SPRING 2024
$2.95
NationalParks
THE MAGAZINE OF THE NATIONAL PARKS CONSERVATION ASSOCIATION
THE LONG GOODBYE
Artists pay tribute to Olympic's melting glaciers.
ROCKY DAYS IN CHIRICAHUA
CHASING A TROUBLED RIVER
A PULLMAN SISTERHOOD

National Parks
SPRING 2024 / Vol. 98 No. 2

FEATURES

24
Rocky Days
How Chiricahua National Monument's hoodoos and history helped one writer find her footing in the great outdoors.
By Katherine DeGroff

34
Requiem for Melting Ice
An art project at Olympic memorializes the national park's shrinking glaciers. Grief is just part of the story.
By Kate Siber

42
Chasing a Troubled River
The mighty Colorado River and its tributaries run through seven states and 10 national park sites and provide water and electricity to millions of people. But the river is drying up, and the need to correct course grows more urgent every day.
Photographs by Pete McBride

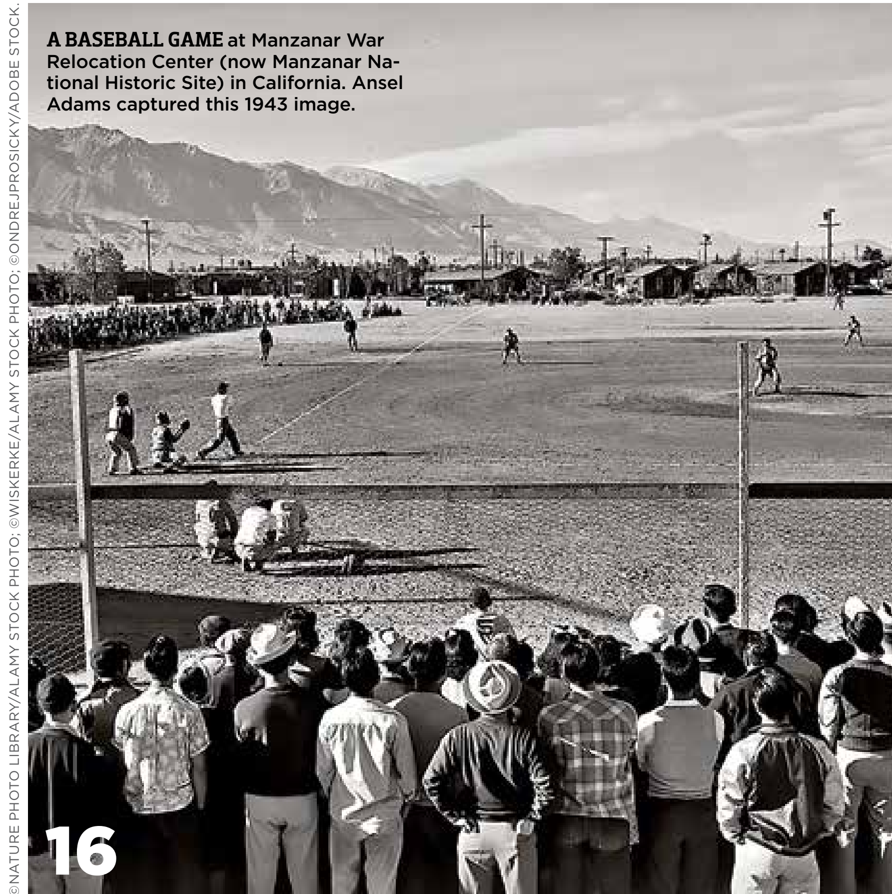
24

SEVERAL of Chiricahua National Monument's lichen-covered spires were given names such as Sea Captain and Duck on a Rock by Civilian Conservation Corps crews who worked there in the 1930s.
©LARRY GEDDIS/ALAMY STOCK PHOTO

COVER:
A MOSS WALL created by artist Kate Shooltz in honor of Akela Glacier, a rock glacier in Olympic National Park.
NPS

CONTENTS

National Parks (ISSN0276-8186) is published quarterly (December, March, June & September) by the National Parks Conservation Association, 777 6th Street NW, Suite 700, Washington, DC 20001-3723. Single copies are $2.95. National Parks® is a registered trademark of NPCA, ©2024 by NPCA. Printed in the United States. Periodicals postage paid at Washington, DC, and additional mailing offices. Articles are published for educational purposes and do not necessarily reflect the views of this association. POSTMASTER: Send address changes and circulation inquiries to: National Parks, Member Services, 777 6th Street NW, Suite 700, Washington, DC 20001-3723.



A BASEBALL GAME at Manzanar War Relocation Center (now Manzanar National Historic Site) in California. Ansel Adams captured this 1943 image.

CLOCKWISE FROM TOP: LIBRARY OF CONGRESS; ©NATURE PHOTO LIBRARY/ALAMY STOCK PHOTO; ©WISKERKE/ALAMY STOCK PHOTO; ©ONDREJPROSICKY/ADOBE STOCK.

DEPARTMENTS

SPRING 2024 / Vol. 98 No. 2

3 President's Outlook

4 Editor's Note

6 Letters

8 Echoes

10 Trail Mix
A park news junkie looks to pass the torch, a battlefield goes quiet in Pennsylvania, unearthing a pastime at Manzanar, a total park eclipse.

18 Denizens
Dung beetles perform invaluable ecological and janitorial services, but their influence has long been overlooked. In Great Smoky Mountains, researchers are finally giving much-deserved attention to the mighty insects.
By Nicolas Brulliard

20 Reflections
Switzerland conveys millions of hikers to alpine landscapes on trains, buses and gondolas. Is a Swiss-like transportation network the solution to overcrowding in U.S. national parks?
By Nicolas Brulliard

61 Backstory
The little-known story of the wives and maids who helped propel the Brotherhood of Sleeping Car Porters to a groundbreaking agreement with the Pullman Company.
By Katherine DeGroff

64 Photo Finish

ON THE WEB
Follow NPCA on social media platforms and get park news, travel tips and more on NPCA's blog: **npca.org/blog.**

BOARD OF TRUSTEES

CHAIR
***Elizabeth Waddill**, *Fort Worth, TX*

VICE CHAIRS
***Sändra J. Washington**, *First Vice Chair, Lincoln, NE*
***Nikki Buffa**, *San Juan Capistrano, CA*
***Bill Huyett**, *Concord, MA*

SECRETARY
***Roberta Katz**, *Palo Alto, CA*

TREASURER
***David Aldrich**, *Vienna, VA*
Donald B. Ayer, *McLean, VA*
Estela Avery, *San Antonio, TX*
Wendy Bennett, *Golden Valley, MN*
Jennifer L. Costley, *Olivebridge, NY*
Stewart C. Cushman, *Hermosa Beach, CA*
Dalia Dorta, *Denver, CO*
Shannon Dosemagen, *New Orleans, LA*
***James R. Floyd**, *Tulsa, OK*
Denis P. Galvin, *McLean, VA*
***Fernando Gracia**, *Arlington, VA*
Helen Hernandez, *Pasadena, CA*
***Vincent E. Hoenigman**, *San Francisco, CA*
Robert B. Keiter, *Salt Lake City, UT*
Linda A. Lam, *Los Angeles, CA*
Katharine Overlock, *Greenwich, CT*
Susan Pohl, *Seattle, WA*
Elizabeth Setsuko Raffin, *San Francisco, CA*
Kurt M. Riley, *Pueblo of Acoma, NM*
Robert D. Rosenbaum, *Bethesda, MD*
Jeff Sagansky, *Palm Beach, FL*
Lauret Savoy, Ph.D., *Leverett, MA*
William Taggart, Jr., *Madison, NJ*
Greg A. Vital, *Georgetown, TN*

TRUSTEES EMERITUS
William R. Berkley, *Miami, FL*
Diana J. Blank, *Bozeman, MT*
Sally Jewell, *Seattle, WA*
Gretchen Long, *Wilson, WY*
Glenn Padnick, *Beverly Hills, CA*
Thomas F. Secunda, *Croton-on-Hudson, NY*
Gene T. Sykes, *Los Angeles, CA*
Fran Ulmer, *Anchorage, AK*
H. William Walter, *Minneapolis, MN*

Executive Committee

EXECUTIVE STAFF
Theresa Pierno, *President & CEO*
Robin Martin McKenna, *Chief Operating Officer*
Tim Moyer, *Chief Financial Officer*
Adam Siegel, *General Counsel*
Kristen Brengel, *Senior Vice President for Government Affairs*
Laura M. Connors, *Senior Vice President for Membership*
Amy Hagovsky, *Senior Vice President for Communications*
Mary O'Connor, *Senior Vice President for Development*
Carolyn Curry-Wheat, *Vice President for Human Resources*
David Lamfrom, *Vice President for Regional Programs*
Priya Nanjappa, *Vice President for Conservation Programs*

REGIONAL OFFICES
Melissa E. Abdo, Ph.D, *Regional Director, Sun Coast*
Jim Adams, *Senior Director, Alaska*
Ernie Atencio, *Regional Director, Southwest*
Betsy Buffington, *Regional Director, Northern Rockies*
Crystal Davis, *Senior Director, Midwest*
Cary Dupuy, *Regional Director, Texas*
Rob Smith, *Regional Director, Northwest*
Edward Stierli, *Senior Director, Mid-Atlantic*
Ron Sundergill, *Senior Director, Pacific*
Kristen Sykes, *Regional Director, Northeast*

Big Things

©KATHY SMITH PHOTOGRAPHY

I often hear people say that one thing they love about visiting national parks is feeling part of something much bigger than themselves. I know what they mean.

It's sometimes hard to believe it's been nearly 20 years since I joined NPCA. I first worked to expand our regional operations — a stellar team that has grown to more than five dozen dedicated staff members working closely with partners, Tribes and local communities around the country — and in 2015, I became the first woman to lead this century-old organization. I feel enormously privileged to be even a small part of a proud and growing tradition of female park protectors.

Some of our best-loved and historically significant national parks only exist thanks to the foresight and determination of some truly remarkable women. Marjory Stoneman Douglas famously wrote about the Everglades and led the drive to preserve that singular landscape. Minerva Hamilton Hoyt so loved the desert where she found healing and solace that she spurred the creation of Joshua Tree. And Catherine Filene Shouse envisioned a new kind of park that could bring people from all walks of life together — ultimately donating the land to create Wolf Trap National Park for the Performing Arts in Virginia.

But I'm also inspired by women who not only help create parks but set an example we all can follow by continuing to protect and speak out for parks as they evolve.

Maxine Johnston is one of those people. For more than half a century, she has been advocating for Big Thicket National Preserve in Texas — which was established in 1974 — first by leading the association dedicated to its creation and testifying before Congress to urge its protection, and later, in the 1990s, by pushing for the park's expansion. But she also showed up to do her part at events such as the longleaf pine plantings NPCA and partners have organized over the past decade to help restore Big Thicket. Now well into her 90s, Maxine remains involved in protecting the park she loves — even recently protesting a proposed highway expansion that would have cleared acres of trees along the road to the park.

The parks often remind us, in the best way, how small we all are. People like Johnston remind us that while we may be small, we can do big things.

With gratitude,
Theresa Pierno

EDITOR'S NOTE

©RACHEL DELADESMO/NPCA

WATERLOGGED BUT HAPPY in Saguaro National Park.

Desert Downpour

As National Parks' editor, I spend a lot of time at my desk, but I believe that fully appreciating parks requires visiting them. So I was thrilled to escape the D.C. winter and travel to Saguaro National Park with colleagues recently.

I'd been excited when I spotted a lone saguaro outside the airport — little did I realize. As we headed parkward one morning, entire forests of cactuses materialized. I wasn't prepared for the sheer number of saguaros, standing like soldiers on hills and stretching across valleys. Blue sky battled with clouds on the drive, but when we arrived at a trailhead in the park's western district, Mother Nature ramped up the drama. The temperature suddenly dipped, and the skies opened. Cold rain quickly turned to hail. Soaking, but not exactly discouraged, we ran for our cars.

Once inside, ranger Raeshaun Ramon said he loves the rain, which is ecologically and culturally important to his Tribe, the Tohono O'odham Nation. "It not only revitalizes the land, but in a way, we feel rejuvenated," he told me later, adding that the desert smells different after rain, thanks to creosote. "You wouldn't know until you are there and immerse yourself in the surroundings," he said. "Then you'll understand."

I stuck my nose in creosote when our group finally hiked that afternoon. The sun briefly appeared then slunk away. The rain started, stopped, started. I got water on my phone and ended up with raindrops in every photo, which seemed about right. The hail returned, and I made a video. I was amazed at the size of the crystalline pellets and the crunching sound they made when they bounced across the ground.

Truly, this is why I do this. To be surprised and challenged. To see and smell new plants. To get drenched and warm up. The balmy weather I was expecting never arrived, but the park was beautiful, wondrous and weird. There's simply no replacement for being there. You just have to immerse yourself, and then you'll understand.

Rona Marech
NPMAG@NPCA.ORG

National**Parks**

EDITOR IN CHIEF: Rona Marech
SENIOR EDITOR: Nicolas Brulliard
ART DIRECTOR AND PHOTO EDITOR: Nicole Yin
ASSOCIATE EDITOR: Katherine DeGroff
FEATURES DESIGN: Jessie Despard
DESIGN CONSULTANT: Selena Robleto

NATIONAL PARKS
777 6th Street NW, Suite 700, Washington, DC 20001-3723
202.223.6722; npmag@npca.org

ADVERTISING INQUIRIES
YGS Group
3650 West Market Street, York, PA 17404

Natalie Matter DeSoto: 717.580.8184 | natalie.desoto@theYGSgroup.com
Marshall Boomer: 717.430.2223 | marshall.boomer@theYGSgroup.com

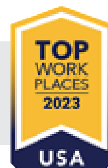
PRINTED ON 10% POST-CONSUMER WASTE RECYCLED PAPER

WHO WE ARE
Established in 1919, the National Parks Conservation Association is America's only private, nonprofit advocacy organization dedicated solely to protecting, preserving and enhancing the U.S. National Park System.

WHAT WE DO
NPCA protects and enhances America's national parks for present and future generations by identifying problems and generating support to resolve them.

