupiaq mindset and way of being. That he’s able to see that our lifestyle is far more sustainable, community-minded, and loving than the dominant white society’s way of being. He takes it on as his own, and the values as his own. And I agreed, with a happy pain in my throat, “Yes, you’ll give it away.” ✨

COLORADO

A bighorn sheep climbed on to a roof in unincorporated Boulder County in early December and stayed there for over 24 hours, the *Denver Post* reported. As a “single and ready to mingle” guy, he may have thought it was an ideal spot from which to scan the neighborhood for eligible ewes. And bighorns — much like mountain goats and real estate agents — do appreciate a nice view. Eventually, though, the ram clambered down to the home’s deck, where he was stranded until a Colorado Parks and Wildlife officer cut away a portion of its railing to give him a clear path down. Colorado Parks and Wildlife spokesperson Kara Van Hoose said the bighorn’s reasoning remained unclear — “That’s one of the mysteries of bighorn sheep” — though hormones might have played a part. “We’re in mating season for sheep right now and rams just act strange. They get really weird, their whole behavior changes and they do anything they can to find females to mate.” Speaking as fellow mammals, that doesn’t surprise us.

NEVADA/CALIFORNIA

KSBW 8 News reported that Google Maps misrouted several travelers into the middle of the desert. Shelby Easler and her brother were driving home from Las Vegas when the app warned them about an impending dust storm and sent them on a detour. They followed the alternate route for two hours before hitting a bumpy gravel road that left them in the middle of, well, nowhere. Easler, who called 911, estimated that 100 cars took the same tour, including a truck driver who eventually stopped and urged the other cars to turn around. Easler said 911 told her that “this actually does happen

a lot with Google Maps detours,” and that “if Google Maps tells you to take a detour, don’t do it because you are going to end up in sand.” The operator concluded, “We get calls like this a lot.” Google swears that the issue has been fixed, but we’re keeping our fingers — and GPS — crossed and our old maps and compasses handy.

NEW MEXICO

When we think of deserts, we picture forlorn tumbleweeds rolling through an arid landscape. And when we think of winter, we imagine snow-covered wonderlands. But since both snowballs and tumbleweeds are round and tend to roll,

why not use tumbleweeds to make a “snowman” when you’re short of snow, as one generally is in the desert? KOAT7 reported that for 25 years, the Albuquerque Metropolitan Arroyo Flood Control Authority has kicked off the holiday season by building a 14-foot-tall snowman from the city’s rogue tumbleweeds and spray-painting them white. Voila! Bob’s your uncle — and you won’t have to worry about your Tumbleweed Snowman melting.

CALIFORNIA

David Kramer was hiking along a scenic trail in Point Reyes National Seashore when he spotted a “ghostly white” ani-

mal skittering through the grass and hastily snapped a photo. Dave Press, the integrated resources manager for Point Reyes National Seashore, told *SFGATE* in an email that in 25 years of working at Point Reyes, he had never heard any reports of “ghostly white” animals in the area. But the National Park Service’s Point Reyes Instagram page posted Kramer’s photo and concluded that the animal’s unusual coloring — or rather lack of it — was most likely due to “something called leucism,” a genetic mutation that causes partial loss of pigmentation and is often mistaken for albinism, the total absence of pigmentation. And the animal? An American badger! The Instagram post concluded: “Nature is just so amazing! Have you ever seen a leucistic animal before?” No, not until now, anyhow, though we’re still working on how to pronounce “leucistic.” We learn something new every day in this business.

Meanwhile, in other frisky California critterly hijinks, a coyote jammed up the morning commute on San Francisco’s Interstate 280 for over an hour, *SFGATE* reported. Deb Campbell, a spokesperson for Animal Care and Control, said her office receives a lot of calls about coyotes. According to Campbell, dozens of coyotes call San Francisco home, though that there’s never been a formal tracking study. Trouble tends to arise when people feed them, not when the wily canines get stuck in traffic. As Campbell put it, “When they eat Meow Mix, they become a problem.” We agree: If you want to keep your cat from becoming Coyote Chow, it’s best to keep them — the cats, not the coyotes — indoors. And keep both critters off the highways, while you’re at it. ✨



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

VICTORY FOR WOLVERINES

After more than 20 years of advocacy by WELC and our partners, the U.S. Fish and Wildlife Service has finally granted the iconic wolverine threatened species protections. Only about 250-300 remain in the lower 48 states, where they are imperiled by climate change, habitat loss, trapping, and other pressures.

Twice, our legal advocacy forced the Fish and Wildlife Service to reconsider decisions to deny wolverines Endangered Species Act protections for relying on flawed science.

We are elated the federal government finally decided to protect imperiled wolverines based solely on the best available science. Wolverines—a crucial species for many ecosystems throughout the western U.S.—deserve the fullest protections possible. We will remain engaged in the process to ensure wolverines recover.



**Western
Environmental
Law Center**

JOIN US AT [WESTERNLAW.ORG/GIVE](https://westernlaw.org/give)

We are a nonprofit organization that uses the power of the law to safeguard the public lands, wildlife, and communities of the western U.S. in the face of a changing climate.

Photo: Wolverine by Kalon Baughan

HCN

119 Grand Avenue
PO Box 1090
Paonia, CO 81428

U.S. \$5 | Canada \$6

#IAM THE WEST

MONTSERRAT HIDALGO
Activist, Gold Award Girl Scout,
co-founder of Youth Action Club
South Gate, California

Like a lot of the kids in Southeast LA, I grew up with asthma. We had health conditions brought on by industrialization, poor air quality and pollution. Because we're in such a heavily industrialized area, our surface temperatures are high, and that can cause heat exhaustion, too. When you look at other places with higher incomes and fewer people of color, kids don't have those issues growing up. That's what got me into environmental justice: the fact that my family was being hit so hard by pollution, and there was something that I could do about it. My advice to others is to start small: Any kind of community you can create, whether it be at school or at home, really helps build the support system that you're going to need to create change.

Do you know a Westerner with a great story?
Let us know on social.

f @highcountrynews | #iamthewest | hcn.org



Nia MacKnight / HCN