



WINTER 2018
\$2.95

NationalParks

THE MAGAZINE OF THE NATIONAL PARKS CONSERVATION ASSOCIATION

**BLOOD, SWEAT
AND TEARS ON A
CHEROKEE BIKE RIDE**

**AWAITING A BABY
BOOM ON PADRE
ISLAND**

**THE SEARCH FOR A
PIRATE SLAVE SHIP**

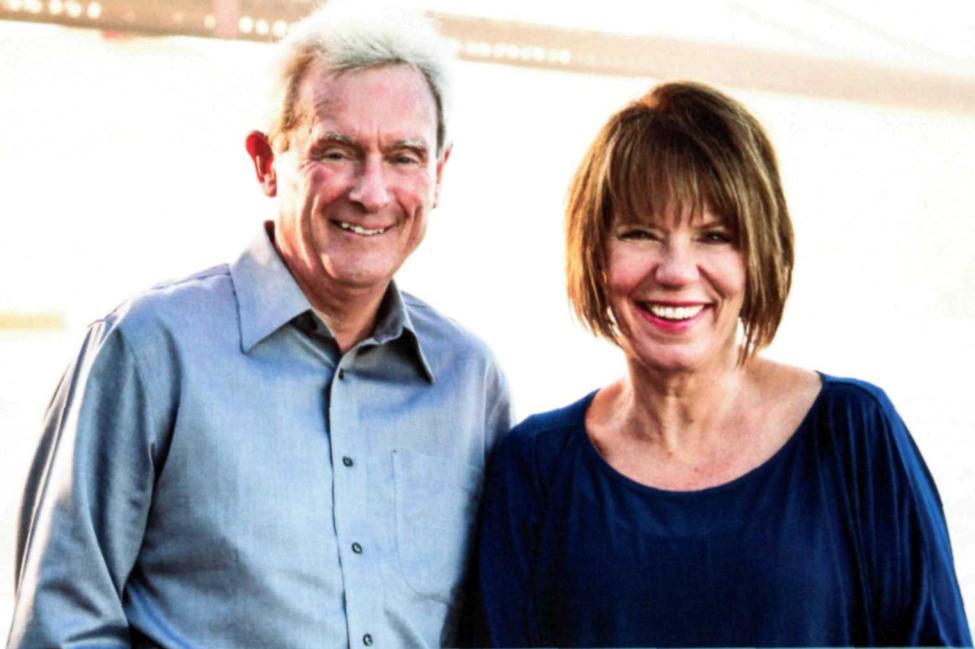
**50 YEARS AGO, WRITER EDWARD ABBEY
WARNED THAT TOURISTS AND CARS
WOULD DESTROY THE PARK HE LOVED.**

WAS HE RIGHT?

We made a difference. You can, too.

“When Mike and I decided to create a living trust, national parks were high on our list, because they need to be preserved for future generations. NPCA will ensure that happens.” — Kathy Grazioli, California

Join Kathy and Mike Grazioli and hundreds of other park lovers who have promised to protect our national treasures for future generations by including the National Parks Conservation Association in their will or trust. Create a meaningful legacy that will last beyond your lifetime.



Crissy Field, The Presidio, Golden Gate National Recreation Area, San Francisco, CA.
© Edward Caldwell

To receive our free brochure, *How To Make a Will That Works*, call toll-free **877.468.5775**, visit our web site, www.npca.org/giftplanning, or return the form below.

Please send your free brochure, *How To Make a Will That Works*.

_____ I would consider including NPCA in my estate plans.

_____ I have already included NPCA in my estate plans.

Name:

Address:

City/State:

Phone:

Zip Code:

Email:



NPCA Address: 777 6th St, NW, Suite 700, Washington, DC 20001

National Parks

WINTER 2018 / Vol. 92 No. 1

COVER:

DOUBLE ARCH in Arches
National Park.

© JOHN BURCHAM

FEATURES

26

IN THE BALANCE

In his 1968 book about Arches, 'Desert Solitaire,' Edward Abbey warned that tourists and cars would destroy the park he loved. Was he right?

By Todd Christopher

38

WAITING FOR A BABY BOOM

Are decades of work to save Kemp's ridley sea turtles paying off yet?

By Sarah C.P. Williams

44

FOLLOWING IN THEIR FOOTSTEPS

Could they ever understand what their ancestors endured? They biked hundreds of miles along the Trail of Tears to find out.

By Melanie D.G. Kaplan

44

BIKING along the Trail of Tears in Kentucky.

© KRISTINA KRUG

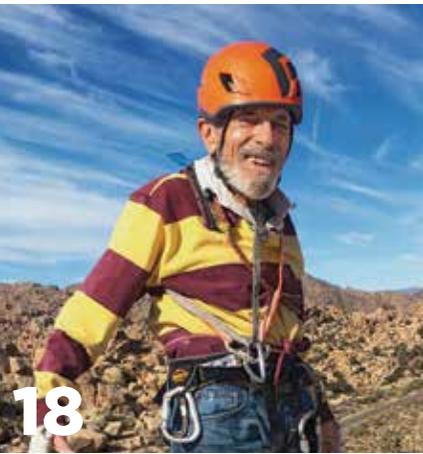


CONTENTS

A RESEARCHER nets sooty terns in Florida's Dry Tortugas, where more than 500,000 of the seabirds have been banded since the 1950s.



22



18



10



20

DEPARTMENTS

WINTER 2018 / Vol. 92 No. 1

3 President's Outlook

4 Editor's Note

6 Letters

8 Echoes

10 Trail Mix

Totality or bust, uncovering a pirate slave ship, Irma's wrath, the octogenarian rock climber, farewell to a very good dog.

22 Findings

Researchers are outfitting sooty terns with tiny backpacks to learn about the threats seabirds face and the health of the ocean.

By Nick Lund

24 Denizens

No wonder the fuzzy bee from Denali looked unusual: Researchers had stumbled across the first new bumblebee species discovered in North America in nearly a century.

By Nicolas Brulliard

54 Backstory

The Japanese army invaded a small Alaskan island during World War II and sent all the residents to Japan. Half died there; none ever returned home.

By Nicolas Brulliard

56 That Was Then



ON THE WEB

Follow NPCA on Facebook, Twitter and Instagram and get park news, travel tips and more on NPCA's blog: npca.org/blog.



BOARD OF TRUSTEES
CHAIR

***Greg A. Vital**, *Georgetown, Tennessee*

VICE CHAIRS

- ***Mary L. Barley**, *Islamorada, Florida*
- ***Robert B. Keiter**, *Salt Lake City, Utah*
- ***Ed Lewis**, *Bozeman, Montana*

SECRETARY

***Wendy Bennett**, *Golden Valley, Minnesota*

TREASURER

***Roberta Reiff Katz**, *Palo Alto, California*

- David Aldrich**, *Vienna, Virginia*
- Estela Avery**, *San Antonio, Texas*
- Donald B. Ayer**, *McLean, Virginia*
- ***William R. Berkley**, *Miami, Florida*
- Nikki Buffa**, *Laguna Niguel, California*
- ***Victor H. Fazio**, *Arlington, Virginia*
- Mortimer B. Fuller, III**, *Rye, New York*
- Denis P. Galvin**, *McLean, Virginia*
- Burton M. Goldfield**, *Palo Alto, California*
- Helen Hernandez**, *Pasadena, California*
- Carole T. Hunter**, *Hobe Sound, Florida*
- Bill Huyett**, *Concord, Massachusetts*
- David F. Levi**, *Durham, North Carolina*
- Katharine Overlock**, *Greenwich, Connecticut*
- Susan Pohl**, *Seattle, Washington*
- Margaret Raffin**, *Palo Alto, California*
- ***Lauret Savoy, Ph.D.**, *Leverett, Massachusetts*
- James L. L. Tullis**, *North Palm Beach, Florida*
- ***Fran Ulmer**, *Anchorage, Alaska*
- Peter Vitousek, Ph.D.**, *Stanford, California*
- Elizabeth Waddill**, *Beaumont, Texas*
- Sandra J. Washington**, *Lincoln, Nebraska*

TRUSTEES EMERITUS

- Diana J. Blank**, *Bozeman, Montana*
 - Gretchen Long**, *Wilson, Wyoming*
 - Glenn Padnick**, *Beverly Hills, California*
 - Thomas F. Secunda**, *Croton-on-Hudson, New York*
 - Gene T. Sykes**, *Los Angeles, California*
 - H. William Walter**, *Minneapolis, Minnesota*
- *Executive Committee**

EXECUTIVE STAFF

- Theresa Pierno**, *President & CEO*
- Robin Martin McKenna**, *Executive VP*
- Tim Moyer**, *Chief Financial Officer*
- Elizabeth Fayad**, *General Counsel*
- Craig Fontenot**, *Senior Vice President for Communications*
- Mark Wenzler**, *Senior Vice President for Conservation Programs*
- Karen Allen**, *Vice President for Human Resources*
- Matthew Boyer**, *Vice President for Development*
- Kristen Brengel**, *Vice President for Government Affairs*
- Laura M. Connors**, *Vice President for Membership*
- Amy Hagovsky**, *Vice President for Communications*
- Hayley Mortimer**, *Vice President for Regional Operations*

REGIONAL OFFICES

- Jim Adams**, *Regional Director, Alaska*
- John Adornato III**, *Director, Sun Coast*
- Don Barger**, *Senior Director, Southeast*
- Lynn McClure**, *Senior Director, Midwest*
- Bart Melton**, *Regional Director, Northern Rockies*
- David Nimkin**, *Senior Director, Southwest*
- Joy Oakes**, *Senior Director, Mid-Atlantic*
- Rob Smith**, *Regional Director, Northwest*
- Ron Sundergill**, *Senior Director, Pacific*
- Cortney Worrall**, *Senior Director, Northeast*



© DAN WARSINGER

Challenging Times

In the year after the centennial of the National Park Service, our parks are seeing more visitors than ever. In Arches National Park in Utah, for example, the park's annual visitor count nearly doubled in a decade to almost 1.6 million. (See "In the Balance," p. 26.)

At the same time, our parks face more threats than ever. These include proposed reductions in their annual budgets, as well as drilling and mining that would damage some of the most revered places in the country.

And while our parks are under threat from some of our leaders, they are also contending with Mother Nature, as we saw from the wildfires and hurricanes this year. The devastation — to our communities and to our parks — is unimaginable. As I write this, people are still sifting through ash where their homes once stood and trying to rebuild businesses that were washed away in the storms. More than 50 national parks in nine states and territories suffered hurricane damage, and some remain closed for the foreseeable future. These sites are sources of income and respite for so many. With help from its motivated network of supporters nationwide, NPCA will do all it can to fight for our parks and help rebuild them.

In times like these, our role as national park advocates becomes more critical than ever. Our organization will need your help as we secure more money for national parks, find solutions to mounting repair needs and fend off threats from those who want to develop on park borders.

I know you agree that our national parks are treasures, and they are worth protecting, now and forever.

Warm regards,
Theresa Pierno



Editor's Note



© WILL CHAVEZ

IT TOOK TIME for writer Melanie Kaplan to gain the riders' trust.

Riding Along

When I learned several years ago that every summer, a group of Cherokee retraces the Trail of Tears on a three-week, 950-mile bike ride, I immediately knew it was a story I wanted the magazine to cover. But how? After a lot of discussion, Melanie D.G. Kaplan and I eventually settled on a plan: She would interview some riders over the phone before they set out, ride along in the group's van for the last five days of the trip, then circle back with some key people afterward. We asked a photographer, Kristina Krug, to meet the riders in Kentucky, crossed our fingers and hoped for sunshine.

As expected, the story was complicated to report — and not just for logistical reasons. After Melanie flew to Tulsa and caught up with the group outside a Cracker Barrel in Springfield, Missouri, it became apparent that most of the riders were wary about having a reporter tag along. “One woman actually said to me on the second day, ‘What are you doing? I’m always suspicious of someone loitering around taking notes,’” Melanie said.

But gradually, the cyclists grew accustomed to her and started opening up. They let her hang around in fly-on-wall mode, and when she got a friendly fist bump several days in, she felt certain, finally, that it would all work out. “I just had to let this play out at a different pace,” she said.

The last night, the group didn't hesitate about including her when they circled up to talk about the spiritual highlights of the ride. “They invited me to sit with them and opened up their hearts and cried,” Melanie said. “I felt incredibly honored to be there.”

The story begins on p. 44. Cheers to Melanie for doggedly sticking it out, and many thanks to the riders for letting her — and all of us — into their lives.

Rona Marech
NPMAG@NPCA.ORG

NationalParks

EDITOR IN CHIEF: Rona Marech

ASSOCIATE EDITOR: Nicolas Brulliard

PRODUCTION MANAGER/SENIOR DESIGNER/PHOTO EDITOR: Nicole Yin

FEATURES DESIGN CONSULTANT: Jessie Despard/Despard Design

DEPARTMENTS DESIGN CONSULTANT: Selena Robleto/Red Velvet Creative

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 of 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.

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

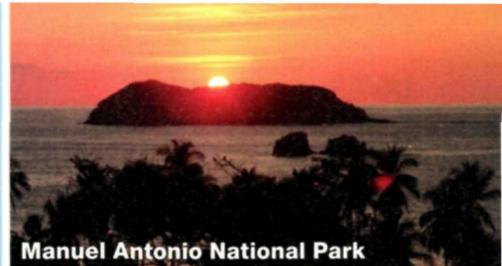
To donate, please visit npca.org or call 800.628.7275. For information about bequests, planned gifts and matching gifts, call our Development Department, extension 145 or 146.

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

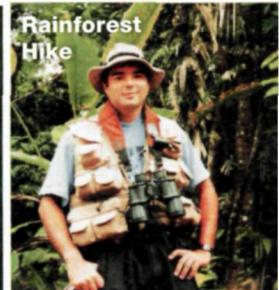
National Parks Conservation Association, 777 6th Street NW, Suite 700, Washington, DC 20001-3723; by phone: 1.800.NAT.PARK (628.7275); by email: npcan@npca.org; and npca.org.



Manuel Antonio National Park



Scarlet Macaw



Rainforest Hike



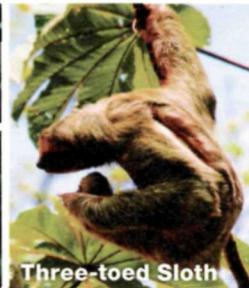
Wildlife Watching



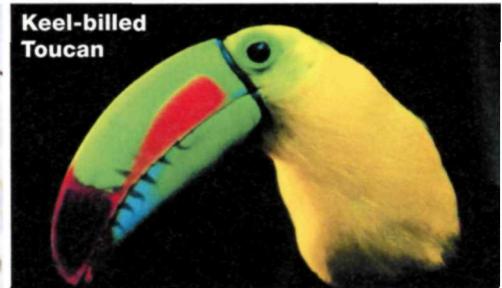
Capuchin Monkey



Morpho Butterfly



Three-toed Sloth



Keel-billed Toucan

Visit Costa Rica on a Fully Guided Caravan Tour; Call Now for Choice Dates, FREE Brochure: (800) CARAVAN, Caravan.com

Costa Rica Natural Paradise 9-Day Tour \$1295

Volcanoes, Beaches & Rainforests—w/ All Hotels, Meals & Activities

Your Costa Rica tour is fully guided from start to finish—and all-inclusive—with all hotels, all meals, and all activities.

Join the smart shoppers & experienced travelers who rely on Caravan.

Your Costa Rica Tour Itinerary



Chestnut-mandibled Toucan

Day 1. Your tour starts in San José, Costa Rica.

Day 2. Explore Poás Volcano and view inside the active crater.

Day 3. Visit to a wildlife rescue center.

Day 4. Cruise on the Rio Frio river into Caño Negro. Enjoy a relaxing soak in the volcanic hot springs.

Day 5. Hike on the Hanging Bridges. Continue to Costa Rica's Pacific Coast.

Day 6. Free time at your beach resort.

Day 7. Cruise on the Tarcoles River. Enjoy bird watching and crocodile spotting. Continue to your Manuel Antonio hotel, located at the National Park entrance.

Day 8. Explore Manuel Antonio National Park. Hike through the rainforest and along spectacular beach coves. Enjoy a thrilling aerial tram adventure.

Day 9. Return with wonderful memories. ¡Hasta la vista!—Caravan

Detailed Itinerary at Caravan.com

Choose Your Guided Tour plus tax, fees

Guatemala with Tikal	10 days	\$1395
Costa Rica	9 days	\$1295
Panama Canal Tour	8 days	\$1295
Nova Scotia, P.E.I.	10 days	\$1395
Canadian Rockies, Glacier	9 days	\$1695
Grand Canyon, Zion	8 days	\$1495
California Coast, Yosemite	8 days	\$1595
Mt. Rushmore, Yellowstone	8 days	\$1395
New England, Fall Colors	8 days	\$1395

"All Hotels Were Excellent! There is no way I would've stayed in such superior & sophisticated hotels for the price I paid"
—Client, Salinas, CA

"Brilliant, Affordable Pricing"

—Arthur Frommer, Travel Editor

The #1 In Value—FREE Brochure: (800) CARAVAN, Caravan.com

caravan
Fully Guided Tours Since 1952



HARRIET LIVES ON

I was very taken with the article about Harriet Tubman [“Remember Aunt Harriet”]. I was quite young when I read a book about a girl named “Moses.” I remember crying when I read about the horrible injury to her head. I knew the songs of the era, such as “Follow the Drinking Gourd.” It made me follow everything a young minister was doing in the South. I became very involved as I grew.

When I finally learned to drive, I took a trip to upstate New York. I wanted to see the homes of the ladies who fought for my rights. I stopped in Auburn. The home and grave of Harriet Tubman are there. I felt like I was standing on hallowed ground.

I am so grateful that finally, there is a national park in her blessed memory. I hope to visit one day.

ELISSA SOMMER
Brooklyn, NY

I’m pleased to see that eastern Maryland now boasts a national historical park dedicated to the legacy of Harriet Tubman. Visiting this area will be eye-opening for many. For me, it took only five minutes of standing in front of the historical marker near Tubman’s birthplace to revolutionize my understanding of her story and of slavery itself.

It was immediately clear that the slave owners from whom Tubman escaped were not wealthy aristocrats living in luxurious antebellum mansions. They were everyday farmers in an out-of-the-way community. They

were people not so different from my neighbors and relatives in rural Michigan — people not so different, in fact, from me! It was a sobering reminder that one need not be part of society’s elites to perpetrate injustice.

RACHEL CABOSE
Charlotte, MI

REQUIRED READING?

It has been about a year since we subscribed to your magazine. Our niece was selling subscriptions for her school, and our desire to learn more about our country’s national parks coincided with

our decision to leave the suburbs of Chicago for the Flatirons of Colorado. It is the best thing I have ever bought at a fundraiser! We only wish we had discovered it sooner, so we could have stopped at some of the more obscure parks on our cross-country travels. We now have a list that includes places such as Great Sand Dunes, which was featured on your cover a couple of issues ago.

Whenever I hear our leaders deny climate change and threaten to revoke the protected status of our most precious areas, I want to lock them in a room with a stack of your most recent issues and force them to read each one before letting them out. Keep up the great work!

DAN AND ERIN VOIGHT
Superior, CO

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.