EDITORIAL MISSION
National Parks magazine fosters an appreciation for the natural and historic treasures found in the parks, educates readers about the need to preserve those resources, and illustrates how member contributions drive our organization's park-protection efforts. The magazine uses the power of imagery and language to forge a lasting bond between NPCA and its members, while inspiring new readers to join the cause. National Parks magazine is among a member's chief benefits. Of the $25 membership dues, $6 covers a one-year subscription to the magazine.

NPCA has been recognized as a USA Top Workplace.



MAKE A DIFFERENCE
Members can help defend America's natural and cultural heritage. Activists alert Congress and the administration to park threats, comment on park planning and adjacent land-use decisions, assist NPCA in developing partnerships, and educate the public and the media. Sign up to receive Park Notes, our monthly email newsletter at npca.org/join.

HOW TO DONATE
To donate, please visit npca.org or call 800.628.7275. For information about bequests, planned gifts and matching gifts, call our Development Department, extension 145 or 146.

QUESTIONS?
If you have any questions about your membership, call Member Services at 800.628.7275. On a selective basis, NPCA makes its membership list available to organizations that our members may find of interest. If you would like your name removed from this list, please call us at the number listed above.

HOW TO REACH US
National Parks Conservation Association, 777 6th Street NW, Suite 700, Washington, DC 20001-3723; by phone: 1.800.NAT.PARK (628.7275); by email: npca@npca.org; and npca.org.

LETTERS

What a surprise to turn to "The Long Haul" and see Jill Baron's name and photo. I have not seen her name in print since my time in college, over 20 years ago. I read many of her research papers about nitrogen deposition for an air quality management class at the University of Colorado at Denver. She was in a class of her own, conducting cutting-edge research on the impacts of wind-carried nitrogen, particularly those stemming from the agricultural industry.

SHAYNE BRADY
Denver, CO

I read with great joyousness your article, "A Land Liberated." I seldom agree with our government's decisions, but this time our leaders got it right! I can only hope that the health of the land and the well-being of wild species will continue to win out over greed and indifference and mismanagement before we ruin it all!

JAMES MARTI
Edwardsville, IL

"On the Brink" [Fall 2023] addresses the impacts of natural (if accelerated) barrier island movement on real estate in the Outer Banks but ignores another significant problem: the utter domination of Cape Hatteras National Seashore's beautiful beaches by off-road vehicles. When my wife and I visited two years ago, ORVs were parked at the wrack line on the beach near Frisco campground, and the upper half of the beach was a two-way ORV thoroughfare where drivers often passed at inappropriately high speeds. Not only does this harm invertebrate creatures that live in the sand, but the vehicle tracks, which are virtually everywhere, are a visual blight. The most alarming indication of ORVs' primacy on the Outer Banks was the roughly 50 "beach ramps," consisting of cuts through the dunes where graded gravel roads provide beach access for ORVs. It is folly in a time of rising sea levels and intensifying storm activity to allow the continued existence of these ramps, which weaken the fragile thread of dunes that in essence *are* the Outer Banks.

I understand the myriad pressures faced by Park Service personnel to balance the agency's mission with the needs of visitors and local communities. On the Outer Banks, I believe that the balance has been tipped toward ORV use and that the Park Service should explore more ways to limit the impact of these vehicles.

MIKE DYER
Essex, MA

National Parks is pleased to announce it was recognized by the American Society of Magazine Editors Awards for Design, Photography and Illustration. The photo essay, "From Peak to Sea," by Craig Wolfrom in the Winter 2023 issue was a finalist in the Best Service and Lifestyle Story category.

Send letters to National Parks Magazine, 777 6th Street NW, Suite 700, Washington, DC 20001-3723. Or email npmag@npca.org. Include your name, city and state. Published letters may be edited for length and clarity.

"Why risk all of our environmental progress in Everglades restoration for what is, in effect, a few drops of oil?"

Melissa Abdo, NPCA's Sun Coast regional director, speaking to the Miami Herald about how oil and gas activities have harmed — and could continue to hurt — Big Cypress National Preserve. NPCA supports the Miccosukee Tribe's efforts to facilitate a buyout of the privately held mineral rights on roughly 420,000 acres of the preserve, which would halt fossil fuel exploration and extraction there, enhancing protection of the Greater Everglades ecosystem.

"We will commit to doing our best to ensure that this place, this story, the reasons that it's important — that it will be preserved and interpreted for the benefit of future generations."

Senior Program Director for NPCA's Pacific region Neal Desai, endorsing the proposed Bahsahwahbee National Monument in eastern Nevada in the Associated Press. Great Basin area Tribes are leading the campaign for a new monument, which they see as a fitting way to commemorate and preserve Bahsahwahbee, or the "Sacred Water Valley," where hundreds of their ancestors were massacred by the U.S. Army in the 1800s.

"If we just encircle our national parks with development and they become islands, then they won't survive the way people expect them to."

Kristen Brengel, NPCA's senior vice president of government affairs, detailing to Outside how the long-term vitality of national parks, such as Grand Teton, depends on intact landscapes. In December, Wyoming land commissioners postponed a critical decision regarding the fate of a parcel of land surrounded on three sides by Grand Teton National Park. NPCA is pushing for the tract to be transferred to the Park Service rather than auctioned to the highest bidder.

PHOTO: A CYPRESS DOME IN BIG CYPRESS NATIONAL PRESERVE, FLORIDA.

©PAUL MARCELLINI

KURT REPANSHEK with botanist Hillary Cooley at Everglades National Park.

©KIM O'CONNELL

Weary Traveler

For 18 years, Kurt Repanshek's passion has been the engine behind National Parks Traveler. But unless more reliable funding surfaces by this summer, he plans to walk away from the publication.

The first week Kurt Repanshek posted stories about national parks on a makeshift blog, he attracted more than 400 readers. "With no marketing, no announcement, nothing," he said. "It just really encouraged me that there was obviously a thirst for this type of content."

That was more than 18 years ago. A former Associated Press reporter, Repanshek was working as a freelance writer at the time, but the media industry was going through some seismic shifts, and magazine gigs were starting to dry up. Meanwhile, interest in National Parks Traveler, as he'd christened it, continued to grow. At some point, with the writing on the wall, he decided to go all in on the Traveler.

Since then, Repanshek has transformed the blog into a full-fledged, independent online media outlet with daily news, features, guides, e-books, an app and a podcast. He publishes 1,100-odd stories every year, has produced more than 250 podcast episodes, and boasts between 2 million and 3 million annual readers and listeners. (Legacy newspapers and magazines often pick up his stories — and spread the word far beyond that, Repanshek pointed out.) The Traveler doesn't only run easy-to-produce news stories on, say, search-and-rescue operations or misguided visitors who attempt to pet bison. To be sure, Repanshek is not above pushing out a quick hit based on a National Park Service press release, but he often publishes stories that dig into the meaty, complex issues that park sites face from climate change to visitation to morale among employees.

"He's looking into things in the Park Service at a level of depth and policy sophistication that is just lacking," said Bob Krumenaker, who retired last year as superintendent of Big Bend National Park. "I don't always love what he publishes, but I think he's the only one who's doing anything like that. And it's critically important to the Service and to the public who cares about national parks."

But the park news empire that Repanshek has painstakingly built may be about to come crashing down. After years of running the Traveler on a shoestring and serving as the only paid employee, Repanshek, who turned his business into a nonprofit in 2016, is tired of constantly chasing after funding, which primarily comes from individual donors. (Other contributors include park friend groups and NPCA, which gave a $7,500 matching grant last year.) A push this winter brought in enough money to keep the lights on for six more months, but Repanshek said that if he isn't able to raise around $200,000 by June to hire a proper staff and pay for freelancers and other costs, he's going to call it quits.

"Part of the problem is burnout. You know, just pure burnout."

"I've been kidding myself for all these years — next year, it's gonna be better. ... And it's never gotten better," he said. "Somebody told me that there's plenty of billionaires out there who love national parks. I haven't found one yet."

The archive of thousands of stories will also go dark, Repanshek said, because even that requires "care and feeding," and he can't picture keeping it up himself without funding. "The problem that the Traveler faces is that one person can't do it all. There are just so many moving parts between editorial and marketing and development and the whole IT thing and the daily generation of content," Repanshek said. "It's just not sustainable."

Over the years, various people have pitched in on a volunteer basis to write, photograph and otherwise work behind the scenes, but Repanshek, who is 67, has decided he needs considerably more help. "Part of the problem is burnout. You know, just pure burnout," he said.

REPANSHEK speaks with Pedro Ramos, Everglades' superintendent.

©KIM O'CONNELL

One thing that frustrates Repanshek is that only a tiny portion of the site's millions of consumers donate. But even if most readers aren't responding to his pleas for dollars, it is clear from perusing comments that a lot of them genuinely care about what he's doing.

"The cost of closing the National Parks Traveler is so much greater than the cost of operating it," one reader wrote. "Let's not let that happen."

In a recent phone call, Repanshek relayed the publication's origin story — tracing back to his first inkling about the magic of national parks. He recounted how, as a kid growing up in New Jersey, he read a story in National Geographic about a winter caretaker living deep in Yellowstone. "Turning the pages, I struggled to comprehend a landscape where snow falls so frequently, so deeply, that someone must shovel it from atop cabins and lodges," he wrote in a story about the very same winter keeper, which he published in the Traveler in 2005.

The first big landscape park Repanshek visited was Acadia National Park in Maine. He has a vivid though possibly unreliable memory of his father using rungs to hoist himself up a difficult trail — with their poodle under his arm. In the ensuing years, nature continued to exert its pull on Repanshek: He worked as a river guide in West Virginia during college and envisioned becoming a wildlife biologist. But undergraduate chemistry proved to be an insurmountable obstacle, so he veered into journalism and immediately was smitten. "It was like second nature for me," he said.

In 1993, Repanshek moved to Utah for his wife's job and decided to pursue

a freelance career. Based in Park City, he wrote a lot about skiing, but he was also frequently pitching environmental stories to magazines. Focusing on national parks felt like a natural step from there. He'd written "America's National Parks for Dummies," which came out in 2003, and he knew that parks could provide reams of rich material. Initially, he used the then-blog to track conservation issues and develop ideas, but before long, the Traveler assumed a life of its own.

Recently, the Traveler has published notable pieces about invasive species, the impact of oil exploration on Florida's Big Cypress National Preserve, the park system's repair backlog and the pitfalls of Recreation.gov. (Questionable fees that line the pockets of contractors instead of going to the parks is an issue that gets readers fired up.) For several years running, Repanshek has published an annual "threatened and endangered parks" package to highlight places at great risk due to threats such as over-crowding and sea-level rise.

Davitt Woodwell, the former president of the Pennsylvania Environmental Council, initially stumbled across the Traveler by chance — as many hardcore park junkies do — and, impressed by the coverage, ended up becoming a board member. "If you follow it, it allows you to become a better public lands owner," he said.

Repanshek's dream (beyond finding that billionaire) is to train someone to take over as editor-in-chief, which would allow him to pull emeritus status and semi-retire to travel and send dispatches from parks around the country, preferably overlooked gems. Get him going, and he'll happily rattle off a wish list that includes Little River Canyon National Preserve in Alabama, Organ Pipe Cactus National Monument in Arizona and Pictured Rocks National Lakeshore in Michigan. With the 250th anniversary of the country fast approaching, he'd also like to visit all of the park units that highlight Revolutionary War history.

"There are so many wonderful places in the park system that people are unaware of," he said. "It's just finding the time to get out to them."

–RONA MARECH

Give a Gift that
Pays You Back

With a charitable gift annuity through NPCA, you will receive fixed, unchanging payments that can never go down and you can never outlive — no matter what happens to the stock market.

We rasied our rates again!

Age	65	70	75	80	85	90+
Rate	5.7%	6.3%	7.0%	8.1%	9.1%	10.1%

Call **1-877-468-5775**, **scan the QR code** or visit **www.MyParkLegacy.org** to receive information about your rate.

Scan here!

A Muted Morning

How one Civil War site is dialing back the noise — and light — to provide a more inclusive park experience.

ILLUSTRATION BY FABIO CONSOLI

A hush tends to settle over Gettysburg National Military Park in the winter months. By then, the busloads of students and caravans of history-loving vacationers have dwindled. Dipping temperatures and bitter winds also tend to curb the enthusiasm of day-trippers. In wintertime, it's the truly hardy who venture out to the snow-frosted pastoral Pennsylvania landscape to learn about a Civil War battle where more than 50,000 men were killed, wounded, captured or pronounced missing.

On a recent Saturday morning, however, the park's museum and visitor center were even quieter than usual. Small clusters of people wandered from display to display, whispering to their friends and loved ones. The lights were dim, and all visible screens — from the waist-high interactive stations to the overhead projectors to the wall-sized screens nestled in alcoves — were dark. No historical narration or bugle reveille filtered out of the mounted speakers. The contemplative atmosphere could have been the result of a technical glitch, but in fact, it was intentional.

Starting last year, park and Gettysburg Foundation staff have held occasional "sensory-friendly" hours, during which visitors who crave a pared-back experience can explore the museum and famous Cyclorama exhibit free of sounds — and free of charge. The effort is just one of many being piloted by the park's small, but growing, education staff to make Gettysburg more welcoming to all. Barbara Sanders, the park's supervisory education specialist, said her team frequently fields special requests, such as providing battlefield tours and programs using American Sign Language interpreters. These inquiries have underscored a need for more accessible offerings, so they developed a 75-minute virtual tour of the park for those who can't visit in person and began hosting outreach events for people with limited vision or hearing. This year, they're adding to the lineup with programs for English-language learners, using local college students as translators.

"It's absolutely necessary for us to speak to ever-widening circles of visitors," said Sanders, who has been at the park for 25 years. To succeed on this front, Sanders said, means thinking about the experience of first-time visitors and those who learn and experience the world differently. She knows Gettysburg, with its heavy subject matter, poses an even greater barrier to entry for the average visitor. "The history of it, the specifics of it, the gravity of it," she said, "can be intimidating." And while the Gettysburg grounds, complete with rolling hills, woods and monuments, can provide opportunities for quiet reflection, the museum isn't set up for that. "There's just too much going on," Sanders said. "You can burn out quickly with all the stimulation. Any person can."

Hence this winter's sensory-friendly hours. Visitors with autism, post-traumatic stress disorder or attention-deficit/hyperactivity disorder — and their families and travel companions — are natural audiences for this kind of offering, but many other folks stand to benefit, too. Uma Srivastava, executive director of KultureCity, a nonprofit that focuses on sensory accessibility and inclusion, explained how anyone can experience changes and shifts in their senses throughout their life because of chemotherapy, epilepsy, stroke, illness or injury. "Often you don't even need a diagnosis," Srivastava said. Just look at how home-quarantining during COVID changed our comfort levels with crowds and public spaces, she said. "As we started going back into our typical environments — whether it's concerts, restaurants — a lot of us were apprehensive," she said. "A lot of us were anxious."

Gettysburg is not the first venue to offer sensory-friendly activities. In 2011, Smithsonian museums in Washington, D.C., became some of the first to host events for neurodiverse audiences with their "Morning at the Museum." Since then, countless other facilities have organized similar events. Over the last decade, KultureCity has certified more than 1,800 venues, from animal shelters to sporting arenas, as sensory inclusive. Initiatives like Gettysburg's quiet hours, Srivastava said, help people see opportunity rather than impossibility when conceiving of a park visit. "Maybe they love that part of American history, but they've never really had the chance to go because they just didn't know what the environment would be like," she said. "It allows a family to say, 'Hey, let's plan a road trip,'" she said.

While welcoming new families to the park is a priority, Sanders knew over-advertising these particular events would be counterproductive. "It's a sensory-friendly day," she said. "You don't want crowds and crowds of people." And so, they alerted area schools and put out a couple of press releases but didn't go overboard.

During the visitor center's quiet hours on Jan. 13, a pair of young boys excitedly questioned volunteer Tyrone Cornbower, who was staffing a "Hands on History" cart topped with sample cannon shells. Across the room, a family explored another cart draped in soldiers' clothing. A sign encouraged visitors to touch and try on the pieces, and two of the children immediately began strapping on canteens and belts. In the museum, couples and small groups of friends chatted sotto voce while wandering from exhibit to exhibit. Inès de Cacqueray, who'd traveled from New York for the long weekend, was enjoying the dimly lit displays and the silent monitors. "The museum is so well set up," de Cacqueray said. "I don't feel like I'm missing anything."

The only place with the occasional bottleneck was at the Cyclorama, French artist Paul Philippoteaux's depiction of the pivotal third day of the 1863 Battle of Gettysburg. Even there, though, people calmly made way for one another as individuals and groups circled the interior of the 360-degree painting of Pickett's Charge, pausing frequently to examine the horses and soldiers, fields and buildings that span the 377-foot-long and 42-foot-high work. Typically, the Cyclorama auditorium echoes with the sounds of rifle and cannon fire, designed to mimic the battlefield experience, while special lighting effects direct visitor attention to specific areas of the painting. While many people find value in the immersive display, others find it jarring. In an email, Christopher Gwinn, chief of interpretation and education at the park, went so far as to say the exhibit in its regular format "completely alienates" some visitors.

Those who showed up during this January's quiet hours were free to simply marvel. Chris, a Pennsylvania native, was preparing to visit the painting with Eric, a fellow college student. (Both men declined to share their last names.) Chris, who is autistic, had seen the Cyclorama during previous visits to the park. "It can be a lot," he said, before making an exploding gesture with his hand near his ear. He was looking forward to "just getting to view it all," he said, without all the extra bells and whistles.

Most visitors, even those not aware of the sensory-friendly hours, appreciated the relaxed experience, but not everyone was a fan. One man said the museum felt "weird." He and his family are members of the Gettysburg Foundation and regular visitors to the park. He admired the park for this initiative, but said, "I probably wouldn't have come if I'd known."

Luckily for him, at 11:05, as more families, a Boy Scout troop, and a woman in jogging gear arrived and prepared to enter the visitor center, a park staff member picked up a remote, pointed it at a TV and pressed the power button. Quiet hours — at least for that day — had officially ended.

—KATHERINE DEGROFF

BASEBALL PLAYERS at Manzanar. Games at the main field sometimes drew thousands of spectators.

COURTESY OF TOYO MIYATAKE STUDIO

A Diamond in the Desert

During World War II, Japanese Americans held at Manzanar found joy and normalcy in baseball. More than 80 years later, their field is back.

Sometimes history needs to be unearthed, and other times it just has to be weeded.

That's what 27 volunteers gathered to do last November at the Manzanar National Historic Site in California's Mojave Desert. The volunteers arrived to find 3 acres of tumbleweed that the National Park Service had marked for clearing. Buried beneath the brush was a baseball field where more than 80 years ago, Japanese Americans imprisoned during World War II found escape and normalcy by playing ball.

The manual labor was arduous, even for Mike Furutani, who lives on a flower nursery near Salinas and is accustomed to toiling under the sun. "Clearing the field by hand gives you a perspective of what the internees did back in the day," said Furutani, whose uncles and grandfather were imprisoned in a similar camp in Wyoming. "They did it all by hand, too. They must've really loved baseball, like I do."

The volunteers worked all weekend under the shadow of a guard tower, using picks, shovels, rakes and pitchforks to clear brush. By the time they were finished, tumbleweed piles — some taller than a person — were scattered across the field. "It reminded me of the barbed wire fences," Furutani said.

The ground was still uneven, but with boxes marking the bases, the field started to resemble the original. Furutani, who plays for and manages a Japanese American baseball team in Monterey, threw a few pitches from the mound. That's when the weight of the whole thing hit him. "I was thinking about the guys who had stood here before me," he said. "Baseball was their last hold on that belief that they were still Americans."

The Manzanar War Relocation Center was one of 10 incarceration camps where the U.S. government imprisoned approximately 120,000 people of Japanese descent from 1942 to 1946. Manzanar was a desolate, inhospitable place where summer temperatures could top 110 degrees and winters were bitterly cold. Strong winds would cake the camp in dust. Two-thirds of the 10,000-plus people confined at Manzanar were U.S. citizens, and the remainder were barred from naturalization because of their race. Those imprisoned there had no idea how long they would have to stay.

In the face of injustice, the residents of the camp made a community in the desert. They built gardens, established a newspaper, raised livestock and made furniture. The camp operated like a small town, with its own bank, barbershop and general store. Sports were a welcome distraction, and baseball took on special significance. Manzanar formed 12 baseball leagues with more than 100 teams whose games, on the camp's main field, drew thousands of spectators.

Manzanar ranger Sarah Bone said the Park Service and volunteers have long wanted to reconstruct the field, a project made possible in part by a grant from The Fund for People in Parks. She hopes future visitors will be able to play ball the way incarcerees once did.

"It makes that literal connection, that human connection," she said. "No matter what your background is, you're a human being playing sports behind barbed wire."

Dan Kwong, whose mother, uncles, grandmother and grandfather were imprisoned at Manzanar, said his mother played catcher on a softball team there and once busted her nose when a hitter threw her bat. A performance artist, playwright and documentary producer from Los Angeles, Kwong has played in California's Japanese American baseball leagues since 1971. These leagues, which began in Hawaii in 1899 then spread across the West, let people of Japanese descent pursue their love of baseball in a country that didn't always welcome them. Kwong was thrilled to get the email from Park Service staff about the plan to use archival photographs to re-create the field and offered to head up the volunteer effort. Now he's consulting with structural engineering and construction companies that are donating services to help build the backstop, fencing, announcer's booth, bleachers and player benches.

Kwong wants to finish the field for several reasons. In addition to his commitment to telling the Manzanar story — he's been visiting since childhood and volunteering since 2008 — he has been dreaming up a special day of baseball he's tentatively planning for September. It will be a double-header, with the first game between the Li'l Tokio Giants and Lodi JACL Templars, the two longest continuously active teams in Japanese American baseball. The second game will be an all-star game, a North vs. South matchup of California's top Japanese American league players. Kwong is raising money for that game to be played in 1940s-era uniforms with old-fashioned bats, gloves and gear. "It's going to be like time travel," he said.

Kwong continues to be inspired by the way his family and other Japanese Americans made the best of their terrible circumstances in the years they spent in incarceration camps. He credits their resilience to the Japanese value of "shikata ga nai," which translates to "it can't be helped."

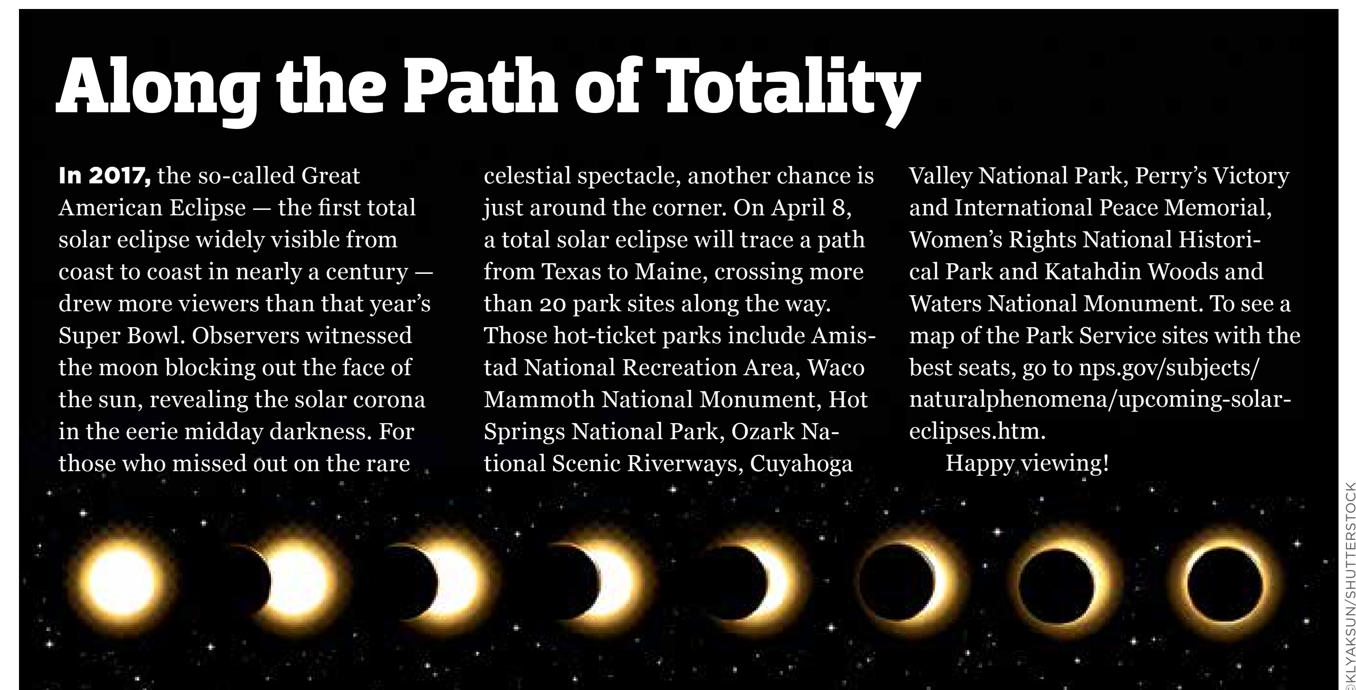
"It's part of a cultural stoicism that helps people to move on from difficult things," Kwong said. "The spirit of the community was, 'You can stick us out here in the middle of nowhere, but we're gonna live. We're gonna live life. We're gonna play baseball."

JACOB BAYNHAM is a freelance journalist in Montana.

Along the Path of Totality

In 2017, the so-called Great American Eclipse — the first total solar eclipse widely visible from coast to coast in nearly a century — drew more viewers than that year's Super Bowl. Observers witnessed the moon blocking out the face of the sun, revealing the solar corona in the eerie midday darkness. For those who missed out on the rare celestial spectacle, another chance is just around the corner. On April 8, a total solar eclipse will trace a path from Texas to Maine, crossing more than 20 park sites along the way. Those hot-ticket parks include Amistad National Recreation Area, Waco Mammoth National Monument, Hot Springs National Park, Ozark National Scenic Riverways, Cuyahoga Valley National Park, Perry's Victory and International Peace Memorial, Women's Rights National Historical Park and Katahdin Woods and Waters National Monument. To see a map of the Park Service sites with the best seats, go to nps.gov/subjects/naturalphenomena/upcoming-solar-eclipses.htm.

Happy viewing!



©KLYAKSUN/SHUTTERSTOCK

PHOTO BY ALEJANDRO SANTILLANA

RAINBOW SCARABS, one of Great Smoky Mountains National Park's dung beetle species, bury their so-called brood balls deeper as temperatures rise, perhaps indicating that they're adapting to climate change.

One Animal's Trash ...

Dung beetles perform invaluable ecological and janitorial services, but their influence has long been overlooked. In Great Smoky Mountains, researchers are finally giving much-deserved attention to the mighty insects.

FOR MONTHS, Maggie Mamantov traveled to points high and low in Great Smoky Mountains National Park to set up traps in the park's forests and meadows. The traps consisted of simple plastic containers that Mamantov buried in the soil, but the key to her trapping success was the bait: tennis-ball-size spheres of cow dung.

Dung beetles are not as celebrated as the park's black bears and elk, but they arguably play as important an ecological role as the park's larger denizens — they clean up after them. To a dung beetle, mammals' droppings are everything. Some beetles nest and mate directly in dung piles or patties, and most adults feed on feces. But more importantly, several species bury excrement — along with the seeds it contains — underground, aerating the soil and moving nutrients where they're needed. "Their role in the nitrogen and phosphorus cycling is really important," said Mamantov, who recently published the results of her survey of dung beetles in Great Smoky Mountains with Kimberly Sheldon, her colleague and then-doctoral adviser at the University of Tennessee. "And you know, there's a lot of dung being produced in the park."

For more than 25 years, scores of scientists have participated in a massive and unparalleled effort to document every single species in Great Smoky Mountains, from microbes to towering tulip trees, but until Mamantov's survey, nobody had conducted a formal inventory of dung beetles in the park. Mamantov was especially interested in determining the relative abundance and distribution of nonnative species. Decades ago, European dung beetles were introduced by cattle ranchers and federal and state agencies to various parts of the country. The insects have since spread to other areas, and some scientists are concerned that they might be squeezing out native species. Given the crucial roles dung beetles play in the park, it's surprising they've received so little attention, said Will Kuhn, the director of science and research at Discover Life in America, the nonprofit that supervises the All Taxa Biodiversity Inventory project that has cataloged more than a quarter of the estimated 60,000 to 80,000 species in Great Smoky Mountains. At the same time, "it's not *that* surprising, just because there aren't that many people in the world that work on dung beetles," he said.

Most dung beetles lay their eggs in dung, which serves as a food supply for the larvae, but species fall into three so-called guilds based on their breeding behaviors. Dwellers leave the dung in place and reproduce there, but tunnelers dig right underneath the patty and bring pieces of it down the hole. Rollers also bury the dung, but only after they've shaped it into a perfectly spherical ball and rolled it to a suitable location with their muscular middle and hind legs. (One *Onthophagus taurus*, a tunneler, was hailed as the strongest insect in the world after it pulled 1,141 times its own weight — the equivalent of an adult human pulling six double-decker buses full of passengers.) That rolling behavior drew the attention of ancient Egyptians, who reportedly believed that Khepri, the scarab-faced god, similarly rolled the sun across the sky. (See the depiction of a scarab at the Egyptian Temple of Hatshepsut in the image below.)

The services beetles provide are especially helpful to cattle ranchers, as cows produce large amounts of dung spread over relatively concentrated areas. "Cattle in particular don't like to graze around their dung," Mamantov said. "And so having the cow patties move underground faster means there's a larger percentage of the grazing land that is suitable for cattle." In addition, by breaking down patties, beetles reduce breeding grounds for flies and other parasites and help decrease their populations. But while the benefits of nonnative dung beetles to the cattle industry are well documented, questions remain about the possible drawbacks of imported species.

For her survey, Mamantov collected cow dung from organic dairy farms and heated it up in the lab to avoid introducing damaging microorganisms into the park. "It makes the whole building smell bad," she said. (Dung beetles relish omnivores' feces — Mamantov said she often finds beetles in her dogs' poop, and some researchers have used human excrement as bait — but she said she avoided those varieties because they are more likely to carry pathogens.)

Over the length of the beetles' active season, from April through September, Mamantov and a field assistant set up traps every two weeks at six sites and collected the beetles after about 24 hours. (That schedule was disrupted on occasion as some curious bears ripped the traps apart.) After identifying the captives, Mamantov would release the beetles on the spot except for a few specimens destined for the park's collections. In all, Mamantov collected 403 beetles ranging in length from a few millimeters to nearly an inch. Some sported horns, and coloration varied from black to the multihued body of the rainbow scarab. She collected representatives of nine different species, seven of them native to the region. Individuals of one nonnative species, *Aphodius fimetarius*, made up more than half of all collected beetles and were found only at high elevations. (The other nonnative species identified was the herculean *O. taurus*.)

Given the limited historical data, it's impossible to know whether the relative abundance of nonnative beetles means they've displaced native ones. Mamantov said some introduced species have the capacity to produce larger populations and process dung faster than their native counterparts, which, while it might sound like a good thing,

©GARY COOK/ALAMY STOCK PHOTO

could also lead to a loss of biodiversity. "I do think they have the ability to outcompete, or at least cause declines of native species," she said.

Mamantov's survey does not offer clues into whether or how the park's beetles are affected by climate change, but she said research in Europe has shown beetles shifted their ranges in response to warming, so it's possible that shift is also taking place in the Smokies. Also, Sheldon, who has studied dung beetles and their thermal tolerance for nearly two decades, conducted an experiment where she placed fertilized female rainbow scarabs in mini-greenhouses and found that they buried their brood balls deeper as the temperature increased, thereby insulating their larvae from both higher temperatures and temperature variations. The beetles' reproduction could still be affected negatively in other ways, Sheldon said, but "it's encouraging to know that they're responding in a way that appears adaptive."

Still, a warming climate could favor nonnative species at the expense of native ones — with unknown consequences for the ecosystems. In a separate study, Mamantov and Sheldon used halogen lightbulbs to mimic warming's impact on the breeding of two of the park's dung beetle residents and discovered that the offspring of *O. taurus* (the nonnative one) survived at a much higher rate than those of the native *Onthophagus hecate*.

"A lot of the traits that make invasive species good at invading also help them respond to climate change," said Mamantov, who is interested in further studying the effects of competition between nonnative and native dung beetles. "To me, those types of things are worrying."

NICOLAS BRULLIARD is senior editor of National Parks magazine.

©TANYA DEANS/SWISSFAMILYFUN.COM

A STREAM OF HIKERS in eastern Switzerland.

The Swiss Model

Switzerland conveys millions of hikers to alpine landscapes on trains, buses and gondolas. Is a Swiss-like transportation network the solution to overcrowding in U.S. national parks?

THE FIVE LAKES TRAIL just east of the Swiss town of Zermatt was "in a class of its own," according to the local tourism office, which was quite a statement in a region that may be the most picturesque in a very picturesque country. The online photos of pristine-looking — and deserted — alpine lakes reflecting the triangular silhouette of the Matterhorn seemed to substantiate that claim, and I looked forward to a 6-mile hike with ample opportunities for contemplation.

Getting to the trailhead had been a delight. I had left my rental car in the neighboring town of Täsch and hopped on a train for a 12-minute ride to car-free Zermatt. From there, a funicular ascended through a rock tunnel toward the 7,500-foot-high start of the trail. I imagined a glorious panorama of alpine peaks awaited me at the top.

Switzerland has repeatedly popped up in discussions about overcrowding in national parks in the United States. Many of these parks are accessible primarily by car, and some of the most visible issues associated with increased visitation have included long lines of cars at entrances, traffic jams and overflowing parking lots. So the idea is that if parks and gateway communities offered more public transportation options the way Switzerland does, and potentially made those mandatory, that would go a long way toward solving the crowd problem. On occasion, after hearing that I grew up in Switzerland, people made the same argument directly to me. I'd nod approvingly because I've been on enough Swiss trains and buses to know the country boasts a stellar public transportation network, but I also realized I knew next to nothing about whether this kind of approach could work in national parks. So, last summer, on my sabbatical — a benefit NPCA grants staff members after seven years of employment — I decided to see for myself whether the country deserved the accolades for the way it manages access to its public lands.

Fascination with Switzerland's handling of visitors to its alpine landscapes dates back more than a century. In an essay titled "Making a Business of Scenery," published in June 1916, Robert Sterling Yard, who along with Stephen Tyng Mather is credited with helping found both the National Park

Service and NPCA, wrote: “We want roads and trails like Switzerland’s. … We want lodges and chalets at convenient intervals commanding the scenic possibilities of all our parks.” It was a different time then, and Yard was not trying to limit visitation but to increase it. He bemoaned the fact that while, in his opinion, the beauty of Glacier, Mount Rainier and Rocky Mountain national parks surpassed that of Switzerland, many Americans preferred traveling to the Alps. Over time, Yard’s vision of lodges and roads was largely realized, and the number of visitors shot up to the point that some observers started to say national parks were being “loved to death.” In 1985, my former colleague Laura Loomis wrote in this very magazine that “once-narrow backcountry trails have become hiking highways … and on summer weekends scenic park roads resemble streets during rush hour.” These days, the number of annual visits to the National Park System is well above 300 million, and many individual parks continue to break visitation records.

The Park Service has used various strategies to mitigate overcrowding, from highlighting lesser-known alternatives to popular sites, to issuing permits for busy trails and promoting shuttle services, but many of the recent measures in the most congested parks have targeted cars. Visitors to Muir Woods National Monument in California must reserve their parking spots beforehand; Acadia National Park now requires reservations for the road to Cadillac Mountain throughout the high season; and under pilot programs at Yosemite, Glacier, Mount Rainier, Rocky Mountain and Arches, drivers must secure timed-entry permits or reservations to enter the parks or visit the most popular areas during the busy months. While recognizing the need for parks to welcome a more diverse group of visitors,

©KRISTINA BLOKHIN/ALAMY STOCK PHOTO

FOR MUCH OF THE YEAR, Zion National Park operates a shuttle system in Zion Canyon. Buses come every few minutes, but long lines are common.

NPCA supports these timed-entry systems when appropriate, and Cassidy Jones, NPCA’s senior visitation program manager, noted that the feedback from people who have used them has been “overwhelmingly positive.”

Since cars are a chief culprit, it’s logical to want to replace them with public transit options. Indeed, a Rocky Mountain historian told me the vast park could accommodate many more visitors if an expanded public transportation network could convey people to the park’s remote corners — and he cited the Swiss example as a model. Angus King, an Independent U.S. senator from Maine, did the same when he convened a hearing about national park overcrowding in 2021. “Many years ago, one of my sons and I had the opportunity to visit the Matterhorn in Zermatt, Switzerland,” he said in his opening remarks. “There are no automobiles in the town whatsoever — and it works.”

Or does it?

When I came out of that Zermatt funicular, my cheery mood quickly soured. It turned out I wasn’t the only one lured by the pretty alpine sights, and the easy access I had enjoyed had been, well, enjoyed by many, many others. The crowd at the top was reminiscent of one you’d see at a mall on a Saturday, and instead of contemplating the beauty of nature, I found myself contemplating our collective trampling of it. I started walking along with the multitude, but after making it to three of the five lakes, I decided that was enough and hurried out of there.

I did find Switzerland’s public transit options marvelous, but at times they were so plentiful that they seemed to compromise the very landscapes they gave access to. Occasionally, I was able to find solitude on the trail, for example at the breathtaking Greina Plateau — an area the Swiss decided not to turn into a national park. But when I visited the country’s most popular alpine destinations, I systematically encountered crowds. In Grindelwald, I was alone on the path toward the Swiss Alps Jungfrau-Aletsch World Heritage Site (except for a herd of cows that accompanied me partway), but I later met hordes of visitors who had traveled there on trains. When I hiked the steep trail toward the Aescher guesthouse in eastern Switzerland, I was pleasantly surprised to pass few others, considering that the inn acquired worldwide fame after National Geographic put it on the cover of its “Destinations of a Lifetime” book. But when I got there, the place was teeming with people, and I realized that while Aescher appears perched on a cliff, it is also easily accessible through a cable car ride and a short downhill walk.

About a third of Switzerland’s 9 million people are regular hikers, and millions of foreign tourists flock to the Swiss mountains annually. Mountain towns are highly dependent on tourism revenue, and placing limits on the number of visitors is pretty much unthinkable. Still, concerns over the impact of “overtourism” are slowly mounting. At Mount Rigi, where cogwheel trains and cable cars ferry 1 million people to the top each year, locals worried the “Queen of the Mountains” was being turned into a kind of alpine Disney World and signed a petition against the construction of a new gondola. The previous owners of the Aescher guesthouse decided to quit because they were overwhelmed by mobs of customers and selfie enthusiasts. “Protected areas are even more likely to suffer from overtourism because they attract large numbers of visitors with promises of pristine nature and unique and idyllic experiences,” wrote Francesco Screti, a researcher at the Université de Fribourg who oversaw a study of how overtourism affects alpine regions. “However, making these places accessible requires additional infrastructure. And if those investments help make tourism more sustainable (by replacing cars with trains, for example), they also provide access to increasing numbers of travelers.”

The Park Service’s mission mandates the agency to preserve parks’ natural resources while providing for the enjoyment of visitors. Reducing the flow of cars in parks is a win on both counts because it decreases car exhaust pollution and the risk of collisions with wildlife, and it lowers the likelihood of traffic jams and competition over limited parking spots. “Getting cars off the roads is something that has a lot of rationale for climate, and it allows just as many people to come through the doors and spend their money, and it reduces the negative visitor experiences of traffic,” said NPCA’s Jones. “But it creates its own problems eventually.”

Take Zion National Park. In many ways, the park has adopted a Zermatt-like approach. For most of the year, visitors who want to explore Zion Canyon must leave their cars behind and hop on one of the park’s free shuttles. The shuttle system, funded with money from entrance fees, runs efficiently, with buses showing up every few minutes. But when I visited with my family on a drizzly Thanksgiving Day last year, we waited 40 minutes to get on a bus at the visitor center and another 40 minutes for the return trip. The absence of cars is welcome, but the lines and crowds diminish the visitor experience, and the millions who visit the canyon annually do leave their mark, said Cory MacNulty, NPCA’s campaign director for the Southwest region. “There’s definitely resources impacts in terms of social trailing in the canyon,” she said. “It’s such a concentrated use, and there are some water quality issues when you have so many people in the Virgin River.”

Each national park’s geography and relative proximity to urban centers will require a specific solution informed by additional visitation management research, which Jones said is badly needed, but individual visitors also have a role to play. Like many others, I’m drawn to Delicate Arch or Yosemite Valley, but over time I’ve realized that I derive far more joy from wandering less populous and wilder landscapes.

During my Swiss odyssey, I found what I was looking for in the Swiss National Park, which was established in 1914. While the park’s peaks are not as high as the Matterhorn, wolves, lynx and bears have all been spotted in its forests of larch and spruce following decades of absence. After a staff member told me that parkgoers are “not allowed to do anything but look and hike,” I left the visitor center and began a one-way trek up to and beyond the 8,350-foot-high Murter Pass. Along the way, I encountered only a dozen hikers (including, oddly, two colleagues of a good friend of mine), but I spotted plenty of marmots, chamois, ibexes and elk — all creatures I hadn’t seen elsewhere on my trip.

The seven-hour hike was a challenging one, but a few minutes after I was done, a shiny and near-empty bus showed up. I climbed aboard, sat down and gazed contentedly out the window as the bus carried me all the way back to the visitor center.

NICOLAS BRULLIARD is senior editor of National Parks magazine.

THE MAINE WINDJAMMER ASSOCIATION
The adventure you've been looking for!
Our all-inclusive sailing vacations will leave you *refreshed* and *relaxed*
- Multi-night trips on Maine's midcoast, the best cruising ground in the country
- Lighthouses, islands and lobster galore
- Choose from our fleet of Maine's iconic and historic vessels
1-800-807-WIND
SAILMAINECOAST.COM

How Chiricahua National Monument's hoodoos and history helped one writer find her footing in the great outdoors.

