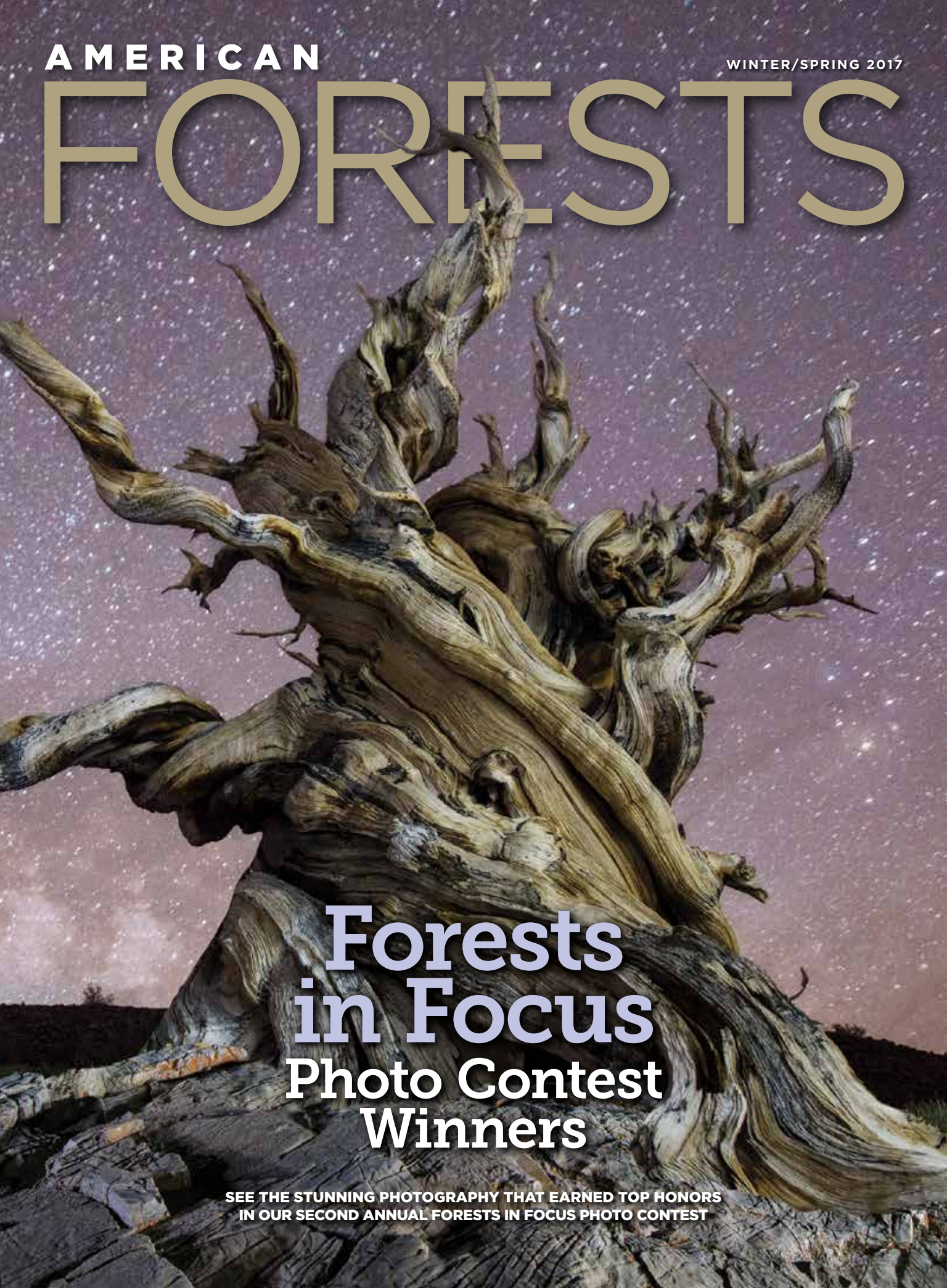
AMERICAN
FORESTS
WINTER/SPRING 2017



Forests in Focus
Photo Contest Winners

SEE THE STUNNING PHOTOGRAPHY THAT EARNED TOP HONORS
IN OUR SECOND ANNUAL FORESTS IN FOCUS PHOTO CONTEST

Escape to ACADIA

NATIONAL PARK • MAINE

SAVE THE DATE
OCTOBER 6-10, 2017

Join me and American Forests for 5 days and 4 nights in breathtaking Acadia. We will hike though beautiful fall foliage, take a horse drawn carriage down the roads constructed by Rockefeller and enjoy steamed lobster on the beach, plus much more!

Matthew Boyer, Expedition Host

For more information, visit **americanforests.org/Acadia2017**.

AMERICAN FORESTS

JASPERDO

VOL 123 NO 1

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COVER PHOTO: GARRET SUHRIE THIS PAGE, CLOCKWISE FROM TOP LEFT: LAKE SUPERIOR © JANET MARR; SUGAR MAPLE LEAVES (*ACER SACCHARUM*) © LOUIS-M.LANDRY; FOR THE LOVE OF TREES © AMANDA JOY MASON; JOHN GIFFORD

Rocky Mountain National Park

The Path Ahead

BY SCOTT STEEN

ON JANUARY 20, 2017, Donald Trump was sworn in as the 45th president of the United States after one of the most divisive campaign seasons in American history. America remains deeply divided about the new administration and many in the conservation and environmental communities are deeply concerned — or downright fearful — about what this election will mean for our efforts to care for our land and the health of the planet.

There is certainly reason for concern. The new president's public statements on climate change, fossil fuels, the Environmental Protection Agency and public land use, combined with his first round of cabinet and senior staff picks, signal a clear change in direction in environmental policy and practice. How and whether the new administration follows through on these signals remains to be seen.

Regardless of the administration's actions, American Forests' mission and core activities will remain the same. We will continue to inspire and advance the conservation of forests. We will continue to protect and restore threatened forest ecosystems, promote and expand urban forests and increase understanding of the importance forests. And, we will continue to

work with anyone — the new administration, federal agencies and state, local and community partners — who can help us advance these goals.

American Forests has remained nonpartisan since our inception, and as a 501(c)3 charity, we do not engage in political activity. However, throughout our 140-plus years, we have strongly advocated for policies that keep our forests healthy and thriving, our urban forests and greenspaces increasing, wildlife habitat safe and expanding and for all the benefits our forests provide us. Since Ulysses S. Grant, and the 26 presidents that have followed, we have worked together with both Republican and Democratic administrations whenever possible and stood up and fought when our forests were at stake. We will continue to do this work and remain vigilant in our efforts to protect and restore our forests.

