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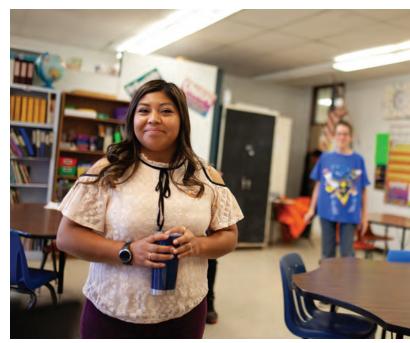
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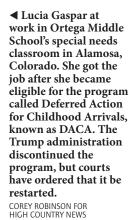


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◄ Farmworkers harvest peaches at one of **Abundant Harvest** Organics' orchards in Kingsburg, California, where, as temperatures continue rising, awareness about heatrelated illness is critical to farmworker safety. ROBERTO (BEAR) GUERRA FOR HIGH COUNTRY NEWS



On the cover





Editor's note

The myth of American progress

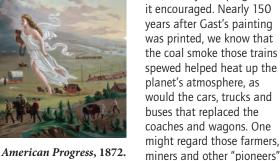
In 1872, a publisher named George Crofutt hired a German-born, Brooklyn-based painter to illustrate his Western World magazine. John Gast's American Progress was painted just seven years after the end of the Civil War and 24 years after the U.S. government acquired 525,000 square miles of "the West" from Mexico in the Treaty of Guadalupe Hidalgo. It depicts an angelic

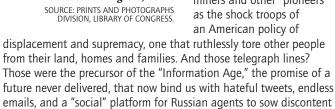


Columbia (the feminine spirit of the United States) floating over the continent, carrying a book in one hand and a string of telegraph wire in the other, the vanguard of an advancing empire of trains, coaches, wagons, farmers, miners and horsemen. A bear, a herd of bison and numerous Indigenous Americans all flee in terror at her approach - all things wild and other to the minds of the 19th-century Anglo-Americans now barreling in from the East. The painting has become one of the most enduring images of Manifest Destiny.

Today, most of us understand the dangers of Manifest Destiny and the fantasy it represented to would-be Westerners. But consider,

too, the myth of progress





across our democratic system.

And so, for this issue's cover, we've decided to give American Progress an update. The issue itself is dedicated to the idea of migration and the myriad ways it continues to reshape the American West — through the movement of people, plants, animals and ideas. The West may not represent progress, but it does represent constant flux. And these days, the biggest driver of change is not the desire for progress, but the challenge of a chaotic climate and the movement of people, from communities ignored or maligned by Gast's work. The West is becoming a place of heat and cruelty, where families are torn apart and farmworkers wither in the fields, even as researchers desperately seek ways to save diminishing ecosystems. It doesn't have to be, however. A better West is up

After commissioning Gast's painting, Crofutt described it as a "beautiful and charming" depiction of America, floating West, "bearing on her forehead the 'Star of Empire,' " and bringing with her the means to "flash intelligence throughout the land." If only she'd brought decency, instead of progress.

-Brian Calvert, editor-in-chief



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Photos



FROM OUR WEBSITE: HCN.ORG

An air tanker flies over a vineyard in the path of the Mendocino Complex Fire in Lakeport, California. JOSH EDELSON/AFP/GETTY IMAGES

'We're stretched to our limits'

Vast and relentless wildfires are ravaging California and beyond, and more ignite each week. From the Carr Fire, which has now killed at least seven people, to massive blazes in Idaho and Oregon, over 100 large fires have covered more than 1 million acres more than the year-to-date average. The forecast isn't looking good, either. According to Ed Delgado of the National Interagency Fire Center, the West Coast will likely continue getting hit. California, the Northern Rockies and the Great Basin will see above-average fire conditions in the months to come, according to Delgado's predictions, with higher temperatures and lower moisture. ELENA SAAVEDRA BUCKLEY MORE: hcne.ws/region-ablaze

This business is based on human suffering.

-Roberto de Jesús González, speaking in a legislative hearing in Santa Fe, New Mexico, about his experience being held for three months in New Mexico's Otero County Processing Center, one of the private detention centers used by Immigration and Customs Enforcement to hold asylum-seekers and other non-criminal detainees. JESSICA KUTZ MORE: hcne.ws/investigating-ICE

Percent of the power provided by Arizona utilities that must come from renewable sources by 2030, if a clean energy ballot measure passes.

Amount Arizona Public Service says customers' annual utility bills will go up, if it passes. Environmental groups dispute the figure.

In Arizona, a renewable energy ballot measure has stoked a legal battle between utilities and environmentalists. The measure would up the state's commitment to carbon-free energy, but it doesn't include nuclear in the equation. Some wonder whether that spells the shutdown of the Palo Verde Nuclear Generating Station, the country's largest power producer.

ELENA SAAVEDRA BUCKLEY MORE: hcne.ws/arizona-nuclear





Is it time for assisted migration?

As climate change overtakes species, scientists seek safer ground

BY MAYA L. KAPOOR

Above, Edith Juno plants the cuttings of a 2,500 year-old coast redwood. Clippings were taken from the very top of the tree, 350 feet up, and overnighted to a lab in Copemish, Michigan.

COURTESY OF ARCHANGEL ANCIENT TREE ARCHIVE

ike many Westerners, giant sequoias came recently from farther east. Of course, "recent" is a relative term. "You're talking millions of years (ago)," William Libby said. The retired University of California, Berkeley, plant geneticist has been studying the West Coast's towering trees for more than half a century. Needing cooler, wetter climates, the tree species arrived at their current locations some 4,500 years ago — about two generations. "They left behind all kinds of Eastern species that did not make it with them, and encountered all kinds of new things in their environment," Libby said. Today, sequoias grow on the western slopes of California's Sierra Nevada.

Now, it may be up to humans to move sequoias and their close relatives, coast redwoods, to new homes. As temperatures rise and the world's climate rapidly changes, many plants and animals may not be able to relocate fast enough on their own — including the Klamath Mountains' Brewer spruce, which grows on windswept peaks, and the New Mexico ridge-nosed rattlesnake, which can be found marooned on just a few isolated mountaintops. But the prospect of mixing and moving species alarms scientists, because of the risks involved — both to the new ecosystem, and to the species themselves.

Plants often move on the geologic time scale of landforms. After all, trees don't simply uproot and stroll away from stressful conditions. Instead, whole populations shift, as individuals in one part of the range die out and saplings in other places grow. But ecosystems are changing on a human timescale now. That's a problem for the West's iconic giant trees.

Coast redwoods, which are the world's tallest trees, and sequoias, which are most massive, are exceptionally adaptable: The oldest living trees have withstood cold spells, drought and fire. But today's extraordinary rate of climate change — along with habitat destruction and fire suppression - may be too much for them to survive. "If we expect them to make a big migration in one century, that's asking a lot," Libby said. Populations of both sequoias and coast redwoods are dwindling, and the trees are already considered endangered by the International Union for Conservation of Nature. Scientists fear climate change could drive them to extinction.

These trees are among the slowest travelers in North America, in part because of how they reproduce. Coast redwood seeds are moved by wind or rain, while insects and rodents move sequoia seeds. But few seeds germinate successfully. Instead, for the most part, clonal sprouts grow up from the shallow, stretching roots of a mature tree. In the case of coast redwoods, deceased elders can leave behind a "fairy ring" of surrounding younger trees, just a few feet from where

the parent stood. In order to outpace hotter conditions, this gradual process may need a human nudge.

While Westerners already relocate plants and animals — for species reintroductions, hunting, agriculture and more — there is still no consensus on rescuing organisms from climate change this way. In a 2006 opinion piece, two well-known ecologists, Anthony and David Simberloff, dismissed assisted migration as "planned invasions," a "new bandwagon," and "ecological gambling." The risks that introduced species might pose to plants and animals already living in a region are too unknown, hard to predict, and potentially disastrous to be worth it, they said. They concluded that conservation biologists should focus on breeding rare species in captivity, restoring habitat and ending human-caused climate change.

Past experiences with introductions gone awry make scientists nervous. In the 1940s, the federal government introduced buffelgrass, a drought-hardy African forage, to Arizona to help cattle survive dry spells. The grass spread, filling in the spaces between desert plants, replacing natural firebreaks with ready fuel and turning swaths of desert across the Southwest into fire-prone grasslands. In 2010, the National Park Service warned that buffelgrass covered about 2 percent of Saguaro National Park and was increasing by 35 percent annually.



Few U.S. scientists have tried experimental assisted migrations, and in Canada and Mexico, the results of experiments have been mixed. In 2015, Canadian researchers studied Douglas fir trees that were moved more than 40 years previously throughout coastal British Columbia for reforestation research. They found that transferred trees sometimes did not grow as well as local trees, because they didn't form symbiotic relationships as effectively with local soil and root fungi, which help trees absorb nutrients. Mexican researchers found that when they moved three species of Mexican pines to higher elevations and colder temperatures, two species struggled to survive in locations more than a few hundred feet above their current ranges.

These findings speak to one broad concern about moving species around to save them: It can cause unnecessary suffering, eat up limited conservation funding, and ultimately fail. In one recent example, 11 black rhinos were relocated in Kenya. All 11 perished from salt poisoning, dehydration and, in one case, a lion attack on a weakened animal, according to the Daily Nation. Mary Williams, an ecologist who has researched assisted migration as a climate adaptation strategy, cautioned against the "extreme" movement of plants. She recommended instead that seeds be taken from the warmer parts of a plant's existing range, to be grown in cooler parts of its range. Then, when those cooler areas warmed, the plants would already be adapted to the new conditions.

Because a species' resilience comes from its genetic diversity, spreading the clones or seeds of too few plants could also doom an assisted migration project. Connie Millar, a senior scientist with the U.S. Forest Service who studies how mountain ecosystems are responding to climate change, recommends mixing the gene pools of the trees used for assisted migration projects by collecting seeds and clones from different locations. "Then, natural selection 50 years in the future can sort it out, and we don't have to predict (survivors), which we're very bad at doing," she said.

Agencies in the U.S. have toyed with the idea of assisted migration, but no projects are currently in the works. To make tree transplants work, federal agencies would have to find the money for the prolonged follow-up work needed to keep them alive: artificial watering, fertilizer feedings, protective fencing to keep out hungry deer. "Just like in a garden, when you transplant, there's usually transplant shock," Millar said. "It takes a while for roots to get down. ... It's not like they're happy all of a sudden." Similar constraints would limit animal introductions. In many cases, for agencies, shifting species would also require new regulations, such as those that govern post-wildfire replanting.

The biggest unknown about assisted migration may come down to human behavior: Without knowing how much fossil fuel people will keep burning, researchers can't say for sure how much the climate will change, or where a particular organism's optimal neighborhood will be in the year 2100.

As scientists fret, some members of the general public are already forging ahead. Michigan-based Archangel Ancient Trees Archive is attempting to plant thousands of nursery-grown coast redwoods and sequoias in the West, without waiting for more scientific research. Sequoias and coast redwoods, founder David Milarch said, are "magical" trees. "People all over

A "fairy ring" of young coast redwoods sprouted around the spot where an elderly tree used to grow in Redwood National Park.

the planet love those trees."

Now in his 80s, Milarch dedicated himself to saving these species — and many other imperiled trees — a quarter-century ago, after his own near-death experience. Milarch recalled an archangel turning him back from the gates of heaven because he still had work to do on Earth: He had to save tree species. So Milarch focused his fourth-generation nursery business on trying to conserve many of the world's disappearing tree species through assisted migration.

In many ways, this Noah's Ark approach to conservation flies in the face of scientific understanding: In addition to planting trees far from their current range, Archangel also chooses the oldest, biggest trees — which Milarch calls "champions" — to clone, a sensible-seeming approach that actually masks assumptions about how those trees got that way. Sometimes, seedlings grow into strapping adults because of dumb luck: Maybe they dug into particularly rich soil, or it rained buckets during their first decade, or they happened to germinate near a gap in the forest canopy that let in lots of light. Clones of those trees may wither without the same help in a new location. Archangel tries to take genetic diversity into account by growing genetically diverse seedlings as well as sprouts cut from "champion" tree clones, but its collection overall still lacks the diversity of a natural population.

Still, Archangel inspires volunteers around the world. Perhaps that's because it offers hope, pulling believers into the boughs of ancient sequoias on climbing expeditions and insisting that concerned people can do their part to end climate change simply by planting trees.

Milarch likes to point out that Archangel has been able to grow cuttings from trees thousands of years old, something he says scientists told him was impossible. Driven by his faith, Milarch offers a solution to climate change that doesn't require watershed changes in politics — or in how people use fossil fuels. "Climate change can be reversed," he said, noting the carbon-storing capacity of the West's giant trees. "We don't have to be saddled with such a dubious future for our children, our grandchildren, if we all would plant two or four trees."

Particularly for beloved species such as coast redwoods and sequoias, there may be more rogue rescue efforts in the future. And while scientists worry about unintended consequences, Williams sees the advantages of shaking off political drag. "Sometimes, in situations like this, there may be some really great things that come out of it," she said. "You just need to take a risk and see what happens."

"We don't have to be saddled with such a dubious future for our children, our grandchildren, if we all would plant two or four trees."

—Archangel Ancient Trees Archive founder David Milarch

The record-breaking journey of Deer 255

Even now, scientists are uncovering new secrets in mule deer migrations

BY EMILY BENSON

S tanding in a thick patch of pine and fir, mosquitoes swarming her face, Anna Ortega lifted a radio receiver into the air, angling it back and forth as she listened for the *blip*, *blip*, *blip* of a mule deer collar. A zoology graduate student at the University of Wyoming, Ortega was tracking Deer 255, a doe that had braved road crossings, fences, wolves and other hazards to get here. Somewhere in this forest near Island Park, Idaho, a dozen miles west of Yellowstone National Park, Deer 255 was laying over for the summer.

Armed with bear spray, binoculars and datasheets, Ortega and two field assistants followed the blips among trees dappled with early July sun. They picked their way through knee-high grass and shrubs, the occasional snap of a twig underfoot as startling as a slamming door. The blips were strong and clear: Deer 255 was close. Ortega knelt, peered through a spotting scope and silently waved the rest of us closer. "I think I see a fawn bedded down," she whispered, smiling.

Later, Ortega and her crew planned to collect samples of plants that mule deer like to eat so they could compare Deer 255's destination to other summer ranges. But only after they found the doe herself. Ortega pointed to a fawn-shaped slash of tan among the tree trunks. We trained our binoculars and cameras in that direction, and — "false alarm," Ortega murmured, as the contours of a fallen log became clear. She switched on the radio receiver, lofted it, and followed the blips deeper into the woods.

While not all mule deer migrate, some travel a hundred miles or more between their summer and winter ranges. With a one-way migration of 242 miles, Deer 255 holds the record for the longestdocumented land migration in the Lower 48, traveling even farther than her herdmates, all of which winter in the Red Desert of southwest Wyoming. Her trek to Idaho from the Red Desert exemplifies the surprises scientists are still encountering with this well-studied ungulate. And as mule deer populations throughout the West remain below target levels, it underscores the need to protect the wide tracts of landscape that sustain migrating wildlife.

RESEARCHERS FIRST COLLARED Deer 255 in March 2016. That spring, they noted her propensity for long-distance travel, but they weren't sure whether she was making a true migration, which requires a round trip. They waited for autumn to see if the doe, nicknamed Island Park Girl, would return to Wyoming. But in early August, her collar malfunctioned. When Ortega's colleagues asked where the adventurous deer was, she had to tell them she didn't know; she wasn't even sure if Deer 255 was still alive.

Then, this year, early in the afternoon on a sunny March day, Ortega and her field crew were studying Deer 255's herd in the Red Desert outside Superior, Wyoming. Deer were netted from a helicopter, then ferried to the researchers, who collected samples before releasing them. A deer wearing a collar with a broken GPS was captured, and, because she had memorized its identification frequency, Ortega recognized Deer 255. It had been nearly a year and a half since the doe was last located. "Everyone was crowding around and just so excited to see that this was Island Park Girl," Ortega told me later.

Deer 255 was pregnant, with twins. She had made a round-trip migration nearly 100 miles longer, each way, than the longest recorded migrations of her herdmates, some of which hadn't migrated at all. But why?

Ortega and her colleagues don't know, but they do know that deer from the same herd often split up and head to different summer ranges, typically returning year after year to the same spot. Ortega explains this as a diversified stock portfolio for the herd: If catastrophe befalls one route or destination, others can ensure the group's overall success. Deer 255's migration "adds just a little more complexity to it all," Ortega said. "This is another massive movement that we can add to our knowledge of migrations across the American West."

Deer 255 is part of a well-studied group. Wyoming is a good place to research mule deer movement, says Matthew Kauffman, the director of the Wyoming Migration Initiative and Ortega's doctoral advisor at the University of Wyoming. Partly that's because the state's varied landscape — from the high desert scrub of the Red Desert to the foothills of mountain ranges like the Wind Rivers and the Gros Ventres — means migration is a particularly fruitful strategy, allowing animals to follow green-up in the spring and escape the harshest extremes of

Wyoming doctoral student, processes a blood sample collected from a mule deer doe. Ortega uses the blood to gain insight into hormone concentrations, genetics and disease.

Anna Ortega,

a University of





Anna Ortega and Brett Jesmer release a mule deer doe in the Red Desert of Wyoming. Prior to release, biologists collect blood, fecal and body size measurements, and determine whether the animal is pregnant. BEN KRAUSHAAR

both winter and summer. "These animals have figured out these solutions of how to have the best of both worlds and how to sort of stitch it all together with the seasons," Kauffman says. "To me, that's the exciting part of 255. She's showing us yet another way to make a living on this landscape." There's a broader significance to her journey, too, he told me. "Here we are in 2018, and big game species like mule deer and elk are some of the best-studied animals on the plant. And yet, we're still discovering these sort of secret ways they have of exploiting these landscapes."

Humans, of course, are exploiting the very same places. Fences, roads and development - both urban growth and energy expansion — all infringe on mule deer habitat and migration corridors. In 2016, the most recent year for which information is available, officials estimate Wyoming's mule deer population was about 396,000, about 28 percent below the target population. Still, the state has seen modest improvements in fawn survival and population increases since 2014, says Daryl Lutz, the Lander region wildlife management coordinator for the Wyoming Game and Fish Department. That's thanks to well-timed spring and summer rain, which nourish the plants mule deer eat. On-the-ground improvements like retrofitted fences and protected habitat likely played a role, too. "I guess we'll wait and see how long we get to ride this wave," Lutz says, "but we're hopeful."

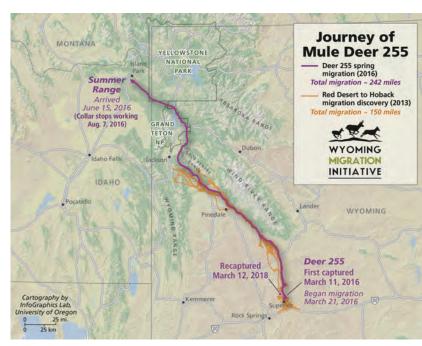
And while mule deer are an iconic feature of Western ecology, they're also important economically. In 2016, between hunting license and application fees, conservation stamps and other sources, Wyoming brought in more than \$15 million to manage its mule deer program, a sum that doesn't include the additional

money hunters and wildlife watchers spent on gas, motel rooms, guides and other goods and services.

But that economic windfall is dwarfed by another source of revenue: fossil fuel development. According to the think tank Resources for the Future, oil and gas brought Wyoming about \$1.8 billion in 2013. Research shows that building well pads and roads, drilling, and maintaining energy infrastructure is disruptive to mule deer. In one 17-year study, scientists from the University of Wyoming and Western Ecosystems Technology, an environmental consulting firm, found that deer never became habituated to the presence of natural gas wells, despite restoration efforts. The number of deer wintering in the affected area dropped by more than a third — even as hunting declined over the same period.

That makes for potentially competing goals for the Interior Department. It must follow President Donald Trump's explicit prioritization of energy development on public land. And it must adhere to an initiative announced earlier this year by Interior Secretary Ryan Zinke to work with Western states to improve habitat for mule deer, elk and pronghorn, including migration corridors. Given Zinke's energy-boosting track record, it's unclear which priority will prevail.

From Zinke's point of view, however, "it's not an either-or," says Casey Stemler, the Fish and Wildlife employee leading the order's implementation. Federal efforts, while allowing for oil and gas drilling, will follow state priorities for habitat protections. That's what happened in late July, when the Interior Department deferred oil and gas leases on three parcels that overlap with the migration route of Deer 255 and her herd, and restricted development on several others; the Wyoming Game and



A mapping of Deer 255's migration shows that her journey from the Red Desert in Wyoming to her summer range in Idaho took almost three months. WYOMING MIGRATION INITIATIVE

Fish Department had requested those changes in a June 5 letter to the Bureau of Land Management.

But the Interior Department's actions don't go far enough to protect mule deer, says Julia Stuble, a Wyoming-based public land and energy expert for The Wilderness Society. "They are coming under the cover of saying, 'Well, it's what the state wanted,' (but) they can do plenty more," Stuble told me. "If they can defer three parcels, they can defer all of them."

BACK ON DEER 255'S SUMMER RANGE,

Ortega led us deeper into the forest, her skin now dotted with blood and welts left by mosquitoes. In a small clearing, she dropped behind a rotting log and, throwing her hands above her head, motioned to the rest of us in victory — or perhaps frustration. As we hurried over, mindful of cracking twigs, she whispered that she'd gotten a good look at Deer 255's distinctive collar, but the doe had spooked. In low, quiet voices, we were discussing our next move — should we circle around and try for another look? give up and collect the plant samples? — when one of the assistants, gazing into the woods, murmured: "I see her."

A swatch of tawny fur flashed through the evergreens, and then it was gone. We grinned at each other, muffling our excitement, until Ortega and her assistants turned to more mundane measurements. They began identifying plants and collecting samples — sticky geranium, heart-leaf arnica — studying the destination that Deer 255 had traveled so far to reach. "I feel like I would be missing a part of the story to not be actually on the ground looking at her summer range," Ortega said, no longer whispering. "It was great to get a fleeting glimpse of her. She remains elusive to us, but that's OK."

"Big game species like mule deer and elk are some of the best-studied animals on the plant. And yet, we're still discovering these sort of secret ways they have of exploiting these landscapes."

-Matthew Kauffman, the director of the Wyoming Migration Initiative

St. George sprawl

In southwestern Utah, unceasing growth means increased tension

BY JESSICA KUTZ

n 1861, Mormon Church leaders dispatched 309 families from Salt Lake City to the arid southwestern corner of Utah, telling them to grow cotton. The plan to settle this inhospitable desert region was part of a larger church-led effort to colonize the southern part of the state. The water-intensive crop never took off, but the community of St. George did, and today it is one of the fastest-growing metropolitan areas in the country. In the past two years, St. George has added nearly 12,000 new residents to a population of approximately 153,000 people, many of them drawn by the city's mild climate and access to public lands. But all this growth has stoked some rising tension over water and land in this former farm town.

And many of the resulting problems will land right in the lap of Adam Lenhard, the new city manager, who started his job in February. On a warm summer day not long ago, he gazed over a seemingly endless expanse of newly shingled rooftops. "In some ways, St. George is just being discovered," he told me. "A lot of us have been coming here for decades, and now it really feels like there is this spotlight and people are really just moving in."

We were overlooking the community of Little Valley, where, as in many of St. George's neighborhoods, rapid development is one of the challenges facing Lenhard. Alfalfa fields have been dug up for baseball diamonds and pickle-ball courts, and former ranchland is now covered by new tract homes.

One of these homes, Lenhard said, was being built for his family, which will be moving soon from Layton, Utah. Lenhard said he'd thought about relocating to St. George ever since he spent several vacations exploring nearby Zion National Park one of Utah's "Mighty Five" - and the red rock formations of Snow Canyon State Park, just 23 miles from the city center. Such places are a big draw here, in a county that is 75 percent public land, and, as a newcomer himself, Lenhard is deeply sympathetic to the motivations of many of his constituents. "Growth is a two-edged sword," he said. "It brings jobs, quality of life, better amenities. But we have to preserve what has brought people. ... We have to find the right balance as we grow."

While amenity-driven growth in the West is most often associated with ski towns like Telluride, Colorado, or Jackson Hole, Wyoming, places like St. George have discovered that access to public lands — from slickrock deserts to mountainous wilderness to national parks and monuments — has become a migration magnet. This trend is playing out in communities across the region, according to John Shepard, director of programs for the Sonoran Institute. In the Old West, people's migratory patterns were driven by jobs created by mining, timber and other resource-based economies, but today, people are moving because of the region's "natural amenities, great outdoors, open space and wild lands," he said. It's no surprise that Utah, Idaho, Arizona, Oregon and Nevada are all seeing a spike in the number of new residents.

While retirees still make up a large percentage of new arrivals, St. George's diversified economy is also attracting a new workforce, with employment in construction, hospitality, health care and manufacturing seeing the biggest upticks, according to a report compiled by the Utah Department of Workforce Services. "We've got growth pervasively across all age groups, mostly fed through migration," said Pamela Perlich, director of demographic research at the Kem C. Gardner Policy Institute. The city is also preparing to become the state's next high-tech hub, with the creation of Tech Ridge, a mixed-use development designed to attract companies from across the country.

County-to-county migration-flow data from 2015 show that nearly 30 percent of new residents come from Utah's crowded Wasatch Front, according to a report from the institute. The highest numbers of out-of-state residents are coming from California and Nevada, largely because they can take advantage of St. George's lower cost of living. "The dynamic of being able to cash in your equity in California and move into other places ... St. George has definitely been a beneficiary of that type of migration," Perlich said. If this keeps up, the county is expected to house more than half a million people by 2065. That's a lot of people struggling over limited resources of water and land — to say nothing of the preservation of the area's agricultural heritage. Not surprisingly, this has added to the tension.



New homes under construction in St. George, Utah, an area experiencing one of the fastest rates of growth

ON A LATE AFTERNOON in June, parents watched as their children splashed in a moat-like water feature in St. George's Town Square Park, wading through channels and jumping between jets of water. Amid the watery revelry, one could almost forget that St. George is located in one of the driest states of the country: Washington County has an annual rainfall of just 16 inches per year. A majority of the county's water comes from the Virgin River. Now, with droves of new residents moving in, long-term residents are worried that this precious and vulnerable resource could be drained, leading to water shortages.