Rocky Days

I slowed the car and peered at the unassuming sign: "No services." Six weeks prior, I'd suffered a life-threatening infection that resulted in a stint in intensive care, so this felt like a "here be dragons" challenge and warning in one. The prickle of unease was especially acute given that the illness had taken hold during my last camping adventure, and here I was, about to embark on another one.

The message's location perplexed me, though. Wouldn't a better spot for such a sign have been miles back, well before our arrival at Chiricahua National Monument? Say, sometime after my friend Andrea and I turned off the interstate from Tucson but before our surroundings assumed an almost fantastical severity? In that pocket of timelessness between departure and destination, we'd driven south through a seared and yawning valley, our view framed by the crenellated ridgelines of the Dragoon and Dos Cabezas mountains. The empty road, hazy with heat on that late October day, had dipped through arroyo after arroyo. Above, raptors perched on power lines, their sharp eyes surveying a battlefield of yucca, whose stalks shot skyward like swords. At one point, I'd begun counting and tallied a whopping six cars, one border collie and a dozen cows in the span of 40 miles.

No services, indeed.

By Katherine DeGroff

©E.J. PEIKER

(TOP) ©ALAN ENGLISH CPA; ©GREG MCCOWN SAGUARO PICTURES

THE VIEW WEST from Inspiration Point with Sulphur Springs Valley in the distance. Tens of thousands of sandhill cranes overwinter in this valley before returning to their northern nesting territories each spring (top). Bottom: Chiricahua National Monument became the 104th International Dark Sky Park in 2021 in recognition of its clear night skies. Previous page: View from Massai Point.

I'd come to Chiricahua to hike and stargaze and gauge whether — in my inexpert opinion — the 12,000-acre monument with no restaurant, lodge or gas station and minimal cell service warranted an upgrade to national park status, a move under consideration in Congress. (Spoiler: I think it does!) What really sold me, however, was the chance to see a coatimundi (picture a long-nosed, arboreal raccoon) and to reclaim my camping mojo. I wanted to test the limits of my healing body and prove to myself that a few nights in the wild wouldn't kill me. Andrea, the first friend I made when I moved to Virginia a dozen years ago, had simpler motives: She had vacation time to burn and knew I was in the market for a travel buddy. Luckily for me, Andrea shares my affinity for public lands and is as easygoing as they come.

Chiricahua National Monument encompasses the northern extent of the eponymous mountains in southeastern Arizona. The Chiricahuas, along with other ranges in this part of the world, are considered sky islands. These biodiverse havens — from the Sierra El Tigre in northern Mexico to the Animas Mountains in the bootheel of New Mexico — rise like islands out of an ocean of scrubland, their canyons, hillsides and summits providing a variety of habitats unavailable on the valley floor. With their jumble of ecosystems, sky islands meet the needs of a rich and remarkable assortment of montane- and desert-dwelling species. In the Chiricahuas, for example, you can find ring-tailed coatis alongside hoglike javelina, petite Coues deer sidestepping prickly pear, Mexican chickadees flitting over cinnamon-barked manzanita, and Douglas fir tucked up beside Apache pine.

After registering the "no services" sign and cruising past the unstaffed entrance station, we continued to the monument's visitor center, arriving two minutes before closing. I snagged a map and, unable to help myself, asked the white-haired volunteer at the front desk about the best place to find coatis. She said that they often appear near the visitor center around that time of day, so we scrambled outside and struck out for some quick reconnaissance on the nearest trail. I'd skimmed my hand across the chunky bark of an alligator juniper and skipped over piles of scat before the reality of our surroundings sunk in. Gone was the sun-flayed valley. In its place was a pine-scented forest cloaked in shade. "It's so quiet," I whispered.

That evening, having failed in our cute-critter quest, we pitched our tent beneath a listing oak at the park's lone campground. Like much of Chiricahua, the campground — with its 25 sites — feels intimate rather than sprawling. I'd reserved our spot knowing it was nestled alongside Bonita Creek, forgetting that the streambed would be dry this time of year. Rather than the soothing sounds of a brook, our site's soundtrack consisted mostly of the ping and plink of falling acorns.

After we added boiling water to our dehydrated meals, Andrea scurried to her suitcase. She returned with a stuffed blue bear, plopping it beside our stove. I looked at my friend and raised my eyebrows in question. Turns out, her 8-year-old had insisted she pack said bear because it would, magically, improve the flavor of our camp food.

Night fell quickly, accompanied by a welcome chill and a handful of swooping bats. Donning our headlamps, we walked to the main road for a glimpse of unobstructed sky. Andrea, a self-professed space nerd, was particularly excited about the monument's status as an international dark-sky park. "I love this," she said, as she peered through her binoculars. We'd hoped to observe the

©KAREN MINOT

CHIRICAHUA IS LOCATED about 120 miles east of Tucson, Arizona. The high-elevation park is open year-round, although rockslides or floods may periodically close portions of the road or campground. There are no services aside from restrooms and water refill stations. (The darker green indicates designated wilderness, which spans 84% of the monument.)

THE IMPRESSIVE rhyolite pinnacles of Organ Pipe Formation resulted from an explosion 1,000 times bigger than Mount St. Helens' 1980 eruption (top). Above: Chiricahua's location at the intersection of montane and desert ecosystems provides rich habitat for a variety of species, including (from left to right) Yarrow's spiny lizard, elegant trogon and coatimundi.

TOP: ©DANITA DELIMONT/ALAMY STOCK PHOTO; BOTTOM (LEFT TO RIGHT): ©JOE DECKER/ALAMY STOCK PHOTO; ©FRANCIS MORGAN; ©TOM TIETZ/SHUTTERSTOCK

Orionids, meteoric dust from Halley's comet, but the evening was too young, the moon too bright. We examined a few lunar craters, located the star Vega and then shuffled back to camp.

The next day, after shaking off our stiffness, we set out for one of the National Park System's last maintained fire lookouts, perched atop the 7,300-foot summit of Sugarloaf Mountain. The road to the trailhead ascended past lichen-smeared pinnacles before turning sharply. "Oh, wow!" Andrea gasped. The canyon had disappeared, replaced by a world of cascading ridgelines that stretched east into New Mexico.

After parking, we commenced the hike, tracing outcrops of chalky tuff before dipping through a tunnel. Andrea snapped pictures of the trailside foliage, as both of us struggled to identify the dainty flowers of one plant, the silvery leaves of another. By the time we'd worked our way around the Sugarloaf knob, our focus shifted, lifting to take in the expanse. Peachy pillars, anointed by sunlight, marched up the opposite ridge. We'd found what the Chiricahua Apache, who explored and moved through the region for centuries, called a land of "standing up rocks." (A nomadic people living in scattered family groups, the Chiricahua left little evidence of their presence in the area aside from sparse circles of rocks indicating the one-time presence of shelters known as wickiups.)

A series of volcanic eruptions 27 million years ago spewed superheated gas, rock and ash across 1,200 square miles, blanketing the Chiricahua landscape in a debris layer some 1,600 feet thick. As the material cooled, it formed a rock called rhyolite. Then, at a rate of two-thirds of an inch per millennium, wind and rain, freeze and thaw cycles ate away at the rock, chiseling, carving and smoothing the expanse into a dizzying array of hoodoos.

On various hikes over the next few days, Andrea and I would marvel at these pyroclastic formations. We walked through valleys of cantilevered stone and beside slabs stacked like the cairns of giants. We spied one that looked like the Stay Puft Marshmallow Man and scores that could have been victims of Medusa. Walking alone up Lower Rhyolite Canyon on my last day in the park, I found myself in an amphitheater of these stony spectators. The feeling could have been eerie, but it wasn't. I found comfort in the silence of their sentry, as if they possessed the wisdom of the ages.

Back at Sugarloaf, we pulled ourselves from the panorama long enough to reach the 1930s fire lookout. A squat building — half glass, half stone — it exudes a certain stoic melancholy. I peeked in at the deep enamel sink and the rust-red hand pump before pivoting for the 360-degree views. The peak known as Cochise Head in honor of the Chiricahua leader lies to the northeast. (It does, indeed, resemble a person's profile, complete with an evergreen eyelash.) The volcano's shriveled remnants are just visible to the south. And to the northwest, Sulphur Springs Valley unfurls for some 40 miles before butting up against the tiny town of Willcox. We could have lingered longer, but we were late for a date with some birds.

I have to admit, birding's not my thing. But it *is* a thing at Chiricahua, where more than 200 species have been cataloged. And so, armed with my husband's binoculars and Andrea's checklist, we descended from one of the highest points in the park to the grasslands at Faraway Ranch for a ranger-led walk. I had passing success pinpointing the chubby ruby-crowned kinglet and dusty gray canyon towhee based on the group's excited exclamations. But soon all the squinting and zooming lost their appeal, and I found myself falling behind, more enchanted by a historic windmill and a peculiar fireplace along the back wall of a pale pink home. I was contemplating the chimney stones, trying to decipher the dates and names engraved on each, when a wiry woman I initially mistook for a birder approached.

JoAnn Blalack has been the resource manager for a trio of southeast Arizona parks, including Chiricahua, for four years. She'd seen our bevy of birders while on her morning walk and decided to tag along. Noticing my interest in the fireplace, Blalack explained

Fort Bowie Side Trip

If you want to get well and truly off the beaten path, Fort Bowie National Historic Site, which sees fewer than 10,000 visitors a year, might be your jam.

Located about 10 miles north of Chiricahua as the crow flies, this 1,000-acre park unit sits in a high-elevation valley between the Chiricahua and Dos Cabezas ranges. There are two routes to reach Fort Bowie, but both include driving on unpaved roads through some of the scrubbiest land imaginable. Then, it's a 1.5-mile hike from the parking lot to the staffed visitor center. If your trip is anything like mine, you won't see another soul for the entire journey. Despite this forbidding desolation — or perhaps because of it — the trail is a wonder. Wild and exposed, it winds through grasslands, plunges through washes and meanders beside mesquite, acacia and cholla before petering out in a field scattered with the fort's adobe ruins.

Fort Bowie preserves a story of wagon trains and solar telegraphs, of U.S. soldiers and Chiricahua Apache. It's the age-old story of cultural misunderstandings coupled with the horrors of colonialism. Because of its topography, this land proved to be a valuable east-west transportation corridor in the 1800s. Fortune hunters traipsed through Apache Pass on their way to California during the Gold Rush days. Mail wagons followed on their 2,800-mile journey between Saint Louis and San Francisco. The Chiricahua Apache largely coexisted with this influx of travelers until 1861 when a boy was kidnapped, and Chief Cochise's band was wrongly blamed. Skirmishes, raids and prisoner-taking defined the ensuing Apache Wars. Construction began at Fort Bowie in 1862 as the U.S. Army scrambled to secure the area. About a decade into the conflict, the two parties agreed to the establishment of a Chiricahua Reservation on the Tribe's homeland, and for four years peace reigned. When the government abolished the reservation, however, hostilities resumed and bled into Mexico as both countries' forces sought the capture of Geronimo, Cochise's successor. Eventually, all of the Chiricahua were rounded up and sent by train to Florida. Those who didn't die of malaria were later moved to Alabama before being relocated to a reservation in Oklahoma. Fort Bowie was decommissioned in 1894 and became a unit of the Park Service in 1972.

how the blocks had been hewn and engraved by buffalo soldiers of the 10th Cavalry Unit, one of four all-Black regiments created after the Civil War. The men were stationed in the vicinity of Bonita Canyon during the final years of the Apache Wars, when the U.S. government — intent on opening the area to ranchers — engaged in a tragic and bloody decadeslong offensive that culminated in the Chiricahua Apache's removal. (Read more in the sidebar.) Before moving north to Fort Verde, the soldiers erected a monument to President James Garfield, the theory goes, because he supported equal pay for Black and white troops. When no federal funds arrived for the structure's upkeep, Lillian and Ed Riggs — then owners of the land — used the stones to craft a fireplace for their ranch house as a last-ditch, if questionable, effort at preservation.

After admitting she's not holding her breath for a national park designation ("they've been talking about that since I got here"), Blalack peeled off, leaving me to catch up with the group. We passed through an orchard, rife with aging persimmon trees, and by the remains of a cabin once owned by the Riggses' neighbors. While a few settlers made their homes here at the turn of the 19th century, it was the Riggses, and Lillian's mother, Emma Erickson, who arguably left the biggest mark.

In 1886, the same year the Chiricahua leader Geronimo surrendered and the Apache Wars ended, Emma, a 32-year-old Swedish immigrant, purchased a two-room cabin. (This building would evolve over time, morphing into the pink homestead I'd admired earlier.) "She found the place and thought it the most gorgeous spot she had ever seen," wrote her husband Nels Erickson in Hoofs and Horns magazine. "Large oak trees lined the canyon, grass was three feet high wherever she walked, and Bonita Creek was then running like a full sized river."

Emma would work this land for most of her life, raising a family and running the ranch. Nels (also known as Neil) helped when home, but it was 15 years before he found a nearby job, meaning he was often gone for months on end. Lillian followed in her mother's footsteps and took over the family business, which eventually grew to include a guest ranch. She and Ed became leading advocates for the creation of the monument, offering horseback tours through what was billed then, as now, as a "wonderland of rocks." Their passion paid dividends when President Calvin Coolidge established Chiricahua National Monument in 1924.

GERONIMO, a fearless leader of the Chiricahua Apache, evaded Mexican and American forces for more than a decade before formally surrendering in 1886 (top left). Top right: Lillian Riggs, known as "the lady boss of Faraway Ranch," in a photo circa 1919. She continued to oversee ranch operations for nearly 30 years after her husband died in 1950. What little of the homestead hadn't been sold to the Park Service during her lifetime passed to the park two years after her death, safeguarding this window into frontier history. Above: Many of the park's trails date back to the 1930s, when Civilian Conservation Corps crews, led by Ed Riggs, created them. The crews also built Park Service housing and lugged lumber to the top of Sugarloaf Mountain to construct this fire lookout.

CLOCKWISE FROM TOP LEFT: LIBRARY OF CONGRESS; NPS; COURTESY OF ADAM MARTIN, ADAMMARTIN.SPACE

As Andrea ticked off birds she'd spotted, from the Say's phoebe to the Arizona woodpecker, I snapped a final photo of the ranch's weather-beaten barn and headed to our rental car. We had one more hike to go.

This one, a succession of connecting trails, traversed the core of the monument. We'd hoped to complete the Heart of Rocks Loop but found, a couple of hours in, that our eyes were bigger than our legs. We'd both packed enough water, but neither of us had our headlamps (rookie mistake), and I was worried about waning daylight, flagging endurance and the raw patch along my spine courtesy of my chafing backpack. So, we plunked down on a fallen tree to consult the map. We opted to cut our hike short after detouring out to the aptly named Inspiration Point where we stumbled across a metal container emblazoned with the words "open me." Popping the top, I leafed through a quirky mix of messages and images, wet wipes and candy wrappers. I got sidetracked reading a note about someone's first kiss and missed the lewder content that had Andrea averting her eyes. We closed the box. After a selfie in front of the spiry view, we about-faced and hiked out the way we came.

That night, we returned to our campsite and were immediately greeted by our neighbor: a wriggling, 6-month-old pup named Bluetooth. All around us, the campground flared to life in the peaceful gloaming. The patter of baseball game announcers filtered out from an RV. Savory smells wafted from grills. A Mexican jay hopped close, cocking its head as if begging for a handout. An owl hooted. More acorns fell. While we sat hunched over our meal pouches, Sanober Mirza, a colleague from Tucson who had serendipitously picked the same weekend to go camping, sauntered up. "Did you see coatis?" they asked. I shook my head, so Sanober whipped out a phone and pressed play. I sat, amazed, as I watched a band of maybe 30 coatimundis tumble across the screen. Sanober had encountered the racoon relatives just that afternoon. The cuteness was off the charts.

In the small hours of the morning, I crawled out of the tent to watch another day unfold. I hugged my knees and craned my neck. Just before the stars vanished into a whitewashed dawn, a meteor slashed across Orion's Belt.

I had another day to explore the park, but Andrea needed to get home for a meeting. So, after rolling and stowing her belongings, we drove to the Natural Bridge trailhead for a pre-airport jaunt. Breaking into an arena of agave and stone, Andrea paused to set up a coffee station on a flat rock. As she sipped, sunlight and silence settled around us, wrapping us each in our thoughts.

On the way back to the car, I asked my friend if anything had surprised her about Chiricahua. After considering her response, she said something about how the monument felt approachable, going so far as to call it "cozy." That seemed an odd way to describe a park, but the more I thought about it, the more the word fit. Chiricahua is just large enough that you can have an adventure and see some beautiful and surprising things, but not so big as to overwhelm. It may require time — and intention — to get here, but once you arrive, it doesn't take hours to drive from one end of the park to the other. There is, in fact, just one park road and only a handful of parking lots. And while there are only about 15 trails, many of them connect, turning every outing into a pleasing series of fork-in-the-road questions: Do I turn left and return to my car, or do I go right for an additional 3, 6 or 12 miles?

All of this creates a sense of community among the monument's visitors, which numbered around 60,000 in 2022. I've never been to a park and encountered the same people over and over, but on this trip, Andrea and I did. Fellow birders turned out to be campground neighbors. Sanober and I ran into each other outside the campground restroom and again on Ed Riggs Trail. Even the strangers we passed while hiking the crowd-free paths were unusually amiable. When I offhandedly said "Roll Tide" to a guy in an Alabama shirt, he paused to chat. "People might wonder why I'm not watching the game," he said. He shrugged, lifting his hiking pole: "I'd rather be out here doing this."

The things that make Chiricahua so charming, however, also raise questions about its ability to handle an influx of visitors if it becomes the 64th national park. This year marks the monument's centennial, and momentum seems to be building for a new designation. Those who hope Chiricahua joins the sisterhood of national parks see a status change as affirmation of the monument's worthiness. Others wonder if a new title would attract hordes of motorists and hikers, simultaneously harming a landscape that consists primarily of designated wilderness and detracting from the visitor experience. During Saturday night's campground program, someone asked how the park site would manage a surge in popularity. "That is the 6-million-dollar question," said Suzanne Moody, a ranger who's served Chiricahua for 29 years. "Enjoy the peace and quiet while you can."

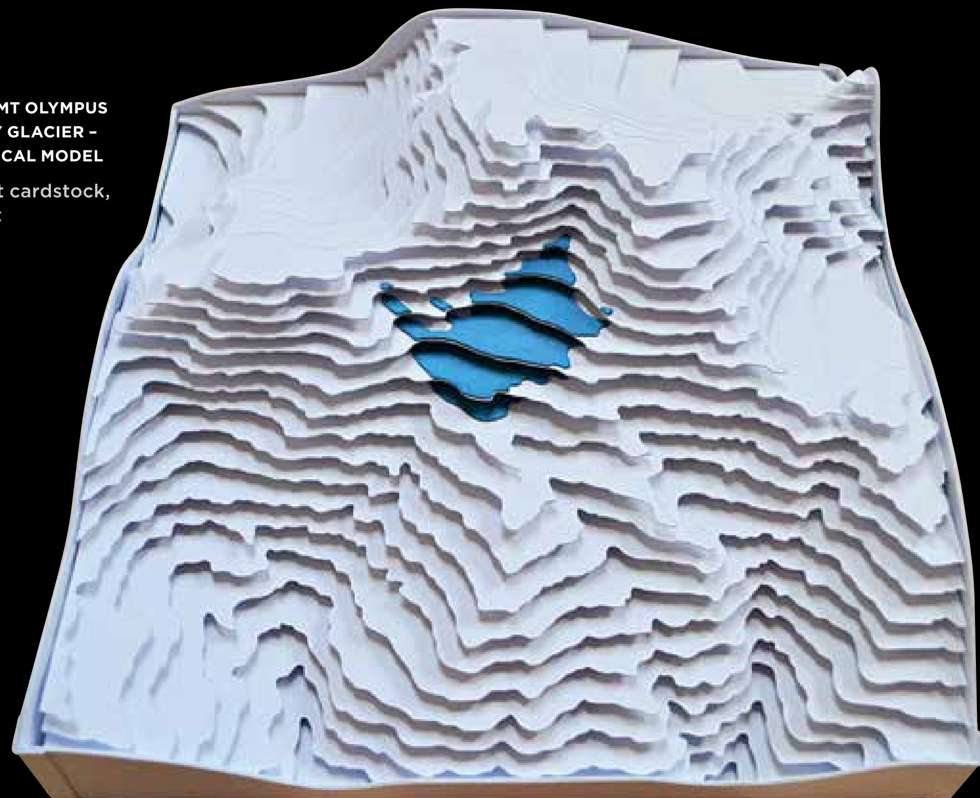
After dropping Andrea at the airport, I returned to the park just in time to see a roadrunner and a coyote cross the road — a cartoon come to life. Then, with the ranger's warning ringing in my ears, I headed out for one final hike to soak in Chiricahua. I lengthened my stride as the sun rose, bathing the rock formations in a honeyed glow. The path curved, and I tripped, coming perilously near the edge. I found myself reflecting on this crazy, fragile, no-guarantees world, where one moment you're cruising along, invincible, and the next a careless step or an invasion of bacteria forces you to confront your mortality. Before turning around to start my long journey home, I slowed my breathing — in, out, in — each breath a meditation in gratitude. I had crossed the "no services" Rubicon, and I had survived.

I never did see a coati. But you know what? That's OK. I'll just have to come back.

KATHERINE DEGROFF is associate editor of National Parks magazine.

DIANE WILLIAMS | HANGING GLACIER AND THE LOSS OF BLUE

burlap, thread, beads, fabric paint, Sharpie, alcohol, Tyvek



ERIN ZITER | MT OLYMPUS – UNIVERSITY GLACIER – TOPOGRAPHICAL MODEL

machine-cut cardstock, acrylic paint

Requiem For Melting Ice

An art project at Olympic memorializes the national park's shrinking glaciers.

Grief is just part of the story.

By Kate Siber

Disappearing glaciers is a depressing topic — and a hard one to broach. Eliza Goode, a visual information specialist for Olympic National Park, has often noticed how quickly visitors become overwhelmed when learning about how warming temperatures are affecting the park, yet addressing the climate crisis is a critical part of her job. After all, between the early 1980s and 2015, the total surface area of park glaciers had shrunk by 46%. Dozens of glaciers have melted away, and the remaining ones are projected to be virtually gone by 2070. How, Goode has often wondered, can staff inform the public while offering some sense of hope and avoiding the pitfall of despair?

One day, in 2019, in the middle of an ordinary staff meeting, an idea flashed into Goode's mind. What if she and her colleagues assigned an artist to every glacier in the park and asked each to create a commemorative artwork? "The concept was, these glaciers are going to vanish," she said. "They're not going to last probably even my lifetime. They shouldn't just wink out unnoticed. Something should stand in memorial. Something should be evidence of what they meant and what they did and their place in the ecosystem, a sign and a memory of them being here."

The glaciers are inherently beautiful, but as they vanish, so much more than that is at stake. Because they act as water

storage systems, when they fade, streams flow lower and warmer, which harms aquatic animals and plants. A diminished water supply also affects everything from agriculture to hydropower to drinking water.

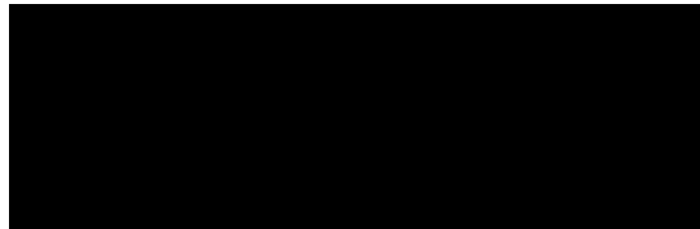
Goode's goal was to create an "artistic elegy" to make climate change, an enormous and abstract issue, more personal and comprehendible. These art pieces, she hoped, would help people process, mourn and reflect, and they would provide an opportunity for viewers to transcend what Goode calls apocalypse fatigue. "When you feel the spark of courage and connection with others, action becomes so much more possible," she said. "But what that action may be will look different for everyone, and I think that's actually a good thing, because people have all different kinds of gifts and abilities and strengths to bring as we face the challenges of climate change."

About a year later, park staff secured funding from Washington's National Park Fund, the philanthropic partner of the state's national parks, to support the project. It became known as Terminus, the word not only for an end point or final station, but also for the foot of a glacier. As project manager, Goode put the call out to artists in the spring of 2022, asking them to submit applications detailing what kind of artwork they would make to honor their prospective glacier and what inspired them about the project. Out of 168 applications, staff chose 40 artists.

"We wanted artists from all over the world to be a part of it and create art accessible to people anywhere in the world," Goode said. "Most people will not get to see the Olympic glaciers in person, so we wanted to find a way to bring the glaciers to everyone."

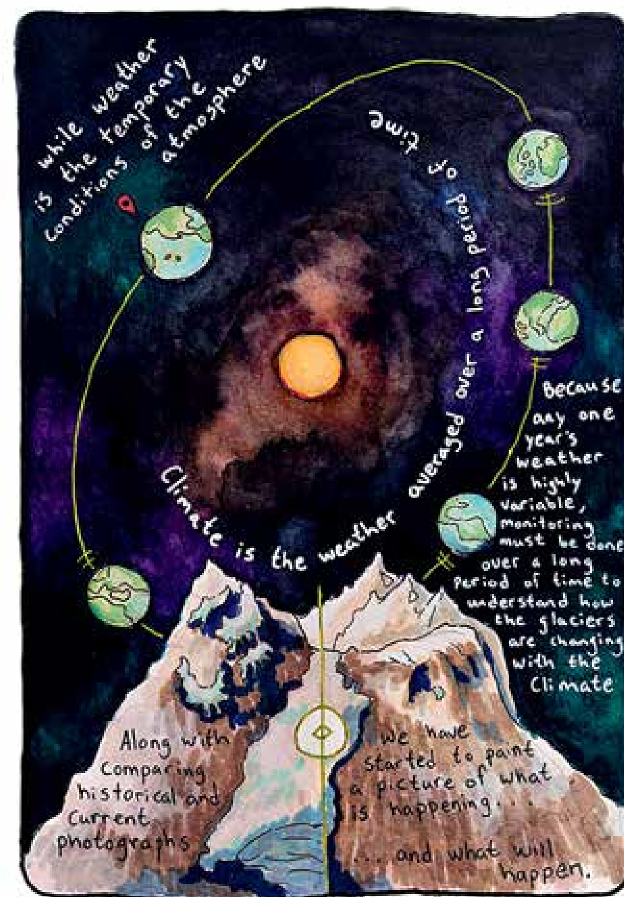
With help from Bill Baccus, one of Olympic's scientists, Goode matched each artist with a major glacier and supplied them all with a packet of information that included the glacier's location and watershed, past and current photographs, and if possible, historical background. Eighteen artists sought out more detailed scientific information from Baccus, who oversees climate monitoring efforts in the park. He ended up sending out research papers, answering questions about everything from park waterways to glacial science, and sharing personal stories from his experiences hiking through and studying the park.

Over the following year, the artists, who hailed from across the country, Canada and Belgium, worked in art forms including painting, drawing, sculpture, poetry, weaving, dance and musical composition, wood carving, stained glass, and film. A few artists were already familiar with their glaciers, a handful came to visit them, and others memorialized them from afar. Many connected with each other through a Facebook page, trading stories about their creative processes.



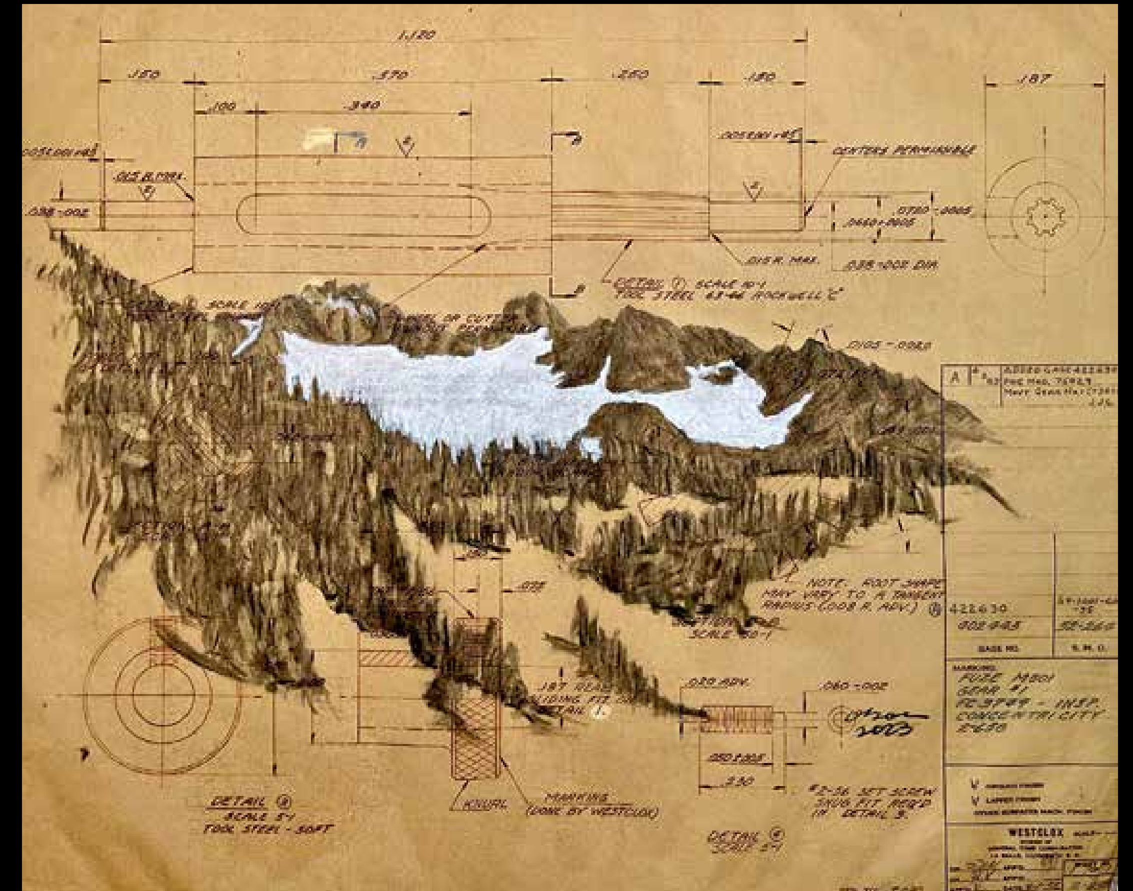
SHERILYN SEYLER | ICE RIVER GLACIER

felted wool



MADDI BACON | MOUNT STEEL: A GLACIER STORY

ink, watercolor, marker



GISELE OLSON | MOUNT STONE GLACIER

graphite, wildfire charcoal and chalk on Westclox technical drawing

CAL WAICHLER | REVISIONS ON A MORAINE (WHITE GLACIER)

woodcut prints, watercolor paintings

Maddi Bacon, for example, created a mixed-media comic book — in ink, watercolor and marker — about glacier and lake science in the park. They pored over photographs, Google Earth images and obscure blog posts from backpackers who had seen the Mount Steel Glacier, which is more of an icefield now. Accompanying a group of biological technicians deep into the park on a five-day backpacking trip to the area, Bacon, then a seasonal biotech a few hours away at Lewis and Clark National Historical Park, crested a saddle, looked down on Lake LaCrosse and beheld the sparkling icefield in person for the first time. "It was a super surreal moment," they said. "Just to see it after months of writing and painting."

Another artist, Khuyen Lam, who is based in Seattle, made a watercolor painting of the nearly extinct Anderson Glacier, but she was so inspired, she decided to create another project too. With help from a cartographer friend, she used 3D images of the basin that holds Anderson Glacier to create a diorama showing the glacier in the 1920s, in 1950, and finally in 2011, when it had all but disappeared. For the 1920s version, she mimicked the process of glaciation by layering about 50 coats of acrylic paint, enamel and resin, taking many days to create the final effect.

"I wanted to simulate what it was like for nature to create the glacier — the slow buildup of ice," she said. "And it was just very eye-opening to me in a visceral way how by the time it was gone" — for the 2011 model — "it was literally one little boop-boop of the paintbrush, that's it." The little dot of white represented a tiny patch of seasonal snow in the basin.

Composer Thomas Peters created a musical piece using climate data from Hurricane Ridge. "The bass line represents Mount Anderson, solid and unchanging," he wrote in his statement. "The voices represent the exponential rise in ambient temperature from 1922 to 2022. The melody line, 'Requiem Aeternam' from the centuries-old Latin Mass for the Dead, is the glacier itself. Each iteration of the melody shortens as the Eel Glacier melts, ending in a final, single tone."

For her piece exploring how industrial production and other human activities contribute to the climate crisis, Gisele Olson made a drawing of the Mount Stone Glacier over a weathered 1952 Westclox timepiece technical illustration. She used charcoal collected from a recent burn in

NATALIE ROTRAMEL | SHIFTING BASELINE SYNDROME (HUMES GLACIER)

acrylic paint on bigleaf maple leaves

BRIAN HACKWORTH | SPRING STORM CLEARING OVER MYSTERY GLACIER

acrylic paint on canvas

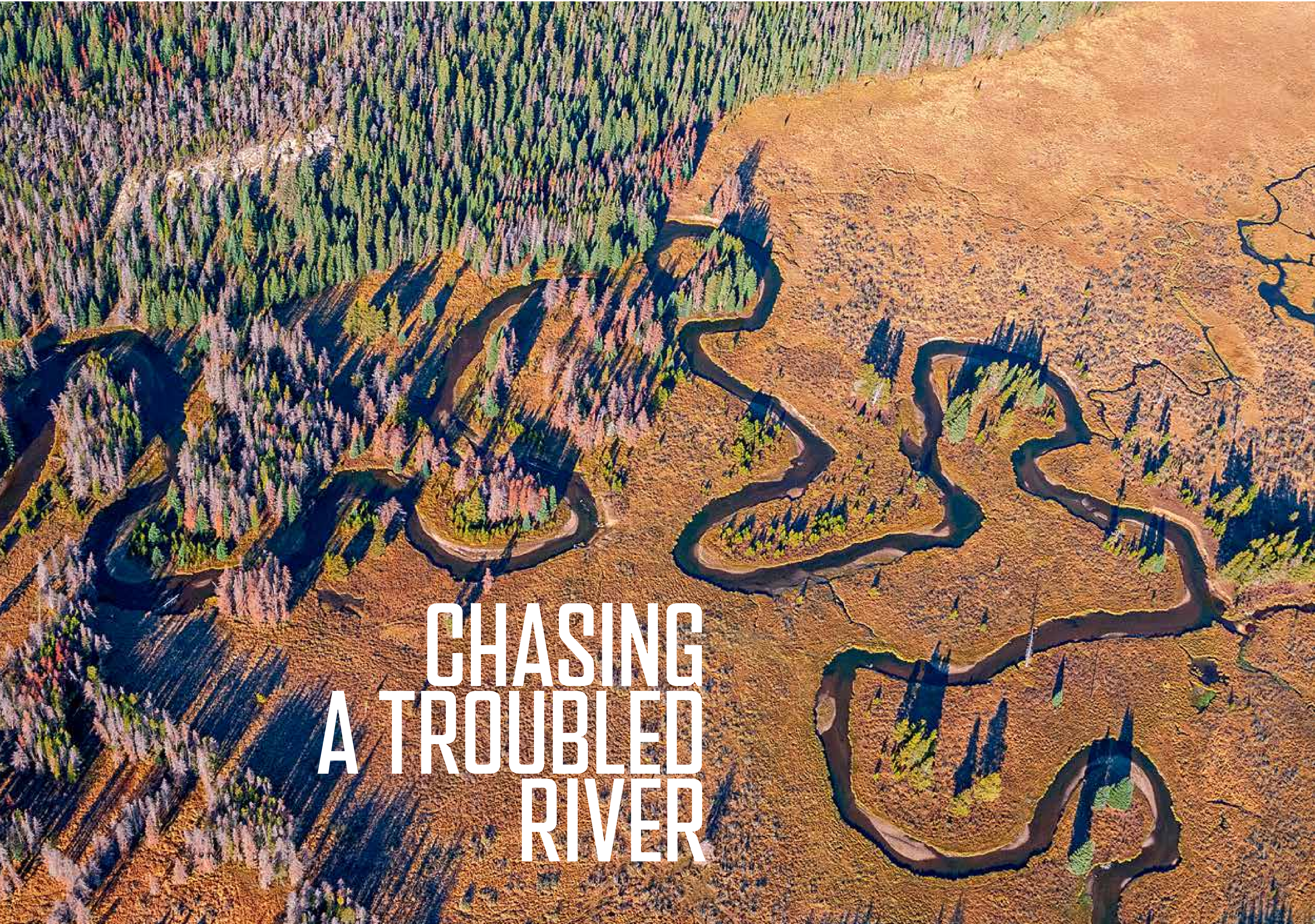
the Pacific Northwest, evoking the connection between ice and fire in the context of climate change.

In the summer of 2023, the curators finished an online interactive map, which showcased the artists' works and statements, as well as current and historical photographs of the glaciers. They held a gallery show at the Port Angeles Fine Arts Center that ran from July through September and a weeklong, in-person residency for 13 of the artists. The participants offered pop-up events for visitors and local residents, including workshops and lectures on weaving, pinhole cameras, embroidery, poetry and watercolor. They also went hiking with Baccus. Though the group didn't reach any glaciers, Baccus was able to point to several of the artists' subjects from atop Hurricane Ridge. In addition, scientist Andrew G. Fountain, from Portland State University, presented his research projecting that nearly all the glaciers in the park will vanish in the next 50 years. (Because the glaciers in the park all sit below 8,000 feet, and because the park's climate is influenced by the ocean, they are disappearing at a slightly faster rate than other glaciers across the West.)

The artists' creations live on in the interactive story map online. In addition, the Seward Park Audubon Center in Seattle will host an exhibition this spring of Lam's paintings of the Olympic Peninsula, including her contributions to Terminus. On April 21, Lam, several park rangers and other artists who participated in Terminus will gather at the center to offer remarks about the project. Meanwhile, staff at two other U.S. national parks and a delegation of land managers from Japan have inquired about re-creating or adapting the Terminus project. Goode is currently working on a toolkit to share with park rangers and others interested in creating their own climate change art exhibitions. She will present it at the National Association for Interpretation conference in December.

"The web of connection woven between the artists, the park and the glaciers reflects the larger-scale interconnectedness between all of us as living beings in this world," said painter Claire Giordano, who created a watercolor triptych of the Lillian Glacier that depicted its past glory, in 1905; the newly glacier-free basin, in 2015; and a 2125 vision of the area full of new meadows, trees and other greenery. "My hope would be that people would view these works and feel a little bit of that connection."

KATE SIBER is a freelance journalist, a correspondent for Outside magazine and the author of "National Parks of the U.S.A.," a best-selling children's book.



CHASING A TROUBLED RIVER

The mighty Colorado River and its tributaries run through seven states and 10 national park sites and provide water and electricity to millions of people. But as photographer **Pete McBride** documents in a new book, the river is drying up, and the need to correct course grows more urgent every day.

Photographs reprinted from © "The Colorado River: Chasing Water" by Pete McBride, Rizzoli, 2024. Photography by © Pete McBride.

"People have seen it coming for decades, but now it has absolutely hit a crisis level because of climate change. ... We just can't ignore it anymore."

THE MILKY WAY over Lake Powell and its waterlines, or bathtub rings, a reminder of wetter times. Recent studies have shown that evaporation from reservoirs removes 10% of the river's flow (left). Above: Whitewater rafting in the Grand Canyon. Previous pages: The main stem of the Colorado snakes through the valley floor of Rocky Mountain National Park. Before the river reaches this valley, most of the water has already been diverted into the century-old Grand Ditch and transported to Colorado's Front Range to meet agricultural and municipal needs. "I was trying to find new angles, new perspectives on many landscapes that have been photographed endlessly, especially in our national parks," McBride said in an interview for NPCA's "The Secret Lives of Parks" podcast. "I also had the great advantage of knowing this older, cantankerous but very funny bush pilot who is my father."

I've known the Colorado River my entire life," Pete McBride writes in "The Colorado River: Chasing Water." "I grew up in its headwaters and learned to swim in alpine lakes and tributaries fed by Rocky Mountain snow." So when he was searching for a close-to-home story to cover after two decades working as a globe-trotting photojournalist, he turned to his backyard. McBride's father, who moved the family to a high-mountain cattle ranch in the 1970s, suggested the river project after observing how the snowpack and meltwater that nourished their land were changing. "Around 2007, I started following — quite literally — our irrigation supply as it returned to the creek and then to the Colorado River," McBride writes. "Over the next 15 years, that personal mission would become a cornerstone for much of my life's work."

McBride writes that he has hiked, paddled, floated and flown across every mile of the Colorado's main stem and documented nearly all the tributaries, diversions and dams of a river that originates in Rocky Mountain National Park and, among its many claims to fame, carved the Grand Canyon. In "The Colorado River," McBride showcases a broad selection of the hundreds of thousands of images he's captured over years of following the twists, triumphs and trials of the waterway.

In the 21st century, the story of the river is complicated and often grim. People in seven U.S. and two Mexican states depend on the river for drinking water; 30 Native Tribes also retain water rights, though in many cases, their access is limited. The river also irrigates some of America's most productive farmland and provides hydropower to millions in the West. But experts have been concerned about overuse for more than 100 years, and water levels continue to drop as climate change fuels a 24-year megadrought and reduces the snowpack that feeds the river. Meanwhile, many municipalities and agricultural operations that rely on the river continue to expand, and a long-term agreement among states — including California, Arizona and Nevada — that would govern the distribution of water and require cuts in usage is in the works, though the outcome is uncertain. The river "is loved and litigated to the last drop — even before a snowflake or raindrop hits the earth," McBride explains in his book.

This is one of the most predictable environmental disasters in history, said Ernie Atencio, NPCA's Southwest regional director. "People have seen it coming for decades, but now it has absolutely hit a crisis level because of climate change," he said. "We just can't ignore it anymore."

But finding solutions that meet the needs of all the stakeholders is a nearly impossible task. Which towns, cities, states, agricultural concerns, corporations or individuals should be required to reduce their water and electricity use? Are there dams, including Glen Canyon (which many environmentalists have long despised), that should be removed to redress water flow and repair riparian ecosystems? Could interventions like these allow the Colorado to once again reach the sea in Mexico?

As NPCA gears up to launch a new Colorado River campaign, it must consider both the big picture and more

“There will come a point very soon where we’re going to have to make some hard choices.”

THE 726-FOOT-HIGH Hoover Dam was completed in 1936. At the time, it was the world’s largest dam. Today, the white bathtub ring on America’s largest reservoir shows how far the water level has dropped (above left). Above: Wildfire smoke hangs over the Grand Canyon and its central corridor at dawn. In 2016, McBride and his friend Kevin Fedarko completed a roughly 800-mile tip-to-tail hike along the river in the Grand Canyon. “What’s fascinating to me is how remarkable Grand Canyon National Park is, yet how fragile it is,” he told host Jennifer Errick on NPCA’s podcast. Left: Thirty Tribes reside within the Colorado River watershed and collectively have rights to about 25% of the river, but those rights do not actually translate to water access. Here, Havasupai Tribal members protest uranium mining at Canyon Mine (now Pinyon Plain Mine), which lies within Baaj Nwaavjo I’tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument. The Tribe is concerned about the danger the mine poses to the area’s aquifers and springs, wildlife and cultural sites.

specific questions related to the 10 national park sites that the river and its tributaries touch. (In addition to Rocky Mountain and Grand Canyon, those include — moving roughly from headwaters downstream — Dinosaur National Monument, Curecanti National Recreation Area, Black Canyon of the Gunnison National Park, Arches National Park, Canyonlands National Park, Glen Canyon National Recreation Area, Rainbow Bridge National Monument and Lake Mead National Recreation Area.) How can NPCA support the National Park Service in producing a comprehensive vision for the parks of the Colorado River Basin? How should the Park Service manage historical objects, ancient cliff dwellings, rock art panels and other archaeological sites that are increasingly exposed as water levels drop? What should the agency do about the terrestrial ecosystems that are bouncing back as parkland that was submerged reappears? At what cost do you try to save the humpback chub and razorback sucker, threatened and endangered fish that NPCA and others have been fighting to protect in the Grand Canyon?

“There will come a point very soon where we’re going to have to make some hard choices,” Atencio said.

When we ask too much of the river, it answers by disappearing, McBride writes. But he contends that for all the bony landscapes, misguided meddling and over-allocation of water rights, all hope is not lost. “I’ve witnessed collaboration and communication bring about improved efficiencies that raise flows, restore habitats, and even bring endangered fish back from the brink,” he writes. “Of course, there are a lot of rapids ahead. And seeing a resilient, equitable line through them will take creativity and teamwork. But after years of studying this American lifeline, from its snowcapped peaks to its ancient canyons and even its ghostly end, I know I’ll keep trying to testify for the magnificence and fragility of my beloved backyard river.”

—Rona Marech

To hear Pete McBride interviewed on NPCA’s “The Secret Lives of Parks,” go to thesecretlivesofparks.org.

When we ask too much of the river, it answers by disappearing.

THE DRY, SALT-ENCRUSTED Colorado River delta. McBride said he was drawn to the exquisiteness of nature in photos such as this one, but he thinks readers can learn something from these images. "It's not just normal beauty. It's sort of a lost, dead beauty," he said on the podcast. The river hasn't flowed naturally all the way to the Sea of Cortez in Mexico in decades (right). Above top: For 30 years, the Central Arizona Project has delivered millions of acre-feet of water 336 miles uphill from the Colorado River. Today, that supply amounts to roughly half of Phoenix and Tucson's drinking water. In 2023, the lower Colorado River Basin initiated usage restrictions. Above: Much of the alfalfa hay grown in Southern California's Imperial Valley and in Arizona is shipped to the Middle East and other parts of Asia. "So, while on one hand we're living in drought and the driest, hottest times we've ever had around this river, on the other hand, we're exporting that water overseas in the form of hay," McBride said.

A PULLMAN MAID surrounded by Pullman porters. A maid was often the only female crew member on the train.

©SMITHSONIAN AMERICAN ART MUSEUM, THE DR. ROBERT L. DRAPKIN COLLECTION, MUSEUM PURCHASE THROUGH THE LUISITA L. AND FRANZ H. DENGHAUSEN ENDOWMENT

The Women Behind the Brotherhood

The little-known story of the wives and maids who helped propel the Brotherhood of Sleeping Car Porters to a groundbreaking agreement with the Pullman Company.

ROSINA CORROTHERS-TUCKER had spent days getting the runaround from white men in supervisory positions with the Pullman Company, and she was fed up.

It was sometime in the late 1920s, and the Brotherhood of Sleeping Car Porters was on an all-court press to be recognized as a labor union by the railcar company, then the nation's leading employer of Black workers. Corrothers-Tucker had married a Pullman porter and was so active in the Brotherhood's efforts that when her husband was prohibited from going out on his normal train run, someone at the railyard suggested she might be to blame.

Corrothers-Tucker, described as a "firecracker" by historian Melinda Chateauvert, immediately contested Pullman's retaliation. After being stonewalled repeatedly by a superintendent, she marched straight to his boss. "I want to tell you that nobody has anything to do with what I do!" she said, pounding on a desk in Washington, D.C.'s Union Station. "You hired my husband. You didn't hire me!" Then, she lobbed an ultimatum: "You take care of this matter, or else I'll be back!"

Recalling this outburst in her autobiography, she remarked: "He was so surprised he didn't know what to do. ... You know, for a black woman to speak up to a white man like that in the 1920s was extraordinary." The executive must have thought there was a "powerful somebody" supporting her, she said, for her husband got his run back.

Corrothers-Tucker is just one woman of many who helped propel the Brotherhood of Sleeping Car Porters to success. She and other porters' wives, along with Pullman maids, held annual conventions, conducted door-to-door canvassing, fundraised, ran local chapters and hosted dinners for visiting Brotherhood leaders. In 1935, after a decade of effort, the men — and women — prevailed: The Brotherhood became the first Black-led union to have its charter approved by the American Federation of Labor. Two years later, the workers signed an agreement with Pullman, solidifying their rights to higher pay and shorter hours.

Today, the Brotherhood's labor rights saga is memorialized by the National A. Philip Randolph Pullman Porter Museum (founded by a woman), the Pullman National Historical Park

in Chicago (currently run by women), and by countless books and videos. But finding stories about the female vanguards who smoothed the men's path proves more difficult. Sarah Buchmeier, a park ranger and educator at the Pullman park until last August, often challenged school groups to seek out women within the park's interpretive displays. "We don't have much," she said, "and when you do find women, they aren't necessarily named." Buchmeier attributed their absence to the park's focus on Pullman's 19th-century history, when women "didn't have as big a role in the company." Efforts are underway to better highlight the women of the Brotherhood via a new building for the museum and a potential cultural trail for the park. But the paucity of relevant historical information — which Chateauvert said is indicative of the marginalization of the activities of women, especially Black women, in the written record — remains an obstacle to greater representation in future exhibits. Even the academics who focus on the matriarchs of the Brotherhood have been able to cobble together only mere glimpses of these formidable allies.

"Their contributions have long been overshadowed by their male counterparts in the Brotherhood's proud mythology," wrote labor rights author Kim Kelly in her 2022 book "Fight Like Hell: The Untold Story of American Labor." "But the truth is that the union could not have launched — or notched half of the victories it won — without their fervent support and untold hours of unpaid labor."

The roots of the Brotherhood's struggle extend back to industrialist George Pullman and his vision for luxury rail travel. In the late 1860s, Pullman began developing kitted-out sleeper cars replete with brocade, elaborate moldings and the at-will command of porters, many of them formerly enslaved men. (As late as 1951, the primary requirement for a porter was that he be Black.) Later, select trains expanded their service to include maids, billed as "handmaidens" to the female passengers. These positions were open only to Black women until 1925 when the company began hiring a few Asian women to discourage unionizing efforts. During its heyday, nearly 30 years after Pullman's death, the company ran 9,800 cars and employed more than 20,000 African American workers, including some 12,000 porters and perhaps 200 maids, as well as car cleaners, laundresses, busboys and railyard workers.

While working for the company afforded a certain cachet — Kelly called porters "paragons of Black manhood" — and granted employees relatively unmatched mobility, many porters felt that the perks didn't compensate for the servile tasks or minimal pay. "People told me that it was a dog's job," said Milton P. Webster, longtime Brotherhood vice president and former porter, in a 1942 address to a gathering of union supporters. "Well, it wasn't altogether a dog's job, but it was a whole lot worse than I expected it to be." Black train attendants made less money than white employees and were allowed less sleep, had to pay for their own uniforms and supplies, and were expected to kowtow to customers, even when harassed, denigrated or accused of theft. Many maids found their working conditions particularly isolating. Not only were they frequently the sole female on the crew, but they were also prohibited from mixing with male staff, according to Chateauvert. Maids could even be dismissed for starting a family, as Miriam Thaggert discovered while poring through company records for her book, "Riding Jane Crow: African American Women on the American Railroad." One of the employee cards she found noted simply: "Physically unfit – pregnant."

©SMITHSONIAN NATIONAL MUSEUM OF AFRICAN AMERICAN HISTORY AND CULTURE, FRANCES ALBRIER COLLECTION

FRANCES ALBRIER, a nurse and Pullman maid, aided the union efforts.

To improve the workers' lot, Webster and a handful of other porters enlisted the help of Black labor organizer A. Philip Randolph and established the Brotherhood of Sleeping Car Porters & Maids in 1925. (This was not the company's first taste of collective organizing: In 1894, employees backed by the all-white American Railway Union initiated a strike that crippled the country's railroads, prompting the federal government to wade in.) The Brotherhood sought, chiefly, reduced hours — commensurate with those of the company's white conductors — and a living wage independent of tips. Despite the group's initially inclusive choice of name, the maids did not prepare a separate list of grievances. This oversight could be because porters wildly outnumbered maids. Or perhaps, as historian Theodore Kornweibel Jr. contends, the omission stems from the fact that the Brotherhood "did not see women as a fundamental and permanent part of the labor force."

Nevertheless, maids, such as Frances Albrier, joined the union and encouraged their coworkers to do the same. Female union membership continued in the face of Pullman retaliation, such as outright sacking or the loss of one's pension, and well after "& Maids" was dropped from the Brotherhood's name in 1929. Balancing their organizing with societal expectations proved difficult, however, as the maids operated under what Kelly called a "double bind of racism and sexism." Chateauvert, in her book "Marching Together: Women of the Brotherhood of Sleeping Car Porters," wrote that most maids, in a choice between being viewed as a "man" for working or as a "lady" dependent on a man, "compromised by paying their union dues and remaining silent."

©MINNESOTA HISTORICAL SOCIETY/NEWBERRY LIBRARY

PROVIDING MANICURES to riders helped elevate the Pullman train experience, but the company expected the maids to purchase their own supplies.

The porters' female relatives, unburdened by such constraints, stepped into the void. Because they didn't spend weeks at a time on the rails, they offered stability and permanence to the movement and were able to counter the rampant Pullman-as-blameless-benefactor narrative disseminated by both workers and executives of the South Chicago company. Perhaps most critically, these women didn't report to Pullman. "Any overt involvement by anyone employed by the Pullman Company was suicide," wrote Corrothers-Tucker. "So, it devolved upon the wives of the porters to do most of the organizational work." She estimated that she visited 300-some porters' homes in the D.C. area to answer questions, disseminate materials and drum up support. The local chapter convened at her house, with the blinds drawn and her husband, Berthea, none the wiser. (He may not have been the only porter in the dark. Corrothers-Tucker wrote about wives who signed their husbands up for the union and paid the dues themselves.)

Often, the women's efforts were funneled through economic councils and, later, dozens of local ladies' auxiliaries, groups designed to simultaneously bolster the Brotherhood and conform to socially accepted gender roles. While the women were not always united in their vision — some hewed to the laser-focused aim of achieving a contract with Pullman, while others lobbied to expand the groups' scope, tackling issues from food insecurity to education — they remained devoted to Brotherhood success and proved to be fierce fundraisers. When the Brotherhood's New York City chapter was yet again evicted for failure to pay rent, one wife circled the neighborhood, returning with $75 so the men could find a new place. Salon owner Lucille Randolph, a well-known Harlem socialite, introduced her husband, the Brotherhood's president, to a bourgeois world of affluence and political connections. She also bankrolled his labor organizing efforts for nearly a decade, even doling out for his radical newspaper, "Messenger," which extolled the importance of Brotherhood membership.

The road to recognition by the American Federation of Labor was decidedly uphill. The Brotherhood had to elude company spies, rebuild after an aborted strike, defeat a Pullman-backed union, overcome pushback from within the Black community and survive Depression-era furloughs. It took the intercession of a federal mediator in 1937 for Pullman to finally sign a negotiated contract. The document retained porters' seniority rights, ensured a pay raise for both porters and maids, stipulated a 240-hour work month (the industry standard), and ensured the right to due process with respect to passenger-reported grievances. The union victory came at the expense of maids' seniority rights, however. Essentially, "they sold out the maids," Chateauvert said.

Chateauvert befriended Corrothers-Tucker in 1984, when the activist was over 100 years old and still navigating the stairs in the house she'd lived in since before the the days of the Brotherhood. After inheriting decades' worth of union papers when Corrothers-Tucker died, Chateauvert scoured the files at the New York Public Library, Illinois Labor History Society and elsewhere to piece together an image of the women of the movement. Still, she found mere "breadcrumbs," she said. "I searched high and low, and every place I could find. … I think there's all sorts of stuff that was never actually recorded or is unknown. And I think that's the sad part."

Chateauvert would love to fill in those missing pieces, to flesh out the unsung lives of Pullman maids and porter wives. "Sometimes you wish, as a historian, you could be a fiction writer," she said.

KATHERINE DEGROFF is associate editor of National Parks magazine.

Cave pearls such as these in Carlsbad Caverns National Park in New Mexico form when calcite-rich water drips onto grains of sand or similar bits of matter.

©PETER JONES