CORRECTION:

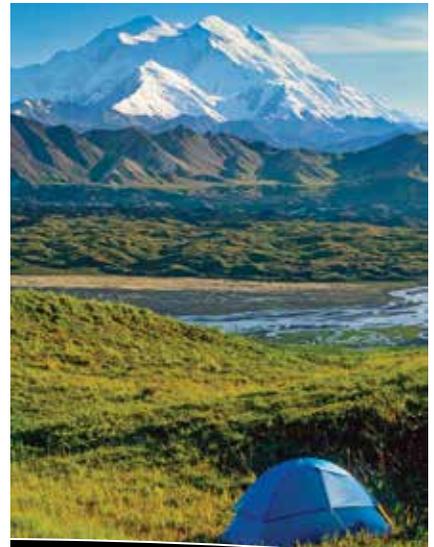
A photograph on pages 40 and 41 of the Fall issue shows House on Fire, a ruin located in Bears Ears National Monument, not Mesa Verde National Park, as the caption incorrectly suggests. We regret the error and are thankful to the readers who alerted us to it.

A NOTE TO OUR READERS

We are pleased to announce that National Parks magazine won two prizes in the 2017 Lowell Thomas Travel Journalism Competition, the country's most prestigious competition in travel journalism. We won a silver award for overall travel coverage (in non-travel magazines) and a bronze award in the environmental

tourism category for Rona Kobell's article, "A Campsite Grows in Brooklyn," about Gateway National Recreation Area. We also won several other national awards recently: The magazine received honorable mention for best niche product in the Society for Features Journalism 2017 Excellence-In-Features Awards. And we took home several prizes in the 2017 Folio: Eddie & Ozzie Awards, which recognize excellence in magazine editorial and design. National Parks won first place for best overall design, honorable mention for best full issue, honorable mention for best use of photography and honorable mention for best single article for Nicolas Brul-liard's story, "Return to Manzanar."

—Editors



 explore
FAIRBANKS
ALASKA

www.explorefairbanks.com
Call 1-800-327-5774 for your free Visitors Guide.

Get Your **West on**

Free Vacation Guide
wyomingcarboncounty.com

CARBON COUNTY
WYOMING
GET YOUR WEST ON

 facebook.com/carboncountywy



Sponsored by the Carbon County Visitors' Council



Echoes

We should not increase fees to such a degree as to make these places — protected for all Americans to experience — unaffordable for some families to visit.

NPCA President and CEO Theresa Pierno as quoted in a New York Times story about the administration's proposal to sharply raise entrance fees at 17 popular national parks including Yosemite (at right), Grand Canyon, Yellowstone and Acadia.

Adding industrial mining to this sacred landscape is just inappropriate unless we were desperate for this resource. And frankly, we're not.

Kevin Dahl, senior program manager at NPCA, speaking to the Phoenix New Times about a U.S. Forest Service recommendation to revise an Obama-era uranium mining ban on 1 million acres of land surrounding the Grand Canyon. Conservationists say that new uranium mining could contaminate drinking water and harm wildlife in the park.

We cannot keep Dinosaur the wild and wonderful place it is if we allow oil rigs on its borders.

David Nimkin, a senior regional director at NPCA, quoted in a New York Times article about the Bureau of Land Management's plan to auction gas and oil drilling rights to 94,000 acres of land near Dinosaur National Monument. Critics say the proposed energy development would harm air quality, wildlife, cultural resources, night skies and viewsheds.





WATCHING the solar eclipse in John Day Fossil Beds National Monument in Oregon, one of 21 national park sites (and seven national trails) in the path of totality.

© REUTERS/ADREES LATIF

Total Eclipse of the Parks

Two years of planning for two minutes of wonder in the Great Smokies.

When it comes to natural phenomena, I've always been drawn to the uncommon. I've caught a glimpse of a rare super bloom in Death Valley, spied Comet Hale-Bopp from a viewpoint in Shenandoah and experienced the once-every-17-year emergence of periodical cicadas at Manassas National Battlefield. Gee-whizzery loves company, and I tend to drag friends and family along with me on these escapades that seem to lead us, more

often than not, to a national park.

So it was no surprise to my son, Elijah, and daughter, Leila, when I decided on a 500-mile road trip to Great Smoky Mountains National Park to view a truly extraordinary event: the total solar eclipse of Aug. 21, 2017. They were willing companions and good sports, and even created a themed soundtrack for the journey, a Spotify playlist featuring classics like Pink Floyd's "Dark Side of the Moon" — an album that

culminates, fittingly, in an exultant song entitled "Eclipse."

There was good cause for excitement; the last time even part of the contiguous United States saw a total solar eclipse, the lowly mix-tape was still the state of the art for compiling and sharing music. On Feb. 26, 1979, the northwestern corner of the country lay in the path of the eclipse, but widespread cloud cover mostly obstructed the view. And it had been

nearly a century since a total solar eclipse was widely visible from coast to coast — June 8, 1918 — lending credence to the “once-in-a-lifetime” hoopla this time around.

The Great American Eclipse, as last summer’s cosmic event had come to be known, was indeed a uniquely American experience. Although a partial eclipse could be seen throughout the continent, the path of totality — the roughly 70-mile-wide swath where the moon completely and perfectly obscured the disk of the sun, darkening the sky and revealing the otherwise invisible solar atmosphere — crossed the country in a gently arcing line from Oregon to South Carolina. Few major cities lay within this celestial sweet spot, but around two dozen national park sites did, from John Day Fossil Beds National Monument in Oregon to Fort Sumter National Monument in South Carolina.

Weather conditions, for the most part, were favorable, and interest — as anyone near a television, computer or smartphone last summer knows — was extremely high. University of Michigan researchers, in a study conducted in cooperation with NASA, found that roughly seven out of eight American adults viewed the eclipse. Some 60 million did so electronically, while more than 150 million headed outside with solar glasses and pinhole viewers to experience it directly. Of those, 20 million traveled to another location to do so and, like me, many of them found the combination of cosmic coincidence and spectacular setting irresistible — and headed to a national park.

Two years before the big day, my earnest investigation of potential viewing locations bemused several of

my colleagues who were unaware of the upcoming eclipse. Yet one year beforehand, as I sought to nail down my travel plans, I found myself coming a bit late to the party. The most convenient and desirable accommodations near many park sites were gone or going fast.

Grand Teton National Park in Wyoming was an obvious choice, and not just for its stunning scenery; the probability of clear August skies in that region of the country is high. Plenty of others had the same idea, however, and



© TODD CHRISTOPHER

TWICE IN A LIFETIME?

The author’s children (pictured above) in Cades Cove. They’ll have a second chance to catch totality when they are young adults: On April 8, 2024, another total solar eclipse will cross the U.S. from Texas to Maine. Cuyahoga Valley National Park in Ohio, Hot Springs National Park in Arkansas, and Katahdin Woods and Waters National Monument in Maine are among the park sites in the path of totality.

nearby hotels and motels were booked solid by the time I looked into it. As it turned out, Grand Teton experienced its busiest weekend ever, with an extra 10,000 people streaming into the park on the day of the eclipse.

I daydreamed my way through a list of other possible park locales, from Craters of the Moon in Idaho to Congaree in South Carolina. In the end, I couldn’t resist the splendor of the Great Smokies, just a day trip away, and secured a room in the little gateway community of Townsend, Tennessee. One more trip around the sun and we were on our way, driving southwest through Virginia the Saturday before the eclipse, flanked by cars bearing license plates from Maryland to Maine. We assumed that many of these travelers were fellow eclipse seekers — and smiled and waved at the driver of a Subaru hatchback who had painted “Totality or Bust!” on his rear window. Before long, banners and signboards touting the eclipse sprouted up everywhere. Even the blatant commercialization of the event seemed to be all in good fun, if not — like the Starbucks “Solar Eclipse Frappuccino” we sampled — downright delicious.

We spent the day before the eclipse enjoying our destination, the idyllic valley of Cades Cove, taking a guided horseback ride through the woods and exploring the historic structures of Cable Mill. The park staff’s preparations for the viewing event there were already well underway. Portable toilets lined the visitor center lot, and a grassy field nearby was marked off to provide parking for 3,000 guests. (Cades Cove was just one of four locations in the park with public events. At Clingmans Dome, staff hosted a ticketed affair for



AROUND 15,600 people participated in four solar eclipse events at Great Smoky Mountains National Park, which straddles the border between North Carolina and Tennessee.

© REUTERS/JONATHAN ERNST

One young woman carried a case of moon pies. A small group kicked around a hacky sack. Goodwill was in the air.

visitors and media, and NASA broadcast a segment of its “Eclipse Across America” live stream. The combined attendance at the park’s events, I learned later, topped 15,600.)

We opted to avoid the biggest crowds, and early on the morning of the eclipse, we struck out on our own, chancing upon a one-car turnout off the main loop road. We set up our camp chairs next to an expansive sloping meadow that gave us unbroken views of the ridgeline in the distance and the perfect blue skies above. A stream of cars and bikes filed

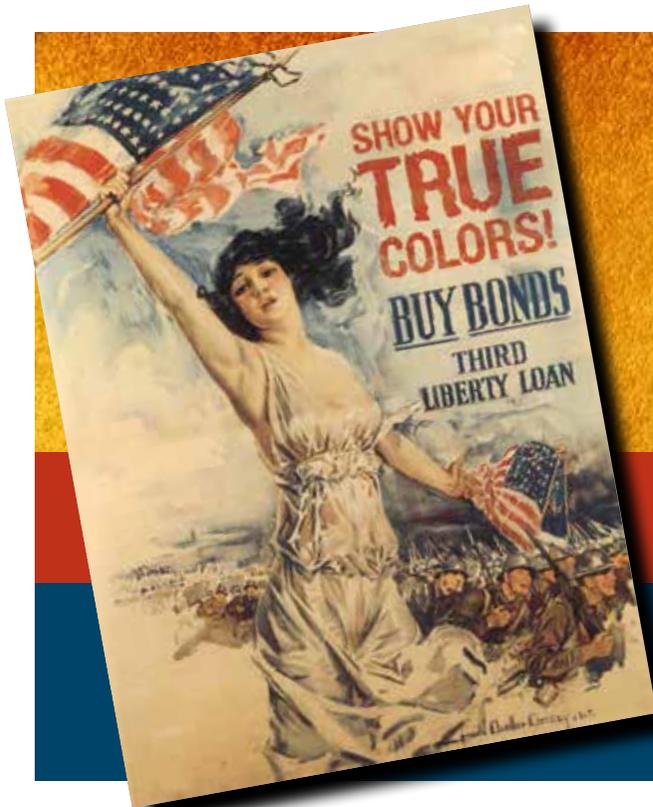
into the park. Soon others settled into their own spots near us, and the hours of waiting for the eclipse took on the air of a cheerful sprawling picnic. One young woman carried a case of moon pies. A small group kicked around a hacky sack. Visitors with extra solar glasses shared them with those who had none. Goodwill was in the air.

Anticipation grew after 1 p.m., as the moon began to edge out the sun and crescent-shaped shadows dappled the ground beneath the trees. When the magic hour of 2:34 p.m. approached, a series of remarkable

things quickly unfolded, and though we all knew the eclipse was drawing nigh, each was somehow still surprising: the dreamlike shifting of the light that cast everything into strange relief, the calling of insects and birds confused by the unexpected twilight, the sudden cooling as the darkness deepened. And then, for two surreal minutes, we experienced totality — standing and staring spellbound at the sight of something that was neither the sun nor moon we know, yet both: a deep black hole in the sky wreathed by shimmering flares of silvery light.

Before we could make sense of it all, the spell lifted, and dawn broke for the second time that day. Never had I felt so certain of being in the right place at the right time.

—TODD CHRISTOPHER



It's Like a Savings Bond for the National Parks.

It's better to give than to receive, but what if you could do both? Donate \$10,000 or more to NPCA as a charitable annuity, and we'll provide you with a great rate of return the rest of your life, as well as considerable tax savings. Why leave your money in a bank when it could be doing more for you and for our national parks?

To learn more, call toll-free at 877.468.5775 or visit www.npca.org/giftplanning.

Annual rate of return is guaranteed for your life, and determined by your age at the time of the donation:

Age:	65	75	85	90
Rate:	4.7%	5.8%	7.8%	9.0%



WINTER 2018

NationalParks

FREE INFO FOR YOUR NEXT ADVENTURE!

Learn more about the advertisers featured in National Parks. Simply fill out the attached card and return to us. We'll handle the rest! For faster service, visit <http://www.npca.org/advertisers> or fax toll-free to 888.847.6035

Circle the number on the attached card that corresponds to your categories and advertisers of interest.

Circle #	Page #	4. Buy Way of Charleston.....21	600. All Home
		5. Dayton/Montgomery CVB.....53	10. GEICO.....37
200. All Travel & Tour		6. Explore Fairbanks.....7	11. Progressive.....17
1. American Cruise Lines.....Back Cover		7. NPCA Travel.....21	
2. Carbon County.....7		8. The Maine Windjammer.....19	
3. Carvan Tours.....5		9. UnCruise.....52	

ADVERTISING SALES CONTACTS:

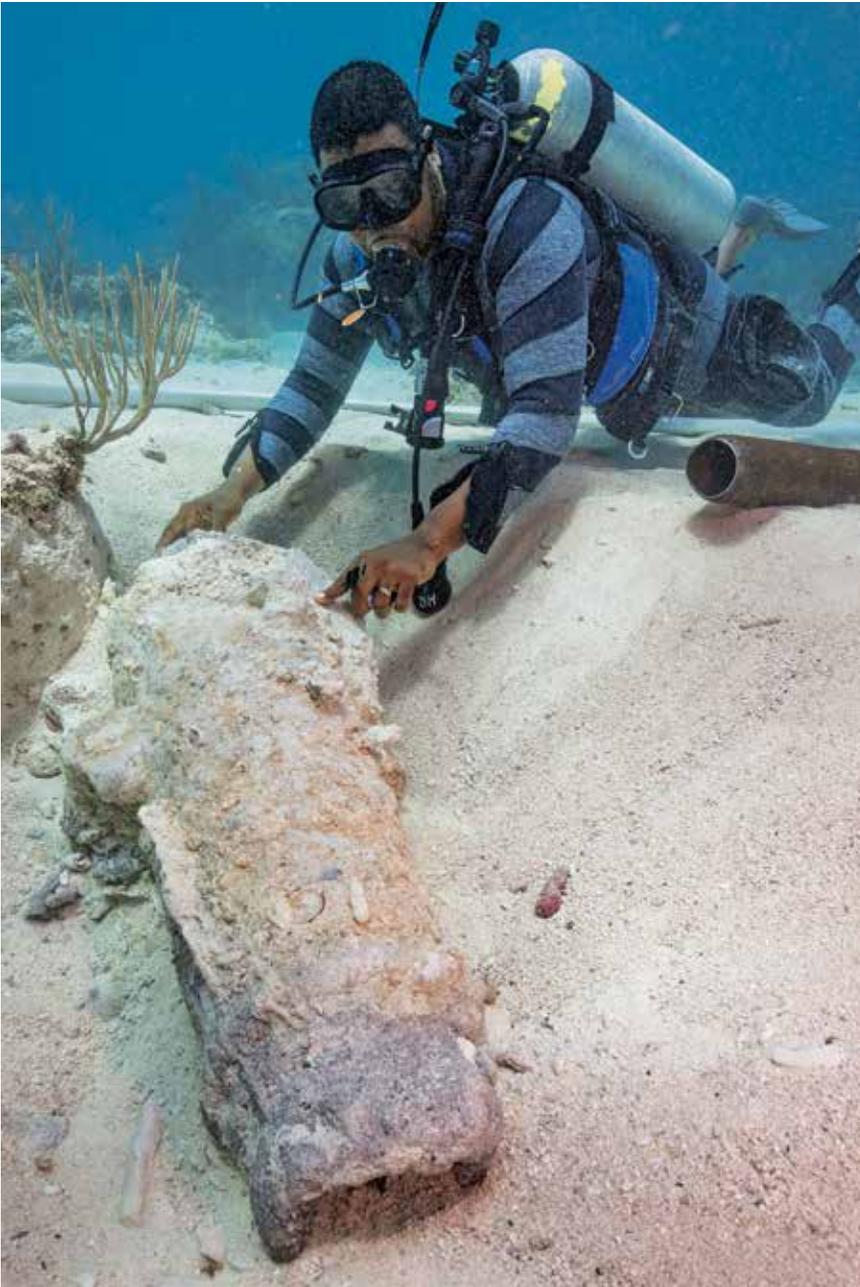
Natalie Matter DeSoto

717.580.8184 | natalie.desoto@theYGSgroup.com

Marshall Boomer

717-430-2223 | marshall.boomer@theYGSgroup.com





KRAMER WIMBERLEY, a volunteer diver, examines a small cannon that archaeologists believe could have come from the slave ship *Guerrero*, which sank in 1827 in the waters of what is now Biscayne National Park.

people screaming underwater, so I knew something was happening.”

The sand soon settled, and the water became so clear that even those peering down from boats could see what the hubbub was about. A small cannon, or carronade, lay exposed on the ocean floor.

“I’m thinking, ‘Okay, this may actually be it,’” Wimberley said. Had they finally found evidence of the slave ship *Guerrero*, which sank nearly 200 years ago in or near the waters of what is now Biscayne National Park?

The modern-day search for the Spanish brig began in the 1990s, when historian Gail Swanson wrestled the obscure bit of history from dusty archives. As the story goes, the pirate crew aboard the *Guerrero* stole prisoners from two illegal slave ships traveling off the coast of Africa, before heading westward on their final journey. (Britain, the U.S. and Spain had banned the slave trade from Africa in the early 1800s, but slavery remained legal.) After crossing the Atlantic, the pirate slaver was nearly home free, less than 200 miles from the slave markets in Cuba, when it was intercepted by the British warship *HMS Nimble*. A high-seas pursuit and gun battle ensued, and both ships hit the reef. The *Guerrero*’s mast broke, catapulting through the hold. Screams from the 561 African prisoners on board could be heard across 2 miles of ocean as the vessel slowly rolled onto its side and filled with water.

“There’s a lot of significance tied up in this,” said National Park Service archaeologist Chuck Lawson. “No archaeologist is going to sit here and be responsible for this stretch of water and not want to find this shipwreck. It fills in the gaps of the triangle trade and highlights a history

© SUSANNA PERSHER/NPS

Below Biscayne

The search for a pirate slave ship — and the stories that disappeared with it.

Kramer Wimberley could barely see. A cloud of sand obscured his hands, but the volunteer diver tried his best to stay focused on his job. On one end of a dredge hose, archaeologists sucked up

sediment. On the other end, Wimberley worked diligently to keep debris from clogging up the operation.

“All of a sudden the dredge stopped,” he said. “Then I heard

that was taken from people.”

Lawson has spearheaded periodic searches for the Guerrero over the last seven years. Wimberley became involved nine years ago, when he joined Diving With a Purpose, a group of mostly African American volunteers who help document shipwrecks in the Florida Keys. This summer, the search accelerated, thanks to a Park Service initiative — along with considerable funding — intended to advance understanding of African American history. The new resources allowed staff to conduct a massive magnetometer survey of the southern third of the park, leading to the discovery of the shipwreck site and carronade.