That's why in 2006, the Washington County Water Conservancy District announced plans to pursue a controversial pipeline connecting Lake Powell to southwest Utah. The nearly \$1.5 billion project would divert 86,000 acre-feet of water from Lake Powell over 140 miles of desert into the county. The pipeline, which has yet to be approved, would provide security for the community's future, said Ron Thompson, the district's general manager. Supporters say the county needs to diversify its water sources. "Right now, our growing population is dependent on



this one water source, which is really variable," said Karry Rathje, the district's public information manager.

Opponents of the project point out that even as the city's population has grown, water use has actually gone down. According to figures released in June, the county decreased its consumption of potable water by over 1 billion gallons between 2010 and 2015, thanks to conservation measures and the conversion of irrigated agricultural land into housing developments. Groups like Conserve Southwest Utah, a local nonprofit, say even more can be done. That includes raising the county's water rates, which remain some of the lowest in the United States.

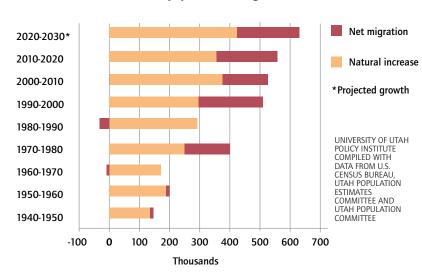
All this growth is having a serious impact on land use. The region's post-set-tlement character is rooted in an agricultural tradition, but agrarian outposts like Little Valley are rapidly being erased. In response, local resident Nicole Hancock, who grew up in what she calls her "beloved fields," started the Washington County Agricultural Development Committee. The county committee, which will be composed of 18 to 20 members, was approved for funding in May, with its mission to preserve farmland and promote agriculture education.

Eventually, it might help people like Sherrie Staheli, a fourth-generation farmer from Washington Fields who has seen her farm, once 1,500 acres, encroached on by subdivisions and retirement communities. "Never in a million years would I think we'd have houses this close to us," said Staheli. Yet the pressure to sell the land has been unrelenting; Staheli's own family sold some parcels for profit and others because more and more road easements through the property were being approved. "People built out here because of the beauty of these fields," Staheli said, "but they don't like what comes with it.'

EVEN MORE DEVELOPMENTS are being planned in other parts of the county. One of them, called Desert Color, will eventually house an estimated 30,000 residents on state trust lands. The plans include a lot of "smart-growth principles," such as xeriscaping and walkable amenities to reduce driving needs, said Jane Whalen, a resident of nearby Hurricane and a community organizer.

In 2006, Whalen and other residents worked with officials to create a set of principals to guide the region's growth. Other master-planned communities being built by the new St. George Airport, south of the city, will eventually run up to the Arizona state border, site of some of the last developable land within city limits. Such developments mean less open space for wildlife migration corridors and fragmented habitat for mule deer, quail and pheasants.

Utah statewide population change, 1940-2030





Farm Security Administration members pose on a cooperative pipeline used for irrigation in St. George in 1940. LIBRARY OF CONGRESS

Even where it isn't directly overtaking habitat, St. George's sprawl puts pressure on wildlife. The 62,000-acre Red Cliffs Desert Reserve, for example, was established in 1996 to protect the Mojave Desert tortoise, a federally listed threatened species. The reserve is governed by a county conservation plan, part of a compromise that unlocked over 300,000 acres of protected habitat for the development of housing, freeways and shopping centers.

In another sign of the times, state lawmakers are now reviewing that agreement. A new bill, the so-called "Desert Tortoise Habitat Conservation Plan Expansion Act," was introduced by Utah Republican Rep. Chris Stewart in April. If passed, that "conservation" bill could transform the tortoise's habitat — a stark landscape of lava flows, cinder cones and desert brush — into a five-lane highway. No one doubts that if it's built, more traffic will come.



Truckers against trafficking

An unlikely alliance is fighting a pervasive human rights abuse

BY CARL SEGERSTROM

With their plethora of potential clients, overnight truck stops are a common spot for sex trafficking.

LUNA ANNA ARCHEY/ HIGH COUNTRY NEWS onrad Hoke has been crisscrossing the country as a trucker for 44 years. On his last hitch, he hauled a dump truck from Denver to Salt Lake City and back. But on the day we met, in the two-street casino town of Blackhawk, Colorado, Hoke had volunteered to tow a very different cargo — a semi-trailer exhibiting the horrors of sex trafficking and telling the stories of truckers who stepped up on behalf of survivors.

When I arrived at the Freedom Drivers Project, Hoke invited me into the exhibit, and I stepped from bright high-mountain sunlight into a much darker scene. A small pair of flip flops, dog tags issued to a victim by a trafficker, and poker chips paid to a girl too young to cash them in hung in cases on the trailer's walls. There was a pair of large elastic jail-issued pants, worn by a trafficked woman forced to give birth behind bars.

Hoke is one of more than half a million truckers trained to spot and report human trafficking through Truckers Against Trafficking. The Denver-based nonprofit targets an industry uniquely positioned to fight the exploitation of women: Truckers travel to nearly every corner of the country and are a target market for sex trafficking.

"Our idea was to turn a passive audience into a disruptive force," said Kylla Lanier, one of the co-founders of the organization.

Lanier, her mother, Lyn Leeburg, and three sisters were running a non-profit aimed at stopping human trafficking when they realized there was a way to make a bigger impact. When she was young, Leeburg's parents ran a motel

along a popular trucking corridor in Texas, and the family remembered the relationships they'd formed with truckers over the years. They decided that targeting truckers was a better way to combat trafficking. In 2009, they founded Truckers Against Trafficking, because "they always found girls and women trafficked at truck stops" said Lanier, who pointed out that people are also trafficked in less visible areas. "What has propelled Truckers Against Trafficking was targeting that culture."

Truckers cover practically every corner of the nation, and with about 3.5 million employed nationwide, they outnumber law enforcement by more than three to one. While some people see buying sex as a victimless crime, studies have shown that the commercial sex industry depends on coercion. Anti-trafficking advocates like Lanier want to change a culture that has long haunted the trucking community and society as a whole.

"(Truckers Against Trafficking) helped the trucking community see this isn't a choice," said Tajuan McCarty, a survivor and advocate who leads trainings for Truckers Against Trafficking. "Stopping human trafficking requires a cultural shift in how we think, and that's what this is doing."

Sex trafficking was an out-in-theopen part of trucking culture when Hoke started driving. "Back in the '70s, it was all over the place." Hoke said. "You couldn't hardly drive in some place without getting your truck door banged on. It's hidden now. Without training, if you don't know, you're not going to see it."

Now, traffickers maintain a low profile

to avoid arrest, and they turn to websites and fake businesses fronts like massage parlors. The diffuse nature of human trafficking and the increasingly digitized tactics make it more difficult to recognize and prosecute traffickers.

Law enforcement statistics are fragmented and don't capture the true extent of human or sex trafficking. The National Human Trafficking Hotline, a project of the Polaris Project, generated nearly 9,000 trafficking cases in 2017 with more than 10,000 likely victims. But that is only a small fraction of the actual number: The organization estimates that hundreds of thousands of people are trafficked in the United States each year.

The areas with the most trafficking are along busy highway corridors and in big cities. California's urban areas and major highway corridors have more reported cases than anywhere else in the nation, although human and sex trafficking occur throughout the West.

While the term trafficking often evokes images of immigrants being smuggled across the border, the majority of victims in the United States are domestic. And sex trafficking is more prevalent than labor trafficking: According to 2017 data from the National Human Trafficking Hotline, two-thirds of trafficking cases reported nationwide involved people being sold for commercial sexual exploitation. Data from survivor surveys show intimate partners and family members are the most likely to traffic victims.

In order to build understanding of the realities of modern trafficking, Truckers Against Trafficking trains drivers through a video tutorial. The training video pairs the story of a trafficked teen with insight from an FBI special agent and anti-human trafficking experts. Truckers must also pass a 15-question quiz. The video offers tips for identifying people, and especially girls, who are being prostituted or appear to be held against their will, and it explains how reporting trafficking-related chatter over social media and trucking communication lines like CB radios can help lead to arrests.

"Even the smallest little details that (truckers) have, that you can provide us with, can help and have helped to recover girls," FBI Special Agent Evan Nicholas says in the video.

Eight states, including Washington and Colorado, require the training for driver certification, and parts of the program are implemented in nearly 40 states. Truckers have made more than 2.000 calls to the National Human Trafficking Hotline, and the cases generated by these calls have identified more than 1,000 trafficking victims, according to hotline reports.

Since learning about Truckers Against Trafficking and taking their flagship training course, Hoke has hauled the Freedom Drivers Project twice and testified in front of the Colorado Legislature, asking lawmakers to make anti-trafficking training a requirement for state trucking schools. "You get woke up to what's going on," Hoke said. The bill passed with bipartisan support in April.

Building off successes in the trucking industry, Truckers Against Trafficking is branching out into other industries with high levels of exposure to trafficking. Two initiatives launched earlier this year seek to train transit and oil-and-gas employees to spot and report trafficking. Long-distance bus lines like Greyhound are known target areas for traffickers to pick up runaways, and the predominantly male workforce of oil and gas boomtowns often harbors the sex trafficking industry.

Arian Taylor is one of hundreds of truckers who have called the National Human Trafficking Hotline since being trained by the organization. Around 3 or 4 in the morning in an urban area of California, Taylor heard screams. A car door slammed shut and tires squealed. A young woman, shivering from the cold night air, knocked on the door of his truck and "asked if I could get her home," Taylor said.

The young woman had come to the city with a friend and her friend's boyfriend. When money started to run out, her friend's boyfriend tried to force her into commercial sex. After an argument, she was left alone in a bad part of town.

The girl knocked on Taylor's window, which had a Truckers Against Trafficking decal in the corner. Taylor gave the girl water and let her warm up in his truck while he called the National Human Trafficking Hotline. "It's not every day you have to deal



Conrad Hoke stands for a portrait outside his tractor. Stickers on each of his doors identify him as a Trucker Against Trafficking and provide the phone number to report possible trafficking. LUNA ANNA ARCHEY/HIGH COUNTRY NEWS



with a situation like this," Taylor said. "It was hard to process it all at once, but they kept things calm and easy for us." Hotline representatives arranged for the girl to be picked up by a taxicab and taken to a local shelter. A few days later, Taylor got a call from Truckers Against Trafficking to let him know the young woman was home

"I have a daughter a few years older, and I would hope someone would do the same thing for her," Taylor said. "I just knew I wanted to get her home."

safely.

Kendis Paris, co-founder and executive director of Truckers Against Trafficking, speaks during a 2016 press conference in San Antonio, Texas, about efforts to combat human trafficking.

DARREN ABATE / TEXAS TRIBLINE



Hoke keeps informational TAT cards handy to give to other truck drivers.

LUNA ANNA ARCHEY/ HIGH COUNTRY NEWS

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Migrants packed into their automobile near Muskogee, Oklahoma, in 1939.
RUSSELL LEE/LIBRARY OF CONGRESS

PICTURING MIGRANTS: THE GRAPES OF WRATH AND NEW DEAL DOCUMENTARY PHOTOGRAPHY

By James R. Swensen. 272 pages, hardcover: \$34.95 University of Oklahoma Press, 2015.

James R. Swensen's new book, *Picturing Migrants*, takes a long look at a legendary but short-lived photography project for the New Deal's Farm Security Administration, an agency created to combat rural poverty during the Great Depression. The book is filled with iconic images — destitute mothers serving food scraps to their children, broken-down automobiles abandoned by the California highway — that illuminate the struggles of the era

Swensen masterfully brings to life the harsh reality of life during one of America's darkest times, coupling the story behind the photographs with a historical analysis of John Steinbeck's best-selling novel *The Grapes of Wrath*, and revealing how the photographs helped inspire it. Author Susan Shillinglaw, formerly the director of the National Steinbeck Center, calls Swensen's book a "fascinating and scrupulously researched account of how several FSA photographers and John Steinbeck worked in sync, 'walking in each other's paths.' " JESSICA KUTZ

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New tour hours for our Paonia visitors

We would like to describe the weather in Paonia, but some of us don't really know what it's like, now that much of our editorial department has moved to our experimental satellite office in Gunnison, Colorado. One thing's true in both places, and throughout much of the West: It is warm out there.

In Paonia, we've welcomed Luna Anna Archey as our new associate photo editor. Luna, who is from Eaton Rapids, Michigan, came to the Western Slope in June, having flown to the U.S. from Uttarakhand, India, where she worked at a non-governmental organization. Luna discovered photography as a possible career path at the University of Michigan, where, as a member of the crew team. she had to choose between photography and rowing. We're selfishly glad she ditched oar for camera, serving as a senior photo editor for *The Statement* magazine, part of the university's newspaper. "It's so good working with people who are unimaginably passionate and talented at what they do," she said. We agree!

Meanwhile, this summer, our editor-in-chief, **Brian Calvert**, graduated with an M.F.A. in creative writing from Western State Colorado University. For his final project, Brian wrote a wildfire-themed, one-act opera libretto. We're proud of him — but happy to have our editor back.

In staff changes: **Kate Schimel**, who expertly filled the role of deputy editor-digital for almost two years, has transitioned to being an associate editor. She'll be moving soon to Seattle, to head up our coverage

of the Northwestern states, while **Gretchen King**, our former engagement director, takes over as the new digital editor.