Since Ulysses S. Grant, and the 26 presidents that have followed, we have worked together with both Republican and Democratic administrations whenever possible and stood up and fought when our forests were at stake.

Specifically, we will continue to fight:

- to keep forests as forests — protecting them from overdevelopment and fragmentation
- against opening our forests to more drilling for oil and natural gas
- to keep our public lands public — not sold off to private interests
- to ensure green infrastructure is a key part of overall infrastructure spending
- to ensure forests remain part of a climate change solution and protected from the threats exacerbated by climate change

Much of our policy and advocacy efforts take place through our leadership in coalitions that include many of the other national conservation and environmental groups. These groups share many of our interests and will be a key part of our strategy over the next four years.

We will also continue to mobilize our Forest Advocates to voice opinions about proposed legislation and work with our champions in Congress to provide practical solutions and act against damaging legislation. We will work with those champions to be diligent about presidential appointments to ensure appointees are as well-vetted and professionally prepared for these roles as possible and work to block appointees that are counter to the missions of the land management and environmental agencies and the health of our forests.

We need you, now more than ever, to help us ensure that the investments that we have all made in protecting and restoring our forests, rebuilding wildlife habitat, expanding urban forests and safeguarding our watersheds and rivers are not dismantled. Please support American Forests now. Together, we have the power to protect and restore our forests now and for generations to come.

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AMERICAN FORESTS

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American Forests' mission is to restore threatened forest ecosystems and inspire people to value and protect urban and wildland forests.

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FOREST FRONTIERS

Forest Frontiers

Jason Weller, Chief of the Natural Resources Conservation Service

JASON WELLER has served as Chief of the Natural Resources Conservation Service (NRCS) since 2013, overseeing programs that help protect the environment, preserve our natural resources and improve sustainability through voluntary conservation on agricultural and forest lands. Prior to joining NRCS, Jason worked on agricultural, forestry and environmental protection issues as a staff member in the U.S. House of Representatives, White House Office of Management and Budget and California State Legislature. During his tenure at NRCS, Jason has broadened the agency's efforts to development new public-private partnerships to drive private lands conservation.


Chief Jason Weller

What was your favorite aspect of your job?
Every time I travel to the field and meet our local field office staffs, I get inspired. I always return home pumped. Our conservation professionals work out of about 2,800 field offices in all 50 states, Puerto Rico and U.S. Territories. We essentially serve landowners in every county in the nation. And, these professionals are dedicated and passionate about helping family operations be more successful while also ensuring the long-term health of our natural resources.

What do you think is the biggest issue facing national forests today?
There are an array of challenges facing forests, such as: a changing climate that results in severe swings in temperature and precipitation; insect and disease infestations; the lack of fire in fire-adapted ecosystems; ever expanding commercial and residential development that expands the wildland-urban interface and complicates forest management and firefighting; the challenging economics of timber production and forest management; and changing land ownership patterns and subdivision of private tracts of forested lands. Ultimately, finding approaches that improve the economics of forest products and effective forest stewardship are what is needed to help address many of these challenges. But, no sector of the economy or unit of government has the individual resources and answers to address these challenges. That is why it is crucial that we improve our partnerships and better leverage our expertise, relationships and resources.

Where is your favorite spot to experience nature and why?
I love the outdoors. It doesn't take much for me, as we can find beauty everywhere. But, if I had to choose one place, it would be hiking the backcountry trails in the Sierra Nevada Mountains in California. They are uniquely beautiful, and I'm always trying to scratch the itch to get back to the forests and high-elevation lakes of the Sierras.

Do you have a favorite story from your years in the field?
There are so many inspiring experiences. Too many to recount. But as an example, I had the honor to visit the Santo Domingo Pueblo in New Mexico, where NRCS had partnered with the Bureau of Reclamation to make repairs and improvements to the Pueblo's irrigation systems. Through our work, we upgraded a centuries-old canal system

PAGES 4 AND 5: NRCS

Above, Chief Jason Weller visited with Pennsylvania landowners Natalie and Donald Love, who are managing for healthy, young forests on their land to help the golden-winged warbler and other wildlife species

"Every time I travel to the field and meet our local field office staffs, I get inspired. I always return home pumped."

that was highly inefficient and in disrepair into a modern underground, gravity-pressurized system. As a result of the project, the Pueblo was able to irrigate fields, which used to take days, in a matter of hours and expand production on an additional 200 acres of crop land, all while saving significant acre-feet of water in a very drought-prone and arid region of the country.

This project made a world of difference to the people of the Pueblo, as it provided new economic opportunities for young farmers to return to, and stay in, their community. And, it provided for incredibly valuable, culturally appropriate food production for a community that otherwise has very low access to nutritious and affordable food. This project highlighted for me how natural resource conservation can flip our mission around — from "helping people help the land" to "helping the land help the people."

To celebrate, the entire Pueblo turned out for a massive fiesta with insanely delicious foods. We all ate like kings. It was a good day.

GLOBAL RELEAF SHOWCASE

Blisters, Beetles and British Columbia: Global ReLeaf in Canada

LILLOOET, A TOWN roughly 150 miles north of Vancouver, is one of the oldest inhabited areas on the continent. People have lived in the region for several thousand years. But, some of the local whitebark pines have been *alive* for that long.

The whitebark pine is one of the most rugged trees on the planet, surviving in extreme altitudes and conditions. It sets the treeline for many mountains across western North America, and the ecosystem it cultivates is responsible for the survival of many high-altitude species. Grizzly bears, in particular, eat the highly nutritious seeds of the whitebark pine. Unfortunately, despite its tenacity, the whitebark pine wasn't ready for the effect of human intervention on its habitat.

The whitebark pine is currently being eradicated by two natural predators that have been unnaturally empowered by human impact. An invasive species, blister rust, made its way to the Americas on the backs of seedlings grown in European nurseries, and the whitebark pine has not adapted to resist the disease. It's not uncommon to find groves in Canada with infection rates as severe as 80 to 90 percent.

On the other hand, mountain pine beetles are native to the Americas, but increasing temperatures have allowed them to both survive at much higher altitudes and reproduce exponentially faster. Some pines, like the lodgepole pine, can inherit beetle-resistant traits, but since the whitebark pine exists high above the historic range of mountain pine beetles, it has no natural defenses against them. More than 40 million acres of forest in British Columbia are affected by these beetles.

