Vol. 43, Issue 1
Summer 2024

PERC REPORTS

INCENTIVES TO THE RESCUE

Saving wild horses, saving the West

Can Water Markets Save the Great Salt Lake?

National Parks Can Benefit from Global Tourists

What's the Deal With Natural Asset Companies?

Groundwater Conservation Easements

FROM THE EDITOR by Shawn Regan

One of my most memorable lessons about incentives came during college. My university, Berry College, purchased dozens of bikes to distribute throughout campus. The red-painted "Berry Bikes" were free to use, intended for students to ride easily between buildings to and from class.

The program famously flopped. Shortly after it launched, the student newspaper reported that "chains have been broken, tires punctured, handlebars bent, and seats torn." Appeals to "treat the bikes as if they were your own property" were ignored. Two months in, the project was abandoned.

Dozens of universities launched similar bike-sharing projects around that time, all with the same result. Two-thirds of Northern Arizona University's free "yellow bikes" were stolen or vandalized during the project's first semester. Purdue's "Gold Bike" program lasted less than a month. At Florida's Eckerd College, $25,000 worth of bikes disappeared. Students devised a clever way to use the few that remained—by taking the seats with them to class to ensure the bike would still be there later.

Several cities tried free bike programs, too. In Portland, Oregon, community activists released 1,000 yellow bikes on city streets. Almost all were stolen or vandalized within a few months. Tampa's "Orangecycles" program ended just weeks after it began. Another program in Princeton, New Jersey, failed so badly that the local paper reported finding a free bike was "kind of like seeing Elvis."

The lesson is one that applies as much to free bikes as it does to the conservation issues that PERC works on: Ownership provides clear incentives for people to care for their resources. But when assets are freely available for anyone to use—or abuse—without consequence, those incentives disappear.

This issue of *PERC Reports* demonstrates the importance of incentives across a wide range of issues we have been working on over the past year. Kat Dwyer writes about an innovative incentive program that is helping rein in the wild horse crisis on public lands in the American West (p. 10). Todd Wilkinson explores how water markets can help save Utah's Great Salt Lake, highlighting a new agreement between PERC and the State of Utah (p. 20).

Tate Watkins explains the important role of recreation fees for national park management, and why charging international tourists more than residents could help sustain U.S. parks (p. 30). And Paul Schwennesen describes how a new concept known as groundwater conservation easements can address aquifer depletion (p. 44). This market innovation, he writes, "has enormous implications on incentives. If you are empowered to sell the car you once had free access to, do you think you are more motivated or less to invest in its care?"

Bike-sharing programs have thankfully evolved since my college days to embrace the power of incentives. Sophisticated tracking, refundable deposits, and user fees now ensure bikes don't simply vanish once loaned out. This same insight—that thoughtful policy improves environmental outcomes by shaping incentives—informs much of PERC's research. This issue provides a few examples of those types of policies in action. We hope you enjoy it.

PERC

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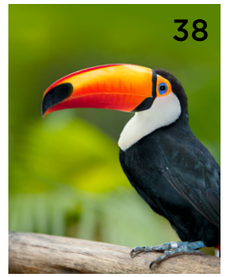

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Cover Photo by the Bureau of Land Management

Virtual Transformation

Pioneering a future with fewer fences in the American West

Photography by Louise Johns

It was a gathering for the ages. A constitutional convention of sorts. In June, PERC hosted a workshop on an exciting new tool for both ranching and conservation called virtual fencing—a technology that represents the first significant development in fencing since the settling of the American West.

The event, "Cattle and Conservation: The Future of Virtual Fencing," was held in partnership with the Beyond Yellowstone Program, headed up by elk ecologist Arthur Middleton, who serves as chief wildlife advisor to the U.S. secretary of agriculture. Seated at the table were experts and practitioners including ranchers, virtual fence companies, conservation groups, scientific and legal researchers, philanthropic foundations, as well as leaders from the U.S. Department of Agriculture, U.S. Fish and Wildlife Service, and Bureau of Land Management.

Virtual fences for livestock piggyback on a common tool for pets in American suburbs: the "invisible fence" used to keep dogs from wandering into the neighbor's yard. Instead of using a wire buried underground to set the boundaries, however, the technology relies on base stations that emit radio signals to establish virtual boundaries. (See "The Invisible Revolution in Fencing," Winter 2023/24.) Livestock are alerted by a warning sound when they approach the virtual fence line, usually a zone of many yards. If a cow continues forward, then a collar emits a low-voltage shock as a nudge to reverse course. Additionally, GPS transceivers allow ranchers to follow the precise movement of each cow, which appear as icons on a computer screen, resembling a video game.

> The question is whether virtual fence technology can reduce the need for physical fencing on some of the largest landscapes in America. Further, can it be done in a way that is both economically beneficial to ranchers and ecologically beneficial to the land, water, and wildlife?

But ranches are not the suburbs. The question is whether virtual fence technology can reduce the need for physical fencing on some of the largest landscapes in America. Further, can it be done in a way that is both economically beneficial to ranchers and ecologically beneficial to the land, water, and wildlife?

For 150 years, fencing technology in the American West has remained static. In 1874, Joseph Glidden filed a patent for a twisting wire with barbs, a godsend for a region largely devoid of fence-building timber. That year, 10,000 pounds of barbed wire was sold. Six years later, that number increased to 80 million pounds. Today, more than 600,000 miles of fencing, mostly barbed wire, carve up western landscapes, enough fence to cover nearly three trips to the moon.

If barbed wire was the solution to better manage cattle, establish property rights, and create ranches, it also brought along side effects harmful to conservation. Ungulates like pronghorn and elk can be wounded by barbs, sometimes fatally, and raptors and other large birds collide with wires. Even when barbed wire doesn't directly maim wildlife, physical fences impede migrating species, requiring them to spend valuable calories navigating the barriers. Wyoming's Sublette County—traversed by wild ungulates making some of the longest migration routes in the West—has over 3,800 miles of fence, roughly twice the length of the U.S.-Mexico border. Jerod Merkle, a Beyond Yellowstone researcher who attended the workshop, said that one tracked mule deer in the county had to cross 124 fences in her annual migration from the Red Desert of Wyoming to the Hoback region near Jackson Hole.

Just as barbed wire transformed the West in the 1800s, virtual fencing is similarly primed to transform the modern West and help address the conservation challenges presented by traditional fencing. But it is still early in development, and the technology varies. Some companies' collars use batteries, while some rely on solar power. Some systems use radio base stations, while others use existing cellular networks. Battery life is an issue, meaning ranchers must handle their cows more often. Connectivity is another challenge, especially in remote areas. And the companies' customer service models will need some work if they expect ranchers to take the leap to virtual fences. The market, however, is poised to sort this all out in due time.

On a more inspiring note, the Bozeman group unpacked a range of conservation implications. Foremost, virtual fencing can be used to create exclosures. Cattle can be excluded from riparian areas to protect spawning runs for Chinook salmon and, in the case of a Nature Conservancy project, streams for the endangered Arctic grayling. It can also exclude cattle to enable regrowth in recently burned areas and protect winter range for elk and mule deer via occupancy agreements pioneered by PERC and the Greater Yellowstone Coalition. The fences can also keep cattle from bird nesting areas or from wild larkspur, a poisonous plant that kills cattle, thereby attracting dangerous predators to the herds to feed on carcasses.

The removal of internal fencing from ranches would not only benefit migrating animals like pronghorn but could be a positive in sage grouse habitat too. Raptors use physical fences as perches to prey on sage grouse. Similarly, physical fences can be lethal to low-flying lesser prairie chickens.

For ranchers partnering with World Wildlife Fund, virtual fencing helps manage rotational grazing, which can lead to improved soil conditions for carbon sequestration, grasslands health, and insects that grassland species count on for their diet.

As exciting as the conservation benefits seem, there are economic, legal, cultural, and policy barriers that hinder scaling up this innovation. The hard economic reality is that if it doesn't help the rancher's bottom line first, it will be difficult to deploy.

Some ranchers who are early adopters are looked upon in their communities with skepticism. For the federal government, processes can be deliberately slow for new conservation practices. Different agencies are not necessarily on the same page. And nobody wants this new technology to be hobbled by environmental permitting rules. Finally, states like Montana and Texas do not yet recognize virtual fences as a legal fence. These are the big issues this "founding" group is set to tackle.

Two days of in-depth discussions reminded me of the early days of cell phones. The first one I ever used was known as "the brick." Literally the size of a brick, it had 30 minutes of battery life and cost $4,000. Things only got better—and cheaper—from there, and cell phones are now used in ways that few would have imagined back then.

I wish I could tell you that we emerged with the "Bozeman Accord" for the future of virtual fencing and conservation. We did not. But look for concrete outputs and outcomes from this collaborative group, including a blueprint for scaling up virtual fencing that advances both ranching and conservation, policy changes, funding, and partnerships. Everyone agreed that conservationists can help provide a much-needed source of capital to bolster this upstart innovation. Success will come as conservationists seek to compensate private landowners for widely dispersed public benefits, and forward-thinking ranchers reap the rewards of diversified income streams.

Brian Yablonski is the CEO of PERC. In "Frontiers," he describes how PERC seeks to advance creative conservation through incentives, innovation, and cooperation.

It's the lease they can do. Montana is implementing a 3,000-acre black-tailed prairie dog conservation lease, the first of its kind in the state. The 10-year lease aims to conserve prairie dog habitat on a portion of a privately owned ranch. The initiative, approved by Montana Fish, Wildlife, and Parks, would protect native grasslands prairie dogs depend on while allowing continued livestock grazing. Historically seen as pests, prairie dogs are now recognized as essential to the ecosystem, supporting species like the burrowing owl, swift fox, and black-footed ferret. A 200-meter buffer zone allowing for colony expansion is included within the lease, a sign of optimism for the project's future.

Modern scarecrows in the skies. Wildlife biologists in Oregon are floating a new approach to reduce conflict between predatory wildlife and livestock: aerial drones. The idea is to deploy skybots, armed with cameras and speakers, to scare away predators like wolves and mountain lions from helpless grazing cows. Researchers envision a future where smart drones with thermal sensors and artificial intelligence software automatically identify large predators and notify ranchers of a potential conflict. Early tests show promise with recorded voices scaring away predators. In some trials, however, wolves have responded to the buzzy flyers with indifference. Time will tell if this idea takes flight.

Partnering to save the Great Lake. As ongoing drought continues to devastate the Great Salt Lake, PERC and the State of Utah have entered into a memorandum of understanding to address declining lake levels. PERC is helping to develop a comprehensive model that identifies the best opportunities for water conservation. The model will help facilitate voluntary water leasing, a more efficient and cooperative solution than heavy-handed mandates or forced reductions. PERC's efforts will make it easier for state officials, farmers, and conservationists to work together to identify voluntary leasing opportunities that would yield the best results to restore the lake.

© Matthew Dillon

© Brian Powers

Charging for Middle Earth's magic. New Zealand's awe-inspiring natural beauty has made it a bucket list destination for millions of travelers. Now, the remote nation is considering charging foreign visitors to visit their national parks. With the Department of Conservation facing a budget shortfall, leaders are seeking alternatives to raising taxes. Asked for input, tourism operators support the idea of charging international visitors to access the country's prized national parks—which are currently free for local and foreign visitors alike—reasoning that any fees would represent a small fraction of total trip expenses and not deter tourists. Officials are proposing that any foreign charges benefit local conservation as well as community initiatives and visitor infrastructure.

The great blackbird comeback. In California's San Joaquin Valley, the endangered tricolored blackbird is seeing its numbers rebound following years of decline. Drawn to agricultural grain fields, thousands of birds have long been nesting on farms. Tragically, harvesting coincides with the peak of the nesting season, wiping out newly hatched chicks. Now, Audubon California is paying farmers to delay their harvests in the grain fields where the birds nest, allowing the blackbird chicks to fledge safely. This collaborative effort is paying off, with populations back on the rise, allowing the birds and farmers to flourish.

© Becky Matsubara

© Bill Sutton

Reef relief in the Big Easy. Oysters are as quintessential to New Orleans as jazz and beignets. The mollusks are harvested by the millions and delivered fresh to restaurants, where their discarded shells typically end up with other food waste eventually sent to landfills. But not all of them have that fate. The nonprofit Coalition to Restore Coastal Louisiana collects used shells from restaurants and sends them back to the coast, where they become building blocks for reef restoration. The shells provide a sturdy platform for baby oysters to grow, piling up to form thick coastal reefs for other sea life and stabilizing the shoreline from intense storms. The oyster shell recycling program has diverted 14 million pounds of shells back to the coast over the past decade, with 30 restaurants contributing.

1

PERC News and Views

Step Inside the Race to Restore America's Forests

PERC's newest short film, *Good Fire, Bad Fire*, captures the breathtaking beauty of our nation's forests and delves into the urgent crisis threatening their existence. The film explores healthy forest ecology and the history of forest management, from Native Americans to Smokey Bear and beyond.

Through expert insights and stories from the front lines, it illustrates how the size and intensity of today's wildfires are directly tied to the health of our forests—and how we manage them. With 80 million acres of forest and countless communities at risk, *Good Fire, Bad Fire* is a rallying cry to rapidly accelerate restoration efforts before it's too late.

Watch it online at perc.org/goodfire

Premiere Event

The film premiered to a full house at Bozeman's Museum of the Rockies. The event included a panel of national experts discussing forest health and restoration efforts. The conversation was moderated by Ed Roberson, host of the popular Mountain and Prairie podcast, and included Brian Ferebee, chief executive of intergovernmental relations for the U.S. Forest Service; Randy Newberg, hunter and host of Fresh Tracks and Hunt Talk; Morgan Varner, director of fire research at Tall Timbers; and Corey Lewellen of the U.S. Forest Service and Bozeman's local district ranger. The discussion is featured on the June 6 episode of Mountain and Prairie, available on all popular podcast platforms.

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1. The expert panel discussed the current state of forest restoration efforts and hopeful solutions for a healthy future.
2. Nearly 200 guests attended the event, held at Bozeman's Museum of the Rockies.
3. PERC continues to produce leading research and policy solutions as part of its Fix America's Forests initiative.
4. The panelists convened at Bozeman's Museum of the Rockies, which hosted the event.
5. Ed Roberson, host of the popular Mountain and Prairie Podcast, moderated the event.
6. PERC CEO Brian Yablonski with filmmaker Eric Ian, who directed the film.

ROAMING HOME

How a novel adoption incentive program is helping rein in the wild horse crisis

BY KAT DWYER

PHOTOGRAPHY BY RYANE NICOLE

Wild horses have a way of capturing our imagination. They have come to symbolize the American West, evoking a sense of freedom, beauty, and rugged resilience. For many, these iconic creatures have become much more than just animals—they are a part of our heritage and our ethos.

For Ryane Nicole, this sentiment surely holds true. Nicole adopted her first wild mustang from the Bureau of Land Management in 2020. For more than half a century, the agency has been charged with protecting tens of thousands of wild horses that roam public lands in the West. "I have had my life changed by a mustang that I named Aslan," Nicole says. "Not only is she a sweet horse, but she is a jumper and participated in her first rodeo last summer with my daughter barrel racing. She loves riding in the mountains."

Aslan was one of many wild horses that compete not just with wildlife for water and forage on public rangelands plagued by drought but also with an ever-expanding population of other wild horses and burros. After struggling on public lands for years, Aslan was relocated to a BLM holding facility in one of the agency's regular roundups that gather and remove horses from ecologically stressed, overpopulated rangelands. Thankfully, Nicole and Aslan found each other, and she gave the wild but promising mustang a second chance at life.

Across much of the West, wild horses and burros struggle for survival on federally managed lands. The challenge is complex, and solutions are not uniform or final. But one novel strategy in particular, an adoption incentive program, has relieved some of the pressure on public lands over recent years by helping place more animals like Aslan into private homes.

The program is unique in that, rather than only charging an adoption fee, it embraces market logic by paying adopters to take on a wild horse. This simple idea unlocked the power of incentives to help address an ecological and fiscal crisis.

Challenges on the Range

When thinking of the American West, certain images come to mind: rolling prairies, towering snow-capped mountains, roaming wildlife, and, maybe most iconically, wild horses. We've all seen western classics that feature majestic stallions galloping freely across the plains, their manes blowing in the wind, their coats shining as their heels kick up clouds of dust. But the tranquil depiction might be overly romanticized.

Domestic horses were introduced by Spanish explorers in the 16th century. Native peoples and European settlers alike adopted them as draft and pack animals. Eventually, feral populations emerged, expanded, and became just as enmeshed in natural ecosystems as native species. By the 1970s, however, pressure from hunting for sport and commercial uses had dwindled their numbers to roughly 25,000. Congress responded by passing the Wild Free-Roaming Horses and Burros Act. This legislation made it illegal to "kill or harass" wild horses and burros on public lands and charged the Interior and Agriculture Departments with the animals' protection. With new legal safeguards in place and no natural predators, populations soared.

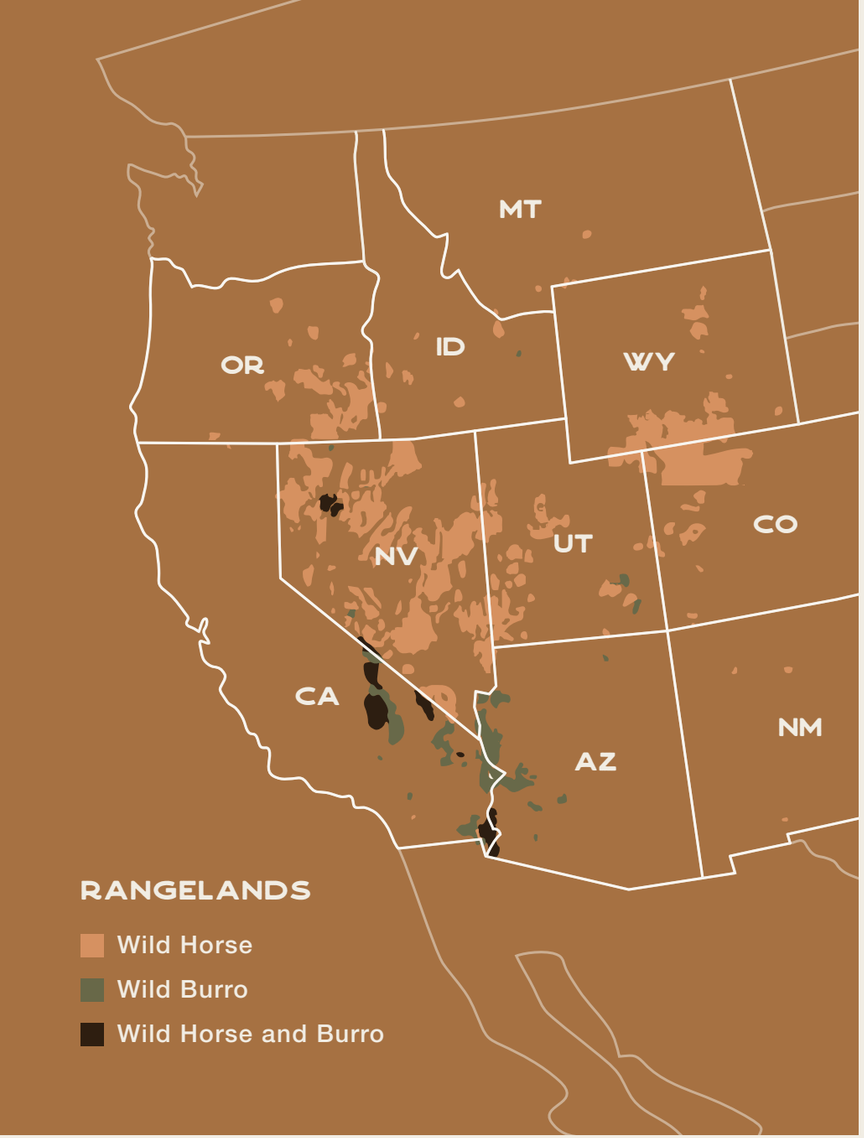
The animals' feral status, however, makes them a complicated species to manage. Wild horses are not considered livestock and so cannot be privately managed, nor are they considered game animals and, therefore, are not managed by state wildlife agencies. Instead, they are managed by the federal agencies whose land they occupy, principally the Bureau of Land Management. The agency faces the unique challenge of managing 177 herds of wild horses and burros across 27 million acres in 10 western states.

Today, the BLM estimates there are 73,520 wild horses and burros on its rangelands. The agency sets target population thresholds for each herd, known as "appropriate management levels." The national appropriate management level is approximately 27,000, making current populations nearly three times the sustainable target. And this number doesn't capture the full picture, as there are wild horses and burros found on other federal lands managed by the U.S. Forest Service and on Indian reservations. If left unchecked, populations can double every four years, making the situation an overwhelming and seemingly intractable management problem.

Soaring populations combined with years of drought have set the stage for broader ecological disaster. More horses on the range means more competition for forage and water, leaving many animals in a perilous position. In a stark example of how grave it can get, nearly 200 horses were found dead in 2018 in Arizona on the western edge of the Navajo Nation. The desperate animals were found circled around a dry watering hole. "These animals were searching for water to stay alive," said Navajo Nation Vice President Jonathan Nez. "In the process,

Soaring populations combined with years of drought have set the stage for broader ecological disaster. More horses on the range means more competition for forage and water, leaving many animals in a perilous position.

© Bureau of Land Management



Ryane's adopted mustang, Aslan, pictured on the left.

© Nevada Bureau of Land Management

they unfortunately burrowed themselves into the mud and couldn't escape because they were so weak."

Overpopulation poses serious challenges not just to the species in question, but to the broader ecosystem they are a part of. These animals roam tens of millions of acres across the West, competing with other wildlife, livestock, and even humans for space, forage, and water. This challenge impacts wildlife as diverse as sage grouse, elk, and trout. Research from U.S. Geological Survey scientists, for example, found that by 2034 greater sage grouse populations could decline by more than 70 percent within free-roaming horse-occupied areas if their populations continue to grow unchecked. The Rocky Mountain Elk Foundation has also raised concerns about the impact of expanding horse populations on forage competition with elk and other big-game species. Likewise, competition for limited resources in overpopulated areas can damage mountain streams that are home to native trout species.

Searching for Solutions

Historically, the BLM has had two primary solutions for addressing this problem: roundups and fertility control through immunocontraception. The former involves hazing horses, sometimes with helicopters, to gather them from the range and then transport the animals to federally managed holding facilities. The latter involves either darting mares with fertility control drugs or executing a "catch-treat-hold-release" operation, which requires gathering horses, vaccinating them, holding them

Rather than charging people to adopt wild horses, the PERC fellows flipped the adoption script and proposed that the government instead pay adopters.

for 30 days, administering a booster shot, and then releasing them back onto the range. Administering a dose of fertility control costs approximately $2,500 per mare. The agency focuses on herds that are close to a sustainable size, so as to maximize the effectiveness of the fertility treatment, but shots are effective only for a few years. Considering the scale of the challenge, immunocontraception is a slow and expensive process. In 2022, the agency treated 1,622 mares with fertility controls—a record number, but still only about 4 percent of all wild mares.

Roundups that result in holding wild horses and burros in federal facilities are also an expensive endeavor. In 2023, taxpayers spent $109 million to hold roughly 62,000 wild equines off pasture. Holding horses eats up 70 percent of the program's budget, which means relatively few resources for other population-management measures.

Once wild horses and burros are in BLM care, the principal way they move out of federal holding facilities is through adoption into private homes. Historically, the animals were auctioned off at a minimum bid of $125. Adoptions occurred, but not at a rate that could keep up with the growth of horses in holding facilities. There was no shortage of wild horses, but there appeared to be a shortage of buyers.

Then in a 2016 article in the *Journal of Agricultural and Resource Economics*, PERC fellows Randy Rucker, Timothy Fitzgerald, and Vanessa Elizondo posed a straightforward question. Why are taxpayers spending tens of thousands of dollars per head to care for horses whose value is so low that no qualified private horse buyer is willing to offer $125 for one? With oversupply and limited demand, the researchers reasoned that a financial incentive was likely the best way to motivate potential adopters. Rather than charging people to adopt wild horses, the PERC fellows flipped the adoption script and proposed that the government instead pay adopters. Their research estimated that a financial incentive for adoptions could have reduced the BLM's wild horse and burro program costs by as much as $452 million over the previous 25 years.

By 2019, the bureau had embraced a version of the idea, and its adoption incentive program was born. Today, adopters pay a $125 adoption fee but are eligible to receive $1,000 to help cover the costs of taking on the animal. The $1,000 payment, the thinking goes, offers would-be adopters an incentive to take a chance on an untrained, wild mustang. (The BLM partners

SAVING HORSES, RESTORING THE RANGE

Wild horses are icons of the American West, but today their populations are out of control. A novel idea to pay people to adopt wild horses and burros is helping to restore balance.

DOUBLE TROUBLE

Because the animals have no predators, their populations can double every four years unless actively managed, stressing ecosystems.

THE FEDERAL RESPONSE

In 1971, Congress tasked the Bureau of Land Management with establishing sustainable population goals and removing excess animals from public rangelands.

COSTLY CARE

Today the agency holds and cares for 62,000 wild horses in off-range pastures and facilites, costing taxpayers $108.5 million in 2023.

HERDS IN CRISIS

OVERWHELMED

73,000 wild horses and burros roam across public lands today, nearly triple the sustainable level.

LIFE IN DISTRESS

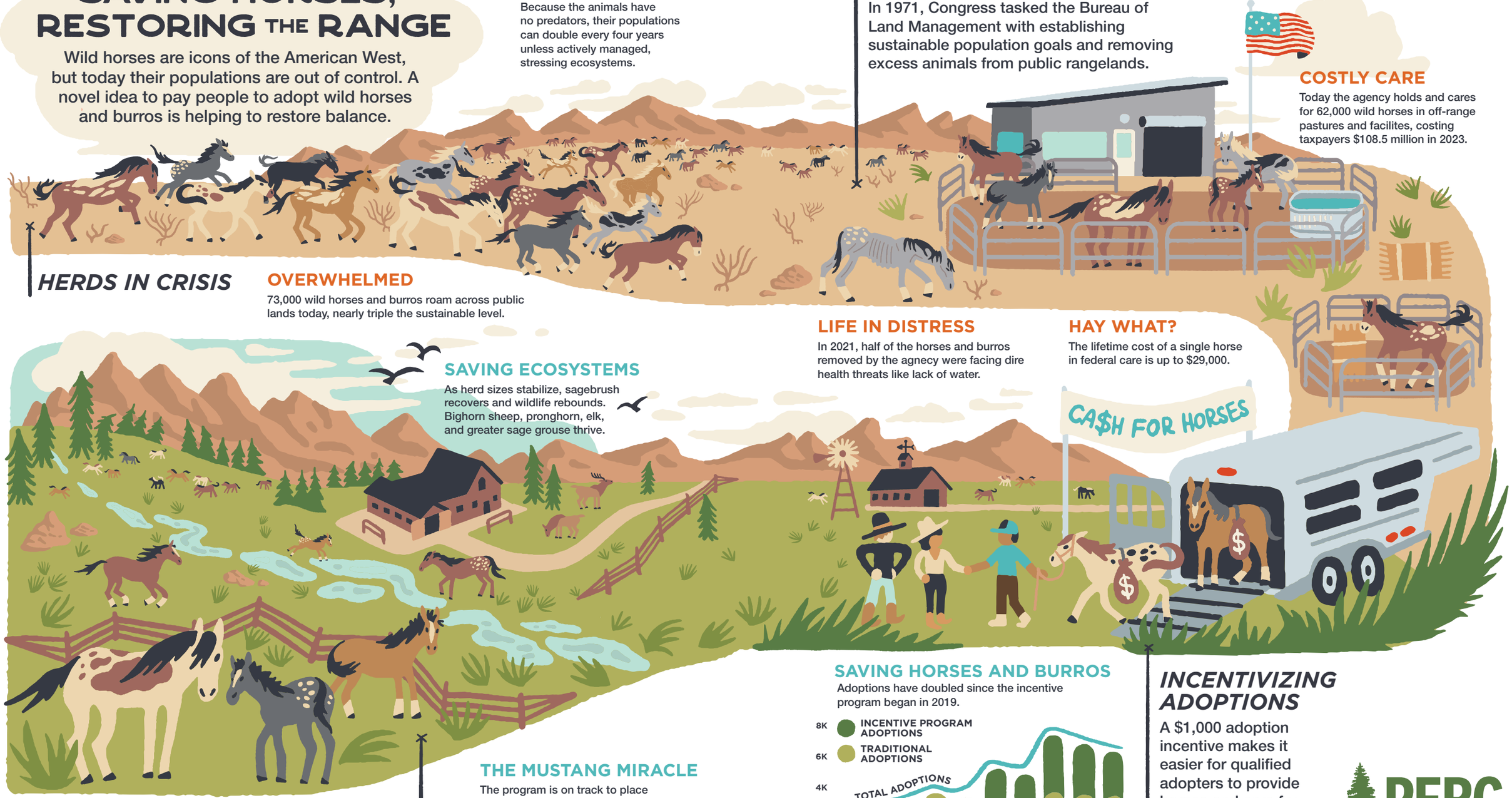
In 2021, half of the horses and burros removed by the agnecy were facing dire health threats like lack of water.

HAY WHAT?

The lifetime cost of a single horse in federal care is up to $29,000.

SAVING ECOSYSTEMS

As herd sizes stabilize, sagebrush recovers and wildlife rebounds. Bighorn sheep, pronghorn, elk, and greater sage grouse thrive.



Infographic by Always With Honor

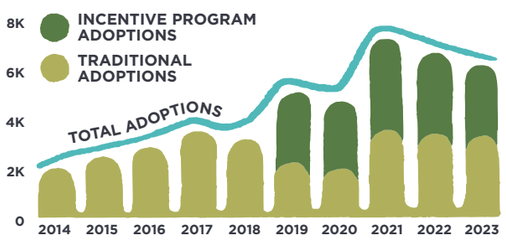
BACK IN BALANCE

THE MUSTANG MIRACLE

The program is on track to place more than 30,000 animals in private homes over its first decade and save taxpayers more than $800 million in lifetime costs.

SAVING HORSES AND BURROS

Adoptions have doubled since the incentive program began in 2019.



INCENTIVIZING ADOPTIONS

A $1,000 adoption incentive makes it easier for qualified adopters to provide homes and care for wild horses and burros.

PERC

perc.org/adoptions

The program is on track to adopt out 30,000 wild horses and burros into private homes over its first decade, saving an estimated $800 million over the lifetimes of those animals.

with organizations like Mustang Champions to help train wild horses in an effort to make them better candidates for adoption. Historically, such trained horses have been very attractive to adopters. As a result, the BLM excludes them from the incentive program.) The $1,000 payment is withheld until the bureau transfers title to an owner, which doesn't take place until a full year after the adoption. The agency also requires a compliance inspection six months into the adoption process.

Five years later, the program appears to be a success. In a recent analysis of the adoption incentive program, PERC found that average annual adoptions have more than doubled compared to the five years prior to the program's inception in 2019. To date, more than 15,000 wild horses and burros have been adopted through the program, and PERC's analysis estimates that these incentive-program adoptions have saved taxpayers approximately $66 million in avoided holding costs.

In fact, the program is on track to adopt out 30,000 wild horses and burros into private homes over its first decade, saving an estimated $800 million over the lifetimes of those animals. The program, then, is making a meaningful contribution to reining in the wild horse crisis.

Addressing Concerns

Not everyone, however, is supportive of the program. Wild horse advocates—who generally oppose any removal of horses from public rangelands—have raised concerns that it could be exploited, fearing that once adopted horses are titled to private owners, the animals could be sold into supply chains that end at foreign slaughterhouses. (It's worth noting that Congress prohibits agency funds from facilitating wild horse and burro slaughter, and wild horse adopters must agree not to facilitate slaughter, under penalty of prosecution. Relatedly, no horse slaughterhouses operate within the United States.) Groups such as the American Wild Horse Campaign claim that hundreds of animals adopted into private homes since 2019 were later sold at livestock auctions where buyers from slaughterhouses were allegedly in attendance. The activist group, however, has presented no direct evidence of such transactions taking place. The BLM maintains it has found no evidence of the program being abused.

Formerly wild horses being auctioned off for eventual slaughter would be a tragic outcome and certainly is one the bureau and conservationists should continue to work diligently to avoid. These concerns, however, do not negate the need to get overpopulated horses off the range nor the effectiveness of the adoption incentive program in helping achieve that goal.

Some of these voices advocate for the program to be shuttered, but that would simply leave the bureau with fewer tools in its management toolkit. The challenge of overpopulation would persist, leaving horses, burros, elk, sage grouse, trout, and other wildlife locked in a competition for scarce resources. In the absence of an effective and affordable way to control rangeland populations of wild horses, roundups would still be necessary, and without adoptions to help offset costs, the expense of holding wild horses in off-range facilities would skyrocket. Instead, concerned wild horse advocates should focus on improving the program rather than seeking to dismantle it.

The program has always required adopters to sign an agreement declaring they "will provide humane care for any animals" they adopt and that they "will not knowingly sell or transfer ownership to any person or organization that intends to resell, trade, or give away such animals for slaughter or processing into commercial products." In 2021, the BLM bolstered its enforcement to ensure bad actors can't exploit the incentive program by updating several aspects of it and building in more safeguards. Previously adopters received half the $1,000 incentive payment at the time of the adoption and the other half once the title was handed over. Now, the incentive isn't paid in full until up to 60 days after the title date. Additionally, adoptions now require sign-off by a veterinarian or BLM-authorized officer before the title is transferred and payment is made.

The BLM has made good-faith efforts to improve the program and protect the animals in its care. And the program itself has proven to be a valuable tool to relieve pressures in BLM holding facilities, saving taxpayer money and playing a part in improving rangeland conditions.

A New Path

Like the lion in Narnia, Aslan the horse didn't succumb to her perilous circumstances. Adoption gave her a new lease on life, and today she has a loving home, is a trained jumper, and even rodeos. "I personally have seen the beauty in giving Aslan a second chance," says Nicole. "She comes to my voice when I call her name. We have a unique bond that not only fills my heart, it connects my soul."

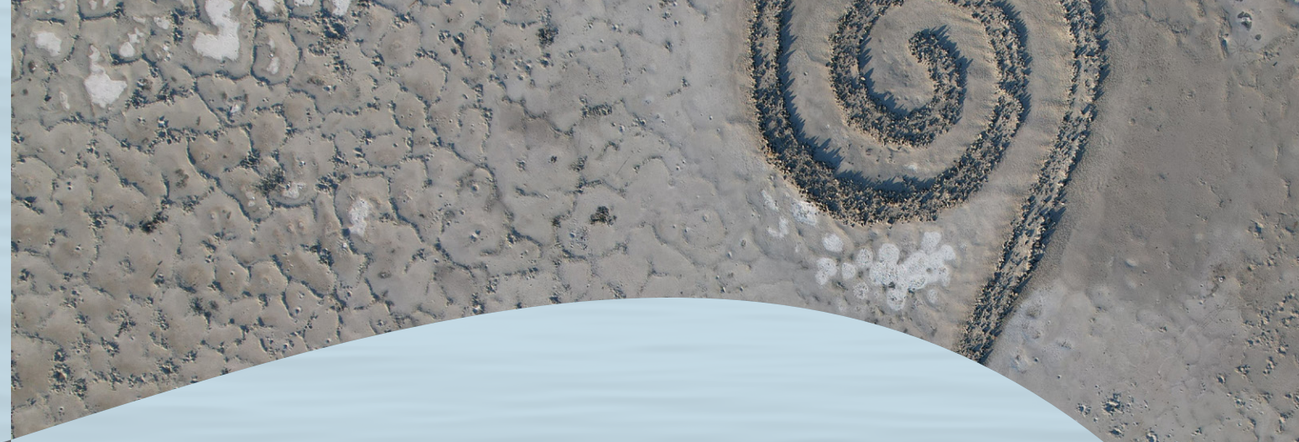
The wild horse crisis won't be resolved overnight. It will take many years to pare down the populations on our western rangelands, with the harmony of these fragile ecosystems shifting in response to factors ranging from climatic shifts to predator presence. Thankfully, though, tools like the adoption incentive program are helping alleviate the crisis, and, maybe most importantly, giving these beloved animals an opportunity to escape the perils of overpopulation by providing them a place to thrive off the range.

Read the full policy brief at perc.org/adoptions

Kat Dwyer is PERC's marketing and media manager.

Ryane Nicole is a photographer with a passion for wild horse adoption.

TO SAVE A LANDMARK LAKE



As Utahns scramble to rescue the Great Salt Lake, PERC is bringing its expertise in harnessing water markets to confront a "wicked" problem

BY TODD WILKINSON

When the sculptor Robert Smithson began laying down rocks at a place called Rozel Point, a nub of shoreline encircling the Great Salt Lake, he had no idea that one day his twisting, turning creation called Spiral Jetty would become a touchstone for thinking about an epic crisis.

The year was 1970, and the population of the lake's namesake metropolitan area, Salt Lake City, was nearly half-a-million people. It wasn't a long drive then for urban denizens to reach the pastoral countryside.

Today, the booming Salt Lake metro area, whose northern tentacles reach clear to Ogden, has a population of more than 1.2 million, representing a tripling since Smithson stepped into the saline waters of the Great Salt Lake. Along the entire Wasatch Front are 2.5 million residents. Some 85 percent of all Utahns live there. And where once Smithson's acclaimed naturalistic art installation was slightly submerged, it's now high and dry—a marker for pondering how much the lake's water line has receded.

In recent years, the Great Salt Lake—the largest saline lake in the Western Hemisphere—has been anything but great. Now in triage, its surface area has been in profound retreat. In 2022, it fell to a record low, a level not seen since measurements were first taken in 1847. Without intervention to stave off further retreat, Brigham Young University analysts who track lake levels have predicted it could dry up in 2028.

As part of an unprecedented effort to save the lake, state officials have rapidly assembled a diverse brain trust of experts. Among the entities they've enlisted is PERC, because of its proven track record of thinking about complicated natural resource challenges and successfully applying market-based approaches to resolve them.

Some 27 million air travelers will pass through Salt Lake City International Airport this year, flying over the Great Salt Lake as they arrive or depart. What many passengers may not realize is the shimmering expanse below them is also a critical stopover and breeding ground for more than 10 million birds, making it what some ecologists consider the largest wetland complex in the intermountain West.

In addition to potentially losing the lake, some scientists say there could be an even larger disaster looming if toxic minerals left behind on an expanding dry lakebed become airborne in wind events, threatening the health of human residents. Over the past two years, anxiety has turned to alarm. The fact that Salt Lake City is all but confirmed to host the Winter Olympics in 2034 has brought additional scrutiny to the problem. Utah has now created an Office of the Great Salt Lake Commissioner to oversee a massive evaluation of natural water supply and demand throughout the hydrological systems feeding the lake. Earlier this year, the commission released its Great Salt Lake Strategic Plan, and it doesn't mince words, identifying a three-step course of action to reach a long-term solution.

To show how serious the issue is, the state legislature has also passed a series of reforms that figure prominently in its short and mid-term strategy. These include addendums to age-old "use it or lose it" laws that permit farmers to conserve water without losing rights to it, investing in agricultural water optimization projects, allowing users to lease their water savings to boost environmental flows, and giving farmers greater flexibility to lease portions of their water rights during dry and wet seasons. On top of this, the state is promoting innovative measures to maintain instream flows by creating water trusts and a series of water banks. Still, the measures are new, and uptake among farmers has been slow.

A Wicked Problem

Dr. Katherine Wright, a PERC senior researcher who specializes in western water, admits that trying to save the Great Salt Lake is an especially daunting challenge. "What we have in front of us fits the very definition of a wicked problem," she says. A "wicked problem" is one that's extremely difficult and often perceived as being impossible to solve because of incomplete, contradictory, and changing variables.

Indeed, that's precisely the case with trying to address water scarcity here and elsewhere. Not only is water truly fluid and dynamic, but the way it cycles through the environment of the Salt Lake Valley and is redistributed by humans is enormously complicated. Add legal and historical complexity, competing demands, and incomplete data, and you have a wicked problem.

In the late 19th century, Mormon farmers, using their ingenuity as engineers, essentially created a network of modern aqueducts that drew water from the Great Salt Lake's three major tributaries—the Bear, Jordan, and Weber rivers. They turned arid expanses of the eastern Great Basin into farmland through a carefully crafted irrigation system. Alfalfa was grown to feed cattle, fruit orchards and sugar beet fields proliferated and harvested every summer a bounty of fresh vegetables. On top of this system grew a thriving rural and urban economy that, metaphorically speaking, floated on water originating not only from melting mountain snowpack in the vaulting Wasatch Range and coursing through the rivers, but bolstered, too, by spring rains and aquifers.

Today, despite recent changes in water law, the administration of that water remains largely byzantine. The current problem, Wright notes, stems not from removing water from the lake but from diminishing supply flowing in, and that has set off a domino effect of issues related to ecology, economy, and human health.

In formal partnership with the state's Great Salt Lake Commissioner's Office, PERC is exploring how water rights and innovative trading mechanisms might be applied in ways that incentivize water conservation while respecting and upholding water rights as vital economic assets. Many of the reforms recently implemented by the state create enormous possibilities for broader use of water markets to bolster the lake's level. "The ultimate goal, of course, is making sure that adequate amounts of freshwater reach the Great Salt Lake," Wright says.

The same flows that would otherwise reach the lake have, over millennia, created a rich system of wetlands that provide vital habitat for wildlife, especially birds—between 10 and 12 million individuals comprising 338 different species. The Bear River Migratory Bird Refuge, rimming the northern shores of the Great Salt Lake, is not only a critical avian stopover site, but it also provides nesting grounds for 67 different species. The refuge is a famous homeland of colonies of white ibis numbering 10,000 strong. It's also a popular destination for wildlife watchers, recreationists, artists, and, in the tributaries' upper reaches, anglers—all of whom have expressed grave concerns about the lake's demise.

Avoiding potential federal intervention from both wildlife and pollution control agencies has been a strong unifying motivation for private water users along the lake's tributaries and more than 1,000 canal companies of varying sizes. There is fear that state agencies might order flows to reach the lake, but without proper compensation to agricultural operators and water companies.

Wright notes that although gravity pulls water in one direction, the course it takes in the Salt Lake Valley is labyrinthine and nonlinear, the result of an incalculable number of incremental decisions made across more than a century. Everywhere one looks, it seems there are more ripple effects related to the water issues. She believes applying market thinking can help untangle the knots involving supply and demand, regulatory approaches versus incentives, and the interconnections of economy and ecology. In partnering with the state, PERC is specifically helping develop a comprehensive model that identifies the best opportunities to conserve water and facilitates voluntary water leasing, with the aim of helping more upstream water reach the lake.

Katherine Wright, Ph.D.

PERC Senior Researcher

An expert on water policy, Dr. Wright believes applying market thinking can help untangle the knots involving supply and demand, regulatory approaches versus incentives, and the interconnections of economy and ecology.

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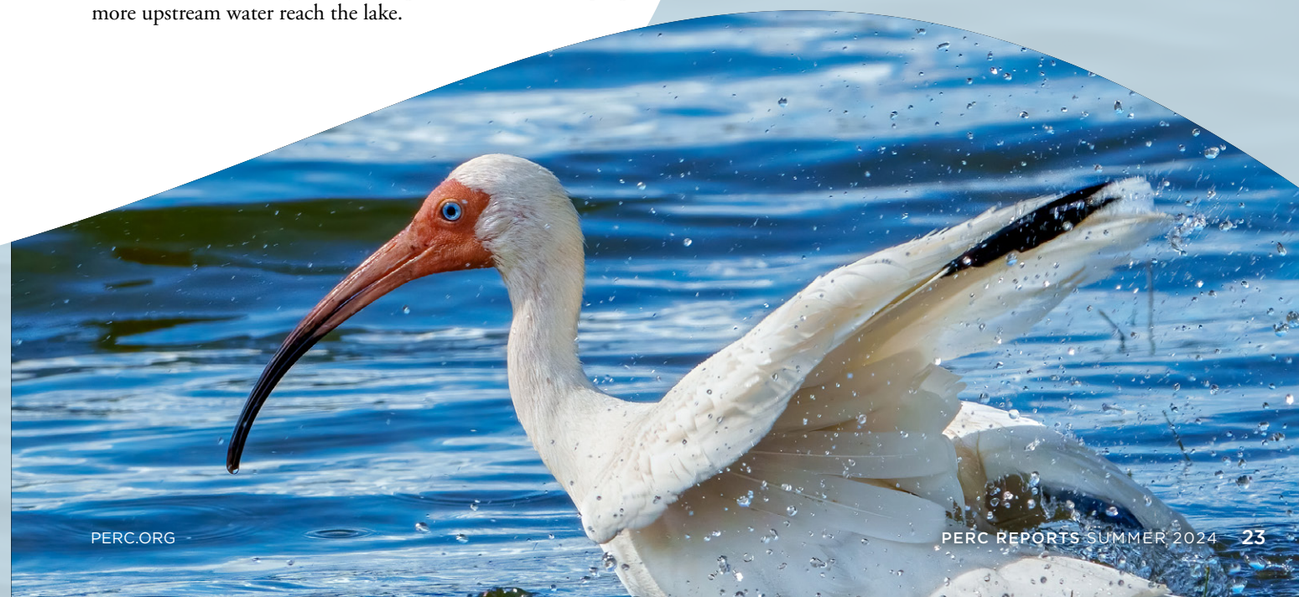

Without intervention to stave off further retreat, Brigham Young University analysts who track lake levels have predicted the Great Salt Lake could dry up in 2028.

Confronting the Challenges

None of what lies ahead will be easy. There is recognition, though, Wright notes, that delaying hard choices could have costly repercussions. The Great Salt Lake Advisory Council stated that "the monetized potential costs of a drying Great Salt Lake could be as much as $1.69 billion to $2.17 billion per year and bring over 6,500 job losses. Over twenty years, these costs could be as high as $25.4 billion to $32.6 billion…" The Wasatch Front already suffers from an impaired airshed, but it could get far worse. As of 2023, over 800 square miles of lakebed were exposed to wind erosion and dust storms, potentially impacting 2.5 million residents along the front.

Increased dust storms could also harm tourism in the state. It negatively impacts snowpack, which is the foundation of Utah's commercial and recreational ski industry and is itself tied to a multi-billion-dollar real estate industry in mountain towns. "Those estimates skyrocket if costs and affected surface area [of dry lakebed] increase," the legislative report says. "Beyond these direct costs, ecological impacts become more difficult to quantify but may have far reaching impacts if protected birds become adversely affected, which initiates a federal response."

Meanwhile, the spotlight is shining on agriculture, which uses the majority of water being diverted from the lake's tributaries, more than any other user group. Terry Camp, vice president of public policy with the Utah Farm Bureau, says it's important that any attempt at addressing root causes not sow more chaos than the problem itself. Camp was previously a policy expert on the U.S. House Natural Resources Committee and is well versed in pondering wicked problems.

He also understands the usefulness and limitations of solutions hatched by government bureaucracies compared to problem-solving aggressively embraced by the private sector. He agrees with Wright that markets, backed by the law, can streamline allocation of a valuable resource rather than complicate it or erect barriers.

Camp says that during his time in D.C., he was impressed whenever PERC staffers came to the nation's capital to testify on a variety of issues. And while in recent years those issues have included conserving world-renowned wildlife migration corridors in the Greater Yellowstone Ecosystem, addressing an overabundance of wild horses on public rangelands, and reforming the Endangered Species Act to make the law more effective at recovering wildlife, PERC's research foundation was largely built on water issues. Since the 1980s, PERC researchers have been studying how water markets can bring 19th-century water law into the present day. It's work that is especially relevant at a time when much of the arid West is dealing with chronic conflict.

Confronting the challenges facing the Great Salt Lake is now an organizational priority for PERC. Camp says public concern about the lake has created easy scapegoats. Some engaging in a blame game are pointing their fingers primarily at the agricultural community, claiming water shouldn't be used to grow crops in the desert. In recent state legislative sessions, the Farm Bureau perhaps surprisingly lobbied on behalf of sweeping revisions enacted to state water law, including amendments to the "use it or lose it" doctrine that dates back to statehood. Farmers and ranchers embrace the changes because they ultimately give water rights holders greater flexibility and reduce the level of concern that if fields are rested or water is leased for conservation purposes, they aren't in danger of losing their water rights, says Camp.

"At the end of the day, without exception, it's all about incentives," says Wright. "In this case of the Great Salt Lake, it's about answering the question: How can we devise policies that recognize individual motivations and yet reward everyone coming together to achieve a common goal? Nobody wants the lake to go away."

Healthy Horizons

Sometimes, a crisis can be a good thing. It can force a status quo that previously had no strong incentives to change to embrace innovation—and do it in a way that is fair and equitable. Markets can be great vehicles for helping to illuminate and distill what society values most. They are not there to socially engineer outcomes or pick winners and losers.

Tim Davis, the deputy Utah water commissioner, previously worked on water-related conservation in Montana,

"At the end of the day, without exception, it's all about incentives."

—Dr. Katherine Wright, Ph.D

and he is lending the insights he gleaned there to address the ecological dimensions of the task. "We have limited resources. The reality is we need to use the tools we have to address the needs of the Great Salt Lake and get it back to a healthy water level range, then sustain it there," Davis says. "Largely, we're focused on carrots, not sticks."

PERC is playing a critical role, he says, in helping to identify key water rights holders and figure out the economics of how water can be strategically marshaled. "We'll be looking at leasing rights and potentially purchasing from willing sellers to secure more water so that it can be effectively delivered to the lake," says Davis. "This will include cultivating relationships with senior rights holders who have the authority to call water down when we need it and others near enough to the lake who have the infrastructure in place to ensure it actually gets there. Having PERC helping us develop better tools is important."

Wright adds that it would be optimal to have multiple stakeholders rally around a common cause—reviving the lake. The results could include more stable habitat for wildlife; more clarity, flexibility, and predictability for water rights holders; reliable instream flows that benefit trout in the tributaries; and a healthier brim of water that allows for lucrative lithium extraction to help transition to a better energy future and confront climate change.

Nobody involved is a Pollyanna, at least not anymore. The consequences of failure are unacceptable—to everyone. "Because this is a wicked problem," Wright says, "we're going to need solutions that are as dynamic as the challenges we are trying to overcome. This is an opportunity for everyone to re-envision new possibilities."

One of those possibilities, albeit small, yet symbolic, will be to return to Rozel Point a generation in the future and see once again Robert Smithson's famed art installation bathed in the same amniotic fluid of its origin. Because now, standing next to Spiral Jetty, not even an NFL quarterback could throw a Hail Mary far enough to reach the Great Salt Lake.

Todd Wilkinson is an environmental journalist based in Bozeman, Mont. His latest book is *Ripple Effects: How to Save Yellowstone and America's Most Iconic Wildlife Ecosystem.*

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HAPPY TO PAY

Many countries charge international tourists more than residents to visit national parks. Should we do the same here to help maintain our national treasures?

BY TATE WATKINS

One of the most memorable hikes I've done was to the base of the three towers in Torres del Paine National Park. The park, near the end of the South American continent in the Chilean Patagonia, is best known for jagged mountain peaks, prominent glaciers, and vivid blue lakes. The eastern side of the park, by contrast, opens out into grasslands that are home to llama-like guanacos and other local wildlife.

A day hike to the Mirador las Torres is one of the park's most popular attractions. When my wife and I hiked it several years ago on our honeymoon, we set out from our hotel at 5:00 am. The out-and-back (up-and-down) route takes the better part of a day, so one of the guides had suggested we get an early start. Seeing the sun rise and illuminate the craggy Andean mountains was worth waking up for, and our early start meant that we'd make it to the lookout before lunchtime.

Approximately 14 million people visit U.S. national park sites from other countries annually, or more than one-third of all foreign visitors to the United States.

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The last mile of the hike gains about 1,000 feet of elevation. As we got closer to the top, our breathing became heavy, and large rocks littering the path served as giant steps to take us upward. We reached the end of the trail before noon, where a turquoise alpine lake framed the base of the three towers perfectly. As we admired the view, we got out sandwich lunches and sipped mate made by our guide, then put on more layers as snowflakes started to flurry. By the time we got back to the trailhead it was late afternoon. We cracked open cans of the local lager to enjoy before we piled into the van and headed back to our hotel, just outside the park gates.

About one-third of all foreign travelers to the United States visited one of our more than 400 national park sites. If each paid a modest surcharge of, say, $25 it would raise more than $300 million, nearly doubling the total fee receipts across the National Park System.

Chile is one of dozens of countries around the world that charges international tourists more than locals to visit national parks. As we entered Torres del Paine on the first of our five-day visit, our guide walked us into the guard station to purchase passes for our trip. Today, that pass costs about $14 for Chileans, while foreign tourists pay $55, practically quadruple the local price. The approach isn't rocket science. If you're willing and able to travel thousands of miles to visit a national park, you're probably willing and able to pay more than a local to visit it. I would have gladly paid more—it was a bucket-list type of trip, which we saved up for, and who knows whether we'll ever have the chance to go back. And knowing that entrance fees provide much-needed funding for national parks in Chile, I'd have happily paid more to support the stewardship and conservation of such an incredible place.

At U.S. national parks, the standard entry fee is the same for Americans and internationals alike. In light of the strains on many of the most popular parks, that seems like a missed opportunity to harness more resources to steward our national treasures. Except for a downtick during the Covid pandemic, visitation to U.S. national parks has steadily increased for a decade. More than 300 million people consistently visit our parks each year. More visitors, however, translate into more pressure on roads, trails, amenities, and other infrastructure.

The author and his wife at Torres del Paine National Park.

Prior to the pandemic, nearly 14 million internationals visited a U.S. national park site every year. Put differently, about one-third of all foreign travelers to the United States visited one of our more than 400 national park sites. If each paid a modest surcharge of, say, $25 it would raise more than $300 million, nearly doubling the total fee receipts across the National Park System. That added revenue could be a boon that helps ensure all visitors can continue to enjoy our national parks for generations to come.

The Positive Feedback Loop of Visitor Fees

When it comes to U.S. national park funding, revenues from visitors play a crucial role. Rather than being remitted back to the treasury in Washington, D.C., all of the proceeds from park visitor fees stay within the National Park System, with the vast majority retained at the sites where they were collected. The model empowers superintendents and other on-the-ground staff who have the best knowledge about their parks' priorities and needs. It also reduces political influence over how to spend revenues from fees. And it means that, crucially, any funds collected from visitors to U.S. sites are dedicated to maintaining ailing parks and improving their stewardship.

Relatedly, fee revenues grow in lockstep with visitation—at least for the roughly 100 park sites that charge for entry. By contrast, after accounting for inflation, funds appropriated by Congress to the National Park Service have essentially remained stagnant for decades. That's one reason that some parks, especially bucket-list destinations that draw tourists from abroad, have struggled to keep up with surges in visitation.

Examples abound. Wastewater treatment facilities near Yellowstone's Old Faithful are in need of repair. Maine's Acadia National Park has 20 bridges that need to be rehabilitated. Campground bathrooms need updating at Yosemite. Miles of Shenandoah National Park's renowned Skyline Drive need to be resurfaced. These and countless more projects like them—potholed roads, crumbling bridges, dilapidated campgrounds, failing sewer systems, condemnable employee housing—are overdue for repair, and that's on top of the day-to-day maintenance needed to keep all national parks open and accessible to visitors.

The upshot is that there's a great opportunity for international visitors to contribute funds to help meet the growing needs of our national parks—just as my wife and I did in Chile—especially at the many sites buckling under the stress of popularity.

Willing and Able to Travel

If you travel to a major U.S. national park from abroad, then the entry price you pay is likely a tiny sliver of your overall trip cost. One 2017 study of Yellowstone National Park, for instance, estimated that the average overseas visitor spent a total of $4,500 on their trip. The study also estimated that raising the vehicle entry fee at Yellowstone by more than double—from $30 to $70—would decrease visitation from foreign visitors by a mere 0.07 percent. That negligible effect makes sense in context. Increasing fees by a mere $40 would barely be noticeable in the budget of most international travelers.

Other evidence supports the idea that most foreign tourists wouldn't blink at higher entry fees. Another study, from 2014, concluded that gas prices affect national park visitation more than admission fees do. If someone is willing to travel thousands of miles to arrive at the park gates of places like the Grand Canyon or Zion, then asking them to contribute a modest additional amount for the privilege should not faze them.

The current fee system for national parks in the United States lacks nuance, with most visitors paying a flat weekly fee that grants access for all passengers in a private vehicle. As part of this relatively blunt system, standard overseas visitors pay the same price as U.S. citizens and residents. Or put another way, residents enjoy no discount when visiting their home-nation parks. Often,

> "It's great that people from all over the world recognize the value in these national treasures, but this increased visitation is adding to the maintenance backlog."
>
> *—The late Sen. Mike Enzi*

Americans pay even more in total than foreign visitors because, in addition to paying entry fees, most U.S. residents pay income taxes. Roughly $20 per U.S. taxpayer goes toward the National Park Service budget—each and every year, regardless of whether those Americans visit a national park. Asking overseas tourists who are not a part of the tax base to pay a little bit more seems not only fair but also prudent.

Across all federal land management agencies, recreation fee revenues increased by 40 percent over the five years leading up to the pandemic. Recreation fee receipts for national parks now total nearly $350 million annually, an amount roughly equivalent to 10 percent of the park system's discretionary budget. The distribution of this fee revenue varies greatly. More than 300 park sites charge no fees and therefore have no fee revenue. By contrast, several high-profile national parks, including Joshua Tree, Bryce Canyon, and Haleakala, have in some years generated more revenue through fees than they received in congressional appropriations.

As many U.S. parks face record visitation and struggle to meet maintenance needs, the idea of charging international visitors more than domestic ones has gained traction. The National Park System Advisory Board has pointed to differential pricing based on residency as one way to increase park revenue. Additionally, the late Sen. Mike Enzi (R-Wyo.) pushed in 2019 to legislatively implement a surcharge for overseas visitors to help fund national parks by raising tourist travel and visa fees by $16 and $25, respectively. "It's great that people from all over the world recognize the value in these national treasures," Sen. Enzi said in 2021, "but this increased visitation is adding to the maintenance backlog."

In a recent PERC Policy Brief, I estimated the amount of recreation fee revenue that might be raised if each international tourist who visited a national park site paid a surcharge. Scenarios examined include surcharges of $16 or $25, amounts equal to the increases on tourist travel and visa fees proposed in Sen. Enzi's legislation. The third scenario is a surcharge of $40, equal to the vehicle fee increase proposed by the Department of the Interior for all visitors at the most popular parks in 2017. With current fee revenues across all parks totaling about $350 million, implementing a surcharge on foreign visitation could raise that total to approximately $560 million to $877 million, depending on the level of surcharge.

Tiered pricing for entry holds enormous potential, especially for the most popular parks. The U.S. national parks often featured in art prints and wall calendars—Zion, Acadia, the Everglades, Grand Teton, and the like—not only attract many international visitors but have also strained greatest under the stress of surging visitation. For instance, past surveys suggest that as many as one-quarter of summer visitors to Yosemite National Park have come from abroad. Similarly, Grand Canyon National Park's

superintendent has estimated that, in a normal year, 30 to 40 percent of visitors come from other countries. Both parks have felt the stress of growing visitation: Yosemite has the second-highest total of overdue maintenance in the entire park system, at $1.1 billion; Grand Canyon is fifth, with $829 million.

At Yellowstone, a modest surcharge on overseas visitation would likely double revenues from gate fees, while a higher one could triple current receipts, according to PERC's research. Surveys during summer 2018 suggested that perhaps 20 percent of Yellowstone visitors did not permanently reside in the United States. Summer visitation that year surpassed 3.7 million. A $16 entry surcharge for each international visitor—an amount equal to the additional tourist travel fee proposed by Sen. Enzi—might have raised an estimated $9.3 million that summer. A surcharge of $40 might have raised $23.3 million. Those sums would be on top of the park's current entrance fee revenue of roughly $9.1 million, meaning the scenarios examined could double or triple the park's total receipts from entry fees. A surcharge would also support the wider park system by raising an estimated $2.3 million to $5.8 million to be distributed to other parks that do not charge fees.

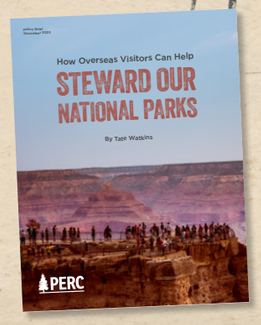
Visit Local, Price Global

Charging differential prices for outdoor recreation is a common practice. For example, it's standard practice for state fish and wildlife agencies to charge different prices for residents and non-residents to hunt and fish. An out-of-state visitor who wants to hunt big game in Montana, for instance, pays more than $1,200 for licenses and permits. Meanwhile, it costs a resident less than $50 in fees to hunt an elk. In North Carolina, non-residents pay $32 for a fishing license, double the price for residents. Moreover, many states offer tiered pricing based on residency to visit state parks and campgrounds, often charging about $10 more per night.

Likewise, dozens of the most high-profile national park systems around the globe charge more for overseas visitors, as I saw firsthand at Torres del Paine. To visit the Galapagos Islands, one of the premier nature-based destinations in the world, foreign tourists pay a flat fee of $100, while Ecuadorians pay just $6. A Rwandan can take part in a chimpanzee trek at Nyungwe National Park for $4, while it will cost international tourists roughly $90. Nepal's Chitwan National Park, home to rhinos, tigers, gharial crocodiles, and more than 500 species of birds, charges foreign visitors $15 per day, while locals pay just over $1.

A 2019 report that reviewed entry fees at national parks around the world found approximately three dozen nations that charge non-citizens more than citizens. The strategy allows park systems to benefit from foreign visitors' ability and willingness to pay, particularly in relatively lower-income countries. Additionally, for countries that receive a high share of visits from international tourists, the approach ensures that taxpayers do not bear an outsized burden of funding those visits. Some national park systems have adopted fee schedules with several tiers, whereby citizens of nearby countries pay a higher price than locals but a lower one than foreigners from farther away. Many park systems explicitly state that fee revenue is dedicated to funding operations and stewarding natural resources in parks.

When I examined per person fees at selected parks around the world for a hypothetical three-day visit, I found that fees for international tourists are by far lower at U.S. parks than at the other sites analyzed. The standard entry fee at top-tier U.S. national parks is $35 per vehicle for up to one week, meaning that each member in a family of four would cost less than $9 for their three-day trip. Three-day visits for international tourists at Chitwan in Nepal or Corcovado in Costa Rica would each cost roughly $45. Plitvice Lakes National Park, in Croatia, would cost all visitors about $106, while foreigners visiting Iguazu Falls and



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the flora and fauna around it in Argentina would pay about $143. National parks and reserves in East Africa consistently have some of the priciest entry fees. International tourists to Maasai Mara in Kenya or Serengeti National Park in Tanzania pay $70 per day, making it $210 for three days of admission.

Approaches vary when it comes to collecting entry fees from overseas visitors. Many national parks charge at the gate and require local identification to receive the local price. Other sites, particularly islands, charge tourists upon airport arrival or departure. When visitors arrive at one of the two Galapagos Islands airports, for instance, park rangers collect the entrance fee for tourists. Some national park systems rely on tour operators or guides to assist with fee collection.

The lack of nuance in differentiating fees at U.S. national parks results in illogical structures when compared to high-profile parks around the world that also charge for entry. A European family visiting Zion National Park for three days, for instance, would pay $35 for a week-long visit. That would be nearly equivalent to the roughly $28 that a Kenyan family of four would pay to visit their home-country wildlife reserve of Maasai Mara for just a single day. When compared to global peers, there is clearly a great opportunity to refine the fee structures at U.S. parks in ways that would raise funds dedicated to their stewardship.

Caring for Generations to Come

Whether U.S. national parks adopted differential pricing directly at entrance gates or indirectly through other means, it could significantly increase total resources available to maintain sites and serve visitors. To be sure, there would be plenty of factors to consider when it comes to the particulars—details I explored more fully in the policy brief. But a surcharge for overseas visitors would boost revenue from a set of people able and willing to pay it, allowing parks to better meet their basic needs and come closer to funding maintenance in a sustainable way.

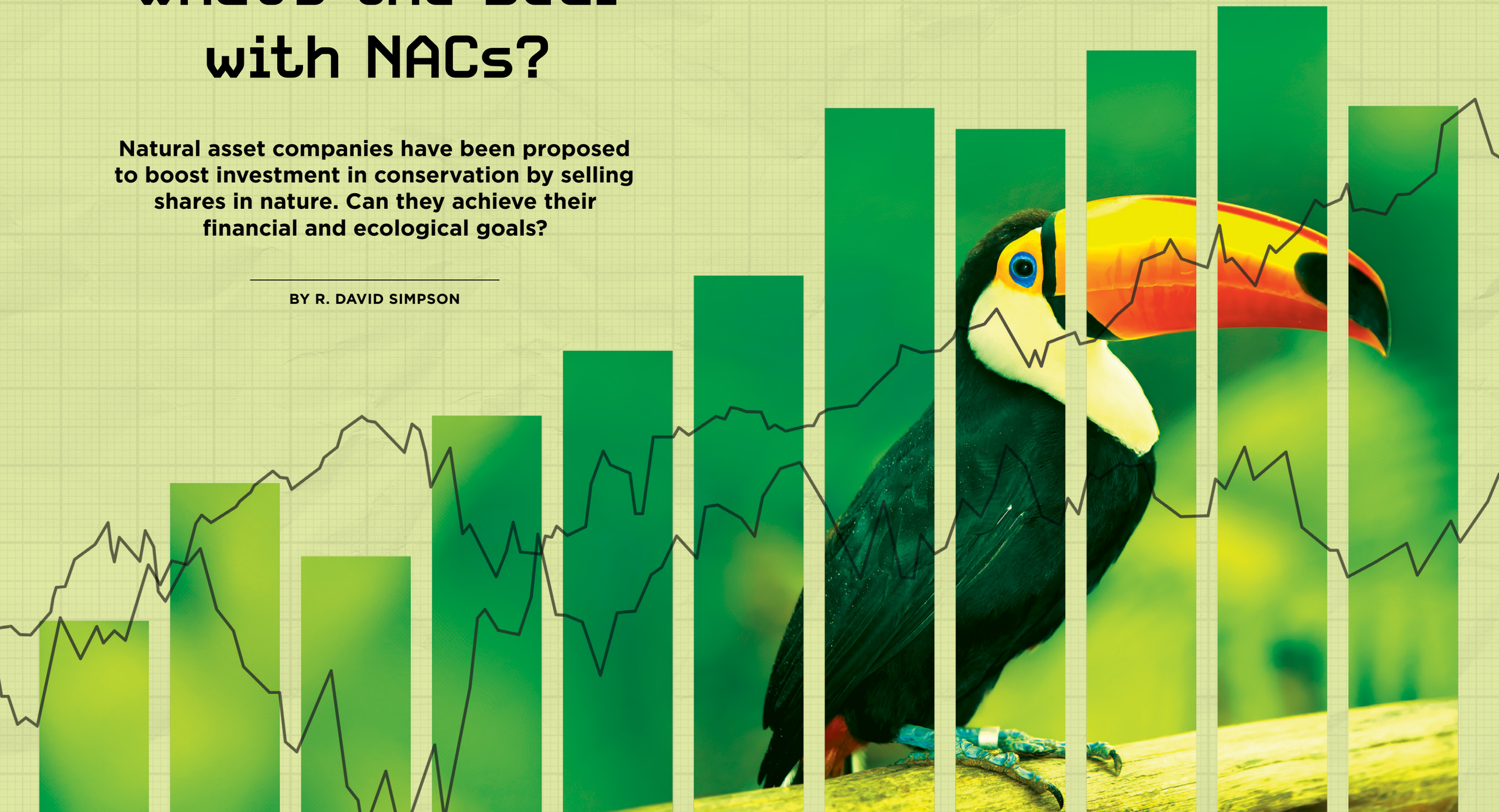
Now that we have kids, I wonder if my wife and I will have the chance to take them to Torres del Paine one day. Such a grand trip seems like a longshot, but I do know that I want them to be able to visit and appreciate our U.S. national parks. And I know that finding ways to steward those cherished sites properly will make sure they and future generations will have the chance to enjoy them.

Tate Watkins is a research fellow at PERC and managing editor of *PERC Reports*.

What's the Deal with NACs?

Natural asset companies have been proposed to boost investment in conservation by selling shares in nature. Can they achieve their financial and ecological goals?

BY R. DAVID SIMPSON



"Would you like to buy a share in Mother Nature?"

That, in a nutshell, is the pitch for "NACs"—or natural asset companies. These publicly traded companies would acquire portfolios of forests, wetlands, savannas, coastal waters, or other ecosystems. Rather than cutting trees, draining wetlands, grazing prairies, or fishing in bays or estuaries to earn profits for their shareholders, NACs would market the values that arise when natural habitats are preserved or restored: carbon sequestration, biodiversity protection, clean water, or other sustainably supplied or nonconsumptive goods and services.

NACs have been in the news. In the fall of 2023, the New York Stock Exchange filed a proposal with the Securities and Exchange Commission to formalize NACs as a new class of public corporation. Working with the Intrinsic Exchange Group, a financial services company that seeks to promote investments in conservation, the NYSE proposed standards for these new companies. As listed entities on the NYSE, NACs would be able to market securities on a financial exchange on which trillions of dollars' worth of investments are traded.

Those plans fell through earlier this year. The proposal was withdrawn in mid-January after encountering what *The New York Times* characterized as "a wave of fierce opposition from right-wing groups and Republican politicians, and even conservationists wary of Wall Street." The scuttling of the proposal didn't diminish interest in NACs, though. The paper of record still devoted a 2,000-word article to them, noting that the Intrinsic Exchange Group was now seeking to prove the NAC concept in private markets rather than on a publicly traded exchange.

Despite the faltering regulatory start for NACs, corporations with pecuniary interests in conserving nature are coming into being. Are they likely to achieve their financial and conservation objectives?

I have some concerns. I am an economist who has thought and written about biodiversity conservation for 30 years. Over that time I've seen many would-be conservation silver bullets and green get-rich-quick schemes announced to great fanfare, only to disappear with little to show after a few years. This would be frustrating enough if it were simply that good-faith efforts had been tried and failed. Too often, though, grand plans were drafted from false premises.

I am, then, a bit apprehensive. I suspect that the premise underlying NACs is faulty: I doubt that allowing investors to buy shares in conservation projects will accomplish much on its own. The problem isn't that people can't buy shares of nature-based assets in a secondary market. The problem, rather, is that it's not clear there's an adequate primary market for the goods and services these companies might offer by conserving ecosystems and the benefits they provide.

Some Economics of NACs

The basic idea of investing in nature is certainly a sound one. Economists argue that assets should be devoted to their "highest and best use"—which, in the case of natural resources, sometimes may be for non-consumptive or non-use purposes. If conservationists are willing to pay more to preserve natural resources than others are to consume them, the resources should be conserved.

There are good reasons for conservationists to band together to preserve natural resources. Conservation may require large investments. The sums of money necessary to protect large tracts of land may be beyond the means of individuals who care about protecting nature but don't have millions of dollars at their disposal. A NAC could be a vehicle for combining small contributions into a more substantial combined payment for conservation. Again, this would be a desirable outcome.

If the chief function of NACs is to aggregate and channel funding for conservation, though, it's worth asking how they would differ from existing nonprofit organizations. After all, conservation groups such as PERC, The Nature Conservancy, and the National Wildlife Federation routinely raise funds for conservation projects, along with many other similar organizations operating at local, regional, and global scales. The obvious answer is that NACs might attract funding not only from conservationists who want to "do good" by saving nature, but also from investors who see preserving natural assets as a way to "do well" by making a positive return on investment.

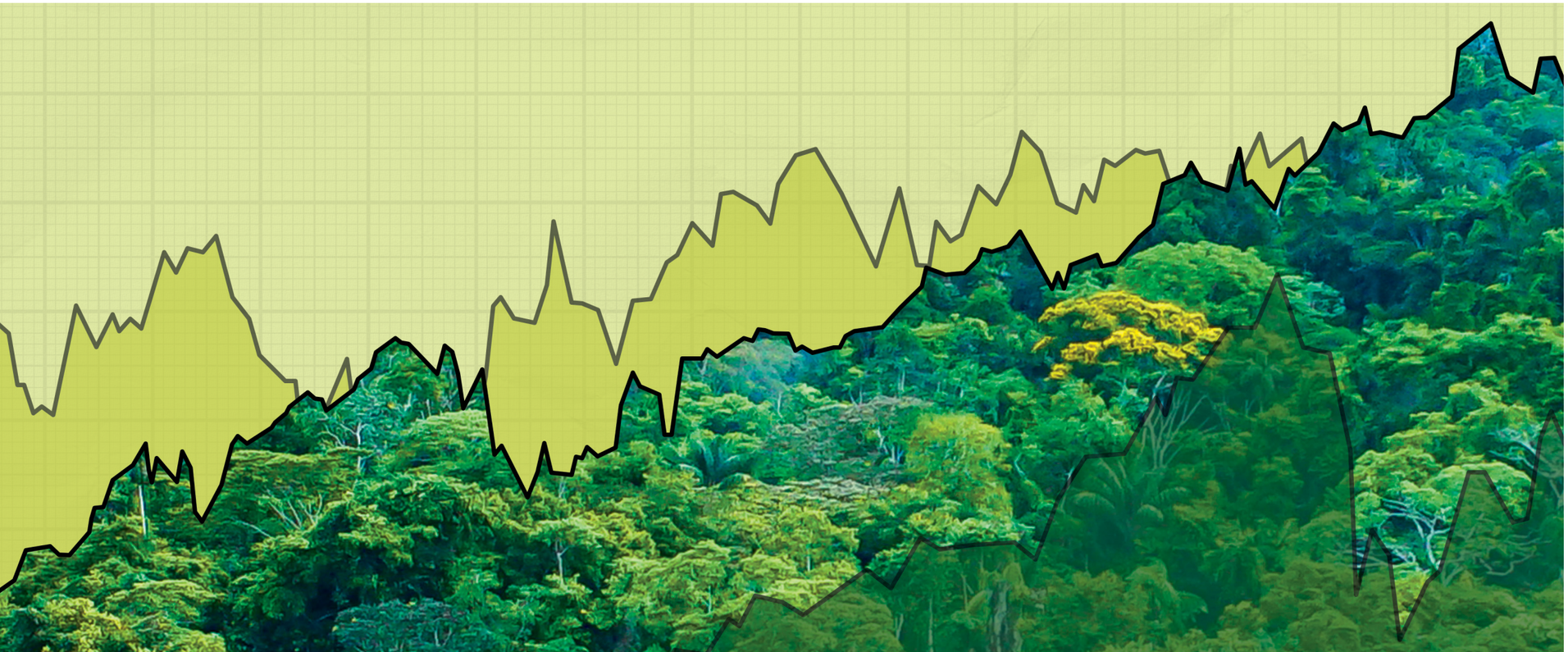
As I'll argue, though, opportunities for profitable investment in ecologically benign ventures may be rare, limited, or highly speculative because of the difficulty of translating conservation benefits into reliable income. This means investors in NACs would be "betting on the come"—that is, putting their money into ventures whose success depends on as-yet-unknown market developments.

Therefore, investments in natural assets are likely to be risky, and even wealthy investors probably won't want to put too many of their eggs into a single basket. Under a NAC, ownership could be divided among large numbers of shareholders who could expand or liquidate their holdings to maximize returns and manage risks. A NAC might, then, provide opportunities for diversifying risks and attract more total conservation investment than would a more closely held enterprise.

A Category Error?

I've just noted a few reasons why offering shares in NACs might be useful in financing conservation. Yet, in my experience, the problem with drawing private investment into conservation isn't so much the lack of an active secondary market in stocks and bonds for nature-based companies. It's that there may not be an adequate primary market for the goods and services these companies might offer through the conservation of ecosystems and their benefits. I suspect from documents I've read and conversations I've had that some proposals to launch NACs commit a "category error" of logic: They fail to appreciate the fundamental distinction between private and public goods.

The value of a share of stock is determined by the flow of profits the underlying company is expected to realize over time. The stock of Apple, to give an example, is worth over $2.5 trillion. That value is determined by how many iPhones, MacBooks, and other products Apple is expected to sell. The company would not be worth anywhere close to $2.5 trillion if anyone who wanted



to could walk out of an Apple Store with an iPhone or MacBook without paying for it. In economic parlance, Apple is worth so much because it sells private goods for which there is robust demand. The owner of a private good enjoys its benefits and can prevent others from enjoying those benefits without paying. This is in contrast to a public good which, when it is provided by one person, is also enjoyed by others who cannot be prevented from sharing in the benefits and cannot be compelled to pay for them.

Natural ecosystems may provide both private and public goods. For example, honey collected from bee colonies in forested areas might be sold to consumers who enjoy it themselves; moreover, carbon sequestered from the same forests may provide climate moderation benefits around the world. Despite decades of research and experimentation, however, there simply doesn't seem to be enough demand for the private goods and services generated by diverse natural ecosystems to finance conservation on the scale envisioned by, for example, the Biden administration's "30 by 30" initiative to protect 30 percent of terrestrial and marine habitats by 2030.

For decades, advocates have tried to marshal sales of ecosystem-related private goods to finance conservation. Let me give an example of one of the more high-profile failures.

When I began working on resource economics in the early 1990s, there was a burst of enthusiasm for "bioprospecting"—commercializing biodiversity for new pharmaceutical research. Nature, it was argued at the time, is a virtually limitless warehouse of novel molecular research leads. If drug companies purchased rights to test natural products for their therapeutic potential, new products would be discovered, the poor tropical nations in which biological diversity tends to be greatest would have a new source of income, and incentives for maintaining tropical forests would be greatly strengthened. It would be a win-win-win. Colleagues and I realized, however, that there's a problem with this formulation. How much would drug companies pay to maintain more shelves in a "virtually limitless" warehouse of samples? "Not much," was the answer we got when we did the calculations. Economic value arises from scarcity, and pharmaceutical researchers did not regard prospective leads as scarce. Researchers already had millions of different species to experiment with, as well as a multitude of inorganic and synthetic materials; they simply weren't willing to pay much for access to still more potential research leads. Sadly, this finding has been borne out by dwindling interest in bioprospecting over the intervening decades.

That's been one painful lesson: Some highly touted values of biodiversity simply haven't been shown to be worth much. Diverse natural ecosystems give rise to a host of other values, though: pollination, pest control, groundwater recharge, water purification, storm protection. A sort of good news/bad news story has often emerged from the work that I and a number of other researchers have done on these values. The good news is that some ecosystems supplying such services may be quite valuable, which may provide straightforward business propositions for NACs. The water purification services of natural wetlands might, for example, obviate the expenditure of millions of dollars on a treatment plant. The bad news is that such services may be most valuable when we don't need to preserve a lot of habitat to provide them. I've referred to this idea as a "paradox of efficiency": If a little goes a long way, we don't need a lot. Natural wetlands can be very effective in treating water pollution, but they are most cost-effective when a small area of habitat can provide the service. If a small area of habitat cannot efficiently treat pollution, however, building a treatment plant may be less expensive than setting aside larger areas for the purpose. This suggests that NACs may not be all that effective at motivating conservation at scale, especially relative to existing philanthropic efforts.

Vast Value?

This brings us back to the key question of how NACs will generate shareholder value. Private goods and services are those for which specific beneficiaries are identifiable and willing to pay. Unless they can find better ways to generate income than past efforts to commercialize bioprospecting, ecotourism, non-timber forest product collection, pollination provision, water purification,

The public goods provided by diverse natural ecosystems may be worth a vast sum of money, but that doesn't mean that NACs can expect to sell them for a vast sum of money.

and similar ventures, then there seems little reason to suppose that NACs will achieve greater success. Earlier ventures didn't disappoint for want of financing. They disappointed for want of demand—possibly because it's difficult to leverage the public and private benefits of conservation into sustainable income.

If demands for the private goods and services of natural ecosystems are unlikely to be sufficient to finance the preservation of imperiled habitats, could the value of public goods provided by diverse natural ecosystems tip the balance? Perhaps. The world's forests contain about 75 times more carbon than is released in annual emissions. The climate moderation provided by maintaining these stores represents a global public good of great value. The same might be said of the biodiversity harbored in the world's remaining relatively pristine ecosystems. People around the world value the preservation of pandas, lemurs, tigers, and other endangered species. Likewise, scientists warn that key natural systems and processes could flip precipitously, with profound consequences, as landscapes change. How much deforestation may occur before the Amazon rainforest dries and turns to savanna? We can't be sure, but this is the sort of risk against which humanity might be willing to pay to indemnify ourselves by preserving natural ecosystems.

"Humanity," however, is not a market actor. Writings on NACs often appeal to the astronomical values of global public goods, without closing the loop on how those values translate to sustainable income for NACs. Are the services of nature worth substantially more than all of the iPhones and MacBooks that Apple will ever sell? Quite possibly. The public goods provided by diverse natural ecosystems may be worth a vast sum of money, but that doesn't mean that NACs can expect to sell them for a vast sum of money. NACs may help augment the supply of natural assets, but the scale and success of conservation will ultimately be determined by demand. The real key is for environmentally minded entrepreneurs to find innovative ways to generate greater payments for the public and private benefits of conservation.

R. David Simpson is an environmental and resource economist at American University in Washington, D.C., and a former Lone Mountain visiting fellow at PERC.

Easy Does It

Groundwater conservation easements provide an innovative means to voluntarily curtail water use

BY PAUL SCHWENNESEN

Farmland in Colorado's San Luis Valley drives the region's economic activity.

There are an estimated 26,000 acres of pecans farmed in Arizona.

Driving across the dry flat plains of southern Arizona's San Simon Valley earlier this year, I was reminded how treacherous it can be to ignore the "Earth Fissures Possible" highway signs dotting the valley. Deep trenches patched in fresh asphalt cut across the roads there, and if you're not on guard you'll find yourself doing an impromptu shock-check. I knew these trenches had something to do with water pumping, but I had never really bothered to dive deeper, so to speak.

A few weeks later, combing the science archives for a homeschool project, my son unearthed a 1917 U.S. Geological Survey report by a distant relative, A.T. Schwennesen. In a stroke of serendipity, it contained a carefully produced hydrological map of the San Simon Valley, south of where our family now ranches in eastern Arizona. The report described a region of "flowing wells," or artesian springs, and "areas in which depth to [the] water table… is less than 100 feet." This same valley, now prime real estate for commercial pecan and pistachio farms irrigated by pumping groundwater, is a perfect microcosm of the groundwater depletion story across the American West.

Since 1940, the average decline in index wells in this region has been over 60 feet, according to the Arizona Department of Water Resources, with some measuring as much as a 272-foot drop in water level. As a result, the ground in parts of the valley has sunk by as much as an inch a year these past decades. Some areas are now many feet lower than when my great-great-uncle trekked across them a century ago.

The widespread perception that we face a looming water shortage is not, in other words, just another trumped-up environmental catastrophe. Today's water shortages are a complicated issue, to be sure, but the basic outlines are clear enough: Western water is a finite resource with considerably more demand than supply. The most immediate and obvious response is for people to fight over a dwindling resource. The "water wars," as they've come to be known, often seem destined for a winner-take-all negotiated truce with clear victors lording it over the vanquished.

But there may be another way—a cooperative pathway defined by voluntary exchanges. For decades, PERC has highlighted the extraordinary degree to which free market transactions operating on cooperative principles can generate environmental surpluses rather than merely more fights over relatively scarce resources. A newly emergent example of this model in action is a concept known as a "groundwater conservation easement," which facilitates voluntary, market-based water conservation.

A Novel Tool

Groundwater conservation easements are a novel approach to market-oriented resource allocation. In a nutshell, the tool is a legal contracting mechanism whereby groundwater users overlying an aquifer not only place their land under a conservation easement but also agree to voluntarily limit groundwater pumping, in exchange for compensation. This allows owners of groundwater to contract with buyers who wish to keep a portion of that water under permanent "non-use" in the aquifer. By reframing the structures of water allocation along transactional lines, voluntary water conservation efforts like these may do far more water conservation with far less teeth-gnashing than approaches that rely on regulation or mandates.

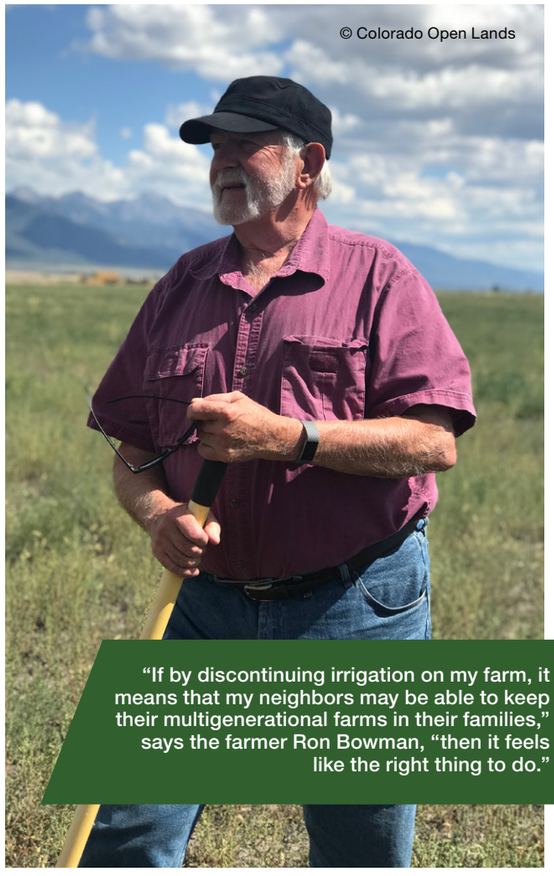
By reframing the structures of water allocation along transactional lines, voluntary water conservation efforts may do far more water conservation with far less teeth-gnashing than approaches that rely on regulation or mandates.

The nation's first groundwater conservation easement, placed on an 1,800-acre farm in Colorado's San Luis Valley in 2022, demonstrates the prospects of this novel scheme. According to Colorado Public Radio, farmers and ranchers in the valley either had to figure out a way to "drastically cut how much water they pump out of the ground" or face the prospect of hundreds of wells being cut off by the state, a move that would have devastated the agriculture-based local economy.

The farm's easement, agreed between owner Ron Bowman and the nonprofit land trust Colorado Open Lands, will retire pumping on seven of the farm's 12 wells over the next decade and reduce pumping on the remaining five wells by half. The resulting water savings will allow the surrounding subdistrict to meet its groundwater sustainability goals, enabling other farmers in the area to continue operating without reducing their own water use. "If by discontinuing irrigation on my farm," Bowman said, "it means that my neighbors may be able to keep their multigenerational farms in their families, then it feels like the right thing to do."

The primary advantage of groundwater easements is that they effectively turn a mere "right" into actual property—at least in instances where a willing seller and buyer have the same aim of curtailing pumping. If you have exclusive rights to use a car, for instance, but are expressly forbidden from ever selling it to a willing buyer, it is not really your property in the first place. Water rights have traditionally been something like this—effectively and carefully defined for generations in western law, yet never really raised to the level of a true property right. Part of the difficulty is that water is, by definition, hard to pin down. Yet strangely, property in water suffers less from water's slippery nature than by a lack of *transferability of water rights*.

True property must be definable, defensible, and transferable. Groundwater conservation easements represent a contractual innovation that adds the crucial third element of transferability in a specific context: where a water user wants to effectively transfer their property right to, say, a conservation organization or land trust who agrees *not* to pump groundwater, instead leaving it in the aquifer. This shift has enormous implications on incentives:



"If by discontinuing irrigation on my farm, it means that my neighbors may be able to keep their multigenerational farms in their families," says the farmer Ron Bowman, "then it feels like the right thing to do."

In light of increasingly pressing water shortages, groundwater conservation easements may become an important counterexample to heavy-handed dictates that reward litigation over cooperation.

If you are empowered to sell the car you once had free access to, do you think you are more motivated or less to invest in its care?

A number of legal and policy considerations must be addressed before groundwater easements can be more widely implemented. First, enabling statutes must exist to allow conservation easements to include water as well as land as a conservable resource. Second, the pumpable basin must be monitored, managed, and reasonably finite, or individual reductions in pumping will be simply erased by additional pumping from other users. Third, water users must be protected from "abandonment" provisions wherein they forego their water right if unused for traditionally beneficial uses.

One of the prime ingredients in a functioning marketplace is a clear understanding of property—knowing whose is whose. Groundwater easements' nudging of water into the realm of property opens a universe of potential transactions. Many landowners like myself are keenly attuned to their water rights, but since we are generally legally prevented from engaging in any meaningful transfer of those rights, it makes no sense whatsoever to conserve (let alone monitor) the use of that right. You'd be a fool not to pump and use as much water as you can if it is only "worth" something if pumped onto a crop. Water understood as property traded in a marketplace, however, changes all of that. Then, it suddenly makes sense to measure and conserve a resource that is your property, rather than merely a resource that flows *through* your property.

Voluntary Solutions

Some farmers remain skeptical, however—and understandably so. This skepticism reflects a growing consensus amongst agricultural producers that the very foundations of food production (not to mention their way of life) are under threat. Moreover, groundwater easements rely on payments for non-productive use of water, payments which must either come from conservation-minded donors or the larger taxpaying public.

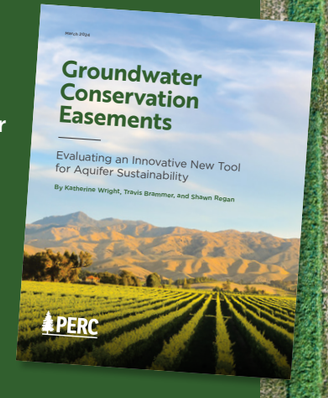
In the end, however, despite these legitimate concerns, voluntary efforts to work out local solutions are vastly superior to bureaucratic dictates from afar. In light of increasingly pressing water shortages, groundwater conservation easements may become an important counterexample to heavy-handed dictates that reward litigation over cooperation.

In this vein, it has become cliché to trot out Mark Twain's adage that "whiskey's for drinking, water is for fighting." Despite the aptness of the observation, however, Twain apparently never said it. As a metaphor for the murkiness surrounding water issues, one could hardly do better. Not only is our understanding of western water problems hazy, even our historical quips about their complexity are muddied. Groundwater easements may offer glimmers of forthcoming clarity—with their reliance on markets and price signaling, groundwater conservation easements may well be the breakthrough needed to allow people to voluntarily and creatively allocate a scarce resource.

In 1917, A.T. Schwennesen wrote of the *cienegas*—marshlands—and flowing wells in the San Simon Valley. He wrote of a stream, now long gone, that was fed by "waste water" from the artesian springs. Today, in an age of water scarcity, it is difficult to imagine such "waste" ever returning. Perhaps though, by channeling the power of markets and tapping human ingenuity, we will see water abundance replace water scarcity as the driving metaphor of change. Maybe even, in a burst of true optimism, we can all just get back to drinking whiskey.

Paul Schwennesen helps manage Cold Creek Ranch in Arizona. He holds a doctorate in environmental history and is director of the Agrarian Freedom Project. He is also an alum of PERC's Enviropreneur Institute.

Read PERC's Groundwater Conservation Easement policy brief at perc.org/groundwater.



Restoration Nation

America's Wildlife Habitat Conservation Act, Explained

BY JONATHAN WOOD

The habitat conservation bill isn't just a spending measure. It pairs that funding with policy reforms—some of which were inspired by PERC research—that would improve incentives for habitat restoration and wildlife recovery efforts. Here's how they work.

The greater sage grouse depends on private lands for habitat. Incentivizing landowners could help its populations recover.

In February, Congressman Bruce Westerman introduced America's Wildlife Habitat Conservation Act, a bill that would provide $1.6 billion in additional funding for state and tribal wildlife conservation efforts. The bill is similar to the Recovering America's Wildlife Act, a bill that has already shown bipartisan interest in enhanced funding for state and tribal conservation programs. The habitat conservation bill isn't just a spending measure, however. It pairs that funding with policy reforms—some of which were inspired by PERC research—that would improve incentives for habitat restoration and wildlife recovery efforts. While we can anticipate much debate on whether the proposed funding is enough, the common-sense policy reforms would allow conservation funding to go further. Here's how they work.

Greater Incentives to Recover Species

First, the habitat conservation bill includes a section that would improve incentives for states and landowners to recover endangered and threatened species. It directs the U.S. Fish and Wildlife Service, which implements the Endangered Species Act, to issue regulations for threatened species that set incremental recovery targets for the species and reward states and landowners with regulatory relief as those targets are met, giving them a direct stake in whether the species is improving or declining.

PERC's research pioneered this idea of designing threatened species rules as roadmaps to the species' recovery, by pairing objective, incremental recovery targets with gradual regulatory relief. It's an approach that's been gaining traction with experts and conservationists.

In 2020, the Defenders of Wildlife, the Nature Conservancy, the Environmental Defense Fund, and other conservation groups held a workshop to identify ways to "improve the ESA from a conservation perspective." The number one priority identified by the group was to "tailor protections" for species through rules "that account for whether a threatened species is improving or declining." Doing so, they explained, would "provide incentives to landowners to help reduce threats in an effort to move a species into a lower tier with its less stringent protection requirements."

David Willms with the National Wildlife Federation has also written that this reform "could facilitate faster species recovery, reduce delisting litigation, free resources for use on other vulnerable species, and rebuild support and trust for ESA implementation and state management from those most skeptical of each."

Better incentives to recover endangered and threatened species are urgently needed. Although the Endangered Species Act has proven effective at preventing extinction, we've fallen far short of the statute's ultimate goal of recovering species. This goal has been achieved for only 3 percent of listed species, and far fewer species have recovered than the Fish and Wildlife Service predicted should have by now. The service has also found that the percentage of species improving is in the low single digits.

The Obama and Trump administrations shared a rare point of agreement on how to improve incentives to recover species: reduce regulatory burdens as species progress toward recovery. The Obama administration relaxed regulations as species were upgraded from endangered to threatened more than "nearly every other presidential administration," according to Defenders of Wildlife.

Building on this policy, the Trump administration eliminated a presumption that threatened species should be regulated the same way as endangered species, effectively codifying the Obama administration's policy shift. In issuing this reform, the Fish and Wildlife Service explained that it would "incentivize conservation for both endangered species and threatened species" because "landowners and other stakeholders may see more of an incentive to work on recovery actions" if progress toward recovery led to regulatory relief.

If reducing regulations when species improve from endangered to threatened encourages conservation, then continuing to relax regulations as threatened species make further incremental progress toward recovery would provide even more incentives for habitat restoration and recovery efforts. It would also allow states to build trust with conservation groups and local communities by taking on management responsibility gradually while the species remains listed.

Restoring Forests

The habitat conservation bill would also overturn a controversial court decision, known as *Cottonwood*, that hinders the U.S. Forest Service's ability to protect and restore wildlife habitat in national forests. When the decision was issued in 2015, the Obama administration urged the Supreme Court to reverse it, explaining that *Cottonwood* could "cripple the Forest Service." Nearly 10 years later, that prediction has been borne out. According to the Biden administration, *Cottonwood* threatens to upend management of 87 national forests while the Forest Service spends "between 5 and 10 years and millions of dollars" on unnecessary paperwork, time, and money the agency doesn't have when facing a wildfire crisis.

Cottonwood concerns a seemingly technical issue that has a huge real-world impact. The Endangered Species Act requires agencies to rigorously review their proposed actions to ensure that they won't jeopardize endangered or threatened species. In *Cottonwood*, a litigation group challenged a Forest Service project intended to reduce wildfire risks near Bozeman, Montana, and, thereby, protect wildlife habitat and the town's drinking water supply. The project had been thoroughly scrutinized, but the group claimed this wasn't enough. The project must be stopped, it asserted, because the general forest plan governing the area did not consider critical habitat for the Canada lynx that was not designated until years after the forest plan was completed.

It is inevitable that some circumstances change during the years or decades between when a general plan is adopted and a specific project moves forward. That's why each project undergoes its own in-depth review. To require the Forest Service to start over every time there's a new development would be, as Senator Angus King colorfully described it, like redoing a city's zoning plan every time an issue arises in a single neighborhood. It doesn't serve conservation. The only people who benefit are litigants who view it as another tool to stop projects.

The Forest Service faces an 80-million-acre backlog in needed forest restoration. Recognizing the threat further delays in this critical work would pose for forest ecosystems and the wildlife that depends on them, conservation groups including PERC, Rocky Mountain Elk Foundation, Backcountry Hunters and Anglers, and many others have urged Congress to fix *Cottonwood*. Thanks to those efforts, the idea has gained bipartisan support. The habitat conservation bill would finally move it across the finish line.

Restoring Wildlife Refuges

The habitat conservation bill would also grant the Fish and Wildlife Service a "good neighbor authority" allowing it to partner with states, counties, and tribes to restore habitat and improve recreational opportunities on lands administered by the agency. The proposal is modeled on authority that the Bureau of Land Management and the Forest Service have enjoyed for decades, which they've used to increase their management capacity, encourage collaboration over conflict, and effectively manage ecosystems and resources that cross federal, state, and private land boundaries.

The Obama and Trump administrations shared a rare point of agreement on how to improve incentives to recover species: reduce regulatory burdens as species progress toward recovery.

The model has proven effective. It has allowed dozens of projects to restore national forests to go forward that might otherwise have been delayed due to conflict, a lack of resources, or too little manpower. The habitat conservation bill would give the Fish and Wildlife Service the same flexibility to manage areas critical to endangered and threatened species, migratory birds, and other wildlife.

Incentivizing Habitat Conservation

Finally, the habitat conservation bill codifies several existing Fish and Wildlife Service policies that have helped encourage voluntary species recovery efforts on private lands. These include "Candidate Conservation Agreements with Assurances," a type of agreement the Fish and Wildlife Service created to encourage conservation efforts for species being considered for listing under the Endangered Species Act. In exchange for these early efforts, the service provides a degree of certainty to participants about the regulations they'll face if the species is listed. Codifying this process would remove any legal uncertainty around these agreements.

The bill would also require the service to maintain confidentiality about the presence of listed species on private land. Landowners have long expressed concern that publicizing the presence of species on their land would open them up to litigation or other risks. As a result, many landowners refuse access to their land for scientists to study species and their habitats, limiting our knowledge of how well species are doing and what recovery efforts work. To help this problem, the service and several states have used confidentiality guarantees to encourage landowner cooperation. The bill would remove any doubt about the service's authority to do so.

Conclusion

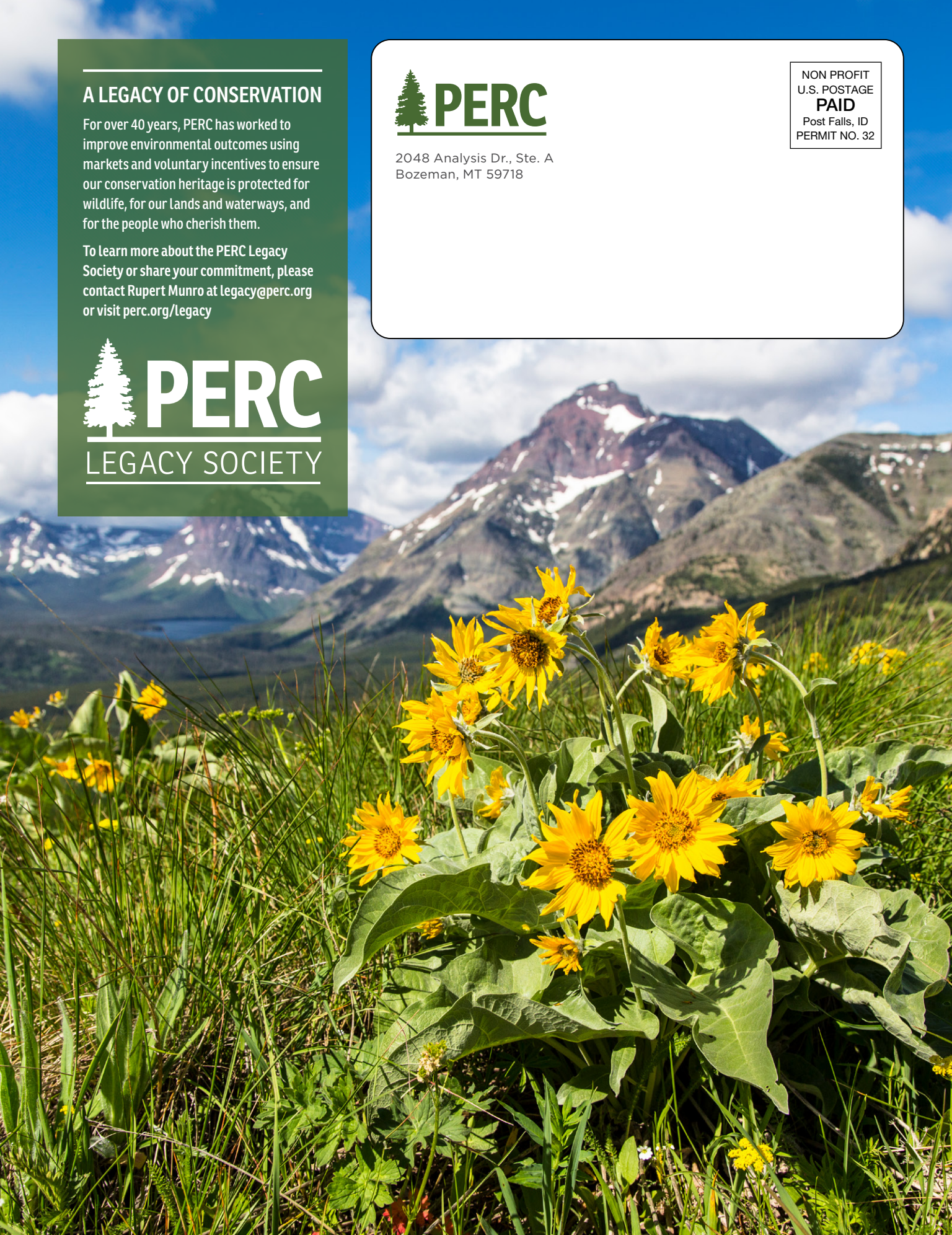
While more funding can help conserve species, money alone isn't enough. By removing regulatory barriers and improving incentives for proactive habitat restoration and other recovery efforts, the policy reforms proposed in the habitat conservation bill could make a big difference for endangered and threatened wildlife. Amidst so much posturing and conflict over wildlife policy, this bill is a substantive and serious solution that addresses real conservation challenges.

Jonathan Wood is the vice president of law and policy at PERC.

The Canadian lynx is listed as a threatened species under the Endangered Species Act. The cold-weather cat's future depends on protecting habitat at higher elevations and linking important corridors.

"In the stillness of the
Great Salt Lake, one can find a
sense of peace and serenity that is rare
and precious in our bustling world."

—Clarence Dutton



A LEGACY OF CONSERVATION

For over 40 years, PERC has worked to improve environmental outcomes using markets and voluntary incentives to ensure our conservation heritage is protected for wildlife, for our lands and waterways, and for the people who cherish them.

To learn more about the PERC Legacy Society or share your commitment, please contact Rupert Munro at legacy@perc.org or visit perc.org/legacy

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