“Right away we knew it was a cannon, and we got excited,” said Lawson. They quickly ascertained it was from the early 1800s and British. “You can see the distinctive hoop on its breech end. Usually it’s hard to see a lot of diagnostic detail on a cannon covered in marine growth, but this particular style of carronade is pretty distinct.”

Finding any cannon is exciting because they are rare, especially in Biscayne, where decades of looting have taken a toll on cultural resources. This one is even more remarkable because it appears to be undisturbed, lying right where it went down two centuries ago.

On the fateful day the Guerrero sank, Dec. 19, 1827, the Nimble’s crew had to act quickly to save their own ship from going down. They threw ordnance and ballast overboard to lighten their load, which allowed the vessel to float off the reef. Lawson might have found some of those artifacts as well. His team uncovered cannon balls of various sizes and a range of hull fasteners, such as nails and copper spikes. They also found bar shot.

“It’s not like Scooby-Doo, where you have the skeleton sailor at the helm and the sails flapping.”

“Imagine a giant barbell being fired out of a cannon and tumbling end over end,” said Biscayne archaeologist Joshua Marano. “That’s bar shot.” This is a particularly encouraging find, according to Marano, because it was used by pirates and naval ship crews trying to take down rigging and people without sinking ships, but was not often found on other types of vessels.

At the suspected Guerrero site, they’ve found some other promising artifacts, including a piece of ceramic plate and copper sheathing. The Guerrero was known to have a copper-covered hull, which was helpful for boosting speed and reducing shipworm damage but relatively uncommon because of the cost. Another intriguing discovery was a group of poorly cast cannon balls.

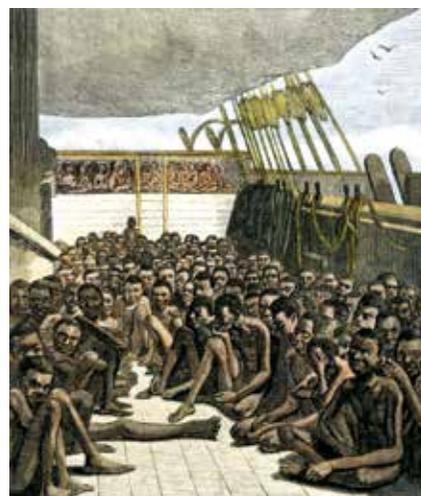
“It’s almost like they were trying to heat small amounts of iron and add it to a mold piecemeal, which was not a typical thing,” Marano said. “It can tell you these might not have been made by a major nation, but on an island somewhere, possibly by poor merchants or pirates.”

Though Marano and Lawson are excited about their finds, it’s important to note what is missing, they said. Shackles, which would be unmistakable evidence of a slave ship, have yet to be unearthed. They also expected to find the Nimble’s iron kentledge, the typical ballast of British warships of that time, but didn’t, possibly because treasure hunters or people salvaging metal picked it up in the years before the area was protected as a park.

“It takes a while to sort through everything,” said Lawson, who has been meticulously clearing a couple of centuries’ worth of encrustation off the cannonballs. He has been looking for a telltale sign, the British broad arrow stamp, which the government imprinted on everything from barrel hoops to ships’ bells. “I would be so jazzed to find a broad arrow,” he said.

Lawson and Marano still have hundreds of potential wreck sites to dive on, based on anomalies found during their magnetometer study. They also expect to spend many more months cleaning, conserving and researching artifacts before they can say for sure what they have found.

“It’s not like Scooby-Doo, where you have the skeleton sailor at the helm and the sails flapping,” Marano said.



A 19TH-CENTURY engraving, which was published in Harper’s Weekly, depicts the conditions aboard a slave ship, the Wildfire.

© NORTH WIND PICTURE ARCHIVES/ALAMY STOCK PHOTO



“Unless you find a bell with Guerrero on it, there’s not necessarily a smoking gun. It’s a puzzle. You have to keep your mind open to all possibilities.”

Identifying the Guerrero would be a momentous archaeological discovery, because only a handful of sunken slave ships have been found worldwide and just one in U.S. waters. With their search, Lawson, Marano and Wimberley are hoping not only to find rare artifacts but also to tell the larger story about those who died aboard the Guerrero and further illuminate a tragic period in human history. More than 10 million people were enslaved between the 16th and 19th centuries, and millions more died during their capture, internment or journey across the ocean. Of the

561 Africans aboard the Guerrero, 41 were killed in the wreck, 398 ended up being sold in Cuba after the Guerrero’s captain hijacked two rescue boats, 31 died within two years of the incident while awaiting their freedom and 91 eventually returned to Africa.

“I think about the lives of individuals I see in passing on a bus or in a car and I wonder, ‘Hmmm,’” said Wimberley, “‘what is this person’s life like? Where are they on their way to?’ Then I think about one person that was on that ship and what their lives were prior to that, and how it is that they ended up there. We’ve lost our sense of history, and that’s why it’s important to put it back into context, to say this happened, it was wrong, and then to look at where have we come since then.”

Lawson is realistic about the likelihood of finding enough to identify the Guerrero beyond a shadow of a doubt. It’s low. Hurricanes, looting and time have erased much of the evidence. But after hundreds of hours underwater and years on the case, he is as enthusiastic as a kid with a new skateboard.

“We all hope that we find it, because this is one of the most important historical stories that Biscayne National Park would have to share,” he said. “But whatever happens, I’m psyched about what we’re finding. This search is so important. It’s going to advance the historical record of the park substantially, get the story told and bring the history back to life.”

—KARUNA EBERL

Reeling from Nature's Wrath



CUMBERLAND ISLAND NATIONAL SEASHORE in Georgia hadn’t fully recovered from last year’s Hurricane Matthew, when Irma blew through the park in September. The storm obliterated docks, felled trees and flooded the visitor center. Nearly 50 boats, including a concessionaire’s park ferry, sank along the St. Mary’s waterfront, the departure point for the island, pictured here. The park was closed for weeks, which was disastrous for St. Mary’s. “That little town counts on those 20,000 annual park visitors,” said Emily Jones of NPCA. Cumberland Island is just one of more than 50 parks slammed by Hurricanes Harvey, Irma and Maria this fall, and early estimates show it will cost hundreds of millions of dollars to repair the damage. “Given sea-level rise and these monumental natural disasters, the best practices in rebuilding resilient structures have to be implemented,” Jones said. “The Park Service can be a leader in this.”

THEY CAME, THEY SAW, THEY CAMPED!

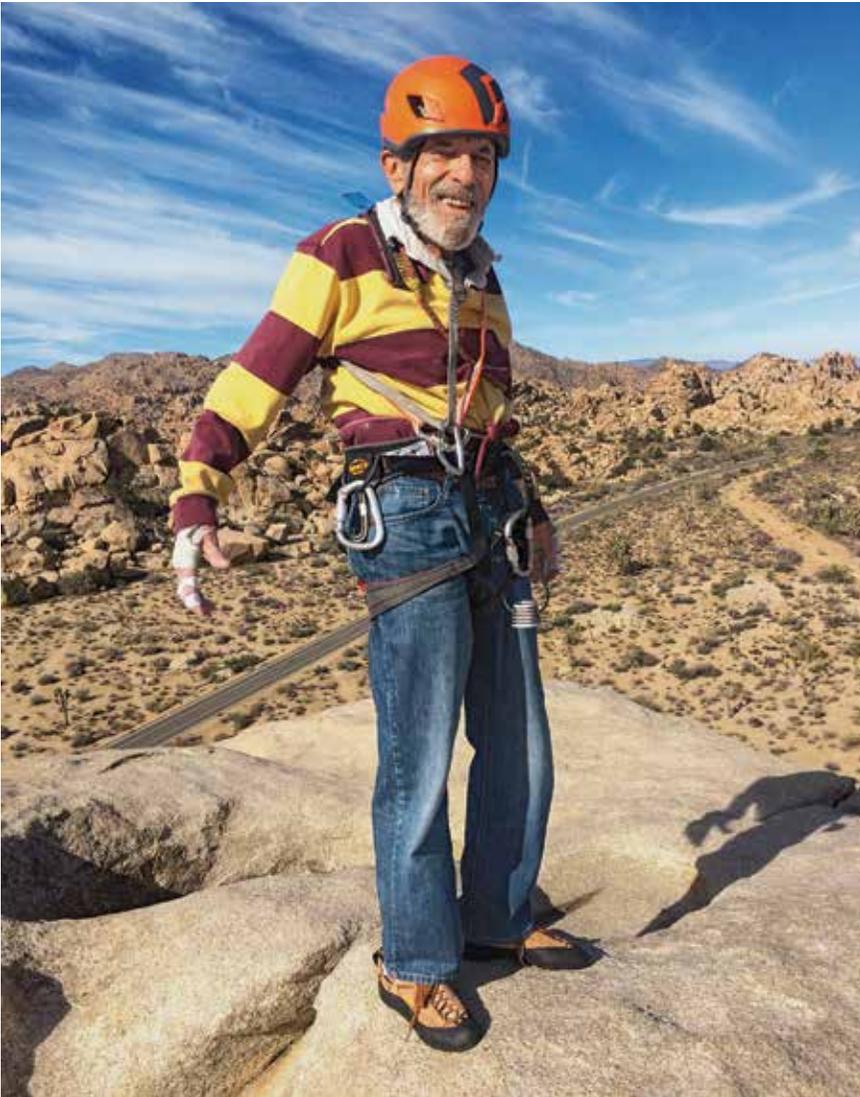


WARRIORS of the Wild

EPIC CAMPING TRIPS ARE YOURS WITH PROGRESSIVE. BUNDLE YOUR
RV AND AUTO POLICIES TOGETHER FOR LEGENDARY SAVINGS

PROGRESSIVE

PROGRESSIVE CASUALTY INS. CO. & AFFILIATES.



ROBERT KELMAN, in Joshua Tree National Park earlier this year, has been a devoted rock climber for more than 45 years.

grab his son, but Kelman was hooked. He loved being outside. He loved the athletic challenge, and as a mathematician, he appreciated the analytical, technical aspect of the sport. He climbed when he could while he was a Colorado State University professor, and then with more frequency after he retired. He continued to climb after he fell and fractured four vertebrae at a climbing gym in 2007. He climbed after he turned 80, and though he had to take a break, he kept climbing after he had open-heart surgery in 2015 to replace an aortic valve.

Then on Sept. 11, Kelman climbed his way into the sport's history: He scaled Devils Tower and at 87, became the oldest person to ascend the strange, beautiful monolith that shoots up out of the prairie in northeastern Wyoming. The previous record-holder was an 83-year-old who had climbed the 867-foot rock formation in 2012.

"It was a very hot day, in the mid-90s. That made the climb more difficult, but I'm in good shape for my age," said Kelman, who has a penchant for understatement. "I was very careful, I paced myself, and it went."

Just a few days later, a climbing magazine ran a story, and a ranger at Devils Tower National Monument posted a Facebook photo of Kelman atop the tower in a Superman T-shirt ("Goodness," someone commented, "it's straight up"). Pretty soon the local Colorado papers and a CBS affiliate showed up, and Googling

The Octogenarian and the Monolith

At 87, Robert Kelman is the oldest person to climb Devils Tower.

Robert Kelman first tried rock climbing in 1971. He thought it was unwise to do something so dangerous, but his son, then 12, had pushed to

go, so he signed them both up for a weeklong class in Banff National Park in the Canadian Rockies.

Climbing, as it turns out, didn't

Kelman's name now turns up dozens of articles from around the world.

"I wouldn't say it went viral, but it certainly is more attention than I ever imagined," said Kelman, a father of four and grandfather of six. He shrugged off the hubbub: "It won't last," he said. Maybe not, but even a short-lived spotlight is valuable, said his wife, Mary Kelman, who watched his ascent from the base of the monument. "It's a good thing to get older people out there in the forefront so people can see that," she said. "Goals are not just for younger people."

This particular goal has been in the works for a while. After the heart surgery, Kelman couldn't so much as lift a pan. But while he was recovering, he decided to set a climbing goal for himself. He wanted a well-known spot, and Devils Tower — one of the most famous places to climb in North America — fit the bill. "When you see it, it's hard to believe it's natural and wasn't manmade," he said. "It's so iconic." He had climbed the tower around a dozen times before, but that was years back, and as Kelman put it, "it's different when you are 67 and 87."

Little by little, Kelman's strength returned. After a year off, he started climbing again. He lifted weights, occasionally wore a 50-pound backpack while practicing and tested different shoes to see what would work best on Devils Tower's cracks.

Greg German, who helped Kelman train, said the first time they went out, he was taken aback. "I thought,

'Wow, an elderly client,'" German said. "I treated him with kid gloves. But now I'm really comfortable with him. He's quite tough."

Kelman's first postsurgery attempt at Devils Tower's Durrance route — named after one of the two climbers who first successfully tackled it in 1938 — fell through. In 2016, he and two friends made it most of the way up, but darkness fell before they could finish. When he tried again this fall, he had better luck: He and a professional guide set out early in the morning, and five hours later, Kelman crested the tower.

"I was quite tired the last couple hundred feet, and it took some effort to get there," he said. "Reaching the summit, there was a sense of relief that I'd actually done it."

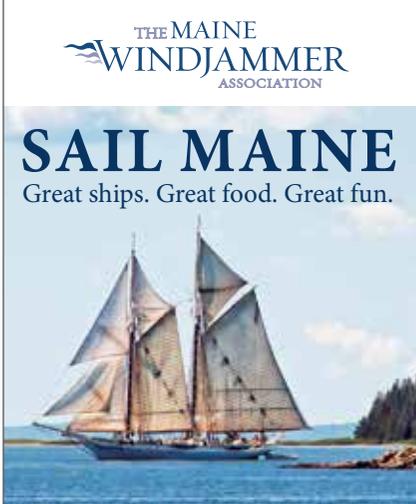
Devils Tower is considered sacred by Northern Plains Indians and other indigenous people (and for that reason, climbing is discouraged in the month of June, a culturally significant time when many Native American ceremonies take place). Kelman, who is aware of the site's stature among American Indians, said that when he reached the top, he said a prayer of thanks. He considered all the remarkable things on Earth and how fleeting it all is when viewed in the sweep of geological history. "In 50 million years Devils Tower probably won't be there," he said.

He didn't linger long at the summit pondering the passage of time and nature's wonders. Though the hardest part was over, he still had

to get down, which was technically easy but potentially dangerous. So, prayer uttered, record broken and goal achieved, Kelman clipped in and rappelled down.

Now that he's home in Colorado, people keep asking him if he has a new goal in mind. He doesn't yet, but his wife suggested he come up with a more satisfying answer than that. "Maybe your next goal," she said, "is to just keep climbing as long as you can."

—RONA MARECH



THE MAINE
WINDJAMMER
ASSOCIATION

SAIL MAINE

Great ships. Great food. Great fun.

3- to 6-day adventures
8 Historic Windjammers departing from Camden & Rockland.
Prices start at \$595.
1-800-807-WIND
www.sailmainecoast.com

Ask us about specialty cruises, too!



AN APTLY named golden retriever, Happy worked as a volunteer therapy dog at Flight 93 National Memorial for nearly four years.



© JAMES SISTI

A Very Good Dog

Goodbye to a four-legged park volunteer.

Whoever picked Happy's name chose well. Best known for offering comfort to visitors to Flight 93 National Memorial in Pennsylvania, Happy maintained his sunny disposition during a stay in a shelter, when he underwent hip replacement surgery, and even during a battle with abdominal cancer that he ultimately lost. He died in August at around age 12, and lived up to his name until the end.

Happy's professional career of comforting began in 2012. Well aware that happiness is a rare gift, Happy's owners,

Marsha and Tom Dulz, thought it would make good sense for their rescue dog to share his sloppy kisses and boundless love with those who needed it most. Over the course of nearly four years, Happy made the three-and-a-half hour round trip to Flight 93 National Memorial 76 times.

The memorial, located at the site of the Sept. 11, 2001, crash of United Airlines Flight 93, honors the plane's 40 passengers and crew members, many of whom fought hijackers to regain control of the aircraft and prevent it from reaching its intended

target. No one survived the crash.

Each year, hundreds of thousands of people visit the memorial, and many are overwhelmed with sadness or anger. The visit brings back harrowing memories of that day's events and prompts visitors to question whether they would have had the courage to stand up to terrorists the way the Flight 93 passengers did. "There is a self-examination that takes place at Flight 93, and many visitors are not prepared for that," said Kathie Shaffer, a longtime volunteer at the park. Some visitors ask volunteers for hugs, but many don't know what to do with the emotions the visit can trigger.

That's where Happy came in. Waiting at a respectful distance from the Wall of Names honoring each of the crash's 40

victims, Happy would intuitively sense what visitors needed, whether it was just a tail wag or a more hands-on experience. “They could sit on the bench and pet the dog,” said MaryJane Hartman, the park’s chief of interpretation and visitor services. “They found it very therapeutic.” Happy was particularly helpful to parents unsure about how to answer their children’s questions about the September 11 attacks. He would entertain the little ones while easing the grown-ups into what could be difficult conversations. “It relieves the tension,” Shaffer said. “When you’re standing there petting the dog, you can talk about the bad guys.”

Happy welcomed the attention of all but showed special respect to veterans. He would stand up every time one walked by in uniform. He also always greeted visitors in wheelchairs first, Marsha Dulz said.

Little is known about the first five

or six years of Happy’s life or how he ended up in a rescue shelter. “You don’t get to ask many questions,” said Donna Thompson, a family friend of the Dulzes. Thompson learned of Happy’s predicament and put Marsha Dulz in touch with the shelter. At that point, Happy was walking on three legs because of a bad hip — he would later earn the nickname “tripod” from the Dulzes’ grandchildren. Marsha Dulz took him in and later brought him to a veterinary surgeon who replaced both his hips.

Once Happy was up and running, the Dulzes decided it was time to share the love, so they began training him to be a therapy dog. To pass the certification test, therapy dogs must resist the temptation to eat food or grab objects lying nearby, walk safely around people on crutches, remain impervious to startling noises and, of course, be amenable to plenty of petting. “It’s a pretty stringent

test,” Thompson said. Happy aced it.

Outside of working hours, Happy embraced his competitive side: He spent much of his spare time chasing prizes in so-called nose work contests. Happy would race to find birch- or anise-scented cotton swabs hidden in boxes, vehicles or other locations. He received the Harry Award, which recognizes rescued dogs that display extraordinary ability and spirit in nose work. “For the quiet, soft Happy, this was his alter ego,” Marsha Dulz said.

Though Happy retired from his volunteer duties at Flight 93 in September 2015, he continued to visit patients at a local nursing home until 10 days before his death. Those who knew Happy miss him dearly, but they take solace in knowing that he touched so many lives. “He was very, very gentle,” Hartman said. “He really opened doors that wouldn’t have opened otherwise.”

—NICOLAS BRULLIARD

BUY WAY of CHARLESTON

Get all your favorite Charleston Classic Foods & Gifts all in one place.

Have You Visited Us Yet?

WWW.BUYWAYOFCHARLESTON.COM

Travel with NPCA to the **PACIFIC ISLANDS**

8-9 Days | Small Group Tours | from \$4,550

American Samoa
OCT 19-26, 2018

Visit all three islands of the only national park south of the Equator full of volcanic mountains, dramatic shorelines, and colorful coral reefs.

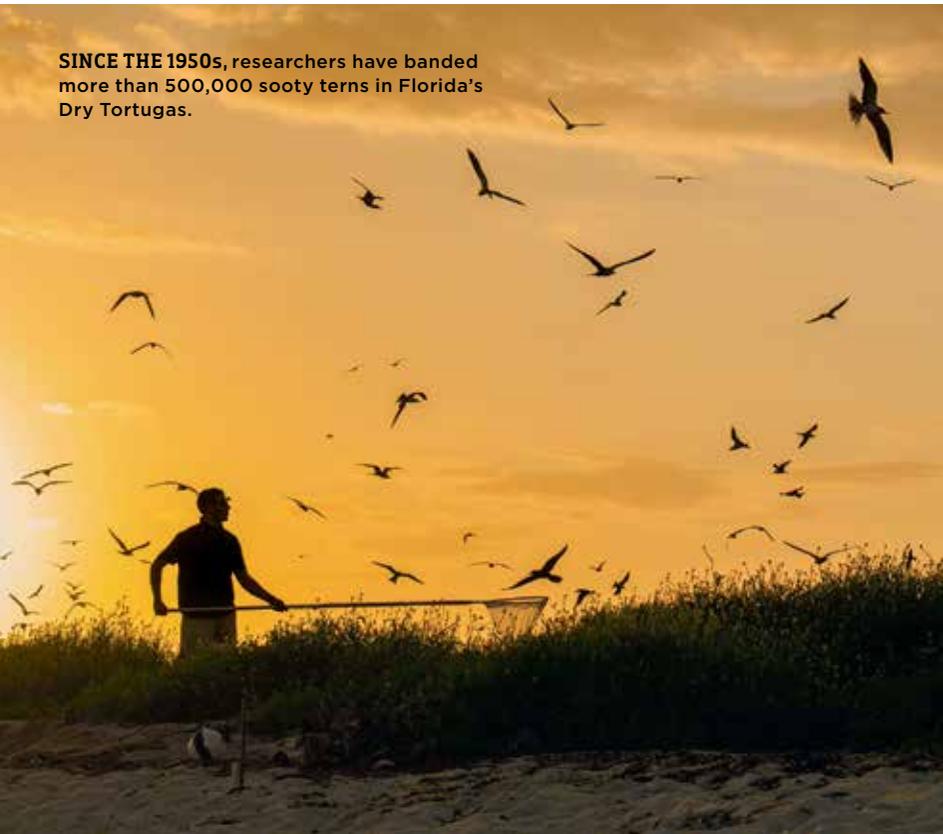
Hawaii’s National Parks
OCT 28-NOV 5, 2018

Witness the diversity of six of Hawaii’s national parks including Kalaupapa, Hawaii Volcanoes and Haleakalā.

800.445.2995 | npca.org/trips



SINCE THE 1950s, researchers have banded more than 500,000 sooty terns in Florida's Dry Tortugas.



© RYAN HUANG/DUKE UNIVERSITY

Seabirds' Secrets

What can tracking sooty terns reveal about the threats seabirds face and the health of the ocean?

THE BIRDS ARE THE FIRST THING MANY VISITORS NOTICE when they arrive at Dry Tortugas National Park. Clouds of sleek brown noddies wheel and screech between the keys, massive brown pelicans plunge into the shallow water after fish, and magnificent frigatebirds, prehistoric and alien with their enormous wings and long forked tails, drift ominously overhead.

In the middle of it all, forming unruly flocks thousands of birds strong, are handsome black-and-white seabirds called sooty terns. Though most species of tern — closely related to gulls — frequent beaches and marshes, sooty terns are at home only on the open seas, but starting in the winter, they return from the far pelagic reaches to the Dry Tortugas. It is their only

nesting colony in the United States.

More than 500,000 sooty terns have been banded in the Dry Tortugas since the 1950s, and the Park Service follows them closely from the moment the birds arrive in mid-January until they begin leaving in July. Staff have an exceptionally detailed understanding of the birds' breeding habits and activities on the islands but have known almost nothing about the rest of their lives. Where do they go when they aren't sitting on their nests, and what route do they take from the Tortugas? More important, what kind of dangers might they be facing out there on the open seas, and can that information be used to learn about the health of the ocean?

Those were some of the questions on Ryan Huang's mind when he brought tiny bird backpacks containing solar-powered geo-transmitters to the Dry Tortugas in 2014. "It's impossible to protect a species if you don't know where it is," said Huang, a graduate student at Duke University. The backpacks transmitted coordinates to Huang's laptop, so he could track the birds' daily activity from his apartment in North Carolina.

"It was a lot of fun. I got to sit down each morning before work and see where the birds were going," he said. Thanks to the telemetry data from those birds, combined with sightings of banded Tortugas birds in other locations, Huang has started to piece together a picture of the routes sooty terns take to their wintering area.

As it turns out, after leaving the Tortugas in July, sooty terns spend about a month feeding in the Gulf of Mexico before beginning to fly south out of the Caribbean Sea. They follow the eastern coast of South America, then head out to sea, spending the rest

of the winter above the open ocean between Brazil and Africa.

Once he was armed with a map of sooty tern migration, Huang could determine where the birds might run into trouble. One threat was immediately clear: hurricanes.

Hurricanes and tropical storms are a regular occurrence on the Dry Tortugas, and the Park Service has long understood the dangers that strong storms pose to nesting seabirds: After a direct hit from a hurricane, the local population can experience a temporary dip in numbers. Huang was surprised, however, to learn about the dangers hurricanes pose to migrating sooty terns. Combining the telemetric data with historical reports, he found a strong correlation between sooty terns' migration patterns between the Tortugas and South America and bird deaths associated with hurricanes.

"Migration itself is a very stressful, very taxing process for these birds to undergo," said Huang. "Encountering a storm adds even more stress, forcing the birds to fight strong winds and rain. Those that can't handle that will likely die." Unlike many shorebirds, sooty terns do not have special feather oils to help repel water, so they're susceptible to drowning.

Whereas their terrestrial counterparts can ride out strong storms in dense foliage, seabirds have nowhere to hide from a hurricane. If birds are

"Encountering a storm adds even more stress, forcing the birds to fight strong winds and rain. Those that can't handle that will likely die."

lucky enough to make it into the relative calm of the storm's eye, they may stay in that pocket until the storm dissipates, often leaving them hundreds of miles off course. In the wake of Hurricane Irma in September, sooty terns, as well as other seabirds including black-capped petrels and brown noddies, were found as far inland as Tennessee and western North Carolina.

Climate change, which scientists expect to foster stronger and more frequent tropical storms, could lead to more sooty tern deaths. The birds are generally south of the West Indies by September, meaning late-season hurricanes like Hurricane Irma don't pose a great threat, but summer hurricanes could be dangerous for southbound sooties. "Whether or not birds get caught in a storm during migration is all about the combination of time, intensity and location," said Huang. "And as the number of storms increases, the chance of those factors coming together also increases."

Sea-level rise caused by climate change is also a major concern for the Dry Tortugas population, according to Park Manager Glenn Simpson. "These islands

are low-lying and are sensitive to any changes in sea level," he said. The sooty terns are important to the park — the species is specifically mentioned in the 1992 enabling legislation that established the site as a national park. "I was happy to go help put backpacks on those birds if it helped us protect them," Simpson said.

Huang and his colleagues hope to continue their work tracking sooty terns because the species is a particularly useful indicator of ocean health. Though the Dry Tortugas are the terns' only American nesting colony, the birds are common in tropical waters around the world. "Sooty terns are a great sentinel species because they have a big range, meaning they're sensing a lot of the ocean for us," Huang said. For example, studying seabird diets can help experts predict fishery declines much earlier than traditional measurements using catch data. Humans are good at removing every last fish in a particular spot and often see full nets right up until a drastic decline; seabirds figure out they need to supplement their diet sooner and start looking elsewhere.

Huang and other scientists who are studying sooty terns hope that they can help uncover other changes in the ocean. Watching the birds could alert researchers to an oil spill, overfishing or problems associated with rising and warming seas. "These birds are a lot more sensitive to changes than humans are," he said, "and they're helping give us an idea of what's going on out there." **NP**

COASTAL HOMES

Coastal national parks provide critical nesting habitat for a number of seagoing bird species. For example, about half of the world's population of ash storm-petrels nest in Channel Islands National Park off the California coast, and the rocky island cliffs of Kenai Fjords National Park in Alaska are home to both horned and tufted puffins.

NICK LUND handles energy issues for NPCA.



© NATURAL HISTORY MUSEUM, LONDON



Denali Newbie

Meet the first new bumblebee species found in North America in a century.

OVER THE SHORT ALASKAN SUMMER OF 2012, Jessica Rykken conducted the first detailed inventory of Denali National Park and Preserve's pollinators. Armed with butterfly nets, Rykken, park staff and volunteers scooped up bees from alpine meadows, roadsides and river banks. They also trapped insects in brightly colored plastic bowls and jars full of soapy water. In all, Rykken and her assistants gathered 552 bees and hundreds more flower flies.

Then Rykken, who has since become the park's entomologist, went about identifying the bees — most of them bumblebees — that she had caught. First, she washed the bees, which she had stored in alcohol, with warm water and a little bit of detergent. Next, she used a regular hair dryer to restore each one to its fluffy self. After carefully examining each specimen under a microscope, Rykken identified 20 separate bee species, including 13 bumblebees. She hesitated when labeling a few bumblebees as *Bombus neoboreus*, a species found in the arctic tundra of Alaska and Canada: "There were several specimens of *neoboreus* that didn't look quite right," she said. Rykken made a note of the

discrepancy, and after pinning each bee, she took boxes of labeled bees to Derek Sikes, the insect curator at the University of Alaska Museum in Fairbanks, where they became part of the museum's collections.

Four years later, while reading a scientific paper that Sikes had emailed her, Rykken learned that she had contributed to a major discovery. Those funny-looking *neoboreus* bumblebees? They were actually members of a species new to science. "The last bumblebee species discovered in North America was 90 years ago, so it's a pretty big deal," Rykken said.

Paul Williams, a bumblebee expert at the Natural History Museum in London, first suspected the existence of a new species in 2008, when he noticed that some black-tailed *neoboreus* bumblebees had slightly unusual body shapes and hair lengths. He later came across two similar bumblebees collected in Canada's Yukon in 2010 and asked that their DNA be sequenced as part of a global effort to create a reference library of the world's 20,000 or so bee species. Williams found that the Yukon bees' DNA differed from that of any other known species. Looking for confirmation, he asked colleagues across North America to send him black-tailed *neoboreus* bees from their collections. After examining thousands of bumblebee specimens, Williams eventually struck gold: Three of the bees that Rykken had collected in Denali proved to be a match.

The formal description of a new species needs to include the bee's physical characteristics and explain how

the defining traits are different from those of similar species. That's particularly difficult for bumblebees because different species that live in the same environment often end up resembling each other through a phenomenon known as mimicry. What's more, the same species of bumblebees can exhibit different color patterns in different parts of its range, which has led entomologists to erroneously identify bees with hair color variation as separate species. "That caused a lot of confusion," Williams said.

And so, with the DNA evidence in hand, Williams set out to examine the morphology of the newcomer and compare it with its closest relatives. Using a graticule — a network of measuring lines on a microscope eyepiece — he found that the new species looked very much like *B. neoboreus* but had consistently longer cheeks, a trait that is sufficient to distinguish the two species. Not much else is known about the new species, and so far, it has been found only in Denali and in the Kluane region of Canada near the Alaska border. Williams and his colleagues named the new bee *Bombus kluanensis*.

A new long-cheeked bee on the block may not seem like much, but it's cause for celebration. Commercially raised honeybees have experienced substantial

A new long-cheeked bee on the block may not seem like much, but it's cause for celebration.

declines in recent years, which experts fear could have a devastating effect on some crops. Scientists have suggested that native bees could pick up the slack, but those bees aren't faring much better. In early 2017, the rusty patched bumblebee, now present in only 0.1 percent of its historical range, became the first bee species in the continental U.S. to be listed as endangered. Franklin's bumblebees used to buzz around southern Oregon and Northern California but have not been seen since 2006 and may well be extinct.

Habitat loss is the main culprit, but other factors such as pesticides and pathogens carried by non-native species also contribute to the decline of bumblebees, Williams said. And then there is climate change. A study of bumblebees in North America and Europe found that unlike butterflies, bumblebees haven't been able to compensate for the shrinking of their range in the south by expanding into more northern territories.

Rykken's work in Denali contributed to a coordinated survey of native bees in nearly 50 national park sites with landscapes — from alpine meadows to deserts and coastal dunes — that are particularly vulnerable to climate change. The researchers found, for instance, that dune-dwelling bees move fairly easily along the coast as sands shift, but the bees will have nowhere to go if their ecosystem is submerged by rising seas. "If there are no dune systems, then a whole series of bees disappears," said Sam Droege, a biologist at the U.S. Geological Survey who supervised the inventory.

In the Alaskan interior, winter temperatures have increased more than 6 F since the 1950s. As a result, glaciers are shrinking, the permafrost is thawing, shrubs are encroaching on the arctic tundra, and invasive species are finding the climate more suitable. To monitor the effect of a changing climate on local insect populations, scientists must first determine which species live there. Since Sikes joined the University of Alaska Museum staff in 2006, he's been on a quest to document every one of the state's non-marine arthropods. "The climate is changing faster than in the lower 48," Sikes said. "That's why there is a rush to get this work done."

Denali's bumblebees are well equipped to handle the cold. Their fur insulates them, and they can shiver to regulate their body temperature. They've even been observed foraging during snowfalls. How *B. kluanensis* and the park's other bumblebees will fare in warmer temperatures is unknown, but Rykken and others will continue to keep an eye on them because they know how important bumblebees are to Denali's ecosystems. For one thing, bumblebees are the main pollinators of blueberries, which, by late summer, are one of the few foods Denali's grizzlies eat.

"Without bumblebees in Denali, there wouldn't be any grizzly bears," Rykken said. "We go to parks to see the charismatic megafauna, but the species that support them are these tiny creatures." **NP**

NICOLAS BRULLIARD is associate editor of National Parks magazine.

BEE LAUNDRY

Biologist Sam Droege has found an efficient way to wash his bees: He throws hundreds at a time into a washer and dryer. Amazingly, they come out clean — and intact. "We're not doing anything more than hitting 'delicate cycle' and pushing the button," he said.

**IN HIS 1968 BOOK ABOUT ARCHES, 'DESERT SOLITAIRE,'
EDWARD ABBEY WARNED THAT TOURISTS AND
CARS WOULD DESTROY THE PARK HE LOVED.**

WAS HE RIGHT?

BY TODD CHRISTOPHER • PHOTOS BY JOHN BURCHAM



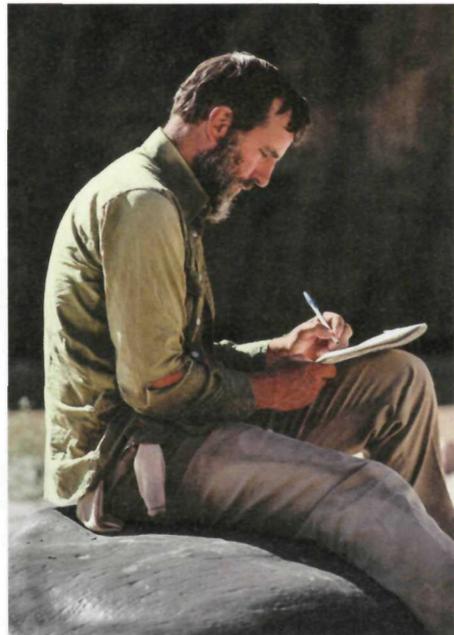
INTRODUCING BRAND ARCHES

arrive at Arches National Park before sun-down, lured by something that's no longer there. Nine miles from the entrance, on a gentle crest near the heart of the park, I turn down an inconspicuous gravel road. Moments later, the shoulder widens and a simple ramada flanked by picnic tables rises from the red rock and brush. I park, grab my pack and settle onto a patch of nearby slickrock.

The gravity-defying figure of Balanced Rock — a 3,600-ton boulder atop a narrow pedestal — blushes in the waning sunlight. The La Sal Mountains, still snow-capped at the peak of summer, line the far horizon. An evening breeze picks up and swirls. Remarkably, and for the moment, I am alone, basking in serenity amid sandstone,

juniper and limitless sky.

This peaceful spot is the site of the little National Park Service trailer where Edward Abbey spent two years as the lone seasonal ranger in what was, at the time, Arches National Monument. The trailer itself is long gone, but the book that was born here lives on. First published 50 years ago in 1968, "Desert Solitaire: A Season in the Wilderness" is a raw, spirited paean to canyon country, the kind of work that attracts not just readers but devoted followers.



EDWARD ABBEY in the Grand Canyon in 1976. Previous pages: Most visitors have seen countless images of Delicate Arch, which graces Utah license plates and road signs across the state, before they make it to the real thing and snap their own photos.

©JOHN BLAUSTEIN

"FOR A LITTLE WHILE WE ARE AGAIN ABLE TO SEE, AS THE CHILD SEES, A WORLD OF MARVELS"

"Desert Solitaire," chapter 4:
"Cliffrose and Bayonets"



WHEN ABBEY worked at Arches, the annual visitor count was less than 30,000. In 2016, that number rose to nearly 1.6 million.

writing. It's not just a love letter to the land; Abbey's physically and psychologically vivid portrait of the desert became a rallying cry for its preservation against the forces of development. "Most of what I write about in this book is already gone or going under fast," he lamented in the preface. "This is not a travel guide but an elegy. A memorial."

In the case of Glen Canyon, the meaning is literal; not long after Abbey explored it by rubber boat, it was flooded by the Glen Canyon Dam and now lies beneath Lake Powell. But in a larger sense, he means the desert itself, whose future he saw hanging in the balance, threatened by everything from mining to the automobile-fueled growth of what he called "industrial tourism." In one of the book's most memorable passages, he described his futile effort to stave off the inevitable by pulling up the stakes driven by the survey crew planning the park's first paved road. As ever, he didn't mince words: "No more cars in national parks."

All of this is easy for Abbey to say — he had Arches, while it

I already loved the desert before reading Abbey, drawn by the landscape's extremes and captivated by its golden light and blue skies. But to read "Desert Solitaire" was to revel in a different aspect of a seemingly inhospitable place: the profound sense of freedom it affords us. It was a reaction, I would come to find, that I shared with many others.

If the desert is a beautiful but unforgiving land of contrasts, perhaps Abbey was its perfect scribe. Guided by his belief that a writer should be "fueled in equal parts by anger and love," he was a hopeful contrarian whose prose was as lyrical as it was irascible. "He was the Mark Twain of the American desert; he was bad behavior and big-hearted ideas," wrote conservationist and author Terry Tempest Williams. Through dozens of books and essays, "Cactus Ed" espoused an anarchistic brand of environmental advocacy

that makes him a polarizing figure to this day — and one can't help but feel that's the way he'd like it. (In a final act of subversion, he got his closest friends to secretly bury him in Arizona's Cabeza Prieta Wilderness, in a grave marked by a simple stone bearing this inscription: Edward Paul Abbey / 1927 - 1989 / NO COMMENT.)

Over the course of two languid seasons at Arches — beginning in 1956, 15 years before Congress changed its designation from national monument to national park — Abbey looked after the park and its visitors. But he also roamed and communed with the high desert of the Colorado Plateau, chronicling his experiences with a naturalist's eye, a philosopher's mind and a rebel's heart. The result was "Desert Solitaire," his most enduring work, which, despite tepid early sales, went on to garner critical acclaim and a place in the canon of American nature

was still primitive and idyllic, practically to himself. It's also as frustrating as it is compelling: He inspires us to experience the wonder of the desert as he had even as he warns us not to bother, tantalizing us with a glimpse of paradise but proclaiming it already lost. So I've come here on the occasion of the 50th anniversary of "Desert Solitaire" to trace Abbey's footsteps and to see for myself if his paradise can still be found, whether his spirit remains and how Arches has been affected by the soaring number of motorized tourists he feared.

I RISE EARLY THE NEXT MORNING and find the park aglow in the wake of sunrise. Spanning nearly 77,000 acres of southeastern Utah desert, Arches boasts the greatest density of natural arches on the planet — more than 2,000 in all — making it hard to decide where to start. I settle on the easy trails of the Windows



THE ENTRANCE to Arches National Park lies 40 miles south of Interstate 70 in southeastern Utah. Options for air travel include Grand Junction Regional Airport (110 miles) and Salt Lake City International Airport (235 miles). Abbey would have hated the crowds at Delicate Arch (right) and in the rest of the park, yet he would understand what drives them: He wrote persuasively about the profound sense of freedom the desert affords.

Section, where the features are almost architectural: the stout citadel of Turret Arch, the flying buttresses of Double Arch, and the namesake North and South Windows.

Although it's early, the main trails are already crowded, so I take the more scenic primitive loop and pass only one other hiker along the way. Stones stacked into cairns mark the path, and wooden signs urge hikers to stay on the trail; even a single footstep can mean decades of damage to the delicate biological soil crust that covers much of the park.

I catch a whiff of diesel exhaust as I return to the parking area; the first of the day's tour buses is rolling up, my cue to roll out. I make my way to the Park Avenue trailhead and spend the rest of the morning among the towering walls and spires there. It's midday by the time I climb out of the mile-long canyon, and it's getting hot.

"Noontime here is like a drug," Abbey wrote. "The light is psychedelic, the dry electric air narcotic." It's also a good time for a bit of shelter from the sun, not to mention lunch, so I head to Moab.

The identity — and the fortunes — of this gritty, free-spirited little town remain closely tied to the park just beyond its borders. Depictions of the arches are everywhere. The chalkboard menu at the cafe where I grab a bite features both a Fiery Furnace (spicy quesadilla) and a Delicate Arch (turkey and avocado served, as you might guess, on a croissant).

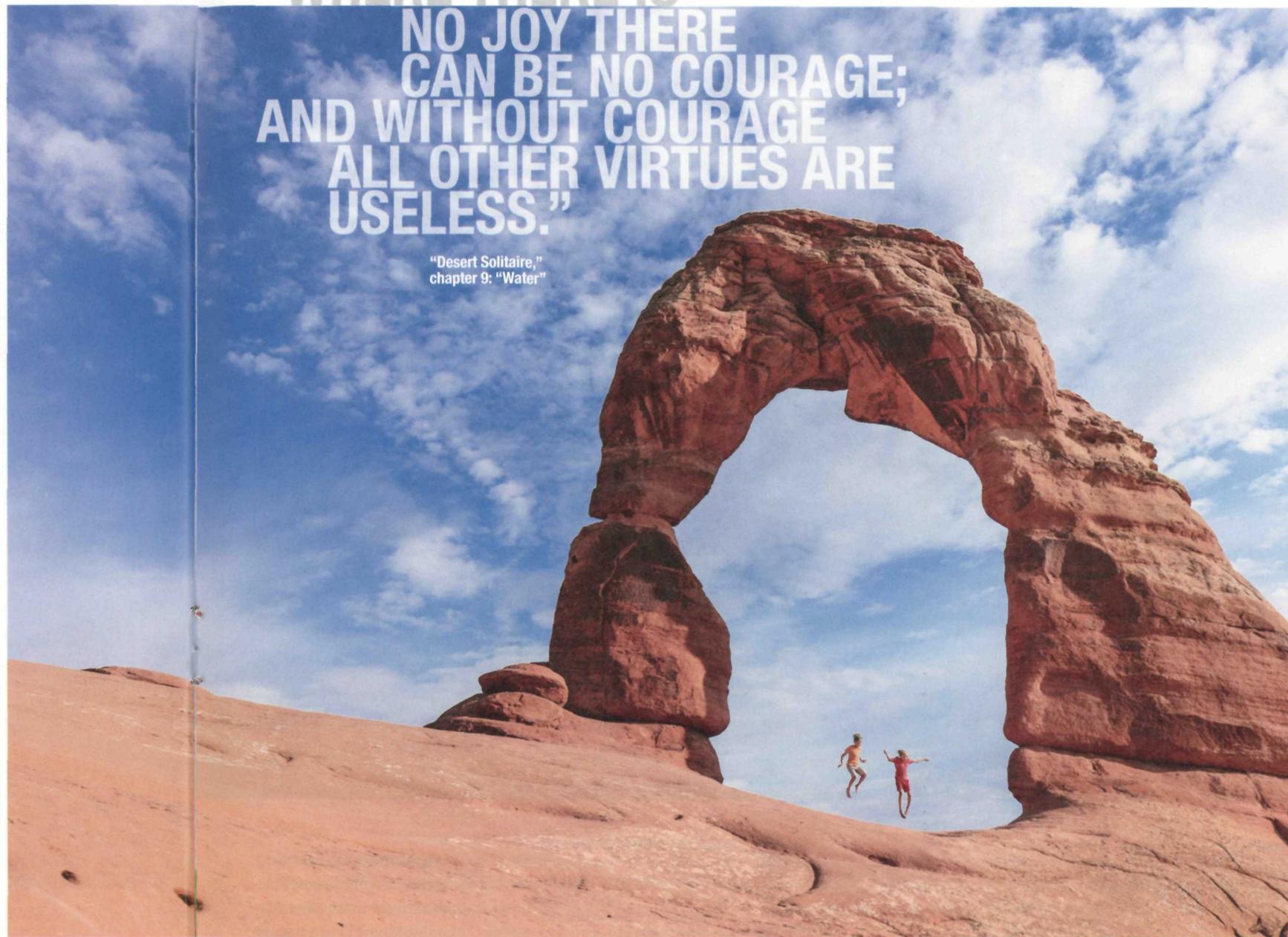
During the 1950s, thanks mostly to the uranium mining boom, Moab's population approached 5,000; today, after falling and resurging, it's just a bit over that figure, but the number of people passing through town has skyrocketed. During Abbey's seasons in Arches, the park's annual visitor count was less than 30,000. In 2016, the official tally was nearly 1.6 million. Those visitors (and the 800,000 who go to nearby Canyonlands National Park every year) pump more than \$300 million into the local economy and support over 3,800 tourism-related jobs. For the most part, travelers stay in Moab, tripling — even quadrupling — the population on the busiest weekends.

The Park Service has always faced the challenge of reconciling its mandates to provide for both the protection of the parks and visitors' enjoyment, but the record-shattering attendance has put Arches staff between slickrock and a hard place: helping people to know and love this place while keeping them from loving it to death. In May 2015, traffic headed into Arches became so heavy that it spilled onto Highway 191 and backed up for several miles toward Moab, prompting the Utah Highway Patrol to take the unprecedented step of closing the park entrance. A year later, a teenage girl from Texas was killed at the same intersection in a traffic accident. Now, a new traffic light and expanded inbound lanes help to manage the relentless flow into the park.

But there's more to be done inside the gates. "A part of the park experience these days is finding a parking spot," says David Nimkin, senior director of NPCA's Southwest Regional Office. During the busiest months (usually between March and October) all the major parking areas at Arches reach — or exceed — capacity for several hours a day, leading to backups, conflicts,

"WHERE THERE IS
NO JOY THERE
CAN BE NO COURAGE;
AND WITHOUT COURAGE
ALL OTHER VIRTUES ARE
USELESS."

"Desert Solitaire,"
chapter 9: "Water"



and damage from visitors parking and walking in unsuitable areas.

In response, the Park Service began rolling out a Traffic Congestion Management Plan for Arches and Canyonlands in 2015, soliciting public comment and undertaking improvement projects like the expansion of entry lanes. Some growing pains are inevitable. Most of 2017 was consumed by roadwork — resurfacing all 26 miles of paved roads in Arches — that shut down the lone campground for the season, took sections of the park offline for weeks at a time and forced the park to close most nights.

Most of the roads and parking areas in Arches date back more than 50 years, when today's levels of traffic were inconceivable, and this most recent project will rehabilitate them

and increase their capacity. And to ease crowding, Arches is weighing options that range from admission-fee increases to visitor reservations through a timed-entry system that could begin in 2019, a plan supported by NPCA. "We think it's the most reasonable and sensible approach that will go a long way toward helping visitors to experience the beauty, quiet and solitude celebrated by Ed Abbey half a century ago," Nimkin says.

AFTER LUNCH, I VENTURE OFF THE MAIN DRAG to meet Michael Rupp. The district interpreter for Canyonlands' Island in the Sky District, Rupp has agreed to meet me in Moab's Swanny City Park. He tells me he has always been at peace in desert landscapes and now, as a ranger in canyon country, he's found

“I DISCOVERED THAT I WAS NOT OPPOSED TO MANKIND BUT ONLY TO MAN-CENTEREDNESS...”

“Desert Solitaire,” chapter 16: “Episodes and Visions”



NPCA AT WORK

In the spring of 2016, NPCA staff, along with several partners, brought a group of teenagers from Salt Lake City to Arches. The participants, many of whom had never been to a national park before, explored, heard talks about the park’s natural features and history, slept in teepees, met environmental activists, and learned about public lands careers. When one boy didn’t show up at bedtime, a trip leader went searching, only to find the teen staring up at the sky. “To see a night sky when you’ve never seen one before in a dark-sky park is mind-blowing,” said NPCA’s David Nimkin, who dreamed up the trip.

The coalition — includ-

ing YouthWorks of Salt Lake City and Friends of Arches and Canyonlands — has since led similar trips to Canyonlands National Park, Hovenweep National Monument and Natural Bridges National Monument and hopes to expand the program. “We want to expose youth to this richness, but also to help them recognize their power and their potential influence in protecting these places,” Nimkin said.

Young people interested in understanding how environmentalists can make a difference could take a look at NPCA’s role in the creation of an oil and gas lease plan for lands near Arches and Canyonlands. The idea was to bring together conservationists, energy

industry executives, business owners and others to devise a blueprint that would allow energy development and also protect wild places and animals. The Moab Master Leasing Plan was finalized in December 2016 and has been lauded as a national model. “We advocated, we got our members to weigh in and I’m delighted to say, as it stands now, it’s being implemented,” Nimkin said. “It’s the most comprehensive and successful master leasing plan in the country.”

LEARN MORE ABOUT:

YouthWorks in the parks:
npca.org/youthworks

The Moab Master Leasing Plan:
npca.org/moabmlp

NPCA’s position on visitor management:
npca.org/visitormgmt



ROAD CONSTRUCTION closed the Balanced Rock section of the park for most of September. Left: Back of Beyond Books in Moab specializes in titles about the natural history and culture of the Southwest including, of course, the works of Edward Abbey.

a touchstone in “Desert Solitaire.” “Abbey was able to articulate magnificently thoughts that I could barely come up with,” he says. “I read it, and I said, ‘Yes. That’s it. That’s what I’m trying to tell everybody about.’

He just perfectly encapsulated all that the desert is.”

At the same time, “the whole book is a very prickly, uncompromising, purist sort of diatribe on how the desert should be experienced,” he says. “There’s little wiggle room there for opposing views.” But Rupp welcomes the challenge: “Purists,” he points out, “always force us to examine our own beliefs.”

Like many of Abbey’s readers, Rupp often wonders what he would make of things today. “If he were to come to the parks now and see not just the pavement and the motorized vehicles but the RVs, the visitors with the selfie sticks. ... What would Edward Abbey think of a selfie stick? Or going back to town to

get Wi-Fi to post things on Instagram?”

The question is rhetorical; the prevailing wisdom is that he’d be turning over in his clandestine grave somewhere in the Arizona desert. For Abbey, this place was Eden, sacrosanct. And though Rupp generally regards an abundance of visitors as a good problem to have, he’s also been moved by Abbey’s battle cry.

“I think a lot of us try to carry on his spirit here,” he says, “and probably have on repeat in our minds, ‘What would Edward Abbey do?’ I like to think I’ve got him on my shoulder. I don’t know if he’s the angel or the devil, but I think he’s there.”

Two blocks away, Abbey’s literary spirit is alive and well at Back of Beyond Books, a cozy, eclectic bookstore named after a phrase from his novel, “The Monkey Wrench Gang.” A bookcase devoted to works by and about the author is positioned prominently, just inside the front door. Proprietor Andy Nettell notes my punctuality — by Moab standards — and invites me in.

“Back of Beyond Books’ inception truly came out of Edward Abbey’s death,” he says, recounting the memorial held just outside Arches in May 1989, where those close to Abbey celebrated

him, then sought a way to further his work. The bookstore opened the following year. Nettell, who previously had been a ranger in both Canyonlands and Arches, became the owner in 2005.

To celebrate the 50th anniversary of “Desert Solitaire,” Nettell is working with Clarke Abbey, the author’s widow and fifth wife, on reprinting as a chapbook one of the book’s most notable — and contentious — chapters, “Polemic: Industrial Tourism and the National Parks,” in which Abbey prophesies and decries a future where the parks are overrun by motorized tourists and reduced to little more than theme parks.

Its subject clearly strikes a chord with Nettell. “The parks are facing tremendous pressures, and, politically, it’s very difficult for a superintendent to say ‘Enough’s enough,’” he says. “We just can’t keep allowing as many people in as possible. Solitude is one of the reasons people come to these parks, and I’d hate to see that disappear.”

The sentiment is pure Abbey, who continues to find an audience here. “Year in and year out, ‘Desert Solitaire’ is our No. 1

THE NORTH WINDOW, in the easily accessible Windows Section of the park, is among Arches' most visited destinations.



“WILDERNESS IS
NOT A LUXURY
BUT A NECESSITY
OF THE HUMAN
SPIRIT...”

“Desert Solitaire,” chapter 12: “Down the River”

seller,” Nettell says. “And we sell probably 600 to 700 copies of that book — so, a couple a day — and that’s to people from throughout the world.”

THE DELICATE ARCH TRAILHEAD is bustling as the afternoon winds down, and a parking space is hard to find. A team of rangers attends to the young man they’ve carried off the crowded trail in a stretcher, the victim of an anxiety attack. The weather fits the mood; early sun has succumbed to steely clouds and the occasional rumble of far-off thunder. But clear skies or not, I’m going. I’ve already seen the iconic image on countless road signs and Utah license plates. Time now to see the real thing.

The trail itself has a flair for the dramatic, offering no hint of what lies ahead until the final rock ledge and last bend give way to the graceful, free-standing figure of Delicate Arch. Dozens of

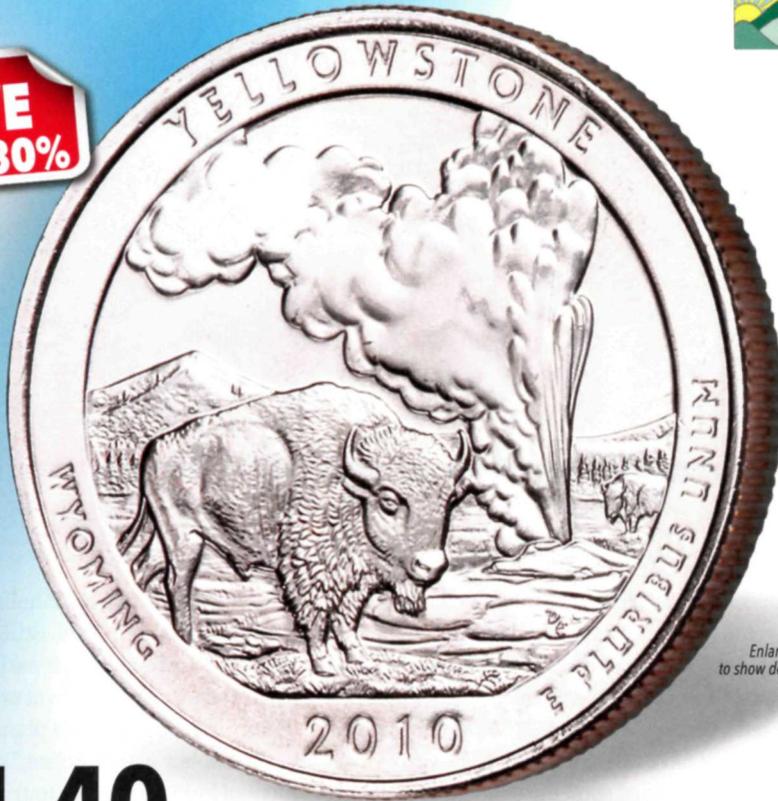
visitors take turns snapping photos of each other in front of and under it — some with selfie sticks. Others sit in quiet contemplation. I overhear conversations in five languages other than English. A young man, frustrated by the tourists bombing his photos, shouts epithets. The setting is sublime, but the experience is surreal.

Too soon, the clouds darken. There will be no golden hour this evening. The wind shifts, and the air is suddenly charged; a storm is brewing, for sure. Much as I’d like to stay, I don’t relish the idea of being exposed on the high slickrock trail should lightning strike, and I briskly cover the return leg of the 3-mile hike.

The premature twilight is unearthly, and Arches Scenic Drive becomes a passageway through a strange new landscape. Thick ropes of lightning flash as the downpour begins. What looks for all the world like a dusting of new-fallen snow proves to be a trick of the light and the sheen of the slickrock. One more surprise: Waterfalls — I have to look twice — spill and tumble down the massive expanse of sandstone cliffs known as The Great Wall.

Back in Moab, I drift off to the sound of desert rain.

SAVE OVER 80%



Enlarged to show detail

- **Uncirculated condition**
- **40 designs - from 2010-Date**
- **Never to be minted again!**

Get ALL 40 National Park Quarters issued to date!

Struck for only ten weeks each and then never again...

The beautiful National Park quarters honor a cherished site in each of the 50 states, D.C. and the 5 U.S. territories.

Order your set now for **only \$12.95** and **SAVE OVER 80%** off the regular price of ~~\$75.95~~. Respond within 30 days and also get a historic

FREE Uncirculated 2010 Lincoln cent - **first** with the Union Shield reverse.

You'll also receive our fully illustrated catalog, plus other fascinating selections from our Free Examination Coins-on-Approval Service, from which you may purchase any or none of the coins - return balance in 15 days - with option to cancel at any time. **Order now to SAVE OVER 80%!**



when you order within 30 days

Mail coupon or order online at www.LittletonCoin.com/specials



Get all 40 issues from 2010-Date and **SAVE!**

©2017 LCC, Inc.

SPECIAL OFFER FOR NEW CUSTOMERS ONLY

✓ YES! Please send me the 40-Coin Set of Uncirculated 2010-Date America's National Park Quarters for **ONLY \$12.95** - reg. ~~\$75.95~~, plus Free Shipping (limit 5 sets). Also send my **FREE** Uncirculated 2010 Union Shield Cent (1 per customer, please).

ORDERS MUST BE RECEIVED WITHIN 30 DAYS

QTY	DESCRIPTION	PRICE	TOTAL
	40-Coin Quarter Set (limit 5 sets)	\$12.95	
	Add Custom 2010-2021 America's National Park Quarters Display Folders & SAVE 25% at \$2.95 each (reg. \$3.95). <small>USA</small>	\$2.95	
	FREE Shipping! Merchandise TOTAL	\$	5

Method of payment:

- Check
- VISA MC
- AMEX DISC

Card No.

Name Please print clearly

Address Apt#

City State Zip

E-Mail

Please send coupon to:

Littleton Coin Co.
Dept. 45H414
1309 Mt. Eustis Rd
Littleton NH 03561-3737

Exp. Date / /

45-Day Money Back Guarantee of Satisfaction

America's Favorite Coin Source • TRUSTED SINCE 1945

A STARRY NIGHT view of Balanced Rock.



THUNDERSTORMS LINGER UNTIL EARLY MORNING, so I trade a sunrise start for an extra hour of sleep and a hot breakfast. I reach the park as the storm clouds begin rolling out just after 9 a.m., and the later arrival puts me, for the first time, in traffic. By my best guess, I've joined the tail end of a phalanx that's two cars wide and 60 or 70 deep, but given Arches' recent history, I really can't complain. Between turning off the highway and showing my annual pass at the entrance station, 39 minutes go by.

Thirty minutes more and I reach the end of the road and a teeming parking area nearing capacity. I stretch my legs and join the crowds hiking in Devils Garden among its massive Entrada Sandstone fins — features that suggest a landscape furrowed by an enormous rake. I'm struck by the thought that the formations all around me will become the arches that mark this landscape many thousands of years in the future.

After walking half of the 7 miles of trail, I relinquish my parking spot to a grateful driver and head to the visitor center to meet Michael Matthes. A park ranger here since 2010, Matthes grew up in St. Louis — “where we have a big metal arch,” he says — but speaks with the quiet conviction of someone who believes he is precisely where he is meant to be.

He first saw Arches at the age of 23, while helping a friend move to Montana. A day trip stretched into two, then three days in the park. “I fell in love,” he says. At 30, realizing he had this place in his blood, Matthes left his career for a three-month internship at the park. That turned into a full-time position — “Desert Solitaire” was part of the welcome packet — and he's been here ever since.

“Reading ‘Desert Solitaire,’ in a way, brought me closer to the park,” he says. He recounts a favorite passage in which Abbey lies on the ground to observe mating snakes and turns off his flashlight so he can feel part of all that's around him.

“There are times where, you know, I'm feeling a little worn down from the crowds, and I read that section of the book and it gets me back to why I'm here,” he says. “And it gets me back to the significance and the importance of this place, of finding beauty and relevancy beyond just these arches and these monoliths.”

ON SEPT. 1, 1991, a 60-foot-long slab of sandstone broke away from the underside of Landscape Arch and fell some 70 feet to the ground below; on Aug. 4, 2008, Wall Arch completely collapsed — startling reminders of the impermanence that characterizes this place. Arches always has been, and always will be, changing, at the mercy of the natural forces that continue to shape it. What we think of as Delicate Arch and Balanced Rock are, on a geological scale, just arrested motion — lovely snapshots of a moment in time. How fortunate that it's a time when we happen to be here to bear witness.

It's also a time when, for better or worse, people have become part of the landscape. Today, having an experience like Abbey's

is no more possible than holing up for two years of seclusion in a cabin on Walden Pond. Still, solitude is here to be found — you just might need to go a bit earlier, hike a little farther or be a little more patient. You can't fault or wish away the crowds drawn to the beauty here, but you can plan your visit to avoid them.

“Ed Abbey was prescient,” says David Nimkin. “His admonishment of industrial-scale tourism has come to pass. Nevertheless, we can't roll back the clock. Increased visitation to the area creates jobs and livelihood for thousands, and the regional economy is strong and growing.”

Michael Rupp sees another upside to the rising number of visitors: more park protectors. “If we are going to help preserve the parks, we need public support. We need people out there appreciating, enjoying and loving the parks,” he says. “Nowadays, any threat is thwarted by vocal advocates and supporters of the park. And it just may not have turned out that way without paved roads, without campgrounds, without visitor centers.”

In the end, and despite his warnings, it seems that even Abbey knew that idealism alone would never be enough. As Rupp sees it, one of the most telling passages in “Desert Solitaire” comes at the end, as Abbey prepares to leave Arches and daydreams of the city. “He says it's really all about balance. That's the secret. ... I felt like that was him conceding that balance applies to everything,” Rupp says.

In my own dog-eared copy of the book, a ragged sticky note flags my favorite line from the same page. “Moderate extremism. The best of both worlds,” Abbey wrote. “Unlike Thoreau who insisted on one world at a time I am attempting to make the best of two.”

TODD CHRISTOPHER is senior director of digital and editorial strategy at NPCA and the author of “The Green Hour: A Daily Dose of Nature for Happier, Healthier, Smarter Kids.” To see his video of Michael Rupp and others talking about Abbey's influence, go to npca.org/magazine.

JOHN BURCHAM is a commercial, editorial and adventure photographer based in Flagstaff, Arizona.



Savings can take you to
amazing sights.



GEICO *for your RV*

geico.com | 1-877-434-2678 | Local Office

Some discounts, coverages, payment plans and features are not available in all states or all GEICO companies. GEICO is a registered service mark of Government Employees Insurance Company, Washington, D.C. 20076; a Berkshire Hathaway Inc. subsidiary. © 2017 GEICO



HEADING FOR the waters of the Gulf of Mexico, these Kemp's ridley sea turtle hatchlings carry the hopes of Padre Island National Seashore researchers who have been working for decades to save this endangered species.

**WAITING
FOR A**

BABY BOOM

Are decades of work to save Kemp's ridley sea turtles paying off yet?

It's a windy May morning on the Texas coast, and dancing sand nips my ankles as I cross an expanse of beach. I'm at Padre Island National Seashore to learn about rare Kemp's ridley sea turtles, and as I walk to the park headquarters, I can't help but study the landscape for signs of the turtles. I don't see any, but the wind, I will find out a few minutes later, is a very good sign that I might get to see what I've been hoping for: nesting Kemp's ridleys, coming ashore to bury their eggs in the sand.

"This could be a big, big day," Donna Shaver tells me when I get inside. "This could be the kind of day we wait all year for."

For Shaver, who's been leading the park's sea turtle program for more than three decades, a big day means dozens of turtles nesting along the Texas coast. It turns out that Shaver is right. By the day's end, turtle watchers spot 19 Kemp's ridley nests along the 70-mile stretch of undeveloped barrier island that makes up the national park and find an additional 11 nests at nearby beaches.

Kemp's ridleys are the smallest and most endangered sea turtles in the world. Researchers estimate that in the 1940s, about 50,000 females laid eggs in more than 120,000 nests along the Gulf of Mexico each year. Possibly

to limit the impact of predators, thousands of turtles would swarm a beach at once — a phenomenon known as "arribada." But decades of poaching both the turtles and their eggs took their toll on the species. At one point in the 1980s, fewer than 250 females were nesting in Mexico, and almost none on the Texas coast where the turtle had historically nested.

In 1978, the U.S. and Mexico joined forces to re-establish Padre Island as a nesting colony that would be a backup to Rancho Nuevo, Mexico, by then the only large nesting site for the species. Over the course of 10 years, scientists collected thousands of eggs from Rancho Nuevo and released the hatchlings onto the beach at Padre Island with the hope that the turtles would one day return to their birthplace in Texas

By Sarah C.P. Williams

© ESTHER HORVATH/ILCP



KEMP'S RIDLEY sea turtles, such as this one swimming through an oil rig off the Texas coast, spend most of their lives out in the ocean.

© AMAR AND ISABELLE GUILLEN-GUILLEN PHOTO LLC/ALAMY STOCK PHOTO

to nest. In 1996, the first tagged female from the project returned to Padre Island, and, for more than a decade thereafter, the number of nesting turtles grew almost every year. In 2009, Shaver's team and their collaborators found nearly 200 nests on the Texas coast. At the same time, numbers in Mexico had risen from a few hundred nests a year to more than 20,000 nests, and scientists started to project that the Kemp's ridley would be downgraded on the endangered species list — from endangered to threatened — by 2020. But then, the turtle population stopped growing, in both Mexico and Texas.

That's why I'm meeting with Shaver: to talk about this stagnated population growth and what researchers are doing about it. Shaver tells me that fewer new turtles are nesting at Padre Island and that the turtles that were nesting on these beaches aren't returning as often as they used to. She speculates about some of the factors that might be hurting the population. After the 2010 Deepwater Horizon oil spill, some weak and starving turtles covered in oil washed ashore, and scores of others could have died at sea. Warming oceans, Shaver says, are another likely culprit because they could be affecting the turtles' food sources — for example, populations of one of the small crabs

“They’re such an ancient animal, and you think about all the effort it’s taken for them to get here and lay these eggs. It’s pretty incredible.”

that these turtles eat have been declining in recent years. And though mandatory devices now help turtles escape fishing nets, other devices designed to reduce bycatch are depriving Kemp's ridleys of one of their food sources because fishermen are no longer throwing overboard large quantities of unwanted fish. Shaver starts to explain how the turtles could be harmed by expanding dead zones — areas of the ocean where fertilizers and other pollutants stimulate the growth of harmful algae and deplete the waters of oxygen, killing many forms of marine life — when the radio sitting on her desk buzzes to life.

“We’ve got a nest,” says a disjointed voice between bursts of static.

“Copy,” Shaver says. “Great job! Let me know if there’s a tag.”

“A lot of things have to happen very quickly when we find a nest,” she says, apologizing for the interruption in our conversation as she opens a database on her computer. “And when one turtle nests, it’s likely that more will. They all sense the same conditions.”

It’s quickly apparent how immersed Shaver is in this work. She barks commands through the radio while jotting down notes about when and where the nesting turtle was spotted. Her room looks like it’s straight out of a turtle museum. Photos of turtles adorn the walls; turtle figurines, carvings and knick-knacks cover every surface; and the bookshelves are crammed with turtle books and journals. Later, I learn that Shaver, who is 58, sometimes sleeps here so she can monitor turtle eggs overnight. When I ask her whether she has any hobbies, she says, without any hint of a smile, “When I have free time, I write publications to share our results.” (She also admits to spending time with her dogs — which she’s trained to detect the scent of turtle eggs and find hidden nests — and her very supportive husband.)

During a lull in the radio chatter, Shaver tells me about a group of turtles wearing satellite tags that are expected to nest any day now. It’s one of the reasons she suspects it will be a big day. The steady wind also has her hopes up: Egg-laying turtles favor windy days because the wind hides their scent and tracks from predators. She pulls up on her computer screen a map with dotted lines showing the paths of each tagged animal, which she talks about as if they were old friends.

“Mary Anne is up here right now,” she says, pointing at a spot just off Padre Island. “She nested a few weeks ago.”

Before I can ask Shaver more questions, she says that if I want to see turtles today, I need to join one of the patrols about to head out. So I meet Cynthia Rubio, a wildlife biologist who’s been working here for two decades, and hop into her four-wheel-drive SUV.

As she inches down the beach, wheels plowing through the sand, Rubio’s eyes scan back and forth across the landscape. All day, all summer long, teams of scientists, technicians and

volunteers patrol this beach for nesting turtles so they can not only keep a tally but collect and incubate the turtles’ eggs and — about 50 days later — release the hatchlings into the ocean. Like all Texas beaches, Padre Island National Seashore is open to vehicles, and eggs can be crushed by trucks and SUVs, or eaten by predators, if the researchers don’t collect them quickly.

It’s tedious fieldwork: hours of slow driving, staring at the



© J. GRIFFIS SMITH



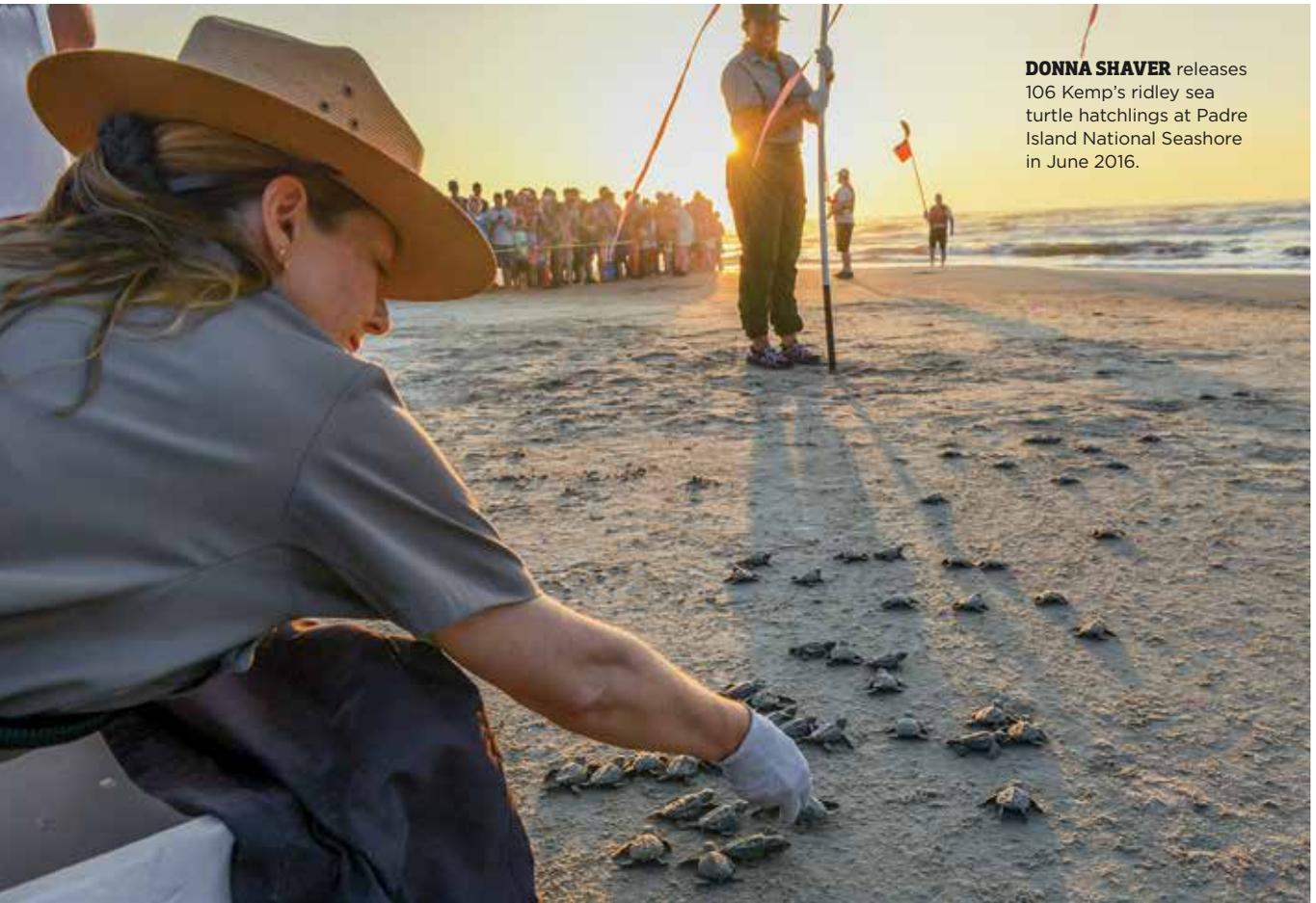
© REX FEATURES/AP IMAGES



© GABE HERNANDEZ/AP IMAGES

DONNA SHAVER has led Padre Island National Seashore’s sea turtle program for more than 30 years (top). Right: A Kemp’s ridley sea turtle equipped with a satellite transmitter that provides researchers with information about where the turtles go. Left: A scientist holds an oil-covered Kemp’s ridley sea turtle that was recovered shortly after the Deepwater Horizon oil spill in 2010.

sand. Days — usually hot, windless ones — can go by without a single turtle sighting. (Kemp’s ridleys are the only sea turtles that nest mostly during the day.) A volunteer tells me that it’s easy to get superstitious about finding turtle nests and that some vehicles are considered luckier for spotting nests. I also learn that it’s easy to mistake the zigzags of tire tracks that cover the beach for the trails left behind by turtles. Time and again, Rubio slows



DONNA SHAVER releases 106 Kemp's ridley sea turtle hatchlings at Padre Island National Seashore in June 2016.

© ESTHER HORVATH/ILCP

“At this point in the year, I think we may set a new record. But what does that mean? Will the numbers go back down next year?”

down, peering intently at the sand, and I start to get excited. Then she shakes her head.

“Nope, just tracks,” she says.

A few hours pass before I get to see a turtle, and Rubio and I aren't the ones who initially spot her; we drive up after another patrol team has already reported the nest. Though I missed the excitement of getting there first, I'm mesmerized as I stand 10 feet away, watching her hustle to hide her eggs. Her back flippers rhythmically fling sand into the air, and each time they come down, I feel the powerful thumps reverberate beneath my feet. Before she's finished her primal dance, I catch a few glimpses of the nearly 100 eggs in her nest, each one glistening white, slightly smaller than a pingpong ball. A few minutes later, she's lumbering away from her nest. The area of sand, barely even raised, is unremarkable except for a flag that a researcher strategically stuck next to it.

“I still get so excited every time I see this,” Rubio says. “They're such an ancient animal, and you think about all the effort it's taken for them to get here and lay these eggs. It's pretty incredible.”

The only time Kemp's ridley females come ashore in their entire lives, barring injury or accident, is during the roughly 45 minutes it takes them to nest and lay eggs, so it's a vital window for researchers who are trying to track, study and — ultimately — save the turtles. “Just to find and document a nest is a small victory,” Shaver had told me that morning.

Scientists are also trying to find out more about male Kemp's ridleys, an even more elusive population than females because most males, after hatching, don't come ashore for the rest of their lives. As of this summer, the Padre Island group has tracked six male turtles, all of which were found injured on the beach or had been unintentionally caught by fishermen and later equipped with satellite trackers and released by researchers.

Later that afternoon, when Rubio and I come across our second Kemp's ridley of the day, I understand better just how much the researchers have to accomplish during their short encounters with the turtles. This turtle, unlike the first one we saw nesting, has never crossed paths with the research team before. As Shaver

would put it, she's a newbie. When she's ashore, Rubio and a research technician — while trying not to interrupt the turtle's nesting — inject a scannable marker into her front flipper, clip metal tags onto her flippers, take a small skin biopsy for their genetic database, measure her shell, mark the location of the nest and take dozens of photos. Sometimes, after the turtle is done nesting, they also glue a transmitter or accelerometer to the turtle's shell, but they've already hit their quota for the year — set by resources and budget — so they're spared that work today. Later in the day, I watch them gently pry an accelerometer off another turtle that's come ashore; unlike the satellite transmitters that continuously send information back to the team, this battery-sized accelerometer needs to be collected manually for its information to be downloaded.

After Rubio and I watch the turtle meander back to the ocean and disappear under the waves, I ask her why we should save the Kemp's ridleys at all because they don't seem to play an outsized role in ocean ecosystems. Rubio cites our collective responsibility. "We have a duty to help this species," she says. "Humans are the reason they ever declined in the first place."

The data that Shaver, Rubio and their colleagues gather on each turtle will help give them a sense of the lives of Kemp's ridleys during the time they're not nesting: how far they travel, how much time they spend in different areas and how fast they grow, among other measures. Satellite transmitters give information on where the turtles go throughout the year, but accelerometers provide more nuanced details on the animals' daily lives, such as how deep and how often they dive for food.

"These turtles only spend a small fraction of their life here," Shaver says. "They spend most of their life out in the ocean, so we want to understand what happens there."

Shaver's team analyzed data on 82 turtles outfitted with satellite transmitters and, earlier this year, published the first-ever description of the species' "inter-nesting" period. The turtles, they found, tend to stay a few miles offshore in a narrow band of water in the Gulf of Mexico. It's an area where shrimpers trawl and oil companies drill, so defining the habitat is critical to future protection efforts, Shaver says.

In another study published this year, Shaver and her colleagues reported that between 1993 and 2010, Kemp's ridleys started growing more slowly, their shell sizes increasing by fewer inches per year. This may mean that female turtles are taking longer to reach maturity and start laying eggs. Separately, researchers have found that turtles are nesting less often — every three years instead of every two. These two pieces of

data may partially explain why recently there have been fewer nests per year in Texas and Mexico. Until this year, that is. Shaver tells me that early numbers from this nesting season are looking good.

"At this point in the year, I think we may set a new record," she says. "But what does that mean? Will the numbers go back down next year?"

In mid-June, I visit Padre Island again to see a hatchling release, one of 27 this year. At 6:45 a.m., hundreds of people are ushered toward a patch of sand behind the visitor center. Shaver takes 73 tiny turtles, each smaller than the palm of her hand, out of a box one by one and places them in the sand. The release feels ceremonial; volunteers hold a giant net on poles high above the turtles to protect them from birds as they move toward the water. Visitors, many of them children, crowd around to see the turtles, ooohing and aahing and snapping photos. Some hatchlings scurry, others meander, and the first one hits the foamy ocean less than 10 minutes later.

"When these hatchlings are released, that's our hope for the next generation," Shaver says. "These are the turtles that will be coming back here in 15 years to nest."

I discover later that Shaver's gut feeling about the annual count was right: By July 15, when daily patrols stop, 353 Kemp's ridley nests have been found in Texas, crushing the previous state record of 209; 219 of those nests were spotted within the boundaries

of the national park. Shaver thinks the relatively warm winter might have caused the spike by giving the turtles a chance to fatten up more before nesting season. Researchers are seeing the same trends with green and loggerhead turtles — other species that nest in Texas — and the Kemp's ridley's nesting numbers in Mexico also were higher this year than during the last few years. That's good news for all the turtles, but it also suggests that the sudden spike in Kemp's ridley nest numbers may not be entirely the result of the team's efforts at Padre Island. It could be an anomaly, and Shaver is reluctant to say what this year's tally means for the long-term health of the turtle's population. Only when I ask outright whether she's happy about the numbers does she admit as much.

"We'd been hoping for a year like this for a long time, but we're also still cautious; sea turtle numbers can be up one year and way down the next," she says. "This is a long-term endeavor. Has it been successful so far? Yes, in many ways, but we're not there yet. I'll be happy when the turtle is delisted."



SARAH C.P. WILLIAMS is a freelance writer who covers science, medicine and nature.



SKYLAR VANN (left), Trey Pritchett (middle) and Brea Anderson (right) linger at Mantle Rock, a spot along the Trail of Tears where hundreds of their ancestors were stranded during an unusually harsh winter. Opposite: Hunter Scott, 17, grew up hearing his elders' stories, but before the ride, he sometimes had a hard time relating to them.

in their footsteps

Could they
ever understand
what their
ancestors
endured?

They biked
hundreds of
miles along the
Trail of Tears to
find out.

Hunter Scott began his 17th birthday in a Pizza Hut parking lot. It was a cool June morning in the Missouri Ozarks, but the rising sun was already warming the air. Squeezed into a circle of 20 cyclists standing with their bikes, Scott laughed nervously in anticipation.

Slim and pale-skinned, with a mess of dark curls, Scott looks more like an artist than an athlete. At home in eastern Oklahoma, he lives by the guidance of Master Yoda, geeks out over anime and sometimes plays the mandolin and fiddle. He's shy with strangers and feels awkward speaking in front of groups. But since it was his birthday, he was tasked with doing something well outside his comfort zone: leading the morning war cry.

The cyclists stood silently, waiting.

"Take it serious," someone called out.

"All right, I'm tryin'," Scott said. He fidgeted with his helmet and took a few deep breaths. Then all at once, he clenched the bike handlebars, bent his knees, clamped his eyes shut, tilted his head back and let out a long,



© STACIE GUTHRIE/CHEROKEE PHOENIX

By **Melanie D.G. Kaplan**

Photos by **Kristina Krug**

hair-raising cry. He did it again, five times in all, and each time the group answered with a shout. When it was over, everybody applauded, and Scott — gazing downward — fist-bumped the rider next to him. Moments later, the cyclists clipped into their pedals and coasted out of the parking lot single file, heading south toward Arkansas.

For several years, Scott had heard from fellow Cherokee about an intense three-week, 950-mile bike ride along the Trail of Tears — the path their ancestors followed when they were forced west 180 years ago.

“The ride changes you,” they’d told him. Scott had largely dismissed the idea that a bike ride could be

of the National Trail of Tears Association, nearly 2,000 Cherokee died during the roundup, at camps and along the trail, and about 2,000 more died within a year of moving west.)

The Cherokee took several routes, collectively called the Trail of Tears; today those paths are paved roads, fields, parks and yards. The Trail of Tears National Historic Trail, which was designated in 1987, stretches 5,043 miles across nine states and recognizes dozens of sites. Though the trail primarily marks the Cherokees’ journey, the government also removed four other tribes — the Choctaw, Chickasaw, Seminole and Muscogee (also



AFTER THEY were forced from their homes, the Cherokee took several routes west, collectively called the Trail of Tears. The Remember the Removal ride (in red at left) retraces the Northern Route as closely as possible.

life-changing, but he always appreciated a physical challenge. Although he hadn’t ridden a bike since he was a kid, he ran cross country and track at his high school and figured a long bike ride couldn’t be that difficult. So in 2016, when he was a high school junior, he applied to join the ride, called Remember the Removal.

The ride commemorates a horrific chapter of American history when the federal government drove Native Americans from their homeland in the Southeast to Indian Territory, in what is today Oklahoma. Over several years, the Cherokee protested both the Indian Removal Act of 1830, signed by President Andrew Jackson, and the Treaty of New Echota, which set the conditions for their removal. The Cherokee refused to leave their tribal land, so in May of 1838, soldiers began forcing families from their homes. After an initial army-led relocation plagued with disease and death, the tribe negotiated to oversee their own removal. In 1838 and ‘39, around 12,000 Cherokee people traveled by foot, horse and wagon for 800 miles, in 13 detachments. Thousands died from disease, starvation or cold. (Estimates of this figure vary, but according to Jack Baker, the president

“It was just a crazy story my grandpa was telling.”

known as Creek) — from their homelands in the 1830s.

The Cherokee Nation organized the first Remember the Removal ride in 1984 for tribal youth. The hope was that it would boost their confidence and help them develop leadership skills; Cherokee also wanted to bring attention to the removal trails so the federal government would officially mark them.

The ride was held just once, then resurrected as an annual event 25 years later, in 2009. Today, Remember the Removal retraces the Northern Route as closely as possible. It starts in Georgia, passes through Tennessee, Kentucky, Illinois, Missouri and Arkansas and ends in Tahlequah, Oklahoma, the capital of two Cherokee tribes.

Growing up, Scott went to stomp dances with his mother, where he listened to the elders’ stories. His grandfather sometimes spoke about the family’s Cherokee history, but Scott had a hard time relating to events

that happened long ago. “It was just a crazy story my grandpa was telling,” he said.

He felt similarly distant from the Trail of Tears. “They say it was hard, and I kind of cared, but you don’t know what it was like,” he said. “I felt like it was long over and done with.”

After he submitted his application for the ride, Scott sat before a panel of Cherokee Nation interviewers who asked him why he wanted to participate and how he’d use

keeping up and reaching downhill speeds of 40 mph. For many, it would be their longest time away from home.

As winter turned to spring, the riders learned to clip into road bike pedals and draft off each other. They discovered the wonders of inner thigh cream to prevent chafing and tried to accept that pop and fries weren’t the best foods for refueling. On the weekends, the cyclists — some of whom had only a rudimentary understanding of the Trail of Tears — took classes in Cherokee language



the experience to improve the Cherokee community. He calmly talked about working after school as a tutor and preparing backpacks of food for needy children. But he struggled with a few questions, and when he walked out, he told his mom he’d bombed it. So his acceptance came as a surprise. When the letter arrived, his mother hid it until Christmas and then broke the good news in front of the entire family.

Training began in January at a local gym. After the group’s first ride together, a 10-mile spin workout, Scott’s legs were like jelly. Though he was the youngest rider, he wasn’t the only novice. Among those selected, most were new to road bikes, and some were altogether new to fitness. The riders worried about making friends,

THE RIDERS, pictured heading out of Princeton, Kentucky, biked up to 70 miles each day.

and history. They rode through the hills of Oklahoma and at one point survived a crash that sent three riders to the emergency room. Near the end of training, the ride organizers distributed genealogy reports that showed

that many of the cyclists — strangers in January — were kinfolk.

In North Carolina, a team of older riders from the Eastern Band of Cherokee Indians was training in parallel. At the end of May, the two groups met for the first time in Cherokee, North Carolina. In all, there were 20 riders, ages 16 to 50, including a former soldier with an



© STACIE GUTHRIE/CHEROKEE PHOENIX

easy smile, a college student who serves food at a hotel and casino, a jazz guitarist who wants to practice medicine at a Native American hospital, an aspiring lawyer, and a mother with tribal tattoos.

One of the Eastern Band riders, Sheyahshe Little-dave, 32, was hoping the ride would help pull her out of a funk. “I struggled with a lot, including my ability, my weight, the voice in your head that said you’re too out of shape, you can’t do this,” said Little-dave, a newly single mom with two children under the age of 4. All through training, she said, self-doubt plagued her. “I questioned myself every time I got on the bike. What carried me is knowing our ancestors didn’t have a choice. I’m choosing to do this.”

“Don’t freak out but I crashed today.”

Will Chavez, who participated in the inaugural ride, returned this year as a mentor rider. A stocky, soft-spoken man who loves history and quotes *Seinfeld*, Chavez said the first ride was quite different: Riders camped the whole way and called home on pay phones; much of the trail was unmarked. “It was uncharted territory,” he said. “We didn’t know if we were going to make it home.” Chavez — now 50 and an assistant editor at the Cherokee Phoenix newspaper in Oklahoma — knew this ride would challenge him in new ways. Throughout training, he did his best to manage old, nagging injuries, shared stories from ’84, and encouraged the younger riders. When they were exhausted or their spirits were low, he spoke about their ancestors, reminding them of the importance of what they were doing.

The riders spent a couple of days team-building and training together. They visited Kituwah Mound in the Great Smoky Mountains, considered the “mother town” of the Cherokee Indians. On the morning of June 4 in New Echota, the original Cherokee Nation capital (today Calhoun, Georgia), the cyclists gathered and held hands. After prayer and a war cry, they began their journey.

The group first headed north out of Georgia and into Tennessee, riding between two vans towing bike trailers. The first day, they pedaled 55 miles through intermittent rain, so heavy at times that it was hard to see. At one point, Scott swerved slightly onto the shoulder. When he tried to correct course, his wheel hit

GRADUALLY, the days began to take on a familiar rhythm: filling tires, checking brakes, circling up, praying, riding, stopping for water and energy chews. Sheyahshe Little-dave (pointing in center), who has two small children, said, “If you’d told me a year ago I’d be riding three weeks to Oklahoma, I would have laughed — I thought it would be impossible for me. But I can look my kids in the eye and tell them, ‘It’s possible. Dream your dreams.’”

SKYLAR VANN, 23, a student at Northeastern State University in Tahlequah, at Mantle Rock, an emotional stop on the trip. "I have a 2-year-old niece," he said. "I think of what it would be like for her to walk the Trail of Tears."

a thin ledge between the shoulder and the road, and he flipped onto the pavement. He scraped his thighs and shoulder and tore the skin off his elbow. It took him a few seconds to realize he was bleeding.

That night, he was reluctant to tell his mother what had happened. After some prodding, he texted, "Don't freak out but I crashed today." His mom reminded him to use antibiotic ointment and take Tylenol, and he texted back photos of his road rash.

The next day, though, he was up and about with the rest of the crew, groggily pulling his bike from the trailer. At times, during the quiet of the morning, the only sound was the click of bike shoes as everyone crisscrossed the pavement, pumping tires, filling water bottles and spraying sunscreen. Then, a bit later than planned, the riders saddled up and hit the road.

Gradually, the days started to take on a familiar rhythm: Once the cyclists were rolling, they stopped every hour or so to fix a flat, treat a bloody nose or wait for traffic. The van drivers played den mothers, walking around with water, sandwich bags of sliced fruit and energy chews. Each day, they covered 20 to 70 miles; when traffic was gnarly, they'd ride for stretches in the van. This accounted for slightly lower mileage than the itinerary suggested (one woman clocked the entire trip at closer to 750). While riding, the cyclists practiced speaking Cherokee to each other: "I-da-le-wi-s-di" for "We're stopping," and "u-di-tle-ga" for "It's hot." Occasionally they'd hear a van driver's voice across the walkie-talkie, "Road-keeeel!" And they'd swerve to avoid an armadillo.

Along the way, the group visited historical locations where Cherokee stayed during the removal, including



several sites with graves of those who had died en route. At the Cherokee Removal Memorial Park at Historic Blythe Ferry in eastern Tennessee, some riders were able to find names of their ancestors on the memorial walls. At Rattlesnake Springs, near Charleston, Tennessee, they learned about an encampment where Cherokee were held after they were forced off their land; some died on what is today a field of green grass.

After a hilly, humid, 70-mile day in Kentucky, the riders parked their bikes and walked a half-mile to Mantle



WILL CHAVEZ, an assistant editor at the Cherokee Phoenix newspaper in Oklahoma, served as a mentor rider. In 1984, when he was 17, he participated in the inaugural event, riding with a photograph of his grandfather — who spoke only Cherokee and had died the year before — attached to his bike bag for inspiration.

Rock, a large sandstone arch formation in the western part of the state. An unusually harsh winter during the removal froze the Ohio and Mississippi rivers, preventing ferry transportation to Illinois for several weeks. The arch provided some shelter while the group was stranded, but some people died there, and in all, that detachment of 1,700 lost around 300 people before their journey was over.

At the site, Skylar Vann, 23, a student at Northeastern State University in Tahlequah, led a small group in singing a hymn, “One Drop of Blood,” that their ancestors sang to get through difficult times. Scott said he thought

about all the Cherokee who had died there. In a way, it felt like they were holding a funeral for their forebears, said Renissa McLaughlin, 49, the director of a Cherokee language and culture program in North Carolina.

“I can’t imagine turning to my kid and saying, ‘We’re not going home. I don’t know where we’re going. I don’t have any food,’” said McLaughlin, who has three children, ages 28, 24 and 13. “Then I was angry at myself for griping about walking in mud in my expensive shoes with my expensive bike.”

Everyone was pretty quiet, Little-dave said. “I got overwhelmed with guilt and shame because I thought, ‘What have I done prior to this to remember the removal?’ Honestly, nothing,” she said. “To be there, where our ancestors sat, knowing what they felt, was the worst feeling.”

Halfway through the second week, it was Scott’s turn to lead. He set the pace, used hand signals and carried a walkie-talkie to communicate with the van drivers and the Cherokee Nation marshals who were escorting them. His mom later texted and asked him how it went. “Fun,” he wrote, “but probably the most stressful thing I’ve ever done.”

The eight days across Missouri were long and hot. Chavez described one hill before Springfield as “a wall” and complained about long stretches of broken and cracked pavement along

Route 66. The ride was physically exhausting, and cyclists fought homesickness.

On days that he wondered if he would finish, Vann thought about his family. He called home most nights. “My mom kept asking me, ‘What would you do if that was us on the trail,’” he said. “My dad said, ‘That was us on the trail, that was our ancestors.’”

Chavez said he sometimes felt the presence of those who came before. At the spot of a former holding camp, he saw a wall of rain moving toward the group. “All of a sudden, it stopped,” he said. “And it disappeared. I think our ancestors intervened.” He often thought about his friends from the trip in ’84; many of them have remained close in the decades since the ride.

“It’s incredible that 30 years later, they think about this event, and it still helps get them through difficult times,” said Melissa Lewis, a health researcher at the



© STEPHANIE REMER, CHEROKEE NATION COMMUNICATIONS

University of Missouri, who is collaborating with the organizers to study the ride's impact. She interviewed riders who participated in 1984 and 2015 as part of her research and found that they felt a stronger connection to the tribe and were physically and emotionally healthier than their peers.

When they arrived in Springfield, the riders had two weeks behind them and one to go. The night before their second off-day, they were giddy thinking about sleeping in and shedding their bike shorts. Midday the next afternoon, they gathered in the hotel parking lot to oil their bikes and clean the vans, by now littered with fetid socks, empty drink bottles, banana peels and energy bar wrappers. Chavez tracked down a masseuse for his aching back, and a handful of riders went to see a minor league baseball game, where they ate funnel cake and hot dogs.

Scott celebrated his birthday on the final day in Missouri, just days before their Tahlequah homecoming. Sarah Holcomb, 28, the group trainer and the daughter of an '84 rider, went over the day's schedule, including a stop next to a spring where their ancestors had camped. "They knew they were almost in Oklahoma," she said.

**In a way,
it felt like
they were
holding
a funeral
for their
forebears.**

A CROWD of hundreds greeted the riders (including Trey Pritchett, above) outside the Cherokee Nation courthouse in Tahlequah, where the three-week ride came to an end.

"They were tired of walking these hills."

The route that day mostly followed curvy two-lane farm roads. On straightaways, the cyclists spread out, often absorbed in thought. Under washboard-like clouds, they passed dilapidated barns, roadside watermelon stands and fields of yellow wildflowers. They spooked a herd of cows and inspired a few horses to run alongside.

At lunchtime, the group stopped at Pea Ridge National Military Park in Arkansas and strolled on a grassy section of the Trail of Tears. After a picnic of catfish and hush puppies, they rode into Fayetteville, and the park superintendent, Kevin Eads, hosted them at his house for dinner.

"I'm extremely impressed with the riders and what they're doing," said Eads, who is Cherokee and has been hosting riders since 2009. "This is one small way of showing our respect."

Approaching the Oklahoma state sign, one rider was so excited to make a video with his phone that he fell off his bike. The cyclists sat on each other's shoulders and posed for photos, and an 18-wheeler honked as it sped by.

The group slept in a school gymnasium that evening,

the night before their homecoming, and woke to a muggy and overcast morning. Chavez, the day's leader, announced that he would like Littledave, whom he had taken under his wing, to ride into Tahlequah next to him. As the group pedaled west on Highway 51, cars pulled over to watch. People began lining the streets, cheering and waving. They passed landmarks familiar to the Oklahoma natives: the Cherokee County water tower, a small family cemetery and a tobacco outlet. They crossed the Illinois River and pulled over.

A little less than four miles to the west, a crowd of hundreds awaited the riders outside the Cherokee Nation courthouse. Dignitaries prepared to welcome them, and families held fluorescent signs. Scott's clan was 20 strong, including his family, his girlfriend and the ponytailed preacher who had baptized him in a horse trough. They wore red T-shirts printed with Scott's name on the sleeve.

But before rolling into Tahlequah and reuniting with their families, the cyclists stood together at the river bank to savor

their last quiet moments together. A Cherokee spiritual leader joined them. "You are an answer to our ancient ancestors' prayers," he said. Holcomb asked them to share final thoughts.

"This ride meant the world to me," said one woman.

"I was in a hole," Littledave said. "This ride saved me." One by one, each of them spoke, and many wept.

The night before, Cherokee Nation Principal Chief Bill John Baker had asked the riders to talk about the most spiritual moment of the journey. Sitting on the gym floor, Scott had struggled to get his words out. "This is way harder than the bike ride," he had said nervously.

But at the river, as the water babbled and starlings chattered overhead, Scott spoke effortlessly. "I consider you guys as my family," he said. "And I love you all to death."

MELANIE D.G. KAPLAN is a Washington, D.C.-based writer who can sometimes be found biking across state lines with her beagle in tow.

KRISTINA KRUG is a photographer and filmmaker based in Nashville.

NationalParks

STATEMENT OF OWNERSHIP, MANAGEMENT AND QUARTERLY CIRCULATION

OWNER AND PUBLISHER

National Parks Conservation Association

EDITOR IN CHIEF AND MANAGING EDITOR

Rona Marech

HEADQUARTERS OF PUBLISHER AND PUBLICATION

777 6th Street NW, Suite 700, Washington, DC 20001-3723

STOCKHOLDERS, BONDHOLDERS, MORTGAGE AND OTHER SECURITY HOLDERS

None

	Winter 17 through Fall 17	Single-issue filing date Fall 17
A. TOTAL COPIES PRINTED (net press run)	343,593	358,831
B. PAID CIRCULATION Mail subscriptions	329,696	342,698
C. TOTAL PAID CIRC.	329,696	342,698
D. FREE DISTRIBUTION	3,883	3,875
E. TOTAL DISTRIBUTION (sum of C and D)	333,579	346,573
F. COPIES NOT DISTRIBUTED	10,015	12,258
G. TOTAL (sum of E & F)	343,593	358,831

Mother Nature did it on purpose

As if timed just so, a section of glacier sheared from its face the moment it came into view. Cheers from the skiff echoed the thunder of the cracking ice. Alaska by small ship—live life on the outside, in Glacier Bay National Park.



7- to 14-night adventure cruises
Apr-Sep • 22 to 86 guests



See national parks by water: 888-862-8881 | UnCruise.com/npca

A Gift With Special Meaning



This Holiday Season Adopt-A-Manatee®



Call 1-800-432-JOIN (5646)
savethemanatee.org

Photo © David Schrichte

HISTORIC TRAVEL DESTINATIONS



Dayton Aviation Heritage National Historic Park
Courtesy Bev Rose

COME SEE THE SITES IN DAYTON, OHIO It's The Wright Place For Memorable Experiences

Come to DAYTON – aviation mecca! Have you read two-time Pulitzer Prize winning and NY Times best-selling author David McCullough's recent book, *The Wright Brothers*? If you haven't, you should; and regardless, you need to visit Dayton! Dayton, the Birthplace of Aviation and so much more, was home to the Wright Brothers. In Dayton, the Wrights invented and built their airplanes and really learned to fly. Dayton taught the world to fly! Come experience the sites of the Dayton Aviation Heritage National Historical Park, and learn all about the Wrights and the birth of manned, powered flight! There are over 16 amazing aviation sites, all within close proximity to one another. Visit just seven of them, and we'll "air-mail" you a Wilbear Wright Aviator Teddy Bear. Bonus—the fourth building of the FREE National Museum of the U.S. Air Force, the world's largest and oldest military aviation museum (19 acres, 360 aerospace vehicles), recently opened! Don't miss Dayton—within a day's drive of over 60% of the U.S. population.

Visit the DAYTON Aviation Heritage National Historical Park and other aviation sites!



Be sure to experience the Wright Brothers Historic Sites!

Dayton National Park Sites



Huffman Prairie Flying Field



Original Wright Flyer III



Jr. Park Rangers



Wright Family Home

Dayton Aviation
Heritage National
Historical Park
nps.gov/daav
937.226.7705

You can also earn a Wilbear Aviator Bear by visiting 7 of Dayton's 16 amazing aviation places!

Explore 19 acres of aerospace vehicles at the world famous FREE National Museum of the U.S. Air Force

For information on ALL there is to see and do in DAYTON log onto daytoncvb.com or call 800.221.8235. Bring a copy of this ad to the Dayton Aviation Heritage National Historical Park to receive your special gift! *DAYTON, The Birthplace of Aviation and so Much More!*

DAYTON
CONVENTION & VISITORS BUREAU
800.221.8235 daytoncvb.com



NICK GOLODOFF'S book, "Attu Boy," about his experience during World War II was published by the Park Service in 2012.

That's when he heard what sounded like motors rattling in a nearby bay. Then a plane with a red circle on the wing flew so close he could see the pilot.

Twenty-nine-year-old Alex Prossoff, a family friend, started running, so Nick followed him. They heard voices they didn't understand. Suddenly, they saw Japanese soldiers running down the hill toward them. Nick saw a glob of mud fly up in front of him, so he stopped. He turned around and saw mud splashing behind him, too.

"I did not understand the mud popping up at the time, but now I understand that the Japanese were shooting at us," Nick said in an account published decades later. "Alex and I were lucky to get away."

As waves of gunfire rained down, Prossoff hid under his wooden house with his wife, and Nick found refuge in a sod house close by. In the confusion, Japanese soldiers shot one Attu woman in the leg and accidentally killed one or two of their own. Soon, three dozen Attu residents — nearly the whole population of this Aleutian island — were rounded up and held in the village's small school. A handful of men took to the hills, but eventually, Attu elders convinced them that resistance was futile, and they returned, too. The Japanese said that Foster Jones, one of Attu's two white residents and the island's radio operator, killed himself by cutting his wrists, but that was untrue. When his body was exhumed six years later, it was determined that he had been shot in the head.

For the next three months, Japanese and Attuans cohabitated on the island. The soldiers occupied the Russian Orthodox church and broke the church's cross, but they let the residents move around, and several soldiers befriended

The Lost Village

The Japanese invaded this Alaskan island during WWII and sent the residents to Japan. Half died there; none ever returned home.

JUNE 7, 1942, WAS A SUNDAY, and 6-year-old Nick Golodoff, like most residents of Attu, the most remote of a long chain of Alaskan islands, was walking back from church.

local children. Then one day, the Japanese told Attuans to gather food and furniture in preparation for a move to Japan. They were taken to Otaru, a city northwest of Sapporo on Japan's Hokkaido Island. Only about half would survive the exile, and no Attuans would ever live again on the island Aleuts had inhabited for thousands of years.

After joining the National Park Service in 2000, Rachel Mason began researching the history of Attu and other Aleutian villages that were evacuated during World War II and never resettled. (Attu Island is included in the Alaska Maritime National Wildlife Refuge, and the Attu battlefield is part of the World War II Valor in the Pacific National Monument.) Her research led her to Nick's granddaughter, Brenda Maly, a young woman who was looking for a publisher for her grandfather's memoir. Nick had devoured books about World War II, but he had found almost no mention of his island. "He just wanted Attu remembered," Maly said.

Mason helped Maly and Nick finish "Attu Boy," which was published by the Park Service in 2012. That October, surviving Attu residents and descendants met in Anchorage for a reunion.

EAST OR WEST?

Attu is considered North America's westernmost tip because it is the last American island of the Aleutian Arc that extends westward from the Alaska Peninsula. However, because it is on the other side of the 180th meridian that separates the Eastern and Western Hemispheres, it is also one of America's easternmost islands.

The village chief and his son died from food poisoning after eating rotten food they found in a garbage can.

Most descendants knew little about Attu, so they congregated around Nick with family photos and questions. He signed copies of his book. "He was welcomed like a rock star," Mason said.

It's not surprising that many Attu survivors were reluctant to share painful war memories with their children and grandchildren. After a two-week trip in the cargo hold of a merchant ship, many of the Attuans arrived in Otaru suffering from tuberculosis. When the dried fish and other provisions the prisoners had brought were gone, they ate little besides white rice and a mysterious "grass soup"; several died from beriberi, a disease associated with malnutrition. The village chief and his son died from food poisoning after eating rotten food they found in a garbage can. In total, 21 Attuans died in Japan, including four of five babies who were born there. One woman was deprived of food and water for three days and forced to shovel snow barefoot after she blamed the Japanese for the death of her infant daughter.

While the survivors were held in Japan, U.S. forces waged a fierce campaign to reclaim their island. After a two-week battle in the bitterly cold Attu spring of 1943, a weakened Japanese force launched a daring attack that culminated in bloody hand-to-hand combat. The Americans, superior in numbers, prevailed, and most of the Japanese who didn't perish in battle committed suicide. By the time hostilities ended on May 30, 1943, 2,351 of 2,379 Japanese soldiers had died. The Americans had lost 549 soldiers out of a total of 12,500.

The Attuans knew nothing of the battle that had raged over their island until Americans came to rescue them when the war ended. After a three-month journey by plane, boat and train, the former captives arrived in Seattle. Some were treated for tuberculosis in nearby Tacoma, and Nick and 15 others returned to the Aleutians by boat. They resettled in Atka, a village on an island 500 miles from Attu. Their own village had been destroyed in the U.S. bombing campaign, and they were told they couldn't go back.

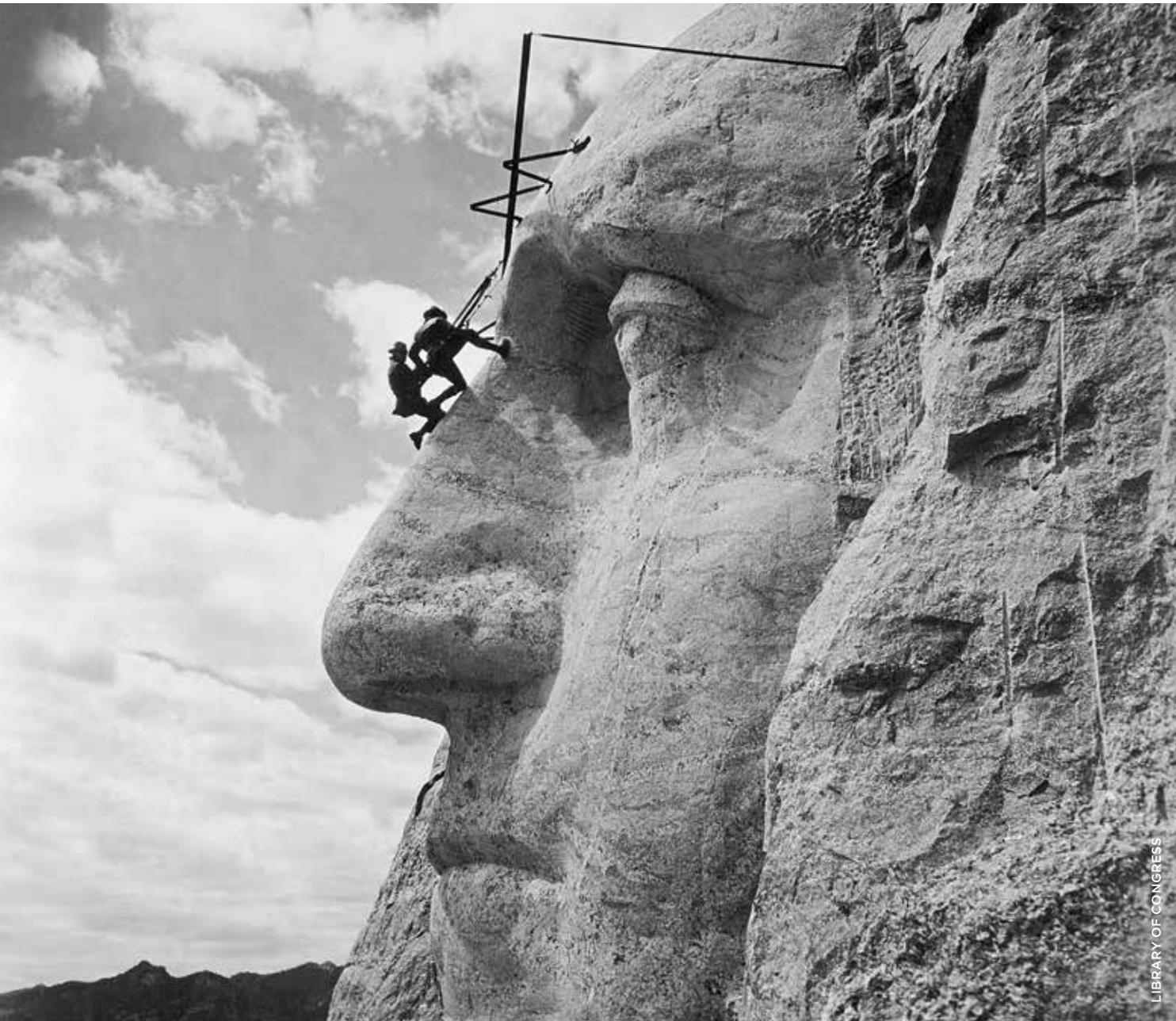
Many, including Nick, would live the rest of their lives in Atka. He died less than four months after that 2012 reunion and is buried there. His younger siblings, Greg and Elizabeth, now in their late 70s, are the only Attu survivors left.

This summer, Mason and 11 descendants of Attu villagers boarded a research vessel in Atka, and after three days at sea, they set foot on the deserted island for the first time. They gathered grass to make traditional Attu baskets and explored the site where the village had stood. The faint outline of the church's foundation was visible, but nothing remained of the houses or the cemetery. The small group held a Russian Orthodox service with holy water from Atka and planted a wooden cross that will likely not last long in Attu's harsh weather. Soon the day came to an end, and it was time to go. So they packed their bundles of grass and bid farewell to Attu and its ghosts. **NP**

NICOLAS BRULLIARD is associate editor of National Parks magazine.



That Was Then



LIBRARY OF CONGRESS

SCULPTOR GUTZON BORGLUM AND A PARK SUPERINTENDENT, Mount Rushmore National Memorial, South Dakota, circa 1932.

U.S. GOLD

U.S. GOLD

U.S. MONEY
RESERVEOfficial United States
Government-Issued
Gold Eagle CoinsSpecial Arrangements
Can Be Made for Gold
Orders Over \$50,000

U.S. Government*

GOLD EAGLE

AT-COST PUBLIC RELEASE

AMERICANS OWN GOLD FOR ONLY \$131!

The U.S. Money Reserve Main Vault Facility announces our latest release of U.S. government-issued gold coins previously held in the West Point Depository/U.S. Mint. U.S. citizens can buy government-issued \$5 gold coins at the incredible at-cost price of only \$131.00 each—an amazing price because these U.S. government-issued gold coins are completely free of dealer markup. That's correct—our cost. Take advantage of gold's low price, which is currently around \$1,275 per ounce. **Please be advised: These U.S. government gold coins, currently held in our inventory, will be priced at \$131.00 each while supplies last or for up to 30 days.** Call now to avoid disappointment! Orders that are not immediately received or reserved with the order center could be subject to cancellation and your checks returned uncashed.



\$5 AMERICAN EAGLE GOLD COIN
APPROVED: PUBLIC LAW 99-185

We hope that everyone will have a chance to purchase this special U.S. government-issued gold at this price before gold could make its predicted move to higher price levels. Order immediately before our allotted inventory sells out completely! **Call toll-free 1-855-364-9837 today.** If you would have taken \$150,000 of your money and bought gold in 2001, then that initial purchase would have been worth over \$1 million exactly 10 years later in 2011!†

This means that specific 10-year period saw an incredible increase of 600% in the price of gold. **Even gold's recent 10-year performance has surpassed major stock indexes.** When you convert money to gold, you have transferred it from a paper currency into a precious metal that can rise in both market and numismatic value. This is how the genius of owning gold may protect your money in today's volatile market.

With predictions of the gold market rising past its record high price and the potential threat of another economic meltdown, now is the time for you and your family to transfer your hard-earned money into physical gold. In our opinion, individuals are currently moving up to 30% of their assets into gold. Join the many Americans who have already converted their dollars to gold and call U.S. Money Reserve today!

U.S. MONEY
RESERVE

CALL NOW: 1-855-364-9837

BEGINNING TODAY, TELEPHONE ORDERS WILL BE ACCEPTED ON A FIRST-COME,
FIRST-SERVED BASIS ACCORDING TO THE TIME AND DATE OF THE ORDER!

MASTERCARD • VISA • AMEX • DISCOVER • CHECK • BANK WIRE

Offer valid for
up to 30 days
Or while supplies last

©2017 U.S. Money Reserve. †Based on the change in gold's price from September 6, 2001 (\$272/oz) to September 6, 2011 (\$1,923.70/oz). *The markets for coins are unregulated. Prices can rise or fall and carry some risks. **The company is not affiliated with the U.S. Government and the U.S. Mint.** Past performance of the coin or the market cannot predict future performance. Prices may be more or less based on current market conditions. Special offer is strictly limited to only one lifetime purchase of 10 below- or at-cost coins (regardless of price paid) per household, plus shipping and insurance (\$15-\$35). Price not valid for precious metals dealers. All calls recorded for quality assurance. 1/10-oz. coins enlarged to show detail. Offer void where prohibited. Offer valid for up to 30 days or while supplies last. Coin dates our choice.

VAULT CODE:
NPM10

U.S. GOLD

U.S. GOLD

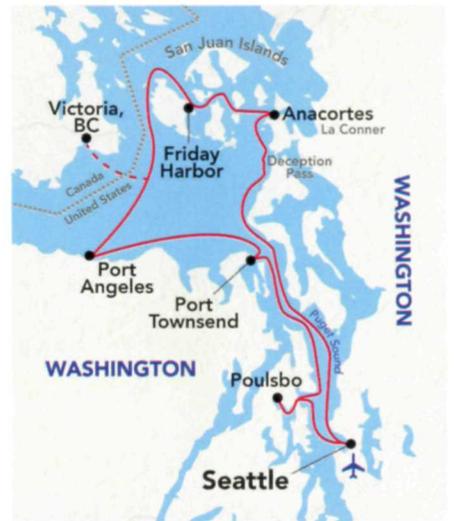


Brand New - American Constellation

PUGET SOUND & SAN JUAN ISLANDS DISCOVER THE NATURAL WONDERS

Enjoy the scenic beauty of the Pacific Northwest on this 8-day cruise, aboard one of the newest and most environmentally friendly ships in the United States. Witness whales, harbor seals, and bald eagles as you cruise through this diverse natural wonderland.

Small Ship Cruising Done Perfectly®



5 TO 11-DAY ITINERARIES

**CALL TODAY
FOR A
FREE
CRUISE GUIDE**

1-866-227-6210

AMERICANCruiseLines.COM



LARGEST STATEROOMS