The importance of the whitebark pine cannot be overstated. More than just a keystone species, it is an ecosystem stabilizer. First, the whitebark pine may be the most important factor in water distribution at high altitudes. It prevents erosion with its roots and shades snowpack deep into the summer, which regulates distribution and prevents flooding. Secondly, its high-in-fat seeds are primary food sources for an incredible variety of species, including songbirds, squirrels and bears. It also shelters elk, deer, hares and birds of prey during especially inclement weather. Lastly, because their seeds are distributed by Clark's nutcrackers, who like to bury seeds in open places, the whitebark is generally the first tree to grow back in wildfire-affected areas. This means that it is a recovery-catalyst, prompting the ecosystem to bounce back much more rapidly than it would otherwise. For these reasons the species is known as a "nurse" tree.

The importance of the whitebark pine cannot be overstated. More than just a keystone species, it is an ecosystem stabilizer.

American Forests' Global ReLeaf program has been working with local partners in Lillooet, British Columbia, to plant thousands of whitebark pine trees. Members of the St'at'imc First Nation (Lillooet Tribal Council) spent time collecting seeds from the healthiest whitebark pines in the surrounding area, with the idea being that their saplings would be better adapted to survive the onset of beetles and blister rust. Given that these rugged trees have been known to survive up to 5,000 years, we are hoping to benefit the locals of British Columbia for many generations to come.

Mountain Pine Beetle attack the canopy, creating the red stage seen here from atop the Kennedy Siding Flux Tower in Interior British Columbia.

MATTHEW BROWN, UBC, VIA FLICKR

Doyle Irvin contributes to *American Forests* magazine and *Loose Leaf* blog, and is passionate about protecting the environment and investing in the future of our planet.

CLINT JOLLY VIA FLICKR

View of Fordyce Lake, near the Sierraville Ranger District

AMERICAN RELEAF SHOWCASE

Protecting One of America's Premier Wildernesses: American ReLeaf in Tahoe National Forest

TWO-HUNDRED-AND-FIFTY FEET straight into the air, conquering the peaks of California and Oregon, with cones the length of your arm, considered the "king of the conifers" and yet humbled by an infinitesimal rust fungus — ladies and gentlemen, the sugar pine, a key element of the Tahoe National Forest.

This particular national forest is renowned and loved for its incredible wilderness, with crystal clear lakes, rugged cliffs full of crags and juts, dryly comfortable summers juxtaposed by snow-laden winters and — once — endless vistas of unbelievable trees. These trees are under attack.

Back in 2011, American Forests began working with local organizations to restore the sugar pine in the Tahoe National Forest. We started planting blister-rust-resistant saplings in the Sierraville District, hoping to protect a simply beautiful part of our country from devastating infestations of blister rust and mountain pine beetle. Once comprising a quarter of the tree population in Lake Tahoe, these pines are a vital part of the ecosystem. Their seeds are edible (and tasty!), and they are an important factor in regulating snowmelt. Without their presence the region would be far more susceptible to dangerous floods and bereft of wildlife.

We have expanded our project since then, diversifying our plantings to include incense cedar, ponderosa and Jeffrey pines and Douglas-fir. This increased diversity will help ensure the future of the ecosystem as a whole, in case another single-species-targeter pest or disease emerges. These trees were also chosen because they are not affected by the parasitic dwarf mistletoe, which causes an estimated loss of 500 million cubic feet of wood losses per year in the U.S. alone. This mistletoe slowly saps trees of food and water, priming them for attack from blister rust and mountain pine beetles.

We have been identifying and replanting the 3-5 percent of sugar pines that are genetically resistant to blister rust. We began with the sugar pine in 2011, because they were near the edge of extinction. Then, we started planting the other species to help foster a healthy ecosystem as a whole, as past logging and fire suppression strategies have altered the natural mix of species and edged the area further towards the brink.

In 2016, we planted on 83 acres of land in the Tahoe National Forest. We know how vital the survival of this region is to the state of California and regularly work with school groups and local community members to get them involved and educated about the importance of protecting the wilderness.

Doyle Irvin contributes to *American Forests* magazine and *Loose Leaf* blog, and is passionate about protecting the environment and investing in the future of our planet.

JON SULLIVAN VIA FLICKR

Sugar pine cone

FROM THE FIELD

CLEVELAND, OHIO

Ian Leahy, Director of Urban Forests Programs

CLEVELAND IS A CITY undergoing dramatic transformation, but it remains burdened by the same issues that afflict every industrial legacy city: a declining population and tax base, large social service needs and lack of resources to maintain — much less upgrade — aging infrastructure.

One such infrastructure is its trees. While Cleveland was once known as the Forest City, the need to maintain, remove hazards and plant new trees is so great, yet budgets and staff are so limited. The tree canopy has declined to a mere 19 percent. In 2015, the City and local partners, with technical support from Davey Resource Group, a Division of The Davey Tree Expert Company, worked together to create the Cleveland Tree Plan that lays out an ambitious vision for addressing Cleveland's tree canopy and reclaiming the Forest City identity.

American Forests, with support and volunteers from our partner Bank of America, is providing the first investment to kick off its implementation. This Community ReLeaf project is different than our other 16. In two underserved neighborhoods — Cudell and Buckeye-Shaker Square — we have conducted a comprehensive street tree inventory to identify hazardous trees, pruning needs, stump removals and opportunities for new tree planting.

Leveraging a Great Lakes Restoration Initiative grant the City was able to secure thanks in part to our investment, we have begun implementing comprehensive street tree care in portions of each neighborhood to encourage the City and others to make more investments in this important infrastructure, including a volunteer tree planting in the spring of this year. Our work includes removing the most hazardous trees and branches, grinding stumps out of the ground and planting trees in every space large enough. These projects are models of sound urban forestry collaboration that we hope to use to generate more support from both the City and elsewhere to prioritize investment in maintaining and growing Cleveland's tree canopy.

PITTSBURGH

Christopher Horn, Director of Communications

EVERY ONCE IN A WHILE, the communications staff at American Forests has the chance to join our programs team in the field at one of our restora-

CHRISTOPHER HORN

The site of American Forests' planting in the Audubon Greenway outside of Pittsburgh

The Cleveland, Ohio skyline

ERIK DROST VIA FLICKR

tion projects. Last fall, accompanied by our multimedia intern, I attended a volunteer tree planting near Pittsburgh on a project funded by our longtime corporate partner, Alcoa Foundation.

While we viewed the trip as an opportunity to gather photos, video, partner interviews and other materials we could use in the future, we were also interested in a few technical aspects that our local partner, Tree Pittsburgh, had planned for the project.

In a section of the Audubon Greenway, a 161-acre swath of previous agricultural land that has been transformed into a network of trails and woodlands used by hikers, cyclists and equestrians, nearly 60 volunteers helped plant 2,670 seedlings on a half-acre hillside of former horse pasture. If you know about some of our other planting projects, you may be wondering how we were able to fill such a relatively small space with so many seedlings.

The answer: the project incorporated a dense planting technique, known as the Miyawaki Method. To absorb tsunami impacts, ecologist Akira Miyawaki densely planted seedlings along the coastline of Japan and found that very close spacing between newly planted trees helped them out-compete non-native and invasive plants that would normally slow the seedlings' growth. He also found the trees grew faster by competing with each other, resulting in both a rapidly growing native forest and a low-maintenance technique for establishing a forest where one hadn't been.

Our friends at Tree Pittsburgh will monitor the Miyawaki site's progress over the next few years, especially regarding the improved habitat for small mammals and birds, and who knows — maybe we'll try this technique again at a different site. One thing we do know, however, is that we'll continue to have projects that reduce habitat fragmentation and improve watersheds by reforesting large tracts of former farmland.

Follow us on Facebook and stay tuned for a video about the project.

CHRISTOPHER HORN

Nearly 60 volunteers helped plant 2,670 seedlings in a half-acre hillside of former horse pasture

CORPORATE PARTNER PROFILE

DISH Network

YOUR PHONE BUZZES multiple times every day, alerting you to new emails just by using a tiny blip of electricity. Any important communication can be found instantly in your pocket. But, do Americans realize that more than 18 million trees are cut down each year so that they can receive paper bills?

As one of the largest pay-TV providers in the nation, DISH Network has millions of customers who receive monthly bills. Their customers "... were still thinking of monthly bills as a paper document," says Shannon Picchione, DISH Vice President of Billing and Credit. "We wanted to change that thinking."

DISH kept in mind that it wasn't just about reducing the impact of their daily operations on the planet — they believe that reducing your footprint is one thing, but that also giving back is even better. Putting a priority on sustainability, DISH came up with an innovative way to incentivize healthier billing practices. They decided that American Forests would be the ideal partner to pursue these ends, and together we pledged to plant a tree for every one of their customers that switched from paper bills to e-billing during Earth Month 2016.

The drive was considered a win-win-win for DISH — they reduced paper needs, cut shipping costs and helped protect our planet's future by planting thousands of trees. Picchione says that they were "very pleased with the response" from their customers, adding that "their enthusiasm made the program a success." We at American Forests know that our partners certainly inspire that enthusiasm about saving the environment: On top of planting trees, DISH heavily promotes recycling and uses alternative fuel vehicles for their technicians, among many other eco-friendly pursuits.

With the support of DISH Network, American Forests planted more than 78,000 trees this year in Colorado, Texas and Virginia. These projects are helping protect some of the most biologically diverse wildlife areas in the United States. But, this was no one-off effort, says Caity Curtis, the DISH Cares Program Manager: "Planting trees and improving the environment around us will continue to be a priority for DISH."

DID YOU KNOW?

The singleleaf pinyon pine is the world's only one-needled pine.

DONOR PROFILE

Karen McLellan

The Gift of Trees as wedding favors hit all the right chords for one family and their guests.

Karen McLellan was helping her daughter, Marissa, organize her wedding when Marissa offhandedly asked if they should have wedding favors.

Left: Marissa and her husband, Justin's wedding in Sequoia National Park, Calif. Above: American Forests' Certificate for Karen's wedding guests

Karen knew at that moment that she had an opportunity to share something wonderful with her daughter and everyone important in her daughter's life.

When Karen was young, her own parents took her on trips to visit their extended family in the Midwest and the East. They would stop at every National Park along the way, learning about the trees, birds and wildlife, camping off the beaten path and often stopping just to listen. Her dad would have her close her eyes and put her arms out wide, imagining she was a tree, listening to the crickets, the grass and the cottonwoods that "seemed to whistle." Her mom would say they were whispering to us, that "we need to take care of them."

One time when Karen was very young, her dad took her out to plant trees where wildfires and bark beetles

BOTTOM LEFT: PETER AMEND, A FIERCE LOVE PHOTOGRAPHY; BOTTOM RIGHT: COURTESY OF KAREN MCLELLAN

DOUG PAGE

BIG TREE SHOWCASE

Singleleaf Pinyon Pine

SPECIES NAME: Singleleaf pinyon pine, *Pinus monophylla*

LOCATION: Hamlin Valley, Utah

CIRCUMFERENCE: 118 inches

HEIGHT: 36 feet

CROWN SPREAD: 38.83 feet

TOTAL POINTS: 164

NOMINATED: 2015

NOMINATED BY: Doug Page

Karen and her daughter, Marissa, hiking in the sequoias to scout out the wedding location

COURTESY OF KAREN MCLELLAN

had destroyed the forest. He told her that "Mother Nature's miracles start working with our help." The time he spent with her invested a life-long love for, and appreciation of, nature, and when she had her own daughter, Karen understood that she had to pass it along.

So, when Marissa asked Karen whether they should bother with wedding favors, Karen knew that they should bother — and that it would be an excellent opportunity to give back. They decided to plant a tree for every wedding guest who attended. They held the wedding in Sequoia National Park. And, two weeks later they had a large reception in Karen's backyard. When Karen gave a toast to explain their take on wedding favors, and that they chose to donate a tree to honor every guest, she was interrupted by wild cheers and applause before she could finish. For the rest of the night, she was approached by guests asking how she had thought of such a good idea. She told them that she had been a member of American Forests for nearly a decade and that part of her gift to Marissa was a membership for her and her new husband, Justin.

How Karen describes her experience and her motivations is nothing short of inspiring.

"The strength of a marriage is like the strong roots of a tree," she said. "One hundred and fifty trees to be sewn into the land to begin growing roots, like the kids begin growing theirs today."

NEW ONLINE

WHILE OUR MAGAZINE IS A GREAT WAY TO STAY CURRENT on the latest American Forests news, you can get even more updates by following us on social media! We share the latest news, interesting stories and breathtaking photography featuring forests and wildlife. Check out the snippets below to see examples of our unique online content.

FACEBOOK • facebook.com/AmericanForests

Facebook is one of the best ways to enjoy photos, updates and stories that are special to American Forests. Since our readers love wildlife, each week we share a #WildlifeWednesday spotlight of a different species that lives in a forest where we've worked. Some of our most beloved #WildlifeWednesdays of 2016 included the grizzly bear and the ocelot.

We also post a weekly #RecreationSpotlight that features some of the most special places in the U.S. to hike and explore. Our followers chime in about their favorite trails to hike and where to find the most beautiful scenery. Which spotlight has been most popular thus far? Acadia National Park in Maine.

Acadia National Park

HEIPEI VIA FLICKR

Ocelot

Grizzly bear

USFWS

INSTAGRAM • @AmericanForests

We love sharing beautiful forest photography on our Instagram. Every day we post high-quality photos from a wide variety of sources, including our Artist-in-Residence, Chuck Fazio, winners and entrants of our Forests in Focus photo contest — check out the winners on page 40 — and more! Our most popular post this year was 2016 Forests in Focus Honorable Mention Wasim Muklashy's photo "Big Baby," featuring a stunning juxtaposition of two redwood trees.

TWITTER • @AmericanForests
Want to stay informed on the fast-paced, hard-hitting news regarding conservation? Looking for quick facts and helpful tidbits about forests and the environment? You need to be following us on Twitter! We share content that highlights news about critical issues impacting forests, nature and conservation. Plus, it is a great way to stay current on our latest work.

YOUTUBE • youtube.com/AmericanForests
Our YouTube channel is the go-to spot for videos highlighting our work on endangered wildlife and urban forests. One of our newest videos documents a project with local community members in Detroit, building the city's first outdoor education center, thanks to the support of Bank of America. Built *with* the help of teenagers and for people of all ages, this project both educated the volunteers and inspired them: "In Detroit, the only thing you hear about is negativity or something bad going on in this city," said one teenage volunteer. "It was good for me to come out and be part of something positive for my neighborhood."

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WASHINGTON OUTLOOK

New Administration and New Congress Provide Opportunities and Challenges.

AS THE NEW administration and congress took office in January, American Forests remains committed to forest conservation through our national policy and programmatic efforts. During our more than140-year history, we have seen a variety of presidential administrations with varying views on the importance of forests to our nation. Over the coming months and years, we will remain vigilant to ensure the programs and policies that protect and restore our nation's forests, protect wildlife habitat and expand our urban and greenspaces are robust and that threats to underfunding these programs are thwarted. We will continue to work with our champions on both sides of the aisle to propose new legislative fixes and oppose those that threaten our forests. We will work with the administration, where possible, to enact the programs that benefit forests and advocate against agency action that does not.

For now, we report on forest conservation policy in the last months of the 114th Congressional session.

During our more than 140-year history, we have seen a variety of Presidential administrations with varying views on the importance of forests to our nation.

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The U.S. Capitol building

BAMALAWDOG VIA FLICKR

National Park Service Centennial Act Passes as Stand-Alone Bill!

ORIGINALLY PART of the Energy Bill, the National Park Service Centennial Act (H.R. 4680) passed both the House and Senate as a separate piece of legislation. Sponsored by Congressman Rob Bishop (R-UT), the Centennial Act helps address a portion of the parks' $12 billion in critical repair needs and enhances visitor programs. American Forests advocated for this bill as part of the National Parks Second Century Action Coalition in a year when the National Park System experienced record-breaking attendance. The Centennial Act expands public-private partnerships in national parks, establishes and funds a national parks endowment and provides additional opportunities for young people and volunteers to serve in and learn from our parks. American Forests is proud to be a member of the coalition that worked so hard for the passage of this bill and looks forward to the next century of good things to come from our treasured national parks.

Energy Bill Does Not Make It Out of Conference Despite Months of Negotiations.

THE ENERGY BILL BECAME a legislative vehicle as important forest conservation provisions were added to it throughout the negotiations. Different versions of the bill passed in both the House and the Senate, with the Senate version containing provisions that would provide a comprehensive fix to the way wildfire suppression costs are funded and a permanent authorization of the Land and Water Conservation Fund (LWCF), an important bipartisan commitment to safeguard our natural areas, water resources and cultural heritage, and provide recreation opportunities to all Americans. Unfortunately, conferees were not able to resolve differences, and the bills will be reconsidered in the new Congress. American Forests will continue its work to get a comprehensive fire funding fix passed, as well as permanent authorization for LWCF, one of the most important federal programs for forest protection.

Fiscal Year 2017 Appropriations Punted to April.

FEDERAL AGENCIES REMAIN in limbo over funding levels into the spring. Two short-term Continuing Resolutions were passed in September and December respectively, keeping federal funding at FY16 levels through the end of April 2017. All federal agencies are affected by these decisions; however, this is extremely detrimental to our land management agencies, as the work of restoring and protecting our forests requires long-term planning, multi-year investments and varies greatly due to the seasonality of the work. Efforts to fund the government agencies through an omnibus package did not survive in the wake of the election, and now both the remainder of FY17 funding and FY18 funding must be taken up by appropriators in the new Congress at the same time.

Rebecca Turner writes from the Washington, D.C. office and is American Forests' senior director of programs and policy.

HTTP://WWW.FORESTWANDER.COM VIA WIKIMEDIA COMMONS

Fall Sugar Maple
(*Acer saccharum*)

EDIBLE TREES

Foraging for Food from Forests

BY JESSE VERNON TRAIL

MOST OF US KNOW OF, and greatly appreciate, the wild and cultivated fruits, nuts and berries that come from trees. However, few are aware of the edible yields (and great value) that several of our trees have to offer. Aside from producing delicious snacks, such as apples, cherries, walnuts and chestnuts, some trees provide other edible parts: bark, leaves, twigs, seeds, pollen, roots, new growth, flowers and, of course, sap used for syrup.

For example, did you know that the young leaves and even the seeds of many of our maple trees are edible? Maple trees provide more than the familiar delicious maple syrup! Also, did you know that the inner bark and young twigs of many of our birch trees are edible? Birch trees can also be tapped for a sweetish sap/syrup. Then, there are the immensely valuable pines, with their edible inner bark, seeds and so much more.

The bark of silver birch (*Betula pendula*)

DR. AMADEJ TRNKOCZY

Deciduous Trees

BEECH, *FAGUS*

The American beech, *F. grandifolia*, is an exceptional, magnificent and majestic shade tree that definitely deserves to be grown more often in the landscape. A slow-growing native of eastern North America, the tree can grow to about 100 feet tall, often with a nearly equal spread. It has grayish bark and dark green foliage that turns golden bronze in autumn. The small, edible nuts are very tasty but not that well known. Young leaves can be cooked as a green in spring. The inner bark, after drying and pulverizing, can be made into bread flour, though this is probably best considered as a survival food.

LOUIS-M LANDRY

American beech leaves (*F. grandifolia*)

BIRCH, *BETULA*

The birch species are well known, especially the strikingly beautiful white-barked varieties. The inner bark of birches is edible, making it an important survival food. Many have kept from starving by knowing this. Native peoples and pioneers dried and ground the inner bark into flour for bread. You can also cut the bark into strips and boil like noodles to add to soups and stews or simply eat it raw. In spring you can drink the tree's sap directly from the tree, or boil it down into a slightly sweet syrup.

LINDEN, *TILIA*

The linden (or basswood) is often a well-shaped tall tree, with grey fissured bark. The young leaves in spring are pleasant to eat raw or lightly cooked. The flowers are often made into a soothing, tasty tea.

DR. AMADEJ TRNKOCZY

Linden, or basswood (*Tilia cordata*)

MAPLE, *ACER*

The sugar maple, *A. saccharum*, is a beautifully formed tree. It provides us with some of the best and intense autumn foliage color, ranging from brilliant orange to yellow to bright reds.

Sugar maples have distinctive, slightly notched, three-lobed leaves, whereas those of the black maple, *A. nigrum*, are more shallowly notched. The bark of the black maple is almost black in color. The five-lobed leaves of the silver maple, *A. saccharinum*, have narrow and deep indentations between the lobes. The undersides of its leaves are notably silvery-white in color.

The sugar maple is famous for the deliciously sweet syrup you can make from its sap. But, few are aware that many other species of the larger maple trees can also be tapped for an edible sap. Among these include: the black maple, whose sap tastes almost identical to that of the sugar maple; and the silver maple, also providing an equally sweet-flavored sap. The syrup you can make from other maples varies considerably in flavor and quality, but feel free to experiment. Native peoples and pioneers drank the fresh sap from maples in spring, as a refreshing drink.

The inner bark of maples can be eaten raw or cooked — another survival food source! Even the seeds and young leaves are edible. Native peoples hulled the larger seeds and then boiled them.

Recipe: Boiled Maple Seeds

1. Harvest maple seeds in the spring when they're full but still green. Keep in mind the smaller the seeds you harvest, the more likely they are to be sweet (and the bigger, the more bitter).
2. Remove the outer skin of the seed.
3. Boil the seeds for 15 minutes, or until soft.
4. Season your boiled seeds with butter, salt, pepper or any spice of your choosing.

**To roast the maple seeds instead of boiling them, place them on a baking sheet, sprinkle with the seasoning or spices of your choice and bake at 350 degrees for 8-10 minutes.

The entire pine family comprises one of the most vitally important groups of wild edibles in the world, particularly for wildlife.

MULBERRY, *MORUS*
The mulberry, *M. alba* and *M. rubra,* are medium-sized, fruit-bearing trees, with a short trunk and a rounded crown. The twigs, when tender in spring, are somewhat sweet, edible either raw or boiled.

WALNUTS, *JUGLANS*
All *Juglans* species can be tapped for sweet-tasting syrup, particularly black walnut and butternut.

OAKS, *QUERCUS*
The oaks are mentioned here, for it is not that well known that the acorns are edible. All acorns are good to eat, though some are less sweet than others. Some, like red oak, *Q. rubra,* are bitter tasting, while others like white oak, *Q. alba,* sometimes have sweet nuts. The bur oak, *Q. macrocarpa,* often bears chestnut-like flavored acorns.

White Mulberry (*Morus alba*)

DR. AMADEJ TRNKOCZY

POPLAR, *POPULUS*
The *Populus* genus includes aspens and poplars. Their somewhat sweet, starchy inner bark is edible both raw and cooked. You can also cut this into strips and grind into flour as a carbohydrate source. Quaking aspen, *P. tremuloides,* catkins can also be eaten.

SASSAFRAS, *SASSAFRAS*
Sassafras tea (mainly from the young roots) is well known, and its pleasantly fragrant aroma is unmistakeable. The young, green-barked, mucilaginous twigs of this small- to medium-sized tree, when chewed, are delicious to many. The green buds and young leaves are also delicious. Try them in salads! Soups and stews can be thickened and flavoured with the dried leaves (but, remove the veins and hard portions first).

SLIPPERY ELM, *ULMUS RUBRA*
This medium-sized tree is well known for its many herbal medicine uses. The thick and fragrant inner bark is extremely sticky, but provides nourishment, either raw or boiled.

WILLOW, *SALIX*
The inner bark of the willows can be scraped off and eaten raw, cooked in strips like spaghetti or dried and ground into flour. Young willow leaves are often too bitter, but can be eaten in an emergency — it is a survival food!

Conifers (in particular, The Pine Family, *Pinaceae*)

The entire pine family comprises one of the most vitally important groups of wild edibles in the world, particularly for wildlife. The inner bark and sap is very high in vitamins C and A, plus many other nutrients. And, when eaten raw or cooked, its bark has saved many from starvation and scurvy. You can cut the inner bark into strips and cook like spaghetti, or dry and ground into flour for bread and thickening soups and stews. The sap in spring can be tapped and drunk as a tea.

Even pine needles, when young and starchy, are rich in nutrients, like vitamin C, and are reasonably tasty. These are not usually eaten, but rather chewed upon for about five minutes, swallowing only the juices. Perhaps a better alternative is to make a tea with the needles. Pine or fir needles make a fine tea in winter.

LOUIS-M.LANDRY

The chestnut-like flavored acorns of a bur oak (*Quercus macrocarpa*)

MATT JONES VIA FLICKR

The green buds and leaves of a sassafras (*Sassafras albidum*)

PETER GW JONES VIA FLICKR

The cones of a Korean pine (*P. koraiensis*)

Then, there are the edible cones, seeds and pollen of the *Pinus* genus. The woody cones that produce seeds within their framework are female. These are delicious when shelled and roasted. Nutritious pine nuts are often not considered for food because they are too tiny and hard to get at (a hammer or rock will be needed). However, there are a few pine species that provide delectable pine nuts (seeds) that can be as large as sunflower seeds or larger. Here is a small selection of these: the Korean Pine, *P. koraiensis*; Italian Stone Pine, *P. pinea;* and Pinyon Pine, *P. edulis*.

The soft male cones and pollen are also edible, but the taste is very strong, so is better if used in cooking. In spring many of these male cones produce copious quantities of pollen, so much so, that you can practically scoop it up from the golden carpet it makes on the ground.

The pine family includes genera such as: the pines, *Pinus*; spruces, *Picea*; larches, *Larix*; firs, *Abies*; and the hemlocks, *Tsuga* (not to be confused with the totally unrelated poison hemlock).

Certain genera of another plant family, *Cupressaceae*, specifically two species of arborvitaes, *Thuja*, cedars, also have an edible and nutritious inner bark. These are: western red cedar, *T. plicata* (in particular); and eastern white cedar, *T. occidentalis*. Native peoples would harvest and dry it, then grind it into a powder for use when travelling or as an emergency. On the advice of native peoples, Jacques Cartier, a French explorer, used the eastern white cedar to treat scurvy among his crew.

Sap, Syrups and Tapping

There are a relatively surprising number of trees that can be tapped for their sap and syrup. However, be forewarned; many of these offer a bland, bitter or almost tasteless flavor and quality. For example, you will find that tapping a hickory tree will result in unsatisfactory tasting syrup. Whereas, tapping certain other nut trees, like butternut and black walnut, will provide you with quite a fine-tasting syrup. Also, the native peoples tapped the sycamore tree,

There are a relatively surprising number of trees that can be tapped for their sap and syrup.

Platanus acerifolia, but this syrup is considered much too dark and strong flavored by most people. The maple by far yields syrups of the best quality and taste, and the best of these is from the sugar maple, or black maple, and followed closely by the silver maple.

Properly selecting and tapping trees for sap can be a detailed process, so here we will address just the basics. You can purchase the necessary spiles and pails for sap gathering, or for better enjoyment do it on your own.

First, in most instances, you will want to select trees that are at least 18 inches in diameter. A rough estimate of how much finished syrup you will get per tap is about one to two quarts, or about one gallon of syrup per year, per tree.

Cut a V-shaped gash into the tree (an age-old method of our native peoples), at the base of which you can drill a hole about 2 inches deep and close with a peg. Then, when you are ready, remove the peg and insert your spile. A spile is the means to convey the sap from the tree trunk to your bucket or pail. This is essentially a hollow tube with a spout end. It can be made from a wide range of materials from metal to bamboo. One of the best is made from a sturdy, hollowed out twig or branch of a staghorn sumac, *Rhus typhina*. Or, you can use the lid from a tin can for a sort of spile. Just smooth the rough edges first. Make a single bend in the lid and insert it into your tree tap hole. Drive a small nail into the tree to suspend your bucket or pail from.

Then, it's just a matter of boiling the sap with water, and spooning off the characteristic scum as it rises. The best ratio is around 35 parts of water to one part sap. The water evaporates over time, leaving a clear amber syrup. Strain carefully.

For sugar, continue boiling until a test portion of the syrup forms a very soft ball in cold water. Remove from the heat, agitate with an egg beater and pour into dry molds. Delectable!

Jesse is an author and instructor in environment, ecology, sustainability, horticulture and natural history. Check out his first book, "Quiver Trees, Phantom Orchids and Rock Splitters: Remarkable Survival Strategies of Plants" at www.ecwpress.com/products/quiver-trees.

ALAN SHEFFIELD VIA FLICKR

Properly selecting and tapping trees for syrup can be a detailed process

RAMBLING AROUND THE BIG

The top of the Giant trail in Sleeping Giant Provincial Park

SAM GREER

LAKE

BY BOB MARR

SOMETIMES GOING IN CIRCLES CAN BE INCREDIBLY REWARDING, especially when it allows you to experience the rugged beauty of the forests and shorelines of the largest (in area) freshwater lake in the world. Imagine traveling through a landscape of wild and majestic waterfalls; canyons that harbor plants whose nearest kin are on the shores of the Hudson Bay; trails winding through boreal forests devoid of maples, oaks and other familiar tree species, but rich in mosses and lichens. Better yet, quit imagining and go! Camping and RVing are probably the best options, but there are also plenty of places to get a motel room or cabin as you make your way around the shores of Lake Superior.

Inset, right: Miniature "forest" of the moss *Ptilium crista-castrensis*, or Knight's Plume

INSET PHOTO: JANET MARR

While the Lake Superior Circle Tour is a designated route, there are lots of places where you might choose to deviate from the track in order to catch more out-of-the-way attractions. For purposes of this narrative, I will start and end our trip in Duluth, Minn., traveling clockwise around the lake.

ABOVE: JUSTIN MEISSEN VIA FLICKR

Highway 61, which follows Minnesota's North Shore, is an incredibly picturesque drive with many state parks along the way and plenty to see and do. Gooseberry Falls State Park is a particularly scenic place to stop, with some nice short hikes near the falls and a great interpretive center and gift shop. Near the border, Grand Portage, Minn., provides all sorts of diversions, including Grand Portage National Monument, which celebrates the fur trade of the 18th and early-19th centuries. The portage itself, an 8.5-mile trail, which had been in use for hundreds of years prior to the arrival of the voyageurs, can be hiked today much as it was in the fur trading days, minus the 90-pound packs of furs and trade goods. During the summer months, it is also possible to take a trip to Isle Royale National Park from Grand Portage via one of the two commercial passenger boats that leave from there. Just north of Grand Portage, past the incredible views from Mt. Josephine, is Grand Portage State Park, where an easy trail leads to the highest waterfall in Minnesota, the 120-foot High Falls on the Canadian border. Just across the border, Pigeon River Provincial Park offers additional hiking opportunities.

Ontario's Ouimet Canyon

Thunder Bay, with a population in excess of 100,000, is worth stopping to see. It is a vibrant, ethnically diverse community with good restaurants, lots of shops offering local artwork and crafts and many cultural events. A particularly fascinating must-see destination is Fort William Historical Park, where exhibits and reenactors bring an 1815 Northwest Company fur trading post to life complete with voyageurs, birchbark canoe builders, coopers and blacksmiths.

Heading north out of Thunder Bay, you may want to stop at one of the amethyst mines to pick your own gemstone. These deposits were found accidentally when a road was being built in 1949, and have

BOTTOM LEFT AND RIGHT: BOB MARR

Above: Top of the Giant trail in Sleeping Giant Provincial Park

For a special treat, hike the Top of the Giant trail, a sometimes steep switchback route that culminates in some truly breathtaking views.

been producing large amounts of amethyst ever since. A bit further on is the turnoff for Sleeping Giant Provincial Park, which has more than 50 miles of hiking trails as well as an excellent campground. For a special treat, hike the Top of the Giant trail, a sometimes steep switchback route that culminates in some truly breathtaking views.

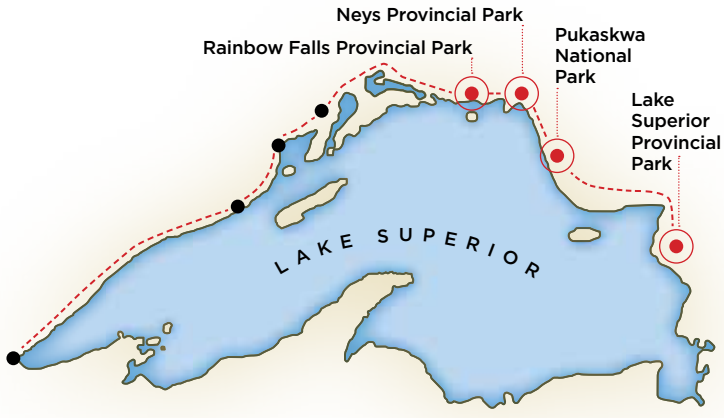
As your route takes you northward, you will begin to notice changes in the forest. Back near the border, you were traveling through the Laurentian Mixed Forest Province (aka Great Lakes–St. Lawrence forest), which contains many hardwood tree species. Soon, you will be completely immersed in the boreal forest, also known as taiga. These woodlands are dominated by coniferous tree species, including spruces, firs and pines, although there can be significant populations of deciduous trees such as aspens, mountain maples and birches. Other hardwoods are conspicuous by their absence, so say goodbye to the last of the oaks, maples and others that you will not see until you head south again. You will also notice many large, even-aged stands of conifers due to the burn/regeneration cycle that is natural to the boreal ecosystem.

Back on the route, you will soon see the turnoff for Ouimet Provincial Park, which is just a few miles off the main road. This is a must-see stop! Ouimet Canyon, 450 feet wide, 300 feet straight

Old Woman Bay near the boundary of the boreal forest

The rushing waters of Aguasabon Falls near Terrace Bay, Ontario

BOB MARR



down and about a mile long, was formed sometime around the last glaciation. Due to its narrowness and depth, a unique microhabitat is formed at the base of the boulders at the bottom, allowing arctic and subarctic plants to thrive there, hundreds of miles south of their usual range. There is a trail of less than a mile in length that includes two viewing platforms at the very edge

Ouimet Canyon, 450 feet wide, 300 feet straight down and about a mile long, was formed sometime around the last glaciation. Due to its narrowness and depth, a unique microhabitat is formed at the base of the boulders at the bottom, allowing arctic and subarctic plants to thrive there, hundreds of miles south of their usual range.

of the canyon, offering spectacular views — bring your binoculars! Nearby Eagle Canyon, privately owned, is operated as a tourist attraction and boasts the longest foot suspension bridge and the longest, highest and fastest zip line in Canada.

After Ouimet Canyon there are a number of small scenic communities; near Hurkett, Ontario, the Hurkett Cove Conservation Area is considered one of the best birding locations in Ontario. The communities of Red Rock and Rossport, Ontario, are other picturesque stops.

Rainbow Falls Provincial Park offers great hiking opportunities that include a lovely series of waterfalls. Passing through Schreiber, Ontario, you will soon approach Terrace Bay, but before you get there be sure to take the turn-off to Aguasabon Falls. At 110 feet high, the falls and gorge are amazing, especially since the falls come in at a right angle to the gorge. Terrace Bay is a full-service stop with lodging, restaurants and shops, including a supermarket, and is also a jumping-off point for a trip to the Slate Islands, an archipelago located about six miles out in the lake. The Slate Islands were created by a meteorite impact at least 450 million years ago and feature unusual geological formations. Due to the tempering effect of the cold Lake Superior waters, several arctic and subarctic plant species thrive there. Woodland caribou also make the islands their home, but whitetail deer and moose are absent.

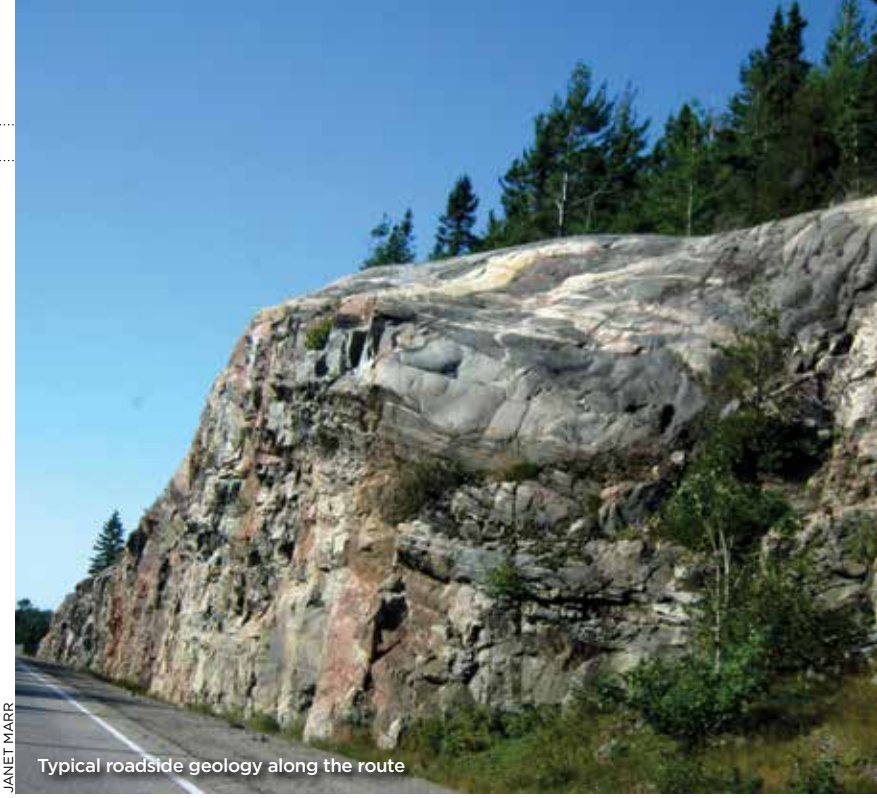
Neys Provincial Park is guaranteed to be an enjoyable stop, so plan on spending some time there. This area was the site of some extreme geological activities over the past 600 million

BOB MARR

years or so, and the one-kilometer-long Under the Volcano Trail, with its interpretive signboards, is an excellent way to comprehend the vast forces that have shaped the landscape here. There is plenty of camping space as well as a swimming beach.

Speaking of geology, you have been and will continue to travel through some very impressive geological formations all around Lake Superior. If you have an interest in geology, the best book to have along is "Roadside Geology of Ontario: North Shore of Lake Superior" by E. G. Pye. It is keyed to mileages along the route and points out features in the geological history of the area. I certainly came to appreciate the amount of work it must have taken to build the Trans-Canada Highway (Highway 17) across this section. As a matter of fact, although construction of the highway had started in the 1920s, 165 miles of the route between Terrace Bay and the Montreal River required so much blasting and earth-moving that it did not open until 1960.

Past Marathon, Ontario, is the turn for Pukaskwa National Park, a jewel in the boreal forest. We have camped here twice and are looking forward to visiting it again. The road to the park passes through the Pic River First Nation Reserve. The campground is tucked into the forest and Lake Superior is easily accessible. There are several hiking trails ranging from the easy, one-mile Beach Trail to the very demanding 37-mile (one way!) Coastal Trail, which includes a series of backcountry campsites. The Bimose Kinoomagewnan trail, which circles Halfway Lake, is a particularly scenic hike of only 1.6 miles.



JANET MARR

Typical roadside geology along the route

After Pukaskwa, Ontario, the road swings inland through White River, where evidence of past wildfires can be seen for miles, down to Wawa, Ontario. Wