

ZINKE'S RETRO RALLY | NAMING THE LOST | BEAVER BELIEVERS

High Country News

For people who care about the West

The Big Threat to Bighorns

In Colorado, wildlife managers are losing their ability
to manage wildlife | By Paige Blankenbuehler



While searching for bighorn sheep on Endlich Mesa in the Weminuche Wilderness, Backcountry Hunters & Anglers volunteers Dave Croll and Dan Parkinson consult a map showing the route of a bighorn sheep that wandered through domestic sheep grazing allotments. LUNA ANNA ARCHY/HIGH COUNTRY NEWS

On the cover

A bighorn sheep just northwest of the Weminuche Wilderness on Red Mountain Pass in southwestern Colorado.

PAUL PENNINGTON



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FEATURE

12 The Big Threat to Bighorns

In Colorado, wildlife managers are losing their ability to manage wildlife
By Paige Blankenbuehler

CURRENTS

- 5 **Zinke knows how to work a crowd** The Interior secretary woos conservatives with logging, drilling, public access
- 5 **The Latest: Grizzly hunts in Wyoming and Idaho**
- 6 **Naming the Borderlands' lost** In Arizona, a humanitarian crisis spurs researchers to find new ways of identifying migrants' remains (contains sensitive images of human remains)
- 9 **The Supreme Court's sway over Indian Country** The nation's highest court has a disproportionate amount of power over tribal nations
- 9 **The Latest: Tribes and groundwater rights**

DEPARTMENTS

- 3 FROM OUR WEBSITE: HCN.ORG
- 4 LETTERS
- 10 THE HCN COMMUNITY Research Fund, Dear Friends
- 20 MARKETPLACE
- 23 **BOOKS** *Rough Beauty: Forty Seasons of Mountain Living* by Karen Auvinen and *Off Trail: Finding My Way Home in the Colorado Rockies* by Jane Parnell
Reviewed by Laura Pritchett
- 24 **EXCERPT**
How beavers make the desert bloom from *Eager: The Surprising, Secret Life of Beavers and Why They Matter* by Ben Goldfarb
- 26 **PERSPECTIVE**
The casualties of Trump's trade war By Jonathan Thompson
- 28 **HEARD AROUND THE WEST** By Betsy Marston

Editor's note

When a lie is a lie

Last week, Elizabeth Jensen, National Public Radio's ombudsman/public editor, dropped by HCN's hometown of Paonia, Colorado, to talk with local media about the challenges of producing trustworthy journalism in these polarized times. Jensen, who has worked for *The New York Times* and *The Wall Street Journal*, said NPR has struggled with how to call out misinformation in a way that doesn't immediately alienate large parts of the citizenry. Rather than using the word "lies" when they encounter false statements, for example, reporters try to explain why scientists and other experts think such statements are untrue.



I thought of this when I read that Secretary of Interior Ryan Zinke, who's responsible for the management of a half-billion acres of public lands, recently told *Breitbart News* that "environmental terrorist groups" are responsible for the wildfires in the West this summer.

"We have been held hostage by these environmental terrorist groups that have not allowed public access — that have refused to allow (the) harvest of timber," Zinke said, claiming that "radical environmentalists ... close off roads, refuse to have firebreaks, refuse to have any timber harvested, no grazing, and the result is these catastrophic fires."

I'd be lying myself if I didn't tell you that Zinke's comments are not only wrong but destructive. Forest ecologists inside Zinke's own agency know that a warming climate and a century of active fire suppression and livestock grazing have created the conditions for today's massive wildfires; even large-scale logging won't change this. As for denouncing citizen organizations that work within the political system to ensure wise management of public resources as "environmental terrorists," Zinke is simply trying to incite fear and hate, rather than solve a complex problem. His divide-and-conquer strategy was on display at a recent stop in Steamboat Springs, Colorado, as Editorial Fellow Carl Segerstrom reports on page 5, though it was heartening to see citizens there exercising their constitutional right to disagree.

Because so much news these days comes in the form of truncated tweets or shouting matches or a lovefest disguised as an interview, Jensen said that she is pushing NPR to go back to the kind of deeply reported stories from the field that provide both context and room for many voices. That's exactly what Assistant Editor Paige Blankenbuehler has done in this issue's cover story. It's about the decline of bighorn sheep in southern Colorado and the remarkable power the state's agricultural community has to set the terms of wildlife management.

Reporting a story like this takes time. Blankenbuehler spent months talking to ranchers, biologists, wildlife advocates and agency officials. Too bad Zinke hasn't made a similar effort to embrace the complexities — or the ethical responsibilities — of his own job. Instead, he confines himself to conferring with allies, telling *Breitbart*, "It's good to get out of Washington and actually talk to the front line." If only he had truly done that.

—Paul Larmer, executive director/publisher



Kayaking on Oregon's Chetco River. ZACHARY COLLIER, NORTHWEST RAFTING COMPANY

Protections lapse on one of Oregon's wildest rivers

Due to inaction by the Interior Department, stretches of southern Oregon's Chetco River and its watershed are now open to mining. In late July, the agency allowed a ban on new mining exploration to expire along 17 miles of the wild river's middle and lower reaches. The removal of protections by inaction is part of a broader trend in the Trump administration, which has prioritized the deregulation of the mining, energy and agriculture industries. Environmentalists say that this strategy is revealing the weaknesses of key environmental laws, including the 1968 Wild and Scenic Rivers Act. Reinstating the Chetco's mining protections could require an extensive public comment process and administrative approval, during which new mining claims would be permitted. At the end of July, Oregon Rep. Peter DeFazio, D, introduced federal legislation that would reinstate the ban and make it permanent, but river advocates fear that under an administration waging numerous environmental battles, this particular effort will be overlooked. KATE SCHIMEL

Read more online: hcne.ws/mining-chetco

Trending

An argument against Rails-to-Trails

In response to the Rails-to-Trails Conservancy — a movement aimed at converting railroad tracks to walking and biking paths — Forrest Whitman writes in an opinion column, says that communities ought to rethink those conversions. That's because, Whitman argues, rural railroads help boost local economies and can help fight forest fires. In Walsenburg, Colorado, there's one such track worth considering: The San Luis and Rio Grande Railroad has just 149 miles of track and has been unprofitable for years, but this summer, the railroad has been essential in fighting the Spring Creek Fire. Every day, as the fire blazed, 10 tanker cars were filled with water and hauled by train to near the firelines. FORREST WHITMAN

You say

BRIAN DELAGRANGE

"In some cases a railroad might be more valuable, and in others, a trail would be. We shouldn't pit them against one another."

DUSTIN BAUGH

"When something is abandoned and unmaintained, we can't just sit on it indefinitely hoping a wildfire will someday come to make it useful again."

JOHN AUSEMA "The vast majority of rail-trails were created on routes abandoned for economic or other reasons. Trail creation takes advantage of unused rail lines that might otherwise be sold off or revert to adjacent landowners."

Read more online: hcne.ws/trails-rails and [Facebook.com/highcountrynews](https://www.facebook.com/highcountrynews)

19 million

Amount, in gallons, of fire retardant the U.S. Forest Service used in 2016.

9 million

Gallons used in 2014.

Huge blazes, including California's Carr and Mendocino Complex fires, are being fought this summer with aerial retardant drops by both federal and state agencies. In August, more than a million gallons were dropped on the Mendocino Complex alone. The Forest Service's use of fire retardant has spiked in recent years: It used 19 million gallons in 2016, compared to less than 9 million in 2014. Given that extensive use, environmental groups question the efficacy of such drops and the harm done to fish and other wildlife. A study on the effectiveness of the strategy by the Forest Service is due next year. JODI PETERSON

Read more online: hcne.ws/costly-suppression

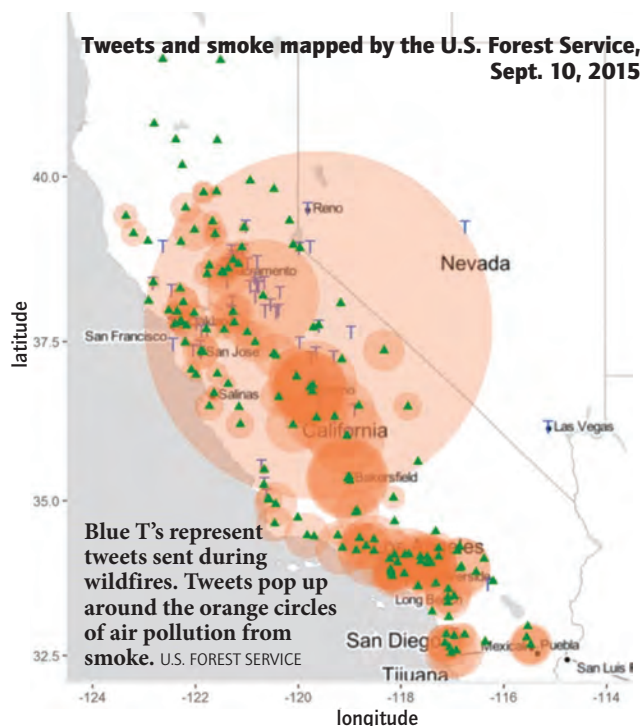
Social media and wildfire mapping

As wildfires spark, parts of the Internet glow with them. The #CarrFire, #FergusonFire, #RanchFire and other hashtags spread quickly this summer on Twitter. If past seasons are any indication, there will be more tweets like this, and they will continue as smoke — the insidious side effect of wildfires — spreads across the West. They can also be used for data: In a recently published study, Forest Service researchers Sonya Sachdeva and Sarah McCaffrey found that, when analyzed in large numbers, tweets about wildfires can model the way smoke moves. Their results show that what we write online could fill the gaps that traditional data collection leaves.

ELENA SAAVEDRA BUCKLEY

Read more online:

hcne.ws/hashtag-wildfire



Trevor Noah owes Indigenous women an apology

Until very recently, *The Daily Show's* Trevor Noah was a hero to many Indigenous people due to his incisive commentary on decolonization and racism. But this summer, a video of a 2013 comedy routine resurfaced in which Noah racially and sexually objectified Indigenous women. "The real shock to us was realizing we would have to defend our humanity to a biracial man who had endured similar injustices," wrote Celeste Liddle, an Arrernte woman from colonized Australia, in a recent opinion column. CELESTE LIDDLE

Read more online: hcne.ws/trevornoah-gaffe



Trevor Noah performs a 2013 comedy routine during which he made a joke about the beauty of Aboriginal women.

CAPTURE FROM A YOUTUBE VIDEO CLIP BY TREVOR NOAH

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POLITICAL THEATER

I really enjoyed Elliott Woods' detailed and perceptive account of the July Donald Trump rally in Great Falls, Montana ("Montanans sightsee at a political circus," *HCN*, 8/6/18). Great piece of reporting and analysis of the spirit behind these rallies, which are nothing if not repetitive, reductive and as habit-forming to our president as any opioid.

I agree with Woods that the rallies have a mob appeal not unlike the blackest of events in history: witch trials, lynchings, public executions. It's not about politics, but political theater. As Woods noted, Trump spoke very little about politics or the candidates he had come to endorse; it was mostly about himself and his crowds, "Crooked Hillary," the Russian "witch hunt" and the "horrible" mainstream media. In other words, the same tropes Trump brings to all his rallies. The louder the applause, the more he goes off-script.

Trump is moving into the territory held in history by Huey Long and George Wallace, but without their eloquence, if that's the word. But those at Trump's rallies fear the changes taking place in the country, and in him they see a loud and bombastic champion railing against the coastal elites — a notion that has obvious resonance in a rural state like Montana.

Perhaps the most sanguine note in the piece was the sense that many seemed to come essentially for the show and weren't likely to become zealots as a result of it. Indeed, the messenger doesn't have much of a message. But still they'll come. The circus will soon roll into a new town, and the carnival barker will be basking in the cheers again.

Jeffrey Marshall
Scottsdale, Arizona

PLAYING GOD

While I understand the frustration that Ciaranne Campbell of the Sky Island Alliance and Don Falk of the University of Arizona have about climate change, which produces a "moving target" for ecosystem restoration, I believe the use of nonnative plant species, particularly from outside the United States, is not ecosystem restoration ("Restoration's crisis of confidence," *HCN*, 8/6/18). We need to do better for landscapes that are changing and may need our steady and reasoned help.

The idea about the primeval old-growth forest and climax community shifted about 30 to 40 years ago. Now,



ED WEXLER, CAGLE CARTOONS.COM

ecologically, we think of a shifting mosaic of forests, for instance, due to a range of conditions, like climate, disturbance and other factors.

We need to take our cues from nature and err on the side of what it wants to do, not what humans want. Artificial, human-created ecosystems will not help landscape change in most cases. This is particularly the case because climate change may take decades, hundreds of years, even a millennium to fully express itself. We may chase ecosystem change and never get it right. Nature will figure it out over its timeframe, not ours. We must be patient and persistent in watching and heeding its call.

If we do not allow nature to make the decisions about how landscapes will change with climate change, we will end up "playing God." If this happens, I dread the ecological consequences of our uninformed choices and actions.

Brandt Mannchen
Humble, Texas

DOUBLE DOWN ON SUCCESS

Supreme Court Justice Louis Brandeis once said, "Sunlight is said to be the best of disinfectants." Gloria Dickie's investigation ("Pay for Prey," *HCN*, 7/23/18) into Oregon's flawed wolf compensation program was welcome sunlight for a state that prides itself on its conservation ethic, but whose leaders have regrettably thrown wolves to the self-serving cattlemen.

The cover photo reinforced the power of the mythical notion of the American cowboy, a myth that belies the planet-trashing truth. The grisly photo submitted by Todd Nash told another story. To be eligible for compensation (and for the state to kill wolves), livestock managers

like Nash are rightly required to remove carcasses that serve as attractants, not use them as bait for photo ops.

Well-intentioned compensation programs have been consistently abused and have largely failed in their goal to increase tolerance among communities that fear wolves or people who benefit from escalating conflict. Taxpayers foot the bill for a program that encourages the very outcomes we seek to avoid.

Oregon's program could be described as "pay up AND the wolf gets it!"

For a brief time, Oregon was a leader in wolf conservation. From 2013 to 2015, it was the only state in the nation that achieved the goals of increasing wolf numbers and diminishing livestock predation. No wolves had to be killed. As Oregon revises its wolf plan, Gov. Kate Brown and her wildlife agency have an opportunity to either double down on success, serving the majority of citizens and promoting a healthy ecosystem, or else follow failed models from states like Idaho and Wyoming.

Peter Barry
Joseph, Oregon

FUNDS AND FORTITUDE

Cally Carswell's article "What are we doing here?" in the Aug. 6 issue finally prompted me to write and say what I've been meaning to for some time. I can't express how your publication touches and moves me. You are doing great work conveying the issues and your perspective on life in the West and the country generally.

Now that journalists are "the enemy of the people," I hope you can find the fortitude, and the funds, to persevere. Keep up the great work.

Rick Ross
Sweet Home, Oregon

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THE LATEST

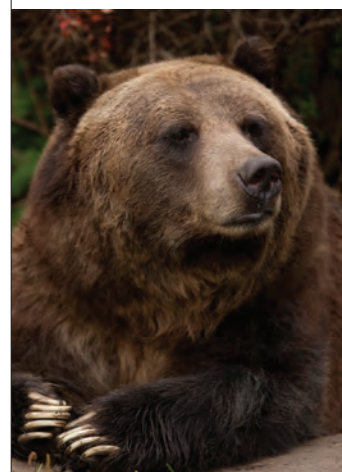
Backstory

In 1975, Lower 48 grizzlies were listed as threatened under the Endangered Species Act, and hunting was ended. **When Greater Yellowstone's bears rebounded, the U.S. Fish and Wildlife Service proposed delisting them, which would allow Idaho, Wyoming and Montana to restore trophy hunts** ("As delisting looms, grizzly advocates prepare for a final face-off", *HCN*, 5/16/16). In 2017, delisting occurred, and hunting quotas were left to the states.

Followup

This fall, **Wyoming and Idaho will hold their first grizzly hunts in 44 years.** (Montana opted out.) Idaho will allow one bear to be killed. In Wyoming, however, more than 7,000 people applied for 22 permits. At least two tags went to hunting critics who shoot only with cameras, including wildlife photographer Thomas D. Mangelsen. He told *The Washington Post*, "We've petitioned the government, we've gone to the meetings. ... We have a right to protest in whatever way we feel is necessary." The hunt could still be called off: An Aug. 30 hearing was set for lawsuits challenging the bear's delisting.

JODI PETERSON



SCOTT CALLEJA/FICKR CC

"environmental terrorists," and called out the outdoor company Patagonia and its founder, Yvon Chouinard. "We never say 'Patagonia,' unless we say 'Made in China,'" Zinke said to chuckles from the crowd.

Zinke's relationship with outdoor companies and conservationists, who oppose rolling back national monument protections and opening up more public land for oil and gas leases, has been contentious. Patagonia and other major outdoor companies launched a national advertising campaign last December, denouncing the reduction of the Bears Ears and Grand Staircase-Escalante national monuments. Documents show that Zinke's recommendation to shrink the monuments ignored the input of local tribes and county commissioners, while reflecting the wishes of Energy Fuels, a Canadian uranium-mining company.

The Steamboat crowd cheered when Zinke described his plan to reduce the threat of wildfires by promoting public-lands logging and grazing. He said he wants the United States to stop importing logs, complaining that the country allows "billions of board-feet" to go to waste by not logging burned forests. "What we need to do, in my opinion, is go back to the (Gifford) Pinchot model ... and graze, have smaller little mom-and-pop mills that are guaranteed a through-put based on sustainable yield," Zinke said.

Zinke concluded by calling on conference attendees to fight socialism and instill American exceptionalism in future generations, a message that resonated with attendees. "Zinke is an American hero," said conference attendee Bill Friesell, a retired banker who sits on the board of directors for the Steamboat Institute. "The representation of him in the media is different than the reality." Zinke, Friesell added, "has a reasonable way of explaining a lot of complicated issues."

Meanwhile, in downtown Steamboat Springs, several hundred demonstrators had gathered to protest Zinke's vision for public lands. Speakers highlighted the intrinsic value of natural spaces and the importance of public lands to Colorado's recreation economy, and also called on Zinke to recognize the importance of public lands to Native cultures. Far removed from the three-course dinner at the ski resort, the demonstration had a festive atmosphere, with live music performances, booths and speeches.

As a group of women on horseback joined the protest, Angel Acar, a construction project manager who was new in town, explained why he was there: "I'm protesting the presence of Ryan Zinke and all the policies he is placing and trying to place on our public lands," said Acar. "All the public lands he's trying to open for oil exploration and mineral exploration, it's just unconscionable." □



Secretary of Interior Ryan Zinke greets guests at the Freedom Conference VIP Reception in Steamboat Springs, Colorado, on Aug. 10. BILL STEWART/STEAMBOAT INSTITUTE

Zinke knows how to work a crowd

The Interior secretary woos conservatives with logging, drilling, public access

BY CARL SEGERSTROM

In a posh ski lodge in northern Colorado's Yampa Valley, Secretary of Interior Ryan Zinke took to the podium to share his ideas about public lands and American exceptionalism. Wearing a dark gray sports coat and blue jeans, Zinke asked the audience at the \$325-a-ticket two-day event to recognize the veterans in the room. He opened with one of his standard one-liners: "What's easier, being a former SEAL Team Six commander or the Department of Interior Secretary?" he said. "Actually, a SEAL was a better job and easier. As a SEAL, when people shoot at you, you can shoot back." As he continued, protester Jesse Brucato rose and tried to speak, but jeers and a chant of "USA!" drowned out his message.

Zinke's tenure has been mired in ethics investigations, but his message and policies played well at the Freedom Conference in early August, hosted by the Steamboat Institute, a conservative advocacy group that featured speakers from a variety of conservative ideologies. Applause punctuated his speech as he called for more oil and gas production, more logging on public lands and better access for hunters.

Zinke's speech, much like his policies

as Interior secretary, emphasized the importance of developing American energy resources. The United States recently surpassed Saudi Arabia in crude oil production, and Zinke said the country will soon outproduce Russia, the world's top petro state.

Many of the ethical questions circling the secretary arise from his friendly relationships with the fossil fuel industry. Zinke consulted and sat on the board of a pipeline company before becoming Interior secretary. Federal watchdogs have announced 11 formal investigations into his conduct, including whether he greased the skids for a brewery development backed by Halliburton Chairman David Lesar in Zinke's hometown of Whitefish, Montana. Zinke was cleared of legal wrongdoing in four closed investigations, but seven are ongoing, and watchdog groups have requested several more.

Zinke argued that producing oil in the United States benefits the environment. "I would rather not have to deploy our troops overseas to fight for an energy and a resource we have here," said Zinke, who served in the Navy for 23 years. "Environmentally, economically and morally it's exactly correct for our energy to be U.S.-made, U.S.-produced and U.S.-exported."

The Interior secretary also broadly labeled conservationists as

Carl Segerstrom is an editorial fellow at *High Country News*. [@carlschirps](https://twitter.com/carlschirps)



Naming the Borderlands' lost

In Arizona, a humanitarian crisis spurs researchers to find new ways of identifying migrants' remains

BY MAYA L. KAPOOR

The young man was alive when he was left in the desert near Green Valley, Arizona. Perhaps he was making his first journey across the U.S.-Mexico border, or maybe he was a recent deportee. It's possible his parents or brother or girlfriend were still waiting to hear that he was safe. But by early August, when he turned up at the Pima County Medical Examiner's office in Tucson, Arizona, he'd been dead for approximately two months, and all that remained was a partial skeleton — missing its ribs, arms, hands and feet — some torn clothes containing six 100 peso bills and a pre-paid Visa charge card, and one battered red sneaker, an Air Jordan.

In his brightly lit Tucson lab, the forensic anthropologist lifted a sun-bleached bone from a gurney and turned it in his hand, indicating an almost imperceptible scrape mark where a coyote had chewed it. Bruce Anderson, a tall man with a tanned face, slicked-back dark hair and mismatched scrubs, was fairly sure he knew the man's identity, even without an identification card. Relatives back in Guatemala had convinced Aguilas del Desierto, or Desert Eagles — a volunteer group, composed mostly of immigrants, that does search-and-rescue work in the desert — to look for the man in the last place he was seen alive. These remains were found in the right location, along with that red shoe. And the man had had an unusual set of extra canines; the teeth were gone by the time Anderson examined him, but the double sockets remained.

Anderson, who became a forensic anthropologist in part because he loved puzzles, worked through the evidence patiently. He carved a rectangular two-inch section of bone from the man's leg to send for DNA testing. Anderson would ask the Guatemalan foreign consulate in Tucson to track down relatives in Guatemala and swab their cheeks for DNA samples, and to pay for a DNA comparison.

"Even though we think it's a good chance that this is a Guatemalan man who was missing two months ago, we still just can't use a double tooth and red shoes as proof, so that's the plan right now," he told me as we gazed at the person's remains. But the plan could fall apart if the likely family declined to provide DNA samples, or if the Guatemalan consulate was unable to pay for the lab work. And even if Anderson ultimately solved this puzzle, there would be others: The same day they found the man with the red sneaker, Aguilas del Desierto discovered two other dead men.

The number of undocumented immigrants trying to enter through the U.S.-Mexico Borderlands has fallen in the past decade to 1970s levels. But the number who die in the desert persists, so researchers and local officials have had to develop new methods for identifying their remains.

In the past, most people entering the United States illegally from Mexico have been Mexican. Over the last several years, however, more undocumented Mexican migrants have left the U.S. than have entered. Instead, Central American families and unaccompanied minors fleeing political upheaval and gang violence try their luck in the Southwest's unforgiving deserts. It's not surprising that many die; for more than two decades, the United States has had a policy — "Prevention Through Deterrence" — that funnels people away from cities such as San Diego and El Paso and into the harsh Sonoran desert.

In *The Land of Open Graves: Living and Dying on the Migrant Trail*, Jason De León, a University of Michigan anthropologist and director of the Undocumented Migrant Project, cites federal documents showing that Customs and Border Protection knew that more people would die as a result of the policy. Indeed, the combination of NAFTA, which forced Mexican farmers to seek work far afield, and Prevention Through Deterrence caused border deaths to skyrocket in the early 2000s. Last year, more than 300

deceased migrants were found in the Borderlands.

Anderson studied forensic anthropology in the 1980s because he wanted to help solve crimes (his father was a police officer); today, his office investigates unexplained deaths and the deaths of unidentified people found in most Arizona counties. "In 2000, there still weren't as many migrant deaths," he said recently. "We still didn't know what was on the horizon." Previously, one or two dozen deceased migrants would end up in the medical examiners' labs each year. At that rate, the office could stay on top of identifying them. In 2000, the body count jumped to 74, and by 2002, it was 147. For the past 17 years, it's averaged 166. Now, the office does triage, working on identifications according to how likely they are to make a match.

Remains that turn up with an identification card of some kind go to the front of the line, ahead of, say, a single weathered shoulder blade. Just recently, the office identified a father who perished in the desert in 2005, whose remains were not discovered until 2010.

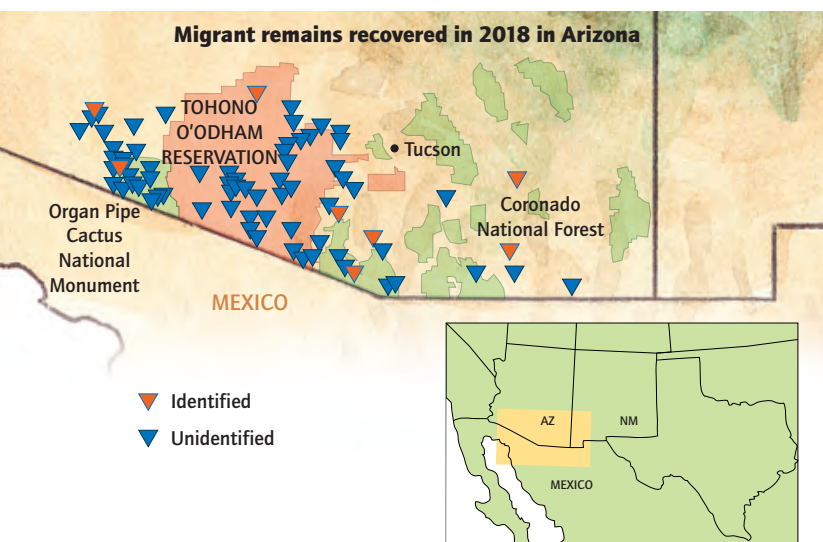
"I don't think anybody anticipated that a few governmental actions would cause people to have to cross in Arizona, and not cross in California or Texas," Anderson said. "That crossing in Arizona is what led to most of the 3,000 deaths over the last 20 years." In 2017, approximately 41 percent of border-crosser deaths occurred in Arizona.

To cope with the high number of migrant deaths, researchers have had to change their methods — learning to identify the ancestry of skeletal remains of people who were Latino or Indigenous, for example. Historically, U.S. forensic anthropologists trained on the remains of whites, blacks and Native Americans. Still, the desert takes a toll. Within hours of death, the sun can discolor a person's face so badly, the office will not show a photograph to possible family members. And unlike many Americans, most

Within hours of death, the sun can discolor a person's face so badly, the office will not show even a photograph to possible family members.

Maya L. Kapoor is an associate editor at *High Country News*. [@Kapoor_ML](#)

◀ Forensic anthropologist Bruce Anderson inspects a skull belonging to an undocumented border crosser. The process of identifying remains can be difficult without funding and family support for DNA tests.



Already in 2018, the remains of 80 migrants have been found and mapped in southern Arizona. Since 2001, the count has been more than 3,000 people. The U.S. policy of “Prevention Through Deterrence” pushes people to the most remote and dangerous desert crossings, such as on the Tohono O’odham Nation’s land and Organ Pipe National Monument.

SOURCE: HUMANE BORDERS INC. AND THE PIMA COUNTY OFFICE OF THE MEDICAL EXAMINER



Dressing pig carcasses in clothing gives researchers a more accurate understanding of how clothes affect the decomposition and scavenging of human remains in the desert — and reminds them of the human consequences of the Borderlands’ migrant crisis. By day 10 of forensic anthropologist Shari Ex’s study, child-size shoes and socks had fallen off one animal as it was dragged away by scavengers.

MAYA L. KAPOOR/HIGH COUNTRY NEWS

migrants come from marginalized populations and lack dental records from health-care practitioners. “It’s almost impossible to identify people from traditional methods,” Anderson admitted. Instead, his office struggles to make identifications using fingerprints, which distort as they dry out, tattoos or the cosmetic dentistry known as “grillwork.”

There’s no way to know how many people die crossing the Borderlands and are never found. Even when human remains turn up, they are desert-ravaged: scavenged and scattered by animals, sometimes more than 80 feet away; weathered by sun, mummified by heat. Encounters during the journey have an impact, too: People may be robbed of possessions that would help with identification, or be injured in a way that leaves lasting marks on bodies and bones. Indeed, disabling injuries are one reason that people are abandoned by others in the desert.

Fortunately, forensic DNA analysis methods have vastly increased the potential for identification: Today, researchers can extract and match DNA samples from just a single tooth or bone fragment. Nonprofits such as the Tucson-based Colibrí Center for Human Rights and the Argentine Forensic Anthropology Team work to persuade worried family members, who may be undocumented themselves, to provide DNA samples. The organizations sometimes help the medical examiner’s office pay for the analysis if they believe they are close to making an identification. In return, family members may get answers. “It’s horrible news, but that’s news that’s owed to the family,” Anderson said. Since 2000, some 375 people have been identified through DNA analysis. With enough funding, more people would be.

There are times when DNA matching is not an option. In some cases, remains may be too old or weathered to provide samples. More importantly, the examiner’s office needs DNA samples from surviving maternal family members in order to make a match. “We know that’s not going to happen in all cases,” Anderson said. “Some families are too afraid, some families don’t know where to look, some families are decimated, some families may not even exist anymore for these men and women.” Often, Indigenous families have fewer resources, don’t speak Spanish and don’t trust the Mexican government enough to file a missing persons report. According to a 2017 study that Anderson coauthored, this means that unidentified migrants with Indigenous roots are even less likely to be identified than people with more European ancestry.

Some families hesitate to help because they dread what they might learn. “They are afraid to believe the person is dead,” Anderson said. “They would rather believe the person is incarcerated, or a slave, or

anything other than dead.” But De León contends that such a drawn-out period of wondering whether someone you love is alive is itself traumatic. If this man were successfully identified as Guatemalan, he could be shipped home for funeral services, or be buried or cremated in the United States.

When people are identified, it brings a turmoil of emotions, including for the researchers. “As a man who’s lost two brothers and a father, I don’t want to revisit the pain of a loss,” Anderson said. “What most of us in this line of work do is construct some kind of a metaphoric wall and stay on the postmortem side. We rely upon that wall and pass information over that wall: Colibrí passes a missing person’s description to us, and we pass a decedent’s description to them.” When the collaborators believe they’ve made an identification, the nonprofit notifies the family. This helps Anderson and others in his line of work remain emotionally detached — which helps them keep going. “If I start crying on the phone with the father of a dead boy, I am going to have to go home and not be able to work the rest of the day,” Anderson said.

In cases where genetic matches aren’t possible, researchers are adapting forensic anthropology methods — many of which were developed at research centers in the humid environments of Texas and Tennessee — for desert conditions.

A key part of that work is accounting for scavenging. “We know that vultures, coyotes are huge parts of this ecosystem,” Shari Ex, a forensic anthropology graduate student from the University of Tennessee who conducts research with De León, said. Even domestic dogs will eat human remains. Ignoring scavengers can lead to misdating, such as when the appearance of bones is taken as proof that remains have been there for a long time. In the desert, animals sometimes pick a body apart incredibly quickly, revealing bones within 24 hours of death. By understanding scavenging, Ex hopes researchers will be able to develop a better scale for dating human remains found in the desert.

Researchers began studying decomposition in the desert in 2012. But Arizona lacks facilities for the use of human cadavers, so the researchers use the bodies of pigs, donated for the cause. This summer, the local farmer who raised the four pigs that Ex and other researchers studied brought them to the field site alive and put them down himself. “It was actually a very emotional experience to share with him,” Ex told me. “Before he put them down, he said to the pigs, ‘You’re doing a great thing, you’re contributing to something very important.’ ” Ex and other researchers get mixed responses to their studies from the local community.

For that reason, she said, “It was
Please see **Borderlands**, page 22



Chief Arvol Looking Horse, of the Sioux Tribe, delivers a prayer during the rally following oral arguments in 2015 in the *Dollar General Corp. v. Mississippi Band of Choctaw Indians* case.
BILL CLARK/AP IMAGES

THE LATEST

Backstory

The Agua Caliente Band of Cahuilla Indians, in California's dry Coachella Valley, relies on a rapidly dropping aquifer. In 2013, the tribe sued the Coachella Valley Water District to halt its groundwater pumping. Four years later, **the U.S. 9th Circuit Court of Appeals ruled that the tribe has priority rights to groundwater beneath its land — a precedent-setting decision** ("A tribe wins rights to contested groundwater in court," *HCN*, 4/5/17).



TRAVIS LENT/CC FLICKR

The Supreme Court's sway over Indian Country

The nation's highest court has a disproportionate amount of power over tribal nations

BY ANNA V. SMITH

Now that Justice Anthony Kennedy has announced his retirement from the U.S. Supreme Court, Indian Country is again asking what a new justice could mean for tribal interests. President Donald Trump's pick for Kennedy's replacement, Circuit Judge Brett Kavanaugh, has little experience with Indian law — something that's in keeping with the court's history.

Federal Indian law is often unfamiliar territory to Supreme Court justices, even though the court makes significant decisions affecting tribal sovereignty, criminal jurisdiction, and land and water rights. That lack of understanding is reflected in the court's decision-making: Over the last three decades, the court has ruled against tribal members and nations 72 percent of the time. Now, with the recent addition of Justice Neil Gorsuch, who is fluent in Indian law, and the departure of Kennedy, who actively voted against tribal interests, it remains to be seen how a new combination of justices will affect Indian Country.

"Things have improved in the last 30 years, but the percentage of win-loss is still pretty bad," said Alex Tallchief Skibine, professor of law at the S.J. Quinney College of Law at the University of Utah.

Starting in the 1820s, the Supreme Court laid the groundwork for the legal relationship between tribal, federal and state governments, acknowledging that tribal nations hold legal and political rights and are on par with the federal government. In the following decades, the court

often deferred to Congress, which shifted its policy from subjugation to assimilation, and then to termination of federally recognized tribes in the 1950s. Few tribal nations could afford to hire lawyers.

"That meant they couldn't defend themselves," said Charles Wilkinson, Moses Lasky professor of law emeritus at the University of Colorado. "They had no money, and they couldn't bring cases to assert their rights."

Eventually, federal policy, spurred by congressional action, shifted towards encouraging self-determination. The modern era of Indian law began in the late 1960s with a series of decisions that expanded the purview of tribal law.

Those favorable decisions came about in part because Indigenous people finally received fair legal representation in court, a change that reflected the broader social and political movements for equality in America during that time. With more access to free legal services, along with newly acquired wealth from Indian gaming, tribal governments were able to challenge corporations and the state when treaty rights were threatened.

"The tribe was optimistic in winning a lot of those battles because they had a lot of positive decisions up until the 1980s," Skibine said. "And then the court kind of caught on to them."

After that, a number of decisions during Chief Justice William Rehnquist's time gave states unprecedented jurisdiction over tribes. *Duro v. Reina* declared that tribes have no jurisdiction over non-members, for example.

The percentage of tribal cases won has not improved drastically over time. The

justices are primarily from the coasts, almost entirely with East Coast educations and lacking much experience with Indian Country. Justice Stephen Breyer has made efforts to visit and understand tribal courts, and Justices Sonia Sotomayor and Neil Gorsuch have a thorough understanding of Indian law — in Sotomayor's case, because she made a concerted effort to learn. "Because it was an area that I had no prior exposure to, I had to start from the beginning," Sotomayor told an Oklahoma news station in 2014. Gorsuch, meanwhile, had experience on the 10th Circuit Court of Appeals, which includes five Western states and 76 tribal nations.

That leaves six justices with little to no experience in Indian law who are wary of recognizing tribal jurisdiction, specifically when it involves power over non-Natives. *Dollar General Corp. v. Mississippi Band of Choctaw Indians* came to the court in 2015. The case resulted in a 4-4 draw (due to the death of Justice Antonin Scalia) about whether or not the Choctaw could prosecute a non-Native man for allegedly sexually harassing a tribal citizen on tribal land.

The court's last term offered little indication of how the current court will treat tribal issues, despite a high number of Indian law cases. The biggest case, brought by 21 Pacific Northwest tribes against the state of Washington, raised the question of how far treaty rights protect the tribes' right to salmon. The court was tied, thus affirming the state's obligation to help protect the environmental conditions salmon need to survive — a massive win for tribes.

When Kavanaugh's confirmation battle begins in Congress, questions about his experience with Indian law will likely not take center stage, given other concerns over his judicial record. But with the power to affect all 573 federally recognized tribes in the nation, the next justice has the potential to shape Indian law for decades to come. □

Followup

An August study published in *Science* clarified how much groundwater could be at stake. Nearly 240 Western tribes have unresolved groundwater rights, largely in Arizona, Oklahoma, South Dakota and Utah. The Stanford University study also noted, "This ruling establishes a new standard throughout nine Western states within the (9th circuit) court's jurisdiction." **As water supplies dwindle with climate change and serious conflicts arise with other users, tribes will have major leverage in determining how Western water is allocated.**

JODI PETERSON

Anna V. Smith is an assistant editor for *High Country News*. [@annavtoriasmith](#)

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An inquisitive kid goat in spring seeing who has come to call. BRUCE SMITH

LIFE ON THE ROCKS: A PORTRAIT OF THE AMERICAN MOUNTAIN GOAT

By Bruce Smith, 192 pages, large-format hardcover: \$34.95. University Press of Colorado, 2018.

Veteran U.S. Fish and Wildlife Service biologist Bruce Smith turns the lens on one of North America's most elusive quadrupeds, the American mountain goat, in this photo-driven tribute. From a goat enjoying a gentle snooze in a summer patch of snow to one tackling a tenuous foothold on a sheer Glacier National Park cliff side, *Life on the Rocks* blends images from some of North America's most remote and breathtaking landscapes with Smith's accounts of his adventures in search of this icon of the high alpine cliffs and meadows — and also the long-time mascot of *High Country News*.

For readers more interested in the biology and behavior of mountain goats, the author weaves in details about natural history, as well as information about current threats to the animals' habitat, including increased backcountry access for motorized vehicles, logging and mining, and climate change. CARL SEGERSTROM

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A meeting of HCN minds

August brought most of our editorial team together at our new satellite location in Gunnison, Colorado. Over the course of two days, we discussed the future of *High Country News* and how best to produce a magazine that continues to inform and engage our readers. One of our decisions involves a renewed focus on regional coverage through North, South and Tribal Affairs desks. The desks will be headed by Associate Editors **Kate Schimel** (North), **Maya L. Kapoor** (South) and **Tristan Ahtone** (Tribal Affairs). As we approach our 50th anniversary in 2020, we're proud of the decades of work that have brought us here and excited about what we hope will be many more to come.

One of the highlights of our meeting was a guest appearance by copy editor extraordinaire **Ryun Patterson**. Ryun worked with Editor-in-Chief **Brian Calvert** at *The Cambodia Daily* in the '90s and early 2000s and is the author of *Vanishing Act: A Glimpse into Cambodia's World of Magic*. We appreciated his training session and happy-go-lucky vibes. Thanks, Ryun!

The dog days of summer have also sent us in search of high alpine lakes to cool off in. On one sunny August weekend, eight editorial staff members and four rambunctious dogs headed up to Spring Creek Reservoir, above Gunnison. Almost all of us took the plunge into the chilly lake as clouds played peek-a-boo with the mid-day sun.

August brought us several visitors in Gunnison and Paonia. **Nathaniel Minor** from Colorado Public Radio stopped

by our Gunnison office during a reporting trip to nearby Crested Butte. And **Creighton Hart**, a subscriber from Alta, Utah, dropped into our Paonia office, as did **Peggy** and **Bob Slater** and **Alida Franco**. Longtime subscribers **Mark** and **Sandy Dumas** also stopped in to say hello.

Visitors to our Paonia office in the next couple of weeks might encounter a bit of a construction zone. As our writers and editors disperse across the West, we're sprucing up our headquarters to give our circulation, information technology, development and advertising staff members a little more space to stretch their legs.

Finally, a few corrections: In a photograph of Lucia Gaspar and her children ("Estranged in America," *HCN*, 8/20/18), we switched the names of her two daughters. Alexandra, her elder daughter, is standing, and Anna, her younger daughter, is sitting. Also, since the photos were taken, Lucia no longer works at Ortega Middle School; in June, she got a job helping young adults with disabilities further their educations and build careers. And in the same issue, we misstated which California agency is responsible for enforcing labor laws as they relate to farmworkers paid a piece-rate ("Heat Casualties," *HCN*, 8/20/18); it is the Labor Commissioner's Office, not Cal/OSHA. We would also like to clarify that immigrants and their descendants will make up 30 percent of the U.S. population by 2065, not 30 percent of U.S. population growth ("This land is their land, too," *HCN*, 8/20/18). We regret the errors.

—Carl Segerstrom, for the staff



HCN staff (and dogs) get together after the editorial meeting to celebrate.

EVAN BOLT FOR HIGH COUNTRY NEWS

THE BIG THREAT

In Colorado, wildlife managers are losing their ability to manage wildlife

FEATURE BY
PAIGE BLANKENBUEHLER

These days, any search for bighorn sheep in southwestern Colorado is an exercise in desperation. Bighorn hunters and advocates must train their eyes on game trails and alpine valleys and knolls, looking for a patch of gray-brown hide, for ewes grazing, for rams on cliff faces. They listen for rocks tumbling through canyons, or the baseball-bat *crack* of two rams butting heads. Fewer than 500 bighorns roam the 760 square miles of this rugged section of the Rocky Mountains. Still, desperation be damned, a group of citizen volunteers ventured out this August in search of them.

They were led by one of Backcountry Hunters & Anglers' unpaid leaders: The Colorado southwest regional director, Dan Parkinson, an earnest outdoorsman, who, from a certain angle, looks strikingly like actor Tommy Lee Jones. At

4:30 that morning, they began hiking in the predawn quiet, settling into a high-alpine valley, where tree cover was still sparse from a

2002 wildfire. They set up their spotting scopes and binoculars on the crest of a hill overlooking the Weminuche Wilderness, where the Vallecito Creek herd has been known to roam. "Look for white butts," a local guide advised them. "Like a pair of long johns on a clothing line." As the morning wore on, one volunteer, Laurie Parkinson, pulled her watering eyes from her binoculars. "I can't do this anymore," she said wearily. But after a few minutes, hope got the better of her, and she was back to glassing. By the end of the day, she'd seen nothing. No one had.

Sightings these days are few and far between. In the late 19th century, surveying parties survived arduous journeys by eating the meat of bighorn sheep; they described mountainsides "tramped full of (bighorn) tracks." But by the 1960s, Rocky Mountain bighorns across Colorado had almost been wiped out. Though the bighorn has been the state animal since 1961, the first count of the species wasn't done until 1962, when it recorded a population of just 96 bighorns in the Weminuche, a remote wilderness in

TO BIGHORNS

southern Colorado. Today, that population has grown to an estimated 460 bighorns across nearly 500,000 acres — a far cry from the population that once roamed here before Western expansion. Anyone who has ever accompanied Parkinson into the Weminuche has heard him ask: “What’s missing here?” His answer is always: “Bighorns.”

Parkinson had brought the volunteers into the mountains to help fill in some gaps in the data regarding how bighorns move across the landscape, an urgent need right now, as the U.S. Forest Service and state agencies consider the future of livestock grazing in the Weminuche Wilderness. The decision looms amid criticism of Colorado’s wildlife managers, who, some say, have lost their ability to actually protect wildlife. In general, they blame shifting priorities and politics in a downsized state agency. But more particularly, where bighorns are concerned, they blame the domestic sheep industry. In fact, just four miles west of the volunteers lay the summer pastures of the greatest threat to the Weminuche bighorns: the sheep herd of a rancher

named J. Paul Brown.

Brown, meanwhile, sees the bighorn advocates as a threat to his own way of life and livelihood. Two months earlier, I’d visited Brown on his thousand-plus-acre ranch outside Ignacio, Colorado. “This bighorn fight is discouraging to our sons, because here they are investing life into this business with the thought that it could just be a waste,” Brown told me as we walked past his lambing pens. “We’re always wondering if they’re just going to take it away from us after we’ve worked so hard.” Outside, a duvet cover was hung out to dry over the edge of a second-story balcony, framed by the smoke plumes of two massive summer wildfires. “My dad used to say that the high country,” Brown said, “that God made it for sheep.”

‘DISREGARDING THE SCIENCE’

If God made the high country for the sheep, then he also made their wild cousins’ worst enemy: *Mycoplasma ovipneumoniae*. Called *M. ovi* for short, the bacteria passes from domestic carriers to wild sheep, often leading to pneumonia and death. *M. ovi* was first detected in a flock

of domestic sheep in Australia in 1974.

In 1985, two bighorns at a Canadian zoo developed the disease after they came into contact with domestic sheep. A year later, the *Canadian Journal of Veterinary Research* provided the first evidence that domestic sheep and goats pass the bacteria to bighorns. People have been arguing about it ever since.

In the American West, the disease has obliterated historic bighorn populations, especially in the Rocky Mountains. In Idaho’s Hells Canyon, for example, 10,000 bighorn once roamed the region around today’s Payette National Forest. By the 1940s, however, disease and habitat loss from domestic grazing had nearly wiped out the population. Similarly, in the Weminuche, researchers suspect that the Vallecito Creek herd has declined due to its exposure to nearby grazing domestic sheep. Wildlife managers typically separate domestic sheep and bighorn populations: Salt licks encourage bighorns to stay in safe areas, while herding dogs and gunshots scare them away from high-risk contact. In Colorado, a new strategy of allowing herders to kill bighorns that

Dan Parkinson scans for bighorn sheep in the Weminuche Wilderness in southwestern Colorado. Parkinson, Colorado Backcountry Hunters & Anglers’ southwest regional director, leads volunteer groups into the wilderness to collect data on bighorn herds. LUNA ANNA ARCHIE/HIGH COUNTRY NEWS

come in contact with their sheep is also being considered.

The Weminuche bighorns comprise three herds, considered particularly special because they contain mostly native, non-transplanted animals and still have robust DNA that can be mixed with that of other struggling herds to strengthen their populations. Because of this, they've been given "tier 1" status by the Colorado Parks and Wildlife agency. The Vallecito Creek, Sheep Mountain and Cimarrona Peak herds are among the last native herds in the state. On the morning I went out with Dan Parkinson, we were in search of the Vallecito Creek herd, which has only an estimated 70 animals left and is the most vulnerable to a total die-off if its members contract *M. ovi*. Already, the herd is showing signs of possible exposure. The population has stagnated, and studies are currently underway to evaluate whether it has begun to decline. The survival rate of Vallecito lambs is low, and new additions to the herd often die — both indications of the disease. And because Vallecito rams are likely to migrate to other herds to breed with ewes, if the disease hits

J. Paul Brown, who has been raising sheep in southwestern Colorado for four decades. SUSANNAH KAY



here, it will likely spread to the other two herds. All it would take to prevent this is the prudent separation of the bighorns from the domestics. But that has proven surprisingly hard to achieve. To understand why, you have to understand Colorado's agricultural politics.

J. Paul Brown has been sheep ranching in southwestern Colorado for more than four decades. He and his wife, Debbie, built their ranch by transforming lands from "nothing but sagebrush and piñon-juniper" into productive land for their lamb and cattle operation. They started with little more than a "beat-up old red pickup truck" and a mobile home, in 1980. A few years later, they moved to their current property, grain silos dotting the horizon of a flat, shrubby expanse that had no running water or electricity. The Browns created an idyllic life, the family bonding over the breakfast table and in sheep camps high in the Weminuche alpine — J. Paul, Debbie and their four sons.

As Brown built up his ranch, he also built his political career, serving as a commissioner for La Plata County and as president of the local school board. In 2010, he was elected to the state House, part of the Tea Party wave. During his tenure, Brown, a Republican, proved himself one of the most conservative members of Colorado's Legislature. In 2011, he was dubbed "the bear guy," for sponsoring a bill to overturn a 1992 restriction on bear hunting. (The measure ultimately failed.) In 2012, Brown was defeated by a moderate Democrat, Mike McLachlan, who became something of a political nemesis of his amid the purpling politics of the state. In 2014, Brown took back the seat from McLachlan, with the help of record-shattering donations from outside groups, including more than \$50,000 from the agricultural sector. But in 2016, he lost to Barbara Hall McLachlan (Mike McLachlan's wife) and, earlier this year, announced that he wouldn't run again.

Much of his time these days is focused on fighting to maintain his sheep operation — a 1,000-acre ranch, with about 35,000 acres across three grazing allotments in the wilderness, leased from the Forest Service. Brown is the only sheepherder in the Weminuche, Colorado's largest wilderness area. He has stubbornly held onto his operation with the help of the American Sheep Industry Association and the Colorado Wool Growers Association. Brown told me he believes more research, as yet unpublished, will prove that *M. ovi* can spread between deer, elk and bison, thereby letting his sheep off the hook. "We're getting more and more science," Brown said. "I have nothing against the bighorns, but let's use good science and not try to get us off the range just to get us off the range."

The sheep industry makes similar arguments, including attacks on bighorn science. Bonnie Brown (no relation to J. Paul), the executive director for the

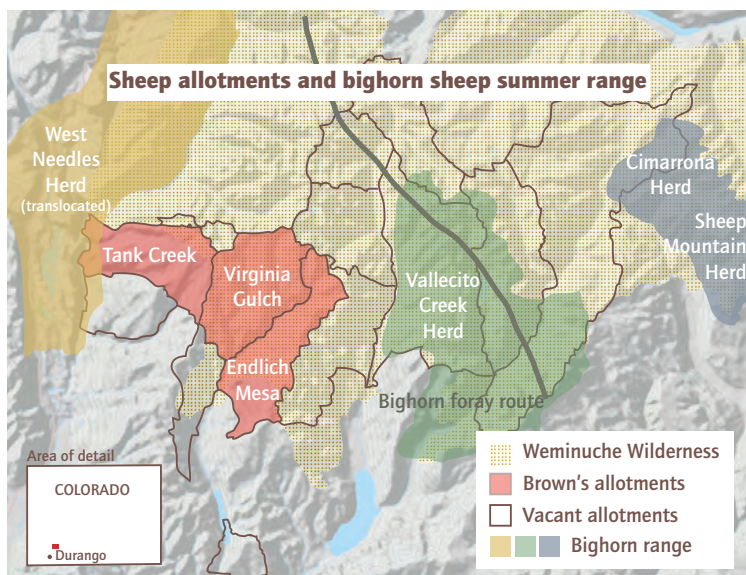
Colorado Wool Growers Association, argues that bighorn sheep advocates are ignoring other factors that impact wild populations, such as predation, habitat, stress and inbreeding. "It's important to know that the science isn't settled," she told me. "It's *emerging*." Just because something happened in a forced-enclosure-pen setting — that does not mean it happened on the open range. Let's try to find out what the answers are. Otherwise, you're looking at family ranches going out of business."

But science is a process, its results are always emerging, and the vast majority of scientists who work on bighorns agree on the risk. "When you put domestic sheep together with bighorn sheep, the bighorn sheep die," said Thomas Besser, a Washington State University professor of microbiology who has studied disease in bighorn sheep for a decade. "That's been repeated over a dozen times and by many different investigators and many different sources."

To bighorn advocates, industry arguments sound a lot like those made by the tobacco industry — or climate change deniers. There's already an abundance of scientific consensus, they say, and the risk of exposure is not worth it.

In a 2014 study from Washington State University, for example, two experiments sought to better understand *M. ovi* transmission. Six wild ewes, captured in Oregon, were housed in two pens. The bighorns in the second pen were exposed to one domestic sheep with *M. ovi*. All of the bighorns in the exposed pen contracted *M. ovi*, and all of them fell ill with a condition similar to pneumonia. And ultimately, all of them died. "The most striking finding of the experiments reported here was the high transmissibility of (*M. ovi*) and the consistent pneumonia that followed infection of bighorn sheep," the study concluded. The Western Association of Fish and Wildlife Agencies, a consortium comprising 23 wildlife agencies from the West, currently recommends that wild sheep and domestic sheep be separated to minimize the probability of disease transmission. The Forest Service and the Bureau of Land Management's own "risk contact model" recommends keeping wild and domestic sheep apart by 15 miles. But it's not an exact science: Bighorn rams on foray have been documented traveling much farther than 20 miles.

In other words, research tells us that domestic sheep infect wild sheep, and the best way to keep sheep apart is to separate them. And yet in the Weminuche, the Forest Service, echoing the recommendations of Colorado Parks and Wildlife, has kept three high-risk allotments — those leased to J. Paul Brown — open to grazing, with less than a five-mile buffer between their easternmost boundaries and the known boundary of the native bighorn range. This is justified, they say, because the boundaries are split by Vallecito Creek, a natural buffer.





**"My dad
used to say
that the high
country, that
God made it
for sheep."**

*—J. Paul Brown,
rancher and holder
of grazing allotments
within the Weminuche
Wilderness in
southwestern Colorado*

**Sheep graze on one
of J. Paul Brown's
three allotments,
which cover close to
35,000 acres within
the Weminuche
Wilderness.**

PHOTO COURTESY OF
LUKE BROWN

"I'm glad we're arm-in-arm on a lot of these things. ... Without ag, we won't have wildlife."

—Bob Broscheid, Colorado Parks and Wildlife director, speaking to the Parks and Wildlife Commission

"You might as well be trying to keep (bighorn sheep) out with a piece of cellophane, for crying out loud," Melanie Woolever, the former leader of the Forest Service's National Bighorn Sheep Program, told me. "Five miles is nothing." Woolever led the team that developed the risk-of-contact model around bighorn and domestic sheep conflicts. She retired three years ago after nearly four decades with the agency. "I absolutely think (the Forest Service) is disregarding the science here," she said. "Colorado has all this connected habitat. To expect bighorn sheep not to move through all that connected habitat, moving up and down looking for breeding opportunities, including domestic sheep, it's ridiculous. It's inconsistent with what we know about the biology of sheep and the science of this whole issue."

The question is: Why is it still happening?

AN AGENCY 'SEIZED BY AGRICULTURAL INTERESTS'

Colorado's current administration includes Agricultural Commissioner Don Brown (no relation to J. Paul), a third-generation dairy and corn farmer from Yuma, Colorado, and former president of the Future Farmers of America, a youth group with ties to the National Cattlemen's Beef Association. The director of Colorado Parks and Wildlife is Bob Broscheid, the former director of the Arizona Natural Resources Review Council, which was created to tie natural resource management to the state's economic development.

One morning in January, both men addressed a gathering of the agency's wildlife commission — in a way that demonstrates the agency's current direction. Inside the Hunter Education Building in downtown Denver, over a breakfast buffet brimming with sausage, eggs and orange juice, Don Brown first addressed the room.

"Words matter," the agriculture commissioner said, "and the way that folks have been describing — protecting, *protecting*, the bighorns — you would think domestic sheep must be doing something bad to bighorns! I imagine these domestic sheep in full body armor." He laughed before he continued, "And I see the bighorn on the other side, saying, 'Incoming, take cover!'" The joke seemed not to land in the quiet room. Brown then went on to praise the leadership of Colorado Parks and Wildlife under Broscheid, calling him "a breath of fresh air." "I greatly appreciate you," he said to the head of the agency, "and your approach to agriculture."

Broscheid then took the stage. "Thank you, commissioner, for all your kind words, and right back at you," he said. "I'm glad we're arm-in-arm on a lot of these things. ... Without ag, we won't have wildlife."

When Woolever, the former head of the Forest Service's bighorn program, heard about the exchange, she balked. "I'm incredibly frustrated," she said. "It feels like the deck is so stacked against bighorn sheep, specifically, and wildlife in general right now. ... The agencies are seemingly uninterested in even following the science. ... It seems like their intent is maintaining the status quo for the consumptive users of the forest versus the amenity values or wildlife values."

In part, that's because agriculture holds a certain amount of nostalgic political power in Colorado. The state's leaders have a long history of propping up its agricultural sector, a nearly \$8 billion industry that receives more than \$165 million in state and federal subsidies each year.

Yet even with the support it receives, the industry is struggling to reach its historic numbers. According to the latest census of agriculture, conducted by the USDA, Colorado's sheep and goat farming

industry was among the most lucrative in the country, surpassed only by Texas and California. But in Colorado and across the rest of the country, the sheep industry has been in a steady decline since its peak in 1942, when there were more than 56 million sheep in production. In the mid-1990s, sheep inventory dipped below 10 million nationwide, for the first time. The number of sheep-ranching operations has fallen from more than 110,000 in 1987 to fewer than 60,000 today.

As producers go out of business in increasingly isolated rural areas, the middlemen who do the processing, packaging and distribution lose the incentive to serve those areas. As a result, groups like the Colorado Wool Growers Association and American Lamb Industry Association struggle to maintain the infrastructure. Even a single rancher — J. Paul Brown in the Weminuche, for example — is crucial to the industry's survival. "The American sheep industry is doing all it can to encourage more sheep to try to hold that infrastructure together," Brown told me. "We're part of that. It's important that we keep a certain amount of sheep in the country or it will all fall apart."

Even as its slice of the economic pie gets smaller, the wool industry continues to wield surprising political power. In 2016, for example, wool industry lobbyists succeeded in including positive language in the Omnibus Appropriations Bill around maintaining a rancher's "right" to graze sheep on public lands. When Sen. Lisa Murkowski, R-Alaska, submitted the final text of the bill on behalf of the Committee on Appropriations, it included verbatim text from a September 2016 letter from the American Sheep Industry Association. The text requires land agencies to go through the USDA's Agricultural Research Service to verify claims of high-risk contact areas and to make vacant grazing allotments available to ranchers whose land becomes unusable

Wildlife's influencers and influences

The who's who of Colorado's Parks and Wildlife Commission

Earlier this year, Colorado's Senate denied James Spehar a seat on the state Parks and Wildlife Commission after "virtually no discussion," the Grand Junction *Daily Sentinel* reported. Though groups like Colorado's Wildlife Federation and Trout Unlimited had supported him, the Colorado Farm Bureau was openly against his appointment. "There were several groups that were opposed to his position," Sen. John Cooke, R-Greeley, said. "They said he was pretty weak on property rights and other issues."

That rare dismissal of a candidate to Colorado Parks and Wildlife's governing board sheds light on how the current powers-that-be manage to ensure that the wildlife commission favors ranching and farming interests over conservation priorities.

Today, only 10 of 11 positions are currently filled on Colorado's wildlife commission, a powerful governing board that steers wildlife management policy decisions. Commissioners are appointed by the governor and approved by the Colorado Senate. Even though respective interests are each limited to a certain number of seats, at-large members with agricultural ties currently give that sector an out-sized influence. After the Colorado Division of Wildlife merged with State Parks in 2011, two distinct commissions — 14 positions total — were consolidated into one commission meant to balance the needs of wildlife and recreation in the state. Instead, the membership shows that agriculture interests have the loudest voice. **PAIGE BLANKENBUEHLER**

Colorado Parks and Wildlife Commission members, and their influences:

Hunting-outfitter ties (3 required; one must be an outfitter)

COLO. PARKS AND WILDLIFE PHOTOS



Marie Haskett
Owner of JML Outfitters in Meeker, Colorado.



John V. Howard
Former volunteer with the National Wildlife Federation and the Natural Resources Defense Council.



Alexander Zipp
Fly-shop owner in Pueblo, Colorado.



Robert William Bray
Owns and operates a cattle and sheep ranch in the San Juan Mountains near Redvale, Colorado, and is a member of the Colorado Wool Growers Association and the Colorado Farm Bureau.

because of bighorn conflicts. In this year's Appropriations Act, the directive was carried over with no change. Additionally, a similar amendment included in the farm bill would ensure that ranchers with grazing permits are able to continue grazing despite natural disasters or conflicts with wildlife. The rider recently passed the House but, as of this writing, was stalled in the Senate.

This all adds up to a small — and shrinking — industry using its influence to steer long-term grazing legislation in its favor. In Colorado, the industry wields its influence through Colorado Parks and Wildlife.

Colorado Parks and Wildlife and the Forest Service share a mandate to find the best use of the landscape. “Our approach is to manage for effective separation between bighorn sheep and domestic sheep to reduce the likelihood of physical contact and potential pathogen transmission from domestic sheep to bighorn sheep,” San Juan National Forest Supervisor Kara Chadwick wrote in an email. “We continue to manage for viable populations of bighorn sheep while implementing our multiple-use mandate and permitting domestic sheep grazing. Both activities contribute to the local economy and serve the public. As the Weminuche project moves forward, the final decision will be made using the results from recent monitoring and best available science.”

When *High Country News* reached out to Colorado Parks and Wildlife for comment on this story, Lauren Truitt, spokeswoman for the agency, wrote in an email: “(Parks and Wildlife) and the Forest Service are currently working on a special process in the Weminuche to inform future decisions and current management actions. The project will utilize data from collared animals, tissue samples from wild bighorn sheep, citizen science, and various adaptive management strategies

to manage for reasonable and effective separation. Our approach will continue to focus on using science, partnerships and collaboration to achieve lasting conservation outcomes.” Patt Dorsey, the southwest region manager for Colorado Parks and Wildlife, said her agency recognizes the science around bighorns, but needs to similarly acknowledge the heritage of the sheep industry. In part of the Weminuche grazing draft plan, she wrote: “We recognize that the potential for contact remains high in several allotments. We think adequate separation can be achieved by clarifying the roles and responsibilities of the permittee (Brown).”

But critics say that those attitudes do not honor the spirit of “multiple use.”

Instead, they favor agriculture — and specifically J. Paul Brown. They point to a counterexample in southern Colorado, where, in the Pagosa Ranger District in 2010, the Forest Service closed high-risk allotments to grazing. Since then, the bighorn population has started to recover. “I find the (Pagosa) decision to be in stark contrast to what is proposed for the Weminuche,” Terry Meyers, the executive director of the Rocky Mountain Bighorn Society, wrote to me in July. “It really tells the story about how political influence is perhaps influencing management decisions more than science.”

On a bright spring afternoon in May, I met Dan Parkinson at a riverside restaurant at Durango’s DoubleTree hotel.

A bighorn ram amid a domestic sheep herd along the Yellowstone River in 2013. Wildlife biologist Kevin Hurley of the Wild Sheep Foundation was driving between Cody, Wyoming, and Gardiner, Montana, when he saw the ram jump the fence into the sheep pasture. He stopped and yelled and threw rocks to chase it away. PHOTO COURTESY KEVIN HURLEY



Agriculture ties (3 required)



Dale E. Pizel
Manager of a ranch near Creede, Colorado. (At-large member.)



James Vigil
Former Las Animas County commissioner who runs a family farm near Trinidad, Colorado.



Robert “Dean” Wingfield
Current Yuma County commissioner who runs a dryland farming operation near Vernon, Colorado.

Recreation-conservation ties *



Carrie Besnette Hauser
President of Colorado Mountain College, with ties to the Metro Denver Sports Commission and the Olympic Games.



Michelle Zimmerman
Has worked in the renewable energy sector for nearly two decades.
(One seat is vacant.)

* Of the three recreationalist members called for on the board, one is to be from a nonprofit, nonconsumptive wildlife organization.

Oil & gas ties



Marvin McDaniel **
Currently serves as the chief administrative officer at Xcel Energy.

** McDaniel is one of two at-large board members.

The commission also includes these nonvoting members:

- Don Brown**
Colorado commissioner of Agriculture.
- Bob Randall**
executive director of the Department of Natural Resources.
- Bob Broscheid**
director of Colorado Parks and Wildlife.



**"If that
Weminuche
population
were
decimated
by a disease
event, there
wouldn't
be a single
scientist
that would
be surprised.
Something
bad is going
to happen."**

—Dan Parkinson,
Colorado Backcountry
Hunters & Anglers'
southwest regional
director

There, he spread a massive map of the Weminuche Wilderness across two round tables, giving the parlor the feel of a war room. Across the map streaked a thin blue line of masking tape, which traced the path of a 3-year-old ram, likely on a foray in search of a mate. The line showed a 22-mile northwestern jaunt into the heart of the wilderness, through dense forest and past alpine lakes, and eventually crossing Vallecito Creek, just north of the boundary of one of Brown's allotments.

"J. Paul sits in meetings and claims he's never seen a bighorn in his allotments," Parkinson said, pulling apart his magnetic reading glasses and staring at me intensely. "But we know how far these guys can move."

When a bighorn is exposed to *M. ovi*, it can spell the end, either from illness or at the hands of humans. In the summer of 2016, for example, a flurry of encounters led to the killing of numerous bighorn sheep in the San Juan Mountains. In the first incident, a 2-year-old bighorn ram wandered into a domestic sheep pen on private property in Colorado's San Juan Mountains, a few miles northwest of Durango and 18 miles from the Weminuche. A Colorado Parks and Wildlife spokesman dismissed the incident as an anomaly. But later that summer, a second encounter occurred between bighorns and domestic sheep that belonged to the same rancher — Ernie Etchart, who is also the president of the Colorado Wool Growers Association. After a third incident, Colorado wildlife officers shot and killed a total of six bighorns — an increase from past years' reports.

"We've been lucky for the past 30 to 40 years," Parkinson said, before rolling up his maps and organizing his scattered

documents into neat piles. "If that Weminuche population were decimated by a disease event, there wouldn't be a single scientist that would be surprised. Something bad is going to happen."

If the Weminuche bighorns succumb to *M. ovi*, or are killed for bumping into domestic sheep on public lands, critics argue it will be due to state wildlife managers' inability to do their job. They point to the 2011 merger of the state's Division of Wildlife with its Department of State Parks — one of the first acts of the incoming governor, John Hickenlooper, D. The measure was meant to save the state \$4 million. It abolished 48 permanent positions between the two divisions, and created Colorado Parks and Wildlife, which kept the former era's bighorn ram as its patch insignia. The new agency established a broad mandate with, according to its literature, "a more comprehensive outdoor recreation mission." The result, according to multiple interviews with former and current officials, has been a shift in priorities that leaves wildlife preservation at the bottom rung.

"The interest of wildlife has certainly been diluted," John Mumma, a former director of the Colorado Division of Wildlife, told me. "The mandate for protecting wildlife has faded and faded over the years, and the result is now a wildlife agency that has been seized by agricultural interests and is paralyzed from doing anything to protect wildlife."

Indeed, agriculture and other business interests have direct influence on the agency, which is governed by the Colorado Parks and Wildlife Commission. Currently, there are more representatives on the commission with ties to agriculture, recreation and tourism than to

conservation. Not a single wildlife biologist sits on it (*see sidebar, page 16*).

It is likewise clear that the wool industry holds sway over the agency. In 2014, Parks and Wildlife signed a memorandum of understanding with the Colorado Wool Growers Association. In it, the agency agreed "that closure of active domestic sheep allotments on public lands will not be recommended based solely on the potential for interaction between domestic and bighorn sheep." Such memoranda are not unusual, where agencies seek to coordinate with stakeholders to reach compromises on plans. But for the Weminuche bighorns, it has meant that grazing continues unhindered as the conflicting factions wait for the Forest Service to reach a final management decision for the wilderness. Though bighorn sheep advocates participated in early negotiations, in the end, they felt like their conditions for bighorns were disregarded.

Instead, according to Meyers of the Rocky Mountain Bighorn Society, the agreement ties the hands of Parks and Wildlife, preventing it from advocating for the proactive closure of allotments to prevent disease outbreaks. "The notion that the wildlife agency cannot advocate for control or containment of the primary issue that's affecting the wildlife population is very concerning," he said.

The current makeup and priorities of Colorado Parks and Wildlife mean that wildlife biologists and others in the agency are afraid to speak out. One current employee spoke to me on condition of anonymity, for fear of reprisal. "It's impacted our ability to be vocal on the bighorn sheep issue," the biologist said. "Domestic sheep carry a bacteria that causes pneumonia in wild sheep and that

leads to decreases in survival, especially lamb survival, and really impacts wild sheep populations. There's really no debate on that scientifically. Yet, as an agency, we're very hesitant to actually come out and say anything that could portray a negative image of the agricultural industry."

Outside influence in the agency has major implications, as the Forest Service creates its management plan. The Forest Service will follow closely the recommendations of a state agency like Parks and Wildlife, which has softened its language over the years where *M. ovi* is concerned.

In 2014, an initial environmental assessment of sheep grazing in the Weminuche included strong language on the impacts of the disease and high likelihood of contact, saying that the "existing condition is undesirable due to potential for contact between domestic sheep and bighorn sheep, leading to the possibility of disease transmission between the two species." Based on the best available science, the agency should "consider the possibility of moving domestic sheep bands from currently active allotments where the risk of contact with bighorn sheep is high," the initial assessment said.

As the assessment process went on, however, that option was thrown out, because low-risk, vacant allotments were less desirable for domestic sheep grazing. When the draft environmental impact statement was released in 2016, the preferred alternative summary recommended that allotments stay in production. It excluded warnings of the risk of disease transmission, and instead claimed that "adaptive management tools were crafted to work together to improve conditions where needed."

The 2016 impact assessment also included a letter that was signed jointly by Colorado Parks and Wildlife and the state Department of Agriculture. The recommendation was that, despite the research and despite their close proximity to unique bighorn herds, the grazing allotments should stay in production. In its draft environmental impact statement, the Forest Service, which typically follows the lead of state agencies, echoed the letter nearly verbatim. Parkinson described the letter as "a schizophrenic piece that basically is like putting lipstick on the status quo."

In other words, as the Weminuche management plan nears its completion, the Forest Service is not only ignoring science, but it is following the recommendations of a Parks and Wildlife Commission that is stacked with industry representatives. The Forest Service has not announced a date for the final decision, but Parkinson and other bighorn advocates fear the outcome will not reflect the needs of wildlife.

On a hot afternoon in June, J. Paul Brown and I toured the edge of his ranch in his Dodge Ram truck. "We have a friend in Don Brown," the agricultural

commissioner, he told me as we drove, dust sifting through a cab littered with fast food debris, an empty cough-drop bag and a warm two-liter bottle of Shasta. "Bob Broscheid has been very supportive." We stopped beside a shady, tree-covered pasture, where hundreds of ewes and their week-old lambs grazed and nursed. Parkinson's organization, Backcountry Hunters & Anglers, he said, "are just another radical environmental group, in my opinion, and they want me gone. They say this isn't personal against me — but it is personal, because it's my survival."

Brown is the sole permittee in the entire Weminuche Wilderness. If the Forest Service's final decision allows his allotments to stay in production, it will be a testament to the stubbornness not only of Brown, but of Colorado's agricultural politics in general, where powerful individuals with backing from a well-organized industry can bend wildlife management to their will.

Critics say the outcome does not bode well for the future of the agency, which has a specific and clear mandate for the preservation of wildlife: "to perpetuate the wildlife resources of the state" and "inspire current and future generations to serve as active stewards of Colorado's natural resources."

Right now, Colorado has approximately 6,000 bighorn sheep. It has an abundance of prime, high-alpine habitat and native range but is missing a wild population to match. The Forest Service will ultimately make a final decision over Weminuche grazing, but people like Parkinson feel that what really matters is that Colorado Parks and Wildlife — a public agency whose own insignia bears the proud head of a Rocky Mountain bighorn — has backed away from its responsibility. "(Parks and Wildlife) takes that responsibility very seriously," Lauren Truitt, spokeswoman for Parks and Wildlife, wrote to me in August. "Our agency advocates for healthy and sustainable wildlife and habitats each and every day. We accomplish this by working with partners, including public land management agencies, private landowners and individuals, and numerous non-governmental organizations."

I asked Brown what he made of the claim that Parks and Wildlife was buckling to pressure from the sheep industry. His lip twitched, and he paused. "Malarkey!" he almost shouted. "At least right now, with Bob Broscheid, they're trying to do what's right: They're trying to protect bighorns, but they don't want to take advantage of an industry that's been there for years. It's malarkey."

Brown had turned the truck off, and we lingered in the overheating cab. "I have a grudge, you know," he said at last. "I've just about shot my wad. I'm about done. I'm 66, and I can feel my age a little. This is about handing the reins to my children, my grandchildren, my great-grandchildren now."

'THE ACTUAL PURPOSE OF CPW'

The threat to bighorns is more than just *M. ovi*; it's politics. The board that governs the state's wildlife policies is appointed by the governor. And this year, two new candidates are locked in a race for leadership of the state.

"This governor's race is so important," Parkinson told me. "The makeup of the wildlife commission determines how wildlife is managed. We need to get someone in the governor's office that understands how much the actual purpose of CPW has disappeared and will appoint biologists and people who understand these issues to the board."

Where bighorn sheep conservation ranks with voters is anybody's guess. The race is currently dominated by immigration, campaign finance and gun violence prevention, so wildlife management has not factored heavily into either of the gubernatorial candidates' platforms this fall. (Neither campaign responded to HCN's requests for comment.)

The Republican candidate, Walker Stapleton, is Colorado's state treasurer. He won the state's Republican primary in June, campaigning as "a proven conservative fighter." His great-grandfather was once mayor of Denver (and a former leader of the Ku Klux Klan). If Stapleton wins, he would be Colorado's second Republican governor in more than four decades.

The Democratic candidate, Jared Polis, is a five-term Boulder congressman, campaigning as a Coloradan and entrepreneur "turning bold ideas into real results." If elected, he would be the nation's first openly gay governor. Polis' primary victory is a testament to the leverage campaign financing holds over the state's electoral process: He spent \$11 million of his own fortune leading up to the primary.

It is unclear whether the voters of Colorado know enough or care enough to vote for a governor who will reset the wildlife commission in a way that is more sympathetic to wildlife. Meanwhile, Dan Parkinson and J. Paul Brown continue their quiet feud in the mountains of southwestern Colorado — one man determined to save bighorns, the other equally determined to maintain his way of life.

And so it was that one day earlier this summer, Parkinson was driving a road near his home in Bayfield, Colorado, when he noticed domestic sheep manure along the side of the road. *J. Paul must be moving his herds*, he thought. Parkinson followed the droppings until he reached Lemon Dam. Soon, he'd spotted a band of domestic sheep, followed by Brown and one of his herders. They were moving their sheep onto summer pastures, about 17 miles from the starting point of the path of the roaming ram he'd charted in blue tape. It would take just one encounter for these sheep to wipe out some of the last of Colorado's state animal. Parkinson watched, powerless, as the sheep moved along the edge of Lemon Reservoir, then disappeared into the wilderness. □



Paige Blankenbuehler is an assistant editor for HCN.

✉ @PaigeBlank

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Conservation Director — Carbondale-based public-lands advocate, Wilderness Workshop, seeks a Conservation Director to help direct and shape the future of public land conservation on the West Slope of Colorado. Details at: <http://wildernessworkshop.org/careers/>.

Land Acquisitions Specialist, Renewable Energy — Energiekontor US seeks experienced local candidate, must reside in western South Dakota. Send résumé and cover letter to: brenda.moore@energiekontor.com.

Executive Director — The Native American Fish and Wildlife Society seeks an Executive Director in Denver, Colo., to serve as the Chief Administrator of the national Native American nonprofit that assists Native American tribes and Alaska Native Tribes with the conservation, protection, and enhancement of their fish, wildlife, habitat and cultural resources. http://www.nafws.org/images/announcements/2018/NAFWS-EXEC-DIR-ANNOUNCEMENT_7.17.18-1.pdf 303-466-1725 klynch@nafws.org <http://www.nafws.org>.

Trout Unlimited, Bighorn River Basin Project Manager — The Bighorn River Basin Project Manager identifies and implements projects to improve streamflows, restore stream and riparian habitat, improve fish passage and rehabilitate or replace aging irrigation infrastructure to accommodate fish movement in the Bighorn River Basin in Wyoming. The position also participates in youth education programs, primarily through Trout Unlimited's Adopt a Trout Program, with local school districts. The position is based in Cody, Wyo. katie.becker@tu.org. See www.tu.org for complete job description.

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Borderlands continued from page 8

really moving to have someone like that, whose job has nothing to do with this, but who's kind of emotionally invested in the work."

Though pigs aren't perfect substitutes, they have important similarities to humans, including fat distribution and torso size. This is the third summer that researchers have left several dead pigs in the Sonoran desert. Then they watch what happens, making twice-daily visits to note observations, as well as using remote cameras to record scavenging activity and drones to photograph the area.

In late June, 10 days after the pigs were left in the desert, I joined Ex — who wore a long-sleeved purple shirt, beige hiking pants, a sunhat and a tiny silver skull earring — as she inspected them. The researchers had placed the pigs in a sun-beaten, dusty Arivaca, Arizona, backyard carved out from the surrounding desert shrubland. Dark hills bunched in the distance, framed by blue sky. They had dressed two of the four pig carcasses in tiny clothes and shoes, to see how that would affect scavenging and decomposition, before placing the animals on the flattened brown grass and dirt. The homeowner, who had given the researchers permission, was on vacation. For shade, researchers sat on the patio of the brick

ranch-style house, watching their drone zip overhead.

While work with human remains in a sterilized lab can be very clinical, these pigs were decomposing in a place where people go missing and die. "It makes the (emotional) separation a little harder," Ex told me later. At the field site, Border Patrol aircraft occasionally passed overhead as the temperature climbed toward 100 degrees. Arivaca is located only 11 miles from Mexico, and Spanish-language radio broadcasts here warn would-be migrants not to risk a crossing: "You're worth more alive than dead. ... Don't put your life in the hands of someone else."

By mid-June, flies swarmed the researchers as they got out of their cars. The smell of decay pervaded the site. Where the unclothed pigs had been, now only stained earth remained. Scattered ribs and other bones gleamed in sunlight or hid under shrubs many feet away. The clothed carcasses, meanwhile, seemed to have mummified and were somewhat intact, though their faces and stomachs were torn and gnawed. One pair of tiny blue sneakers left behind by scavengers was a poignant reminder that children also try to cross the desert.

And yet pigs are pigs, not people, and the sight of rib bones and meat — however fetid — can stir something primal, too. "It's a weird thing. Some people go

home from this craving meat," Ex said.

The oversweet odor of rotting meat can seem to penetrate a person. For days after I left the site, the scent would re-materialize, a phantom reminder that the United States is currently conducting an ever-growing experiment in human survival in the Arizona desert, and that at any given moment, people may be dying because of it. "The bigger picture here is that each year, hundreds of people die in the desert," Ex said, "and those numbers are really just the people who are accounted for."

This year, the combination of record hot, dry weather conditions and the growing militarization of the U.S.-Mexico border menaces migrants even more. As of this writing, 80 unidentified border crossers' remains have come to Anderson's office this year. "There are things that our government has directly done to basically give these people no choice but to try to come here," Ex said. "If we can't get justice for these people, then the very least we can do is to figure out who they were, and to give their remains back to their family to attempt to — " She hesitated. " 'Closure' isn't the right word, because I don't think that's something that's in play for the families of people who die in the desert, but, at the very least, giving them a little bit of knowledge is kind of the goal here." □

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In *Rough Beauty* and *Off Trail*, two women find companionship with their dogs during times of solitude.

JON PACIARONI/
GETTY IMAGES

The beauty — and dangers — of living wild

Those of us who are ravenous readers of books set in the American West are used to stories of living life on the edge, off the grid, out of the box. But two new memoirs, both debuts, take isolation and fortitude to a delightful, and at times terrifying, extreme. Both are complex reflections by maverick women who embrace life in extremis, directing an honest gaze at their chosen lifestyle and all that it entails.

Rough Beauty starts with great loss: Karen Auvinen escapes the wintry isolation of her Colorado cabin for a day only to return to what looks like a “voluminous orange cloth ... forming scarlet and orange ripples that flicked and snapped.” Everything she owns is burned, save her truck. She raises a middle finger to her 40th year and the charred remains of a life, and what follows is a journey of grief, attempts at coping, and a deeper retreat into isolation. We worry for her: She hasn’t been on a date for 20 years, and when she meets a flirtatious waiter in Utah, where she’s gone to recover from the fire, she realizes that “I’d not been touched in years.” Returning home to rebuild her life in another iffy-sounding cabin, she notes, “Neighbors were seasonal or scarce, and that suited me. I just wanted to be left alone.”

Estranged from family, from community, from intimate relationships, from neighbors, she is shockingly detached, her life spare. “Living wild succinctly arranges priorities,” she writes. “You make food, take shelter, stay warm. Seasons and weather dictated every aspect of my day.” It’s appropriate, then, that she finds an abiding comfort in the work of Gretel Ehrlich, whose *Solace of Open Spaces* is a tribute to the reasons certain people seek such solitude. There is some grace in this: “Anything you do deeply will be

lonely,” she notes, quoting Zen master Katagiri Roshi, realizing that, for her, “lonely is a word that describes what it means to live profoundly.”

But this memoir is no simple celebration of solitude — there are very real dangers in choosing such a path. “I’d learned from a very young age to isolate myself from people and from a world that offered up far too many dangerous uncertainties. I thought I was being smart,” Auvinen writes, before eventually realizing that vulnerability is necessary for connection, and connection deepens life. From a childhood that fostered it to the fire that cemented it, we see Auvinen claw her way out of numbness and into real emotion. She finds herself becoming a caregiver for a mother who never gave her much care, finding real love with a canine companion, and experiencing her first panic attack well into middle age, the result of allowing herself to feel emotion. She also heartily engages in community, hosting spunky T.S. Eliot parties, helping when the Jamestown Flood obliterates her town, and then, yes, going on a date and finding a human companion. “Real strength, I’d come to realize, lies not in resistance but in softness,” she writes. “The willingness to go unguarded into a new day.”

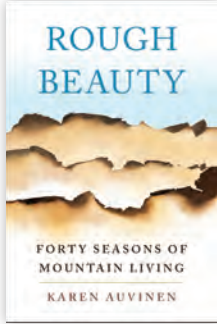
Parnell’s memoir bears striking similarities, though her choice for extreme living is mountaineering. By the age of 30, she had become the first woman to climb the 100 highest peaks of Colorado, and she then went on to hike nearly all of the 300 highest. Fifteen to 20 summits a summer, she hiked until the joints in her big toes got dislocated and her doctor ordered surgery; she hiked until she got cataracts, the result of too much ultraviolet light exposure; she hiked because she had to. “You love the mountains more

than you will love any man,” her mother tells her, and indeed, it is the mountains that anchor her during her divorce, grounding her in a life that is otherwise swirling.

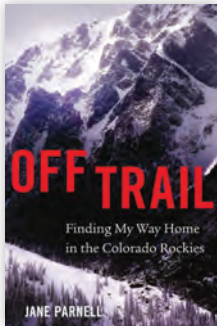
Like Auvinen’s book, *Off Trail* gives sweet attention to the subtle differences that distinguish being alone from loneliness, as well as to the importance of seeking real connection where it matters. “How do I explain that even though I am alone for the first time in my life, I am not alone as they might assume? That this is my belated rite of passage at age forty,” she writes. Guided by frayed topo maps and her dog, and inspired by Isabella Bird’s *A Lady’s Life in the Rocky Mountains*, she hikes on and on. “I want to possess these mountains as they possess me. I want to know everything about them — the density and condition of their forests; the scent and variety of their flowers; the angle, age, and condition of their rock; the size of their summits.”

Neither writer shies away from the difficulties of her particular brand of maverick life: the finances involved in choosing a non-9-to-5-er job; changing gender roles and the particular challenges experienced by women alone in remote areas; the toll that physical activity takes on the body. Too, the lengthy timespan covered by both books offers ample time for introspection and perspective; years of living reveal change. But in the end, both continue to live life like a “river froths at the banks, straining against the confinement of its sinuous canyon,” as Parnell puts it. These are fearless memoirs, written by women with both a healthy dose of pragmatism and boundless courage.

BY LAURA PRITCHETT



Rough Beauty: Forty Seasons of Mountain Living
Karen Auvinen
320 pages,
hardcover: \$27.
Scribner, 2018.



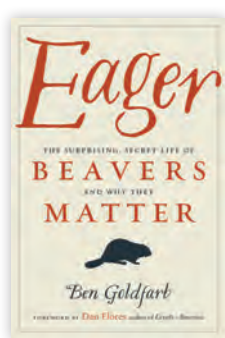
Off Trail: Finding My Way Home in the Colorado Rockies
Jane Parnell
144 pages, softcover:
\$19.95.
University of
Oklahoma Press, 2018.



ILLUSTRATION BY EMILY POOLE

How beavers make the desert bloom

Could rodent-built dams supplant concrete walls?



At nearly a million acres, the Winecup Gamble Ranch, a mountainous Nevada spread hard up against the Utah border, puts Rhode Island to shame. The Winecup Gamble is owned by Paul Fireman, the executive behind the ascent of Reebok; its past owners include a Nevada governor and actor Jimmy Stewart. Posterity failed to record how Jimmy Stewart felt about beavers, but it's safe to say his cowboys didn't look kindly upon them. When Fireman hired a jocular, pink-faced rancher named James Rogers to manage the place in 2010, Rogers found that the staff tended to shoot beavers on sight, as reflexive as breathing. One of Rogers' first acts as the Winecup Gamble's manager was to declare an armistice in its war against the rodents. "You just see glimpses of the benefits, if you have enough of an open mind," he told me as we bumped through one of his pastures on a June afternoon, his truck enveloped by dust. "I'm always looking for ways to keep water here, and the beaver do it for free. They don't do it perfectly, but who am I to think that I can

do it better?"

Rogers pulled over and led me on foot downhill, into a valley lushly furred in bunchgrass. Thousand Springs Creek, so named for its countless cold-water seeps, glugged along, impounded every hundred yards or so by another willow beaver dam. As the string of ponds soaked into the soil, they raised the water table, sub-irrigating pastures in one of the driest corners of North America. "This valley is probably producing 1,000 pounds of grass per acre, and the sagebrush we just walked through is only 100," Rogers said, running a stalk through his fingers. "From a rancher's perspective, beavers increase production tenfold."

Protected from gunfire, the creek's beavers had ventured down from the Winecup Gamble's mountains to establish colonies nearer ranch headquarters. That was fine by Rogers, whose gee-whiz humility marks him as something of an anomaly in the machismo-driven world of livestock production. "I want everybody to buy in — I want people to feel as passionate about 'em as I do," Rogers said

when we stopped to admire a particularly majestic dam. "When a new guy comes, I don't want to be the guy to tell him we don't shoot beaver on this ranch. I want my other employees to say, 'Man, you gotta check out what these beaver are doing, they're awesome — and by the way, we don't kill 'em.'"

IN THE WINTER OF 2017, Rogers' relationship with beaver took another leap forward — thanks not to drought, but to flood. Ferocious storms swept Nevada and California, washing out roads, smothering highways in mud, and killing two people. On Feb. 8, disaster struck the Winecup Gamble. Twenty-One Mile Dam, a 47-foot-tall earthen structure that supplied irrigation water to the ranch, caved beneath its swollen reservoir. Floodwaters scoured Route 233, rerouted trains, and forced Elko County to declare a state of emergency, though in the end no one, fortunately, was injured.

If you missed the Twenty-One Mile Dam story, it's because that breach was overshadowed by an even more terrifying

near-miss. The same storms that swept Nevada also bloated California's Lake Oroville to perilous levels, jeopardizing the Oroville Dam, a 770-foot embankment on the Feather River. Anxious engineers tried to alleviate the pressure by dumping water down the dam's concrete spillway — a reasonable idea, until a spillway crack grew into a 250-foot crater. When administrators closed that channel, water began cascading over the lip of the tallest dam in the United States, eroding hillsides and threatening to undercut the structure. California officials evacuated nearly 200,000 downstream residents. Although the dam ultimately survived, the close call shook engineers and water managers to the core.

In retrospect, the most remarkable thing about the Oroville near-catastrophe was not that the dam almost failed, but that disasters don't strike more frequently. The last major dam failure in the West occurred when Idaho's Teton Dam disintegrated in 1976, killing 11 people and thousands of cattle. Collapses may be mercifully rare, but many dams still pose cataclysmic risks. In its 2017 Infrastructure Report Card, the American Society of Civil Engineers classified more than 15,000 dams as "high-hazard." Rehabilitating those dangerous dams alone, the report found, would cost \$22 billion. Repairing our entire decrepit fleet of dams, whose age averages 56 years, would run us more than \$60 billion.

Even when they're not crumbling, dams wreak havoc — there's a reason John McPhee placed them at conservationists' "absolute epicenter of Hell on earth." In the Colorado River, less a river at this point than a chain of reservoirs, fishes like the pikeminnow and the razor-back sucker have been nearly wiped out by changing water temperatures, altered sedimentation patterns and invasive species. Although dams are touted as sources of clean power, methane outputs from their reservoirs account for more than 1 percent of global emissions. They're also prone to filling in with silt, rendering costly public investments inoperable. More than half the Bureau of Reclamation's dams are over 60 years old, approaching the end of their "sediment design life." When beaver ponds fill with sediment, they become fertile meadows; when vast reservoirs clog, they turn into bowls of shallow, turbid soup, incapable of spinning turbines or sustaining aquatic life.

It is worth pondering, for a moment, why the first farmers who invaded the West found so much land they needed to "reclaim." We associate the Southwest

with hot sand and red rock, stunted mesquite and prickly pear. Once, though, it was a lush place — thanks in part to beavers. James Pattie, a trapper who wandered southwestern New Mexico in the 1820s, described a landscape cratered by ponds and wetlands; attracted one day to a lake by the honks of ducks and geese, he remarked, "What gave me much more satisfaction, that is to say, three beaver lodges." In one watershed, Pattie claimed to have taken "the very considerable number of 250 beavers," likely destroying in the process hundreds of dams and the watery *ciénegas* — spongy, alkaline wetlands endemic to the Southwest — they helped create. Having depleted our landscapes' ability to store water, we felt compelled to imitate our rodent rivals by building thousands of concrete boondoggles. Our dams were partly designed to solve a problem the fur trade created.

At this point, you are perhaps shaking your head at the notion that beavers, however industrious, ever matched the capacity of, say, Lake Mead. "I'd be cautious about calling beavers even a partial solution for some of these gigantic storage and delivery projects," Jerry Meral, former water commissioner for California's Marin County, told me. He's an ardent beaver proponent, but he also appreciates human infrastructure. "California has built 1,700 dams, including some of the largest ones in the world, to store water in winter and move it so it could be used for irrigation season in summer. There's nothing a beaver could do to match that."

Beavers would certainly be hard-pressed to replicate the precision of the West's extraordinary water-delivery infrastructure. For all the risks that come with centralized storage, there are also many advantages, notably the convenience of sticking a bunch of straws into a single milkshake. Still, we're not just debating the future of aging dams — we're also contemplating new ones. Haunted by the specter of climate-fueled drought, public agencies are considering massive new storage projects in California, Colorado, and other states. Take the Utah Division of Water Resources, currently mulling two prospective dam sites in the Little Bear-Logan River sub-watershed which would store 40,000 acre-feet and cost up to \$500 million. That's where beavers could really prove their worth.

In 2016, Konrad Hafen, then a graduate student at Utah State University, decided to find out whether beavers could beat concrete walls. He calculated that the Little Bear-Logan watershed could support around 3,700 beaver dams, which

could capture up to 7,500 acre-feet of water — an impressive figure, but less than 20 percent of the proposed reservoirs. So beavers lose, right?

Well, not so fast. Hafen, befitting a diligent scientist, used some conservative assumptions in his study: namely, that each beaver dam would hold no more than a single acre-foot of surface water, and that they'd store the same amount below ground as above. We cavalier journalists can play a bit looser with our postulations. One study by a group called the Lands Council, for instance, estimated that beaver ponds in arid eastern Washington store an average of 3.5 acre-feet of surface water alone, and press at least five times that much into the underlying ground. Apply those figures to the Little Bear-Logan watershed, and suddenly its beavers can trap around 64,000 acre-feet — 50 percent more than concrete. Whatever numbers you use, it's clear that our rodent partners can put a dent in our storage needs without impeding fish passage, driving sediment rates out of whack, or costing hundreds of millions of dollars.

If everything goes according to James Rogers' plans, the Winecup Gamble Ranch might someday provide a half-decent model for beaver-based storage. Rebuilding the blown-out Twenty-One Mile Dam was beyond the Winecup's means, he told me that evening, just before we settled down to some of the tastiest steaks I'd ever eaten. Besides, it didn't make much hydrological sense. Twenty-One Mile Dam's failure had been a fiasco, yes, but Rogers also considered it an opportunity to rethink his ranch's relationship with water.

"We're looking again at this thing and going, 'What if we held that water in different places?'" Rogers said. "What if we broke it up and held 1,000 acre-feet over here, and 1,000 there, and 500 feet here and 250 over there? What if we could strategically build two or three or four or five wetlands, or recharge pools, or whatever you want to call them, where we know the water always is? And what if the beaver could help us do that?" Rogers, I realized, was discussing nothing less than beaverizing the water delivery system of a parcel of land the size of a small Northeastern state. □

*Ben Goldfarb is a frequent contributor to High Country News. This excerpt is adapted from his new book *Eager: The Surprising, Secret Life of Beavers and Why They Matter* (Chelsea Green Publishing, 2018) and is reprinted with permission from the publisher.*

We associate the Southwest with hot sand and red rock, stunted mesquite and prickly pear. Once, though, it was a lush place — thanks in part to beavers.



The casualties of Trump's trade war

How 'America First' often puts the West last



ANALYSIS BY
JONATHAN
THOMPSON

The story of the Colorado Fuel and Iron Co. in Pueblo, Colorado, is a classic tale of American industry. It was founded in the late 19th century, and its mines, forges and quarries grew into a company of 15,000 people and the largest steel mill in the West. Yet even this behemoth, once part of the Rockefeller empire, could not endure. When the Reagan administration toppled barriers to free trade in the 1980s, CF&I bowed to foreign competition. It declared bankruptcy in 1990, almost a century after its founding, only to reboot as a shadow of its former self, the Rocky Mountain Steel Mill.

When President Donald Trump levied tariffs this spring on imported steel and aluminum and then picked a trade war with China, he was hoping to throw a lifeline to iconic American companies like Rocky Mountain. His protectionist policies may help that particular mill, but in today's economy, in which "local" industries are so often inextricably entangled with global supply chains, Trump's tariffs and the resulting blowback are already hurting a lot of other Westerners.

Theoretically, tariffs help U.S. companies by slapping a tax on imported goods so that they are no longer cheaper than domestic ones. Retailers are then more likely to purchase domestic goods, thereby supporting U.S. manufacturers.

Freeze the frame there, and Trump can claim victory. Yet this false sense of triumph relies on a simplistic worldview, in which shipping containers full of imported products flood American ports and then return empty to their points of origin. That's not the case. In fact, goods move back and forth across a complex — sometimes illogical — global web of markets. The U.S. imports 10 million barrels of crude oil and petroleum products each day, for example, then turns around and exports up to 8 million barrels of the same stuff overseas. American producers ship seafood to China for processing, and then it's sent back to American consumers in the form of fish sticks and other products. Tug on one strand of the web, and it inevitably reverberates in unforeseen ways throughout the rest of it.

Tariffs are essentially taxes levied on foreign goods but paid by consumers in the form of higher prices. That means people buy fewer of those goods, and that eventually hurts U.S. distributors, transporters and retailers. In some cases, the negative effects ripple even further down the supply chain. Tariffs on imported clothing, for example, can hit U.S.

cotton farmers, since many "Made in China" shirts are woven from American cotton — the U.S. ships 600 million tons of cotton each year to China alone, and another 3 billion tons to other overseas markets. Tariffs on steel and aluminum might help companies like Rocky Mountain Steel, but they hurt all the other domestic industries that rely on those materials.

In July, China fired its own retaliatory volleys in the trade war: It slapped tariffs on the 1.17 million metric tons per year of hay Chinese consumers had purchased from California, Washington, Idaho and Arizona, dealing a sucker punch to Western farmers. China was the biggest market for U.S. soybeans and also a major purchaser of U.S. beef and high-end Alaskan seafood — all of which now have new duties on them. Now Chinese consumers are looking to other countries to supply these goods, and U.S. farmers, ranchers and fishermen are set to suffer. Other countries are also reacting to Trump's steel and aluminum tariffs. Mexico has put a duty on American potatoes, cheese and apples, which will hurt Idaho and other Western states, while the European Union is threatening to put tariffs on U.S. whiskey and bourbon, which are tremendously popular there.

In response, Trump's Department of Agriculture is offering \$12 billion of taxpayer money to some of the farmers that have been hurt by the very trade war that Trump himself started. In other words, in his attempt to shrink the trade deficit, he's growing the federal budget deficit. Though details are scant so far, the relief package provides no help to Alaska's seafood industry, nor does it offset the pain suffered by Western hay farmers or others caught in the crossfire. The program forces the Trump administration to pick winners and losers, and it's a safe bet the winners will come from midterm battleground states, especially in the Midwest.

Perhaps those who miss out on the aid can take some comfort in knowing that there are some winners in this scuffle. One of them is none other than Rocky Mountain Steel, which will benefit from the tariffs slapped on foreign competitors. There's just one catch: The steel mill today is a wholly owned subsidiary of Evraz — a Russian company. One of its top shareholders is Roman Abramovich, a Russian oligarch who has close ties to Russian President Vladimir Putin — and allegedly gave him a \$35 million yacht. Abramovich is also chummy with Trump's daughter, Ivanka, and his son-in-law, Jared Kushner. "America First," indeed. □

Steel is processed in an electric arc furnace at Rocky Mountain Steel in Pueblo, Colorado. The mill will benefit from new tariffs.

JOE AMON/THE DENVER POST VIA GETTY IMAGES

Jonathan Thompson is a contributing editor at *High Country News*. He is the author of *River of Lost Souls: The Science, Politics and Greed Behind the Gold King Mine Disaster*.

WEB EXTRA

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Timber framer Bodie Johansson chisels out floor joist housings in the Handcrafted Log & Timber yard in Ridgway, Colorado. **BLAKE GORDON** © 2018 Patagonia, Inc.



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HEARD AROUND THE WEST | BY BETSY MARSTON

THE WEST

Douglas Scott, who frequently writes about public lands, was in Yellowstone National Park recently when he saw a woman venturing uncomfortably close to a group of bison, he wrote on Twitter. Hoping to do her a favor, he warned that “bison can run over 30 miles an hour.” The tourist responded by accusing him of spouting “fake news.” She was lucky that no bison knocked her over or gored her. Or, if it did, the story got buried in other bison-related fake news.

WASHINGTON

Ric Brewer works for a disaster-relief nonprofit in Seattle, but weekends he checks on livestock at his Little Gray Farms in the moist foothills of Olympic National Park. Admittedly, his herd requires very little animal husbandry, since it occupies just a half-acre of his five-acre property and survives on organic vegetables. But every year, it produces a yummy harvest — assuming you like snails. Brewer first tasted *petit gris*, the common garden snail, when he was a teenager in the early 1980s, he told *Atlas Obscura*. He immediately loved it, especially tossed in olive oil with oregano over pasta, and became “kind of transfixed with them not only as a dish but as an animal.” Snails are hermaphrodites that spend about eight hours in courtship and mating, twining around each other “to match up the holes in the sides of their heads where their sex organs are.” While some snail farmers “finish” their snails by feeding them malt barley, Brewer gets his ready for sale (at about \$50 a pound or \$2 each) by giving them a week of water to “clear out their little digestive systems.” He’d love to expand his microbusiness, but because garden snails are considered an agricultural pest by the federal government, “meeting all the rules” costs him \$25,000 a year. If he lived in California, however — “otherwise known as garden-snail heaven” — he could forage all the snails he wanted from strawberry, citrus and organic farms eager to eliminate these voracious pests. Meanwhile, Brewer has created a Snail Raising Association of North America to offer advice and encouragement for fellow gastropod wranglers. It is, he says, still a tiny group.



ARIZONA Cowboys. GREG WOODALL

THE WEST

The snowshoe hare has a serious “wardrobe malfunction,” reports *The New York Times*. Camouflage is critical to keeping it alive, but as the earth warms, snow melts earlier, exposing the animal’s white body in a rocky or green landscape. Every week that the hare is mismatched, it has a 7 percent higher chance of being killed by predators like the lynx, said L. Scott Mills, a professor of wildlife biology at the University of Montana. Right now, it’s only exposed for a week or two, but by 2050, the delay turning brown could expand up to eight weeks, Mills said, and then “the hare would start declining toward extinction.” Fortunately, he added, scientists think the hare might adapt quickly, “giving us an avenue of hope.”

ARIZONA

A thirsty black bear near Globe, Arizona, dropped into a water storage tank and got trapped. The state Game and Fish Department reported on Facebook that an unidentified rescuer lowered a ladder into the tank. Because the water was

shallow, it didn’t take long for the bear to climb up the ladder to freedom.

COLORADO

The North Fork Merchant Herald in Hotchkiss shared a Facebook comment regarding unwelcome encounters on a local trail: “While I understand that it’s probably liberating to mountain bike on Jumbo Mountain completely naked, riding up on a lone woman of lesser constitution than myself could possibly be a *little* threatening to her. Emphasis on ‘a little.’ Please wear pants. It’s courteous.”

IDAHO and ALASKA

An Idaho state senator who used to be on the state Fish and Game Commission apparently got distracted while fishing in Alaska this summer. The *Idaho Statesman* reports that Jeff Siddoway, 69, was so happy about nabbing a 30-pound salmon that he held the big fish up for a picture. That’s when people in the catch-and-release area started yelling at him: “You can’t keep kings! You can’t even get them out of the water!” A chagrined Siddoway said he was sorry he “screwed up. There is no excuse. ...”

COLORADO

Speaking of screwing up, the Grand Junction *Daily Sentinel* in western Colorado caused an uproar when it reported that public school administrators who had sworn to cut costs raised their own salaries by \$1.2 million. In another insult to the work of educators, a “sheepskin oops” at the city’s Colorado Mesa University was called out by a graduating senior, who noticed that his degree — and everyone else’s — was issued by the “Coard of Trustees.” The “oops” had been repeated for six years. A reader of the *Sentinel*’s “You Said It” column had the last word: “Quite a week for education here in Happy Valley. First we learned that the school district can’t count. Then we learned that the college can’t spell.”

WEB EXTRA For more from Heard around the West, see hcn.org.

Tips and photos of Western oddities are appreciated and often shared in this column. Write betsym@hcn.org or tag photos [#heardaroundthewest](https://www.instagram.com/heardaroundthewest) on Instagram.



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“The orcas are among the most beloved creatures in the Pacific Northwest, an area where many residents relate to the natural world with a devotion bordering on the religious.”

John Rosenburg, in his essay, “Orcas need more than sympathy and prayers” from *Writers on the Range*, hcn.org/wotr