Other staff members spread across the country this summer. Associate Editor Tay Wiles and Executive Director Paul Larmer participated in the Rural Sociological Society's annual meeting in Portland, Oregon. Associate Editor Maya L. Kapoor wrapped up a fellowship at Vermont Law School, where she took a food and agriculture policy class and gave a talk on rare species protections.

Janet and Bill Hunt, two
Deadheads from June Lake,
California, drove through
Paonia on their way to Kearney,
Nebraska. They had dinner
with Executive Director Paul
Larmer, Director of Development
Laurie Milford and Assistant
Editor Emily Benson. The dinner was in part to thank the
Hunts for their donation to our
American West(s) documentary
series, scheduled to come out
later this year.

We also welcomed a group of instructors and students from Texas Tech University in Lubbock, Texas, who were in town to attend a workshop at Elsewhere Studios. **Carol Flueckiger**, who will be back in Paonia to lead a solar-powered painting symposium, led the trip.

We'd love to see you come visit us, too. We're arranging new tour hours for our Paonia office: Monday through Friday, 1:30-3:30 p.m. daily. But you're welcome any time if you call ahead (1-800-905-1155). See you here!

—Elena Saavedra Buckley, for the staff



Luna Anna Archey, our new associate photo editor, hoping to spot moose at Grand Teton National Park. EVAN BOLT



Heat Casualties

California's farmworkers face increased dangers as the climate warms

FEATURE BY RUXANDRA GUIDI

PHOTOGRAPHS BY ROBERTO (BEAR) GUERRA aniel Castellanos stood between two nectarine trees that were two feet apart and just about his height. He shook their branches, working his way from bottom to top, trying to find out how much fruit they were carrying this close to harvest. It wasn't much: There were only one or two nectarines per branch.

"These are trees that should be giving us lots of fruit by now," he told me in Spanish. But a few weeks before my visit to the farm, it froze overnight. Then, the next afternoon, the temperature rose into the 90s, ruining a lot of the crop.

Castellanos is what's known here as a *mayordomo*, a crew supervisor who monitors the work done at the farm and addresses the farmworkers' concerns. His boss, Vernon Peterson, ensures that the *mayordomos* enforce labor laws. Peterson's family has owned Abundant Harvest Organics, a stone fruit farm in Kingsburg, California, since 1893. Over 6 feet tall and with light blue eyes, Peterson towers over his 100 workers, addressing them in Spanish whenever he crosses paths with them in the field.

Castellanos looks every bit like an American's idea of a typical Mexican farmer, with his little *charro* mustache, wide-brimmed straw hat and plaid cotton shirt buttoned almost to the neck. He got his start as a farmworker in his late teens, working for minimum wage in California's Central Valley.

"We used to work 10 to 12 hours a day and during the hottest time of day," he told me. "This is very difficult work.

It's for crazy people, as I've heard some youngsters say."

These days, the men and women don't spend more than eight hours a day working in the fields, but that work is done in increasingly warm temperatures. The impacts of climate change are being felt not just in the quality of the harvest, but in the economy and the daily lives of the people who labor in the fields. It used to be that exposure to pesticides was the top health concern for farmworkers; today, heat exposure is.

For the people who pick the country's fruits and vegetables — an estimated 800,000 during peak season, about half of them in California alone — higher temperatures mean uncomfortable working conditions, a risk of serious illness and even the possibility of death. In

California, there are already strict laws and regulations on the books to prevent some of the worst consequences. But as the future keeps warming, those may not be enough.

SEVENTEEN-YEAR-OLD Maria Isabel Vásquez Jiménez was pruning grape vines in a Central Valley vineyard late one morning in May 2008 when the temperature reached 95 degrees Fahrenheit. Her fiancé, 19-year-old Florentino Bautista, was working beside her when she collapsed. "When she fell, she looked bad," Bautista later told a local media outlet, describing how he cradled her in his arms. "She didn't regain consciousness. She just fell down and didn't react. I told her to be strong so we could see each other again."

There was a water cooler a 10-minute walk away from where the workers stood, but according to Bautista, the *mayordomo* wouldn't let them take a break. Even after Vásquez Jiménez collapsed, farm management didn't immediately take her to the hospital. By the time a doctor finally treated her, she was in a coma, with a 108-degree fever. Two days later, she died.

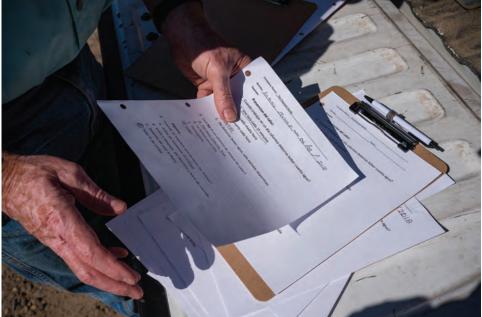
"The life of a farmworker isn't important to people," Arturo Rodríguez, president of the United Farm Workers Union, told a crowd of fieldworkers who marched to the state Capitol only days after Vásquez Jiménez died. "The reality is that the machinery of growers is taken better care of than the lives of farmworkers. You wouldn't take a machine out into the field without putting oil in it. How can you take the life of a person and not even give them the basics?"

Vásquez Jiménez's employer, Merced Farm Labor, was fined \$262,700, and the company was eventually forced to close its doors. California's Labor and Workforce Development Agency later found that the farm had had its business application renewed, despite its failure to follow heat illness guidelines. Elsewhere in California, state labor inspectors found that more than half of the farms they audited did not follow the rules. Over the past decade, at least 24 farmworkers have died from heat-related causes, including Maria Isabel Vásquez Jiménez.

Still, when it comes to labor protections, California and Washington are ahead of the federal government and most other states. Many states, including Oregon, issue heat exposure recommendations for vulnerable populations like fieldworkers but do not enforce them. California passed the nation's first heat illness law in 2005. It requires farms to conduct training on prevention and write emergency plans in case workers get sick. Farmers must supply water and shade for employees during their breaks, or face stiff fines.

But the state also exemplifies the challenges posed by climate change amid our culture's endless pursuit of productivity. Today, California's agriculture is





valued at more than \$50 billion a year — \$6 billion in the Central Valley alone. The state produces more than two-thirds of the fruits and nuts and about one-third of the vegetables consumed in the country. Whether the crops are conventionally grown in gigantic industrial farms or come from small organic operations like Peterson's, the current level of productivity will become unsustainable, if not obsolete, by 2060.

A recent paper published in the journal *Agronomy* by University of California researchers shows that the average annual temperature in the Central Valley region is projected to increase by 5 to 6

degrees during this century. Extreme high temperatures are expected to last from June to September (twice as long as they do today), with heat waves that will be longer, more intense and more frequent than they were a decade or two ago. Add to that the powerful drought-to-flood swings, or "precipitation whiplash events," such as the heavy rains last winter that are partly to blame for Abundant Harvest Organic's less-than-abundant yield this spring.

IT WAS A PLEASANT 85 DEGREES in the shade in early June when Peterson, Castellanos and a crew of about a dozen

- ▲ A farmworker removes protective netting from a row of peach trees before harvesting the fruit.
- Abundant Harvest Organics owner Vernon Peterson sorts through questionnaires testing his employees' awareness of heatrelated illness, following a monthly safety training session.
- ◀◀ Covered from head to toe to protect himself from the sun and dust, a farmworker picks peaches in an Abundant Harvest Organics orchard on a typically warm June day in Kingsburg, California.

"This is very difficult work. It's for crazy people, as I've heard some youngsters say."

–Daniel Castellanos,

Abundant Harvest

mayordomo at

Organics

Marbella Cruz, a former fieldworker who now works for a Cal/OSHA contractor, leads monthly safety trainings at one of the Abundant Harvest Organics peach orchards in Kingsburg. workers sat for 10 minutes to listen to Marbella Cruz, a former fieldworker who now works for Gar Tootelian Inc. Known locally simply as Gar, the company has a contract with California's Occupational Safety and Health Administration (Cal/OSHA) to oversee farmers in the Central Valley. Cruz trains workers and their managers on the prevention of heatstroke, and about once a month, she makes the rounds to enforce labor policies designed to prevent injury and illness. In the past 10 years, she has not witnessed a single heatstroke incident at any of the more than a dozen midsized farms she oversees in the Central Valley.

"It's about trust," she told me. "We all have to work hard under hotter temperatures, but we want workers to have a good relationship with their *mayordomo*. We want them to not feel shy or afraid about needing to take a break."

Her monthly worker safety and compliance training begins with a handout — a list of six multiple-choice questions in Spanish, asking things like, "When you work on a hot day, how much water should you drink?" A couple of the workers shout out the right answer: a cup every 15 minutes, or about eight coneshaped paper cups an hour. Don't wait until you're thirsty to drink, another says.

Researchers from the Western Center for Agricultural Health and Safety at the University of California at Davis regularly visit farms like Abundant Harvest Organics, trying to develop the best training for fieldworkers. They have been gathering evidence of the physiological responses to heat and physical work among Central Valley fieldworkers since 2014.

"The data that we've collected is a little bit biased," explained Javier Castro, a field supervisor with the yet-to-be-published *California Heat Illness Prevention Study* (CHIPS). "We asked the farmers if we could go into their field, so all the farms that we went into had enough shade and water and complied with the regulations."

They measured the workers' heart rates with the help of monitors strapped around their chests, and tracked the intensity of their physical activity using accelerometers attached to their belts. They also monitored how hydrated — or dehydrated — the workers were at the start and end of their shifts, by drawing a few drops of blood. CHIPS is also recording the variations in how heat illness is perceived by different genders and cultures, while considering ways in which any gaps in information and communication can be bridged.

Even when it's completed, the study may not be able to give us a full sense of how well the heat illness law is being enforced. But it will help researchers understand the combined impacts that physical labor, weather and crop type can have on the health of farmworkers. Historically, farmworkers have been neglected in public-health circles, especially outside California. Most studies of the physiological effects of working in hot conditions have concerned military personnel or firefighters.

When Cruz's training session ended, everyone took a quick lunch break next to the orchard. Gilberto Aguayo sat on his cooler and turned on a hot plate, warming up homemade corn tortillas he then filled with a bean and tomato stew. He's been at this farm for about eight years,

he told me, making a minimum of \$11.50 an hour, and as much a \$19 an hour in the summer, depending on the weight of his harvest. There is a lot of fruit to pick (though not as much as the spring harvest) from July to October. Unfortunately, that is when the heat is at its worst.

"Peterson is a good person to work for," Aguayo explained. "He looks after the workers to make sure they're safe, and he doesn't try to cut corners by paying less or by pushing them beyond what they can physically deliver." But he's heard stories about other farmers in the area who fail to comply with safety regulations, or refuse to pay workers a decent wage. He knows farmworkers who would be happy to find a steady gig at a place like Abundant Harvest.

Farmworkers here are paid what's called a piece-rate wage for every bin of fruit or vegetables they harvest over the course of their shift. This means that the more breaks the workers take, the lower their wages will be. Yet one of the first recommendations for people experiencing heat exhaustion is to find shade and take a break, for at least an hour or two. If an employer fails to enforce the heat-illness law, piece-rate workers are likely to hesitate to complain or slow down their pace for fear of losing their jobs.

BY NOON, THE TEMPERATURE had reached 90 degrees. We climbed on Peterson's pickup truck and drove past the rows of peach, plum, pluot, nectarine and almond trees that his family has tended here for over a century. Back when the Petersons started farming, the Central Valley was a bucolic landscape dominated by orchards. The region had perfect growing weather and rich soils, and the land was split into smaller parcels than you'd find today. But by the time of the Great Depression, agriculture in the valley had become increasingly intensive, and therefore more dependent on migrant labor, as well as on irrigation using water from canals and aqueducts from the northern part of the state.

Typically, every spring, Peterson found extra help among high school students on summer break or the sons and daughters of longtime fieldworkers. In years past, there would also be migrant workers here from Mexico — people who'd crossed the border with a guestworker visa or without papers, eager to send some money back home.

But now, he said, it's hard to find either type of worker: Students are increasingly looking for better-paid work inside offices or in internships in cities, while migrant workers can no longer cross the border as easily as they used to. And once they're here, they're afraid of being caught and deported. In the future, labor shortages will likely continue to be a serious concern for farms like Abundant Harvest Organics. As Peterson said, that means that running a small operation like his will no longer be as financially or logistically sustainable.





Vernon Peterson (in light-green shirt), fills out a questionnaire during a heat-related illness training inside the Abundant Harvest Organics sorting facility. California passed the nation's first heat-related illness law over a decade ago, requiring farmers to make water and shade available to fieldworkers.

Back in Peterson's air-conditioned office, our conversation shifted to the challenges of growing food today as a small or medium-sized farmer, in an era of man-made climate change and industrial agriculture. Despite the recent weather problems, Peterson remains skeptical of climate change.

"When I was in college, 45 years ago, everyone talked about 'global freezing,'" he told me, with a chuckle. "They would tell us that we were going to end up with polar bears in New York City. And people believed that, just like I believe that Jesus is coming back — with that same fervor."

Peterson doesn't regard climate change as settled science, and he believes that it conflicts with his religious views. In fact, he won't even utter the words, preferring instead to just use the term "weather" to refer to the environmental shifts affecting his farm these days, from rising temperatures and drought to the increasing problems with pests. Still, he takes the health threats faced by his workers very seriously.

"What kind of a moron is going to put his people out there and let them get hurt?" he asked. "Let's say you don't care about people, that they're just an economic unit of production. If you get one death on your compliance record, I don't care how big you are, that is costing you several hundred thousand dollars."

Ever since Vásquez Jiménez's death, the United Farm Warmers Union has pushed for tougher enforcement of regulations on farms like Peterson's. In 2015, Cal/OSHA settled two lawsuits brought on by the UFW on behalf of five farmworkers, winning, among other things, the right to help update the agency's guidelines. That led to stronger protections: Employers now must keep water closer to the workers and give them 10 minutes of break for every two hours of work, as well as shade as needed throughout their workday. And most recently, Cal/OSHA has begun to enforce a law that requires employers to pay their piece-rate employees for their rest breaks, too.

According to Peterson, most farmers in the Central Valley aren't "bad actors" and would follow state worker protections, with or without the threat of stiff fines. While he believes in treating his workers with respect and care, Peterson also says that California's farm industry has

become too regulated during the past 15 years. That translates to higher costs of doing business for him, he said — around \$5,000 extra a year for a farm his size.

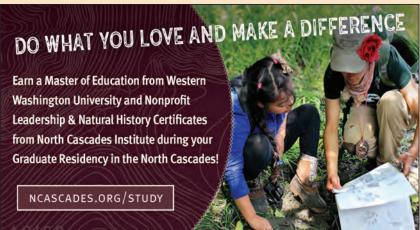
"Farm owners now have to dedicate so many resources to prove we're good guys," he said. "In our case, we must have two full-time employees just documenting that we're following procedures. We have to pay them to keep a paper trail, in order to prove to Cal/OSHA that we're following the law."

But even though Peterson would prefer fewer state rules, Abundant Harvest Organics' *mayordomos* continue to faithfully follow the updated directives. And the farm has an important rule of its own, one that it will be enforcing this summer as the temperatures rise.

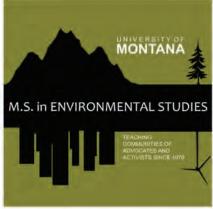
"We just go home when it's 100 degrees Fahrenheit," said Castellanos, trying to find some shade between the nectarine trees. Back when he was the one picking fruit, he didn't worry about the heat, he told me. But now people take it very seriously. "These days, I'm the first to tell the workers, 'If you're not feeling well, or with enough strength, please stop working. I'd rather you do that than have to deliver the bad news to your family.' "□

This story was funded with reader donations to the High Country News Research Fund.





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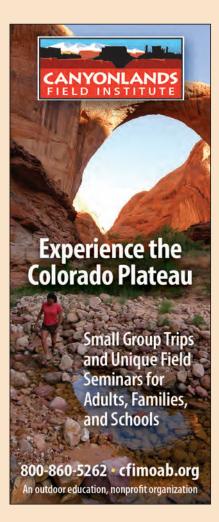
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Coyotes and concepts

Winning reader stories from our migration contest. To see more visit hcn.org/migration-stories

The coyote moved at a trot. Constantly checking her surroundings, she glanced over her shoulder and continued across the road, darted under a fence, and disappeared.

Across the West, similar scenes play out regularly. The sight of a coyote seems mundane to many — perhaps brings excitement to travelers from back East, or rouses disdain among those who vilify this and other predators.

Yet this particular coyote caught my eye. Not for anything she did, but for the road she happened to cross. Halstead Street. In Lincoln Park. In Chicago.

Our own route had started back in Boulder, Colorado. We were on the road as traveling trainers for the Leave No Trace Center for Outdoor Ethics, talking about backcountry ethics, recreational impacts and protecting the places where people play. We were in a permanent state of motion and migration, camping or crashing on couches, always moving on to the next event, the next talk, the next adventure.

On that particular stretch, we had traveled from Colorado into the Dakotas to talk about minimizing impacts at Minot Air Force Base (home to nukes), ventured into the Boundary Waters of Minnesota (an inspiration for the Wilderness Act), and eventually arrived in the urban heart of the Great Lakes.

That coyote we saw, or rather her ancestors, might have traveled a similar

arc from the mountains through the plains to the city, through public lands and toxic threats and human impacts.

threats and human impacts.
Our own migration was moving West to East. Reverse homesteaders, spreading an idea: the idea that your personal choices, your personal ethic, matter when it comes to protecting the environment.

It's hard to make an idea migrate. But that was our goal, telling people that a single choice you make as an individual still means something despite staggering climate and land-use changes — adapting a concept born in Western wilderness to resonate with people who might never climb a fourteener or land a cutthroat trout or carry bear spray.

Migration is about crossing lines. But those lines have blurred, faded and disappeared. The frontier closed well over a century ago. The wildland-urban interface is an intermingling of worlds, the place where wildfire can transform from friend to foe. And technology obliterates urban-rural divides.

We should be more like that coyote. As divisions melt away, we must encourage ideas to migrate. Our wilderness ethics must become our everyday lives. Our frontier myths must meet our modern realities. It's time to check over our shoulders, think about all we know and have learned, and move on to what's next.

-Frank Sturges, Boulder, Colorado, and Chicago, Illinois



2nd place

Grullas

Each year, the grullas - Spanish for "cranes" – arrive by the hundreds, settling over the valley's farm fields, seeking shelter on vegetated islands of the Rio Grande. But the year my boy was born, I missed their lone, throaty calls, sitting instead inside dark rooms, trying to bond with a new life brought into the world.

Santiago was born on a Friday; after 17 hours, they had to cut him out of me, my petite frame too small for his entrance into

My migration into motherhood was not



enough to soothe him. Autumn waned, shadows of the grullas seen from my window as they fed in the terrenos nearby.

The *grullas* did not notice my slip into depression. No, this migration into motherhood was not easy.

Cranes are members of the family Gruidae, long-legged, long-necked birds, consistent and familiar visitors to this valley, wintering in my father's fields since I was a child.

The fall I migrated from "biologist" to "mother," the grullas arrived as always, but my relationship to this place had changed, priorities had shifted. My boy and I struggled to know one another.

In November, two months after the birth, I was driving down Highway 47. There, in her roadside yard, bundled up with beanies and coats, I witnessed as Leah Berry twirled her infant daughter, outside, child and mother in a joyous and generous ballet. Am I seeing things? Is this real? I slowed the car, did a doubletake. Leah twirled her baby in her arms, a winter afternoon, lovingly confident, strangely stunning. And at their back were the grullas, gray-coated cranes feeding in the field beside the house. I thought: Will I ever reach a similar place of acceptance? Will the *grullas*' presence ever calm me into such a motherly stance?

The migration into motherhood is not easy for some of us — an unspoken truth. But the grullas return, always, a constant, a reminder, as calm and consistent as love itself, from fall to early spring, feeding in fields we pass again and again, unknowingly, even unwillingly, until at last it's migration time once again.

-Leeanna Torres, Tomé, New Mexico

Migration and my accidental ancestry

Modern interest in personal ancestry rarely investigates the reasons behind this ancestry. As I look back at the circumstances surrounding my ancestry, it has become clear that fate played a bigger role than "relationships made in heaven." The migration of many early Americans did not always go as planned, and so traveling families were placed in "accidental" locations and set the foundation for many ancestral lineages.

The Evans family was located in Missouri until the Civil War, when some of the family joined Quantrill's Raiders to plunder and murder Jayhawks across the border in Kansas. Thus, when the war was over, some of my ancestors were run out of Missouri. My great-great-grandfather migrated west to Pueblo, Colorado, and became a Pueblo County employee.

When my great-grandmother was a teenager, her family traveled by covered wagon, pulled by oxen, westward across the Great Plains. When they reached Pueblo, an early snowstorm had closed the mountain pass, and their plans to migrate to California were changed. They had to do something to survive the winter in Colorado, so they opened a restaurant. By the time of the spring snowmelt, the restaurant was thriving, and many of the people returning from the California gold mines were talking about their terrible experiences. This is how the stage was set for me to be a Coloradan instead of a

Missourian or Californian — more like "fate of circumstances" than carefully planned

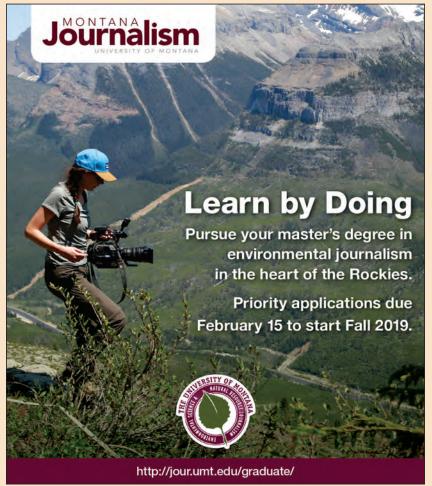
I believe that many family lines are determined by fate or accident. Circumstances set the stage for my grandfather and grandmother to meet in an "accidental" restaurant, as neither branch of my family planned to settle in Pueblo.

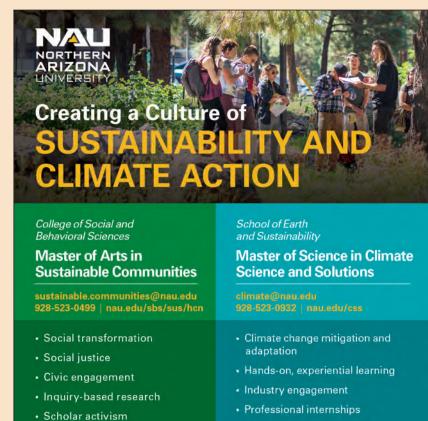
Growing up, I benefited from the stories of migrating by covered wagon from Kansas City to Pueblo. My greatgrandmother said she rarely rode in the wagon; rather, she virtually walked across the Great Plains. She told stories of trading oxen milk for water at the few ranches they encountered. She delighted in the "little bird with the yellow breast" that sang "hotter than hell today" as the wagons passed. I can still hear those "words" in the song of the Western meadowlark.

As I look through my genealogy at names like Kremsbow, Brainard, McGiven, Kenton, Hammond and Evans, I am proud that this particular migration became part of the great American "melting pot."

-Keith Evans, Pueblo, Colorado







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Estranged in America

In rural Colorado, an immigrant family faces an uncertain future

FEATURE BY SARAH TORY

PHOTOGRAPHS BY COREY ROBINSON ucia Gaspar was 14 years old when the thing that she and her family dreaded occurred. Lucia, her mother and two siblings were driving home from church one night in Alamosa, Colorado, when the red-and-blue lights of a police car began flashing in the darkness behind them, and a siren started wailing. Lucia's mother, Eulalia Pedro, pulled over. The two officers ordered everyone out of the vehicle and asked for identification. When no one in the family could produce any, the police said they would call Immigration and Customs Enforcement, or ICE

In 1999, three years after Guatemala's civil war ended, Pedro, a single mother, left her village in rural Guatemala with her four children, and crossed the U.S.-Mexico border. She sent Lucia, the youngest, by bus with an aunt and uncle, while she and the other three journeyed on foot through the West Texas desert.

That night, as she stood with her family on the side of the road, Lucia was filled with fear. One cop watched them closely, eyeing them up and down, while the other returned to the police car. All Lucia could think about was deportation.

"We were so scared," Lucia told me recently — frightened of losing the life they had fought so hard to build, of losing their home, or even worse, each other.

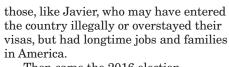
But that night, at least, they were safe. The police officer told the family that the immigration agents were "too busy to come get them," Lucia said. Later, she wondered if maybe the police had never actually called ICE — if they were just trying to intimidate the family. If perhaps they didn't know what else to do about this single mother and her children

— people who had committed no crime, but who were, under the law, unwelcome in America.

LUCIA GASPAR IS NOW 27 AND MARRIED.

She has long glossy hair, a beaming smile, and a small scar on her upper lip where a dog bit her when she was a little girl. Growing up undocumented in southern Colorado, she never talked about her status with her family. Her mother, who had limited education, worked constantly to support them, so Lucia learned about her situation in a haphazard fashion. During middle school, when her teacher took the class to McDonald's to practice applying for jobs, Lucia couldn't complete the mock application; she had to leave the space for her Social Security number blank. She learned the anxiety that comes with never knowing where or when ICE might find you or your family — at work, maybe, or driving to the grocery store. Even at home, there was no sanctuary; they could show up at your door at any moment.

A few years ago, however, those fears began to subside. Then-President Barack Obama created a program called Deferred Action for Childhood Arrivals, or DACA, which gave young people who'd been brought to the country without papers temporary legal status, a work permit and — crucially — a reprieve from the threat of deportation. Even Lucia's husband, Javier, who is also undocumented but ineligible for DACA because he never finished high school, began to feel safer: Although Obama deported more than 2.8 million people during his tenure — a record number, far surpassing his predecessor, George W. Bush - in his final years he prioritized deporting people with criminal records, instead of



Then came the 2016 election. President Donald Trump was eager to fulfill his campaign promise to deport all undocumented immigrants — even if they had been law-abiding residents for decades. Last September, Trump went even further, canceling the DACA program. Lucia felt her old fear return. But now her situation was worse: Lucia and Javier now had three U.S.-born children. What would happen to their kids if they





were deported?

In the wake of the administration's immigration crackdown, people across the West are grappling with similar questions. They live in places where the line between "legal" and "illegal" cuts not just through families, but also through entire neighborhoods, schools, churches, workplaces and communities. Alamosa has felt this anxiety more acutely than most. More than half of the town's roughly 9,000 residents are Hispanic, many of them first- or second-generation immigrants from Mexico and Guatemala. Regardless of their legal status, they've

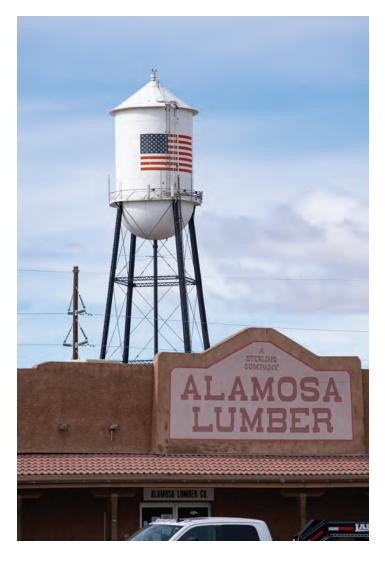
become an integral part of this rural community — a place shaped by the very people the government is trying to expel. Now, as fear and uncertainty spread through Alamosa's immigrants, a deeper threat is emerging: What happens to a community when its people's sense of belonging begins to unravel?

ALAMOSA LIES IN THE MIDDLE of southern Colorado's San Luis Valley, a 125-milelong strip of sagebrush sandwiched between two mountain ranges, a five-hour drive from Denver. One of the largest high-desert valleys in the world, the

land is sparse and sweeping — an ideal home for the "Blue Sky People," the Utes who originally lived here.

The Utes, too, were the descendants of migrants. Thousands of years ago, their ancestors migrated to the San Luis Valley from what is now southern Mexico and Guatemala, traveling north across the mountains and deserts that formed the undivided Americas. With the arrival of European colonists, new actors would claim control: Spain, Mexico, and finally, the United States, which annexed the valley from its southern neighbor in 1848. As settlers arrived — Hispanic farmers,

Lucia Gaspar at Ortega Middle School, where she works as a teacher's aide for special needs students. She got the job after she applied for and was accepted by the program Deferred Action for Childhood Arrivals, known as DACA.





Downtown Alamosa, Colorado, population 9,000, where almost half the residents are Hispanic, many of them first- or second-generation immigrants from Mexico and Guatemala. and then Anglos, and later, Dutch and Japanese — the Utes were forced from their homeland.

If colonization and conquest determined the fate of the valley's earliest inhabitants, more recently, America's immigration laws — dictated by labor needs and race discrimination — have determined who belongs and who gets expelled. Laws like the Immigration Act of 1917 were intended to permanently restrict immigrants from "undesirable" areas, and Operation Wetback, a series of immigration raids in 1954, sought to deport as many Mexicans as possible if they couldn't prove their citizenship, often without regard for due process.

Yet even as the U.S. reinforced the sanctity of its own borders, it was busily crossing others, helping stage coups and propping up foreign leaders favorable to U.S. interests. The same year that Operation Wetback was launched, the CIA overthrew Guatemala's democratically elected president, Jacobo Árbenz, part of a series of U.S. interventions in Central America throughout the 20th century that sparked civil wars and a migration crisis that continues to this day.

Among those forced to live with the

consequences were Lucia Gaspar, her family, and hundreds of thousands of Mayan people displaced, widowed, or orphaned during Guatemala's 36-year civil war. With the support of U.S. military aid and training, the Guatemalan armed forces carried out assassinations of suspected militants and large-scale massacres in Indigenous communities thought to support guerrilla forces. One day, soldiers came to Santa Eulalia, the town where Lucia was born, telling villagers to go into a local school where food would be served. Gaspar's mother stayed home - she didn't trust the soldiers but many others went. Once the villagers were inside, the soldiers locked the door and set fire to the building, killing everyone in it.

As the atrocities mounted in the mid-1980s, many of Eulalia Pedro's family members fled to Mexico or the United States, where the Reagan administration considered them "economic migrants" rather than refugees fleeing political violence. The vast majority were denied asylum. A few years later, though, after a lawsuit forced the government to rehear their cases, many Mayans were finally granted asylum.

Though Pedro and her children had

survived the genocide, the end of the war did not end the poverty that would eventually compel them to leave. Some of Pedro's relatives had found jobs and a better life in a small town in rural Colorado. And so in 1999, Pedro left Guatemala with four kids in tow, hoping to join them.

Today, more than 400 Mayans live in Alamosa, and their culture and language are woven into the town. On Main Street, a Guatemalan grocery store sits across from a microbrewery; in the community garden, Spanish and Q'anjob'al mingle with English; and every February, the town hosts a traditional Mayan celebration honoring Santa Eulalia, the patron saint of Gaspar's birthplace — a reminder of the long road they took to get here.

BACK IN GUATEMALA, Lucia and her family had imagined Alamosa as a big city, but when they arrived, they found the opposite: a small town surrounded by a vast desert. They moved into an apartment complex for migrant workers called Tierra Nueva — in English, "New Land." Everything felt unfamiliar, from the water faucets and the modern kitchen appliances to the indoor toilets. School

was filled with yet more unknowns. Lucia was used to eating just tortillas and a few vegetables — no meat — and she found the school lunches too strange to eat. Speaking only her native Q'anjob'al, she understood little in the classroom and relied on her cousin to translate.

Within a few years, though, Alamosa began to feel like home. Lucia learned English and eventually Spanish, too. The hardest part would come later, when as a teenager, she realized that despite all her efforts to adapt, she could never fully belong. She dreamed of going to college and helping others, but as an undocumented student, she was ineligible for the financial aid and grants she needed. Instead, she graduated from high school resigned to the same life her mother had led: picking mushrooms on a farm for up to 16 hours a day.

Meanwhile, she lived in perpetual uncertainty, feeling as if her own life was outside her control. In 2007, ICE raided a potato-processing plant near Alamosa. News of the arrests spread throughout the San Luis Valley, prompting her mother to quickly move the family into an aunt's apartment, in case ICE agents came looking for them. Even back then, Lucia told me, "I knew what could happen."

A year later, her 19-year-old brother, Juan, was driving to work with a friend when a police officer pulled them over. Since neither Juan nor his friend could show identification, the officer called ICE. Juan spent 10 months in a detention center in Denver before he was deported to Guatemala. Lucia never got to say goodbye.

With the birth of Lucia's first son. Erick, in 2008, the precariousness of her life grew more intense. Erick was a U.S. citizen, while his parents remained undocumented; they had separate legal statuses but intertwined fates. Two years later, Alexandra was born and a year later, Anna. Both Lucia and Javier worked the same long hours at the mushroom farm, leaving little flexibility for the demands of parenting. They had to wake their young children in the middle of the night and take them to a babysitter when their work shifts started at 3 a.m. Meanwhile, the threat of deportation loomed over them, leaving them with an impossible choice: Would they keep the family together and take their children back to Javier's native Mexico? Or leave them behind in the U.S., where they would have a far better education and more opportunities?

IN THE YEARS BEFORE DACA, Lucia and Javier often thought about relocating to a city with better-paying work. As in many remote, rural communities, wages in Alamosa were low, and many young people were leaving. DACA, however, changed everything. The program did not offer a path to citizenship or even legal permanent residency, but it did allow

Dreamers like Lucia who were enrolled in school and met certain other requirements to obtain valid driver's licenses and a work permit — and, crucially, a reprieve from the nagging anxiety that had dogged her for so long.

Lucia applied and was accepted as soon as the program launched in 2012. Now she could do the kind of work she had always dreamed about. She got a job in a nursing home and then at an education nonprofit, helping migrant families. Later, she worked as a teacher's aide in the local middle school, and, in June, she got a new job, helping young adults with disabilities further their education or start careers. The freedom was empowering. With DACA, Lucia saw a future for herself and her family in Alamosa.

By September 2015, Lucia and Javier had saved enough for a down payment on a four-bedroom house. They moved out of the Tierra Nueva apartments and onto a quiet street near the Rio Grande, into a light-blue home, with a fenced backyard filled with bicycles and a trampoline. Inside, the rooms are spacious and clean, the kids' beds neatly made and in the living room there are portraits of the couple, taken just after they started dating. Here in the new house, looking out over the same river she crossed as a young girl, Lucia envisioned a stable, safe place to raise her kids — where they each had their own bedroom and a place to play outside.

They had lived there for just over a year when Donald Trump became president. Suddenly, with the rise in anti-immigrant rhetoric and an uncertain future for DACA, the family began to plan for the worst.

Lucia reached out to Flora Archuleta, the director of the San Luis Valley Immigrant Resource Center, for help arranging guardianship for Erick, Alexandra and Anna, in the event that she and Javier were deported. They signed a power of attorney form, making Javier's uncle, a U.S. citizen, the children's legal guardian. Previously, Archuleta told me, she'd processed power of attorney requests sparingly roughly 10 per year. Since the election, that number has more than doubled, as undocumented parents grow increasingly anxious that their children could end up in U.S. foster care if the parents are taken away by ICE.

From her office just off Alamosa's main street, Archuleta is trying keep up with the new demands for advice and support from local immigrants. She estimates that paperwork for visa applications has tripled, if not quadrupled, and the center has been flooded with calls from immigrants who are confused and frightened about the administration's new policies.

One man, who's in the process of getting his GED, keeps phoning the center to find out if he'll still be eligible for DACA.

"He calls me at least once a month," Archuleta said. That's on top of the five to 10 other calls she gets every day from people wondering about DACA. She now spends much of her day just talking to people, trying to comfort them and give advice without really knowing the answers herself.

The Colorado Mushroom Farm on the edge of Alamosa, where up to 80 percent of workers are immigrants. Owner Don Clair says he's hired Americanborn workers in the past, but most have walked off after the first day of work.





Lucia Gaspar stands on the back porch of her house in Alamosa, Colorado, with her three kids, Anna (standing), Erick and Alexandra. In rural areas like Alamosa, 22 percent of DACA recipients, Gaspar among them, have been able to buy a house for the first time after being approved for the program.

"We're really struggling," she told me, when I saw her in February. With so many people unable to pay for the center's services, lately Flora and her staff have been doing a lot of work for free.

THE SAN LUIS VALLEY IMMIGRANT RESOURCE CENTER was started by three volunteer lawyers out of Boulder, Colorado, in 1987. The year before, President Ronald Reagan had signed an amnesty law giving legal status to 3 million undocumented immigrants living in the U.S., at a time when tens of thousands of Central Americans were seeking asylum from the civil wars in Guatemala and El Salvador.

When Archuleta took over as director 17 years ago, there were still deep cultural divisions between the new arrivals and long-term residents. Richard Jackson, the Alamosa County sheriff and a longtime police officer, recalled that the first Guatemalans who arrived in the 1980s were mostly men who came alone. There were problems with alcohol abuse and domestic violence, which Jackson attributes to the "rub" of two very different cultures, but things improved when the migrants' families arrived.

Today, that tension has largely disappeared, helped in part by efforts like the Integration Grant provided by the Colorado Trust, a nonprofit aimed at reducing social inequalities. The grant money helped immigrant parents get more involved in their children's schools, improved access to English classes for both adults and kids, and developed mentoring opportunities among foreign and native-born families. Another grant has funded trips to Guatemala for Alamosa's public school teachers, to help them better understand their Mayan students. One of the sheriff's deputies has partnered with a local immigrant to offer free driving lessons for Spanish and Q'anjob'al speakers.

"Things are different now," said Francisco Lucas, a Mayan immigrant who came to Alamosa 33 years ago, fleeing Guatemala's civil war. "In the beginning, nobody spoke English," he told me. "But as new generations are born and progress, there's less separation between immigrants and nonimmigrants — the line between them blurs."

THAT INTERDEPENDENCE HAS GROWN in

other ways as well. Farms in the San Luis Valley grow 90 percent of Colorado's potatoes and form the backbone of the regional economy. Although mechanization has reduced labor needs, immigrant workers still do essential jobs, from picking and packing produce to manning conveyor belts and operating heavy machinery. More than one in three hired farmworkers in Colorado was born abroad.

One of those places is a sprawling 440-acre farm on the edge of Alamosa, where the smell of compost seeps outside

the windowless bunkers. Lucia worked here before she had DACA protections. The Colorado Mushroom Farm produces 120,000 pounds of white and brown mushrooms every week — mushrooms that are sold in grocery stores across Colorado.

Each crop requires 20 semi trucks of straw, three of chicken waste and one of cottonseed mill — just to make the compost the mushrooms need to grow. Like cows, mushrooms require daily attention, year-round, so the real key to a successful crop is finding enough people willing to work for an average of \$12 per hour, 365 days a year, including Christmas. "There's not a day off at the farm here," Don Clair, the farm's business manager, told me, when I visited in May.

The farm opened in the early 1980s, when the first Mayans began arriving. "We've been real fortunate," Clair said, referring to the immigrants that still make up the majority of his workforce. In the past, he has tried to branch out and hire nonimmigrants, with little success. After a few hours, most of the new hires walk off the job, he said. "They want to work six hours or eight hours and then they want to go home."

Clair estimates that 75 to 80 percent of the workers at the mushroom farm are immigrants, but he doesn't know how many have legal status and how many do not: "We check their paperwork and leave it at that." Colorado law does not require him to enroll in E-Verify, a federal program that can confirm whether a person has work authorization in the U.S.

There are no available data on how many of Alamosa's immigrants are working without authorization, but statewide Colorado is home to more than 189,000 undocumented immigrants. They contribute over \$227 million to Social Security and \$55 million to Medicare—entitlements they cannot receive themselves. But as immigration enforcement tightens and the number of workers who cross the border plummets, agricultural operations like the Colorado Mushroom Farm face a dwindling pool of potential employees.

There are other reasons, too. After two or three generations in Alamosa, immigrants resemble other Americans in the kind of life they hope to live. "Like anybody, generation number four is not real excited about becoming a picker," Clair told me.

He could try to make the work more attractive by offering higher wages. But then, he said, "We'd have to raise our prices. The whole country would have to get used to that."

Without immigrants, the farm would not exist, but sometimes Clair has felt slightly resentful. "Whether they're documented or undocumented, they seem to have all the rights that an American citizen has," he said. He recalled how, in 2012, the mushroom farm ran into financial trouble and shut down for two years

before reopening under new ownership. To him, it seemed like the local Catholic Church helped the Guatemalan immigrants who were out of work, while he and the other more senior managers were just "let go."

"I get a little upset," he added, "that we have people living under the bridge, and we don't seem to be worried nearly as much about them as we are about the immigrants."

LAST MAY, as spring painted the San Luis Valley shades of green, I visited Lucia and found her alternately hopeful and afraid. Her DACA permit expires in February — less than six months away — and attempts to create a permanent version of the program keep failing in Congress. The uncertainty was wearing on her. "It's frustrating, not knowing what's going to happen," she told me.

Meanwhile, she struggled to explain concepts like ICE detention and deportation to her children. "Sometimes I don't want to tell them," she said, wishing she could protect them from the fear she knows so well.

One day, Erick asked her, "What if the police take Dadda?" The fourth-grader, who loves fishing with his father in the mountains east of Alamosa, was anxious. "I don't want him to go to jail. I don't want to live in Mexico."

More recently, Erick has suffered some disappointment as well. For over a year, Lucia and Javier had been saving up for a family trip to Disneyland. But all the talk about increased ICE activity had them worried. What if they got pulled over? Erick's father could end up deported. So they canceled the trip they'd planned for this summer.

In the kitchen one day after school, Lucia was chopping up shrimp and vegetables for the kids' favorite meal, ceviche. Alexandra worked in her coloring book, while Anna played with a toy dragon, flying it in circles around the living room, her long braids swinging behind her.

At the dining room table, Erick, who was supposed to be doing his reading homework, overheard us talking about the trip. "I want to go on the rides," he said. Lucia reminded him that it was too risky, especially for his dad. At 10, Erick is thoughtful and inquisitive, with a mischievous streak. Now he looked worried. "Some people," he told me, "are getting sent back where they came from if they don't have papers," he said. He was silent for a moment, his brow furrowing.

"They might send back my parents," he said.

IN EARLY JULY, on my last visit to Alamosa, the air was hazy from the Spring Creek Fire, 25 miles east, and the normally stark outline of nearby Blanca Peak appeared smudged. Lucia was laying straw around the rows of zucchini, fava beans and cucumbers that her mother had planted in the community garden to help lock in the moisture — because of the drought, the town had implemented water restrictions, and she worried the crops might not survive.

Meanwhile, America's political landscape seemed harsher than ever. Under Trump's now-reversed "zero tolerance" policy of prosecuting everyone caught crossing the border unlawfully, young children had been taken away from their parents.

"Imagine if that was happening to us," she said to Javier one night. When Lucia told her own kids about the family separations, they wanted to know why, but she had no answers for them.

Then, a few weeks ago, Lucia learned that her sister-in-law's brother had been caught crossing the border from Mexico and put in a detention center in Arizona. He was 16 years old. Lucia's sister, who has legal status, drove through the night from Colorado all the way to Arizona to see him, but she wasn't allowed inside.

"They must have lost their heart," was all Javier could think. At least, he thought, he and Lucia had a place to go if they were deported. Recently, he had finished building a house on the outskirts of Mexico City, paid for in installments over the 19 years he had lived in America, and he had begun thinking about the possibility of returning to the country he left as a 14-year-old by himself. When Javier crossed the border then, he thought he would only stay a year or two - time to earn enough money so he could build a house in Mexico. But he kept finding jobs, and then he met Lucia, and then their children were born. If he had wanted to leave, he no longer felt like he had a choice. "I have three kids who need me," he told me. It was like getting on a highway without knowing where the next exit was.

"Life is like that sometimes," he said. Despite everything, their main priority was to give the kids a normal summer. After her work in the garden was finished, Lucia took the kids to Splashland, the local pool, crowded on a hot Saturday afternoon. Wearing goggles and clutching blow-up toys, they splashed and bobbed among all the bodies moving through the turquoise water. Lucia watched Erick and Alexandra climb the steps that lead to the top of the waterslide. And then she lost them.

"I can't see them," she said, her eyes widening, searching for them in the crowded pool.

A minute later, she spotted the two swimming toward her together, grinning. Lucia relaxed, leaning back in her chair beneath the shade of an awning, breathing in the chlorinated air. For now, at least, they were together, a family indistinguishable from all the rest. \Box

This coverage is supported by contributors to the High Country News Enterprise Journalism Fund.

Immigrants in Colorado, by the numbers

10

Percent of Colorado residents born abroad (532,903 people)

8.6

Percent growth of immigrant population in Colorado between 2010 and 2014

83,794

Number of people who are employed by firms owned by immigrants

1 in 3

Proportion of Fortune 500 companies based in Colorado that were founded by immigrants or their children

\$20.8 billion

Annual revenue generated by those firms

\$1 billion

Amount immigrants paid in state and local taxes

73

Percent of foreign-born population that is working age

52

Percent of native-born population that is working age

4

Percent of immigrants in Colorado who are citizens

4

Percent of Colorado's population that is made up of undocumented immigrants

87

Percent of undocumented immigrants who have been in the U.S. for five years or more.

FIGURES ARE FOR COLORADO FROM 2014, SOURCE: THE CONTRIBUTIONS OF NEW AMERICANS IN COLORADO REPORT, AUGUST 2016, PUBLISHED BY THE NEW AMERICAN ECONOMY, A NONPROFIT ORGANIZATION COMPRISED OF MAYORS AND BUSINESS LEADERS WHO SUPPORT IMMIGRATION REFORMS



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EMPLOYMENT

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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 <u>www.tu.org</u> for complete job description.

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Executive Director of New Mexico Wildlife Federation – The New Mexico Wildlife Federation is seeking an Executive Director, a visionary leader who is passionate about public lands, dedicated to executing an innovative strategic plan, and knowledgeable about conservation issues. Candidates should be active hunters/ anglers, as NMWF's 83,000 supporters are, and also prepared to team with a broader wildlife conservation community on behalf of healthy habitats and watersheds. The Executive Director will work closely with the Board of Directors and lead an alwaysenthusiastic professional staff. The New Mexico Wildlife Federation is a centuryold organization founded by Aldo Leopold and nationally recognized as an inspired, forward-leaning conservation organization that is a major force among its peers. Its new Executive Director will have the opportunity to seize that momentum and take wildlife conservation in New Mexico to even higher levels. The position is based in Albuquerque, with employment to begin in November 2018. Highly competitive salary; excellent health and other benefits. For more information, including a job description and NMWF's current strategic plan, visit: http://nmwildlife.org/news/ executive-director-job-listing/. Please send compelling cover letter, résumé, and name with contact information for three references to: Susan Calt at scalt@nmwildlife.org or to New Mexico Wildlife Federation, 6100 Seagull St. NE Suite B-105, Albuquerque, NM 87109. 505-299-5404 scalt@nmwildlife.org.

Executive Director - If you are deeply committed to public service and would like to become part of our high-performing, passionate and diverse team, NCAT is looking for an Executive Director in Butte, Mont. Information at www.ncat.org/executivedirector/.

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 <u>klynch@nafws.org http://</u> www.nafws.org.

Conservation Director - Carbondalebased 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/.

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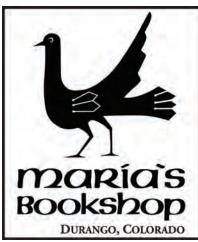
Solar-powered home near Capitol Reef National Park — 1,800-square-foot home on 4.12 acres surrounded by national forest and recreational opportunities in a beautiful area (Happy Valley) between Torrey and Boulder. cathy@bouldermountainrealty.com, www.bouldermoutainreality/properties/grover/off-the-grid-in-happy-valley, 435-425-3593.

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Forty-acre organic farm — Potential fruit/hay with house, Hotchkiss, Colo., Scott Ellis, 970-420-0472, oeneis@gmail.com.

TOURS AND TRAVEL

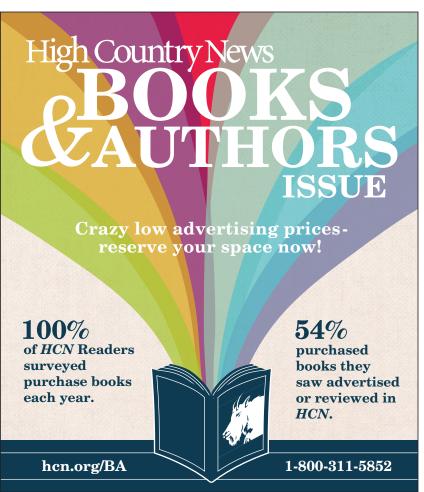
Learning adventures on the Colorado Plateau — Small group, active, adult field seminars with guest experts, plus private custom trip options for your family or group. Canyonlands Field Institute, Moab, Utah. 800-860-5262. www.cfimoab.org.

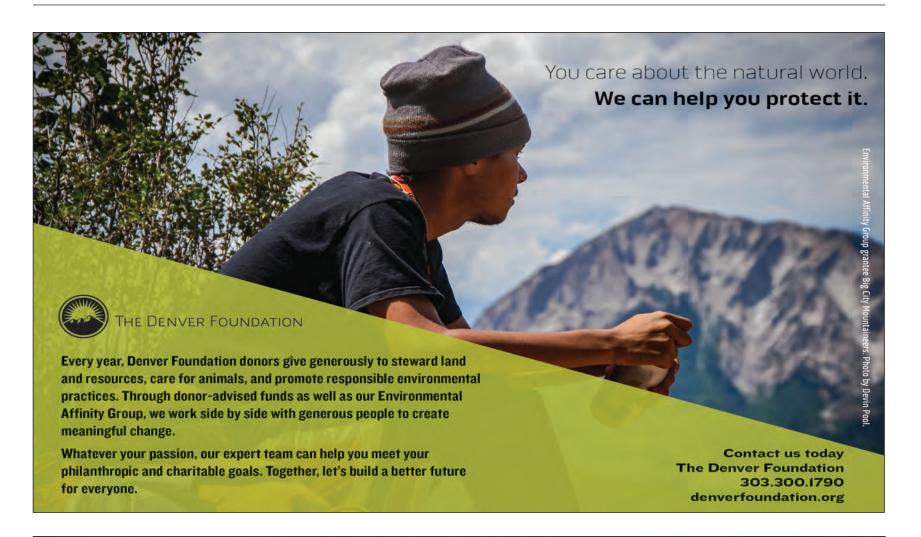












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Tragedy and comedy on the border

LAST WINTER, at a talk in Aspen, Colorado, the author Luis Alberto Urrea described his childhood in a rough San Diego neighborhood near the border, where his family moved from Tijuana during a tuberculosis outbreak. Born to a Mexican father and an American mother, the blue-eyed, blond child spoke Spanish before he spoke English and spent his early years buffeted by the cultural tensions between his parents.

Urrea's mother yearned for him to be "Louis Woodward," the idealized offspring of her own East Coast origins. His father, who wanted his son to be more Mexican, affectionately called him *cabrón* (in English, "dude," or a more friendly rendition of "dumbass"). "I was raised twice and this was very hard, but I thank God for it," Urrea said.

That complicated family dynamic is the inspiration for his latest novel, *The House of Broken Angels*, a multigenerational saga about a Mexican-American family, much like his own, in San Diego. It is also a border story, a genre for which he is well-known: Ever since the success of his 2004 nonfiction book, *The Devil's Highway*, which recounted the struggle for survival among 26 men who crossed the border in 2001, Urrea has been called the "literary conscience of the border."

But his latest book is less about the physical border than it is about the familial relationships that both challenge and transcend it — the small moments that, as one of his characters puts it, allow each of us to see our own human lives "reflected in the other."

DRAWING ON THE FINAL DAYS of Urrea's older half-brother, Juan, who died in 2016, the narrative revolves around Big Angel, the patriarch of the sprawling De la Cruz clan, a raucous cast of characters who encapsulate a variety of American experiences — veterans, academics, undocumented immigrants, a singer in a black-metal band called Satanic Hispanic and a "non-cisgendered, non-heteronormative cultural liberation warrior."

Sick with cancer, Big Angel decides to throw a final fiesta for his 71st birthday with all his friends and relatives — and not even his mother's sudden death will stop him. The party is scheduled for the day after her funeral, and in the lead-up to it, we glimpse the melodrama of daily life amid vivid flashbacks of the past. Like the De la Cruz family, Urrea's writing is exuberant, unruly and sometimes profane, filled with splashes of Spanglish and sensual imagery, from Big Angel's San Diego bedroom to his memories of La Paz: "the creeping smell of the desert going wet."

The writing is political, too, as the au-

thor describes the often-arbitrary cruelty of the border that has shaped the characters' lives. Technically, Big Angel and his wife, Perla, are undocumented, having entered the U.S. as teenagers. Urrea, however, does not dwell on legal status, focusing instead on the ever-changing politics of America's immigration laws, which have alternately embraced Mexicans for their labor and expelled them as soon as they were no longer needed.

In Big Angel, we see another side of the story, too: the tale of those immigrants who manage to ascend to the middle and working classes. After years of working multiple jobs, Big Angel is able to buy a home in San Diego. He finally lands a position running computers for a gas and electric company, even though he never liked computers. "A Mexican doing what these rich Americanos couldn't do was the point."

Other family members have not been so lucky. A stepson, Braulio, was killed in a gang shooting. Big Angel's own son, Lalo, struggles with drug addiction and his undocumented status, which even his U.S. military service in Iraq cannot resolve.

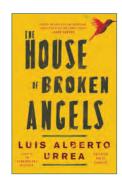
In the De la Cruz family, these tragedies live next to the frequent bouts of absurdity that Urrea evokes, a reminder,

he says, "that people are funny. Especially in dire circumstances."

Recounting a memory from his own childhood, fictionalized in a chapter of the book, Urrea describes how his "gangster granny" almost became a border smuggler — of a green parrot. Had one bird not awoken from its tequila-induced slumber at the very moment that grandmother and grandsons were about to drive across the border, she might have succeeded. Instead, the parrot erupted from her dress in a burst of green feathers, while the elderly woman calmly rolled down her passenger window. At that moment, Urrea writes, "two Mexican boys, a Mexican grandma, and a U.S. federal agent watched as one as the bird entered the U.S. illegally."

The author's humor does not diminish the daily horrors on America's border; it merely reveals the awfulness more clearly. In Aspen, Urrea explained his choice: "Laughter is the virus that infects humanity. And if we laugh together, how can we walk away and say that person is an animal?"

At a time when the language of borders is more chilling than ever before, with mass deportations and children kept in cages, Urrea hopes more of us will consider this question. SARAH TORY



The House of Broken Angels By Luis Alberto Urrea 336 pages, hardcover: \$27. Little, Brown and Company, 2018.



 $A~U.S.~immigration~officer~watches~as~a~car~crosses~the~border~in~1964.~ \textit{WARREN}~\textit{K}.~\textit{LEFFLER/LIBRARY}~\textit{OF}~\textit{CONGRESS}~\textit{Congress$

This land is their land, too

Immigrants aren't the real threat to public lands



ANALYSIS BY RUXANDRA GUIDI

One day back in 2010, I sat in a foldout camping chair next to a volunteer for Border Angels, a nonprofit group that advocates for humane border enforcement. We were on Bureau of Land Management land in a nondescript part of the Southern California desert, less than a mile away from the border but far from the port of entry and the beefed-up infrastructure and security. We sat waiting for hours, just in case any border-crossers appeared — but no one passed by.

Not far from where we were, however, dozens of people had crossed recently: Scattered piles of trash, old clothes and even a rusty bicycle littered a nearby path. This is fairly common along some parts of the Southwestern border — especially the more remote, sparsely populated stretches where migrants typically make their way through shrubs and cacti, sometimes with the help of a coyote, or smuggler, sometimes unaided.

For many champions of stricter border enforcement, the trash and haphazard trails left behind merely hint at a much bigger problem: the environmental impacts of unauthorized immigration. This is an argument that has been made for years by people ranging from the environmental activist and author Edward Abbey to Jim Gilchrist, the California-based founder of the Minutemen Project. "It's a network of ground-pounded vegetation," Gilchrist told an interviewer back in 2007. "If we were to cure the literal lack of immigration law enforcement, we would cure the environmental problem."

A couple of months ago, I received a message on social media from a self-described "disgruntled environmentalist" and population activist based in Colorado. "Why don't you write about the environmental damage due to mass immigration-driven population growth in the West?" he asked, saying that a football-field's-worth of wild lands was lost to human development every 2.5 minutes and that 86 percent of projected U.S. population growth is due to immigration.

In response, I looked into his claim, which echoes Gilchrist's and is often repeated today, amid President Donald Trump's loud calls for a border wall and stepped-up deportations.

According to the Pew Research Center, the numbers don't hold up. Pew estimates that immigrants and their descendants will make up 30 percent of U.S. population growth by 2065. The rest of the growth will come from native-born Americans. (Of course, most Americans are, by definition, originally from somewhere else, regardless of their race or ethnicity.) About one in three Americans will most likely be a recently arrived immigrant or the child of one, compared with one in four today. At this rate, it is inaccurate at best to blame immigrants and their kin for most population growth and the urban and other development that is destroying public lands.

I wrote back to my disgruntled environmentalist, who pointed to a report by the liberal Center for American Progress, *The Disappearing West*, which

spells out the impacts of development on our region, including the U.S.-Mexico border deserts, as well as our forests, grasslands and wetlands. Today, human settlements and their associated infrastructure cover more than 165,000 square miles, or "the size of 6 million superstore parking lots," though the authors don't specifically link the development to population growth.

The modern American West is the most urbanized region in the country (and also the whitest, ethnically speaking). This is the latest chapter in a history that began in the early 19th century with the arrival of Anglo-American settlers, who killed and displaced Native populations and set the stage for resource extraction and development in the pursuit of progress.

Few qualified researchers are eager to wade into the controversial topic of immigration and the environment. In fact, the available evidence suggests it's not immigrants but the American lifestyle and economy that are responsible for the loss of habitat. "Each person in the U.S. contributes more to the global phenomenon (of natural resource consumption) than other people," said Victoria Markham, author of the U.S. National Report on Population and Environment. According to Conservation Science Partners, agriculture and forestry have caused the greatest damage to ecosystems, followed by oil, gas, coal and other energy development. Meanwhile,

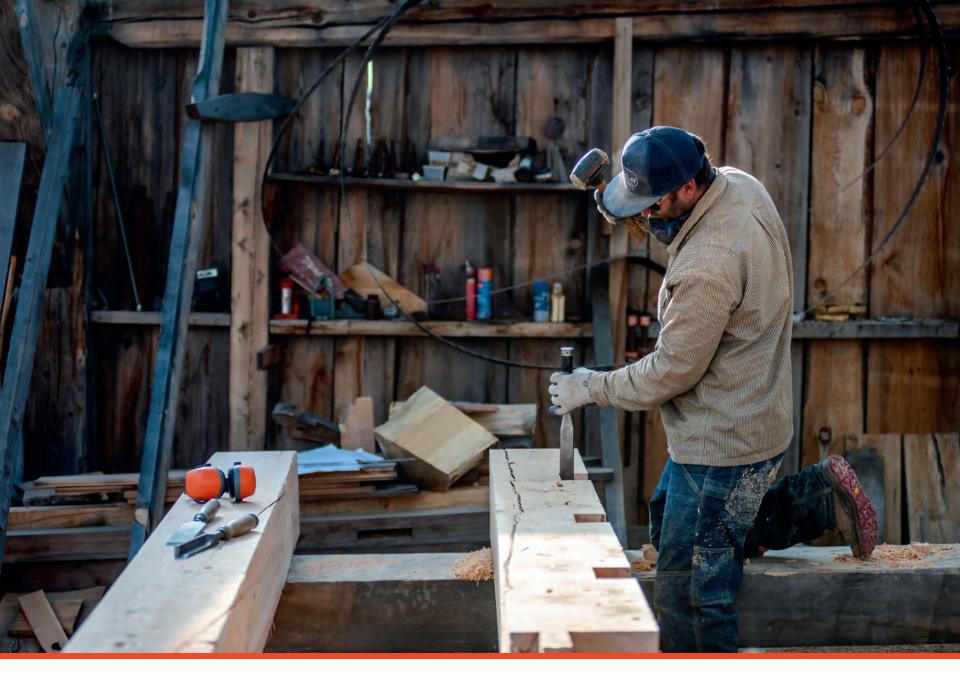
Immigrant shaming is not new. Immigrants have long been an easy target in America, blamed for population growth, violent crime and the loss of American values, with established settlers always rejecting the ones who come after them.

housing and commercial sprawl are responsible for about half of the open space that was lost in the West between 2001 and 2011. Yes, demographic changes are partly to blame, but the West has urbanized due to a more complex mix of economic and cultural shifts driven by society as a whole.

Immigrant shaming is not new. Immigrants have long been an easy target in America, blamed for population growth, violent crime and the loss of American values, with established settlers always rejecting the ones who come after them, whether they're Italian and Irish immigrants or today's undocumented Mexicans and Central Americans. But these accusations typically rest on shoddy data. Behind them lies a much simpler and uglier sentiment that goes back generations, to the time when white people first settled the American frontier and sought to establish supremacy over Native peoples and nature itself. Perhaps the real fear has less to do with the trash left behind by migrants than with the loss of supremacy that might accompany a future, not too far off, when those migrants' children and grandchildren go to college, get jobs and move into your neighborhood. □

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HEARD AROUND THE WEST | BY BETSY MARSTON

OREGON

Lauren Taylor lives in Ashland, Oregon, in a house whose living room looks a lot like the outdoors, with plants and tree branches built around the stairs, says the *Oregonian*. So perhaps it was not surprising that a mountain lion in need of a nap strolled through a door she'd left open, and once inside, flopped down for a six-hour snooze behind a couch. But Taylor, who says she has extensive experience working with animals, remained remarkably unflustered. She recorded some of the lion's visit and posted it on Facebook - where a million or so viewers have seen it focusing especially on the time that the large long-tailed cat woke up. "Cats are psychic and perceptive of energy," she wrote, "so I consciously raised my frequency, gazed lovingly, and then slow-blinked, which is feline-speak for expressing trust and goodwill, and she did it back!" After some more back-and-forth eye batting, the lion slumped back down and "showed no inclination to leave." So what do you do when a sleepy lion is determined to crash in your living room? Taylor's solution was telepathy, sending the animal "pictures of the routes out of the house." She also opened all the doors and asked a friend to begin drumming in order to call in support from "Native ancestors." Right before dawn, her video shows the lion walking out from behind the couch, being briefly startled by its reflection in a mirror and then calmly walking out a door. Taylor called it a perfect ending to a "blessed encounter that could have been dangerous if approached from a lower frequency."

CALIFORNIA

For the second year in a row, Death Valley National Park snagged the award for the hottest month ever. In July, the park's aptly named Furnace Creek weather station recorded average daily temperatures of 108.1 degrees Fahrenheit. "Congratulations to this national treasure that is truly an unstoppable inferno," said *Live Science*. The breath-stopping heat, however, did not deter a group of hikers from exploring Hanaupah Canyon, a remote area of the park. According to the Park Service, the



IDAHO Just put away the bare spray. JOLIE KAYTES

hikers noticed three men installing irrigation hoses near a spring and asked them what park project they were working on. One of the men responded with unexpected honesty: "Growing marijuana. You won't tell the cops, will you?" The hikers did tell the cops, however, in this case the National Park Service and Bureau of Land Management, which raided the grow site July 3. The rangers found over 4,000 pot plants in four garden sites where native vegetation had been scraped away. There was also evidence that the pesticide carbofuran, which is highly toxic to both wildlife and humans, had been used. What's more, with each plant using up to six gallons of water a day, the illegal plants had been sucking up a huge amount of water from desert springs, reports the Park Service's Abby Wines. She advises any hikers who come upon secret marijuana farms in Death Valley

to leave quickly, then notify the Park Service at 760-786-2330.

WYOMING

The last grizzly bear hunt in Wyoming was 44 years ago, but "unless it gets slowed or blocked by lawsuits," reports *Mountain Town News*, the big bears will be hunted again starting Sept. 15. Altogether, 3,500 Wyoming residents and 2,327 out-of-staters applied for a hunting license to kill a grizzly. But only 10 won, and one of them — photographer Thomas Mangelsen — is approaching the hunt with a very different ethic, and trophy, in mind. Known for his large-format pictures of grizzlies in the wild, he says the only way he'll ever shoot one of the bears is with a camera.

WASHINGTON

Three cheers for John Yokoyama, 78, who recently sold his Pike Place Fish Market to the four fishthrowing employees who had worked for him for decades at the Seattle landmark. "He worked all of us like sons," said Jaison Scott, 45, one of the new co-owners. He told the Seattle Times that when he was a 7-year-old, Yokoyama taught him "how to pick out the freshest fish, how to spit and how to curse." Scott and his fellow mongers, Ryan Reese, Samuel Samson and Anders Miller, became equal partners this July, signing a deal that Yokoyama described as working with "the kids" to make it possible. Yokoyama also talked about how the tradition started of making fish "fly" — tossed from the icy displays in the front to scales at the back: "It took me 100 steps. So one day I just said 'Here kid, catch!' and threw the fish. He caught it and I said 'Man, I just saved 100 steps." Once freed of 12-hour days at the fish market, Yokoyama said he plans to do some things he's never had a chance to do: travel, play golf, and yes, go fishing.

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

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If you live in rural, red America, shouldn't you be willing to stand up and fight for the help you need to work the land?

George Wallace, in his essay, "Farmers should stand up for the immigrants they depend on," from Writers on the Range, hcn.org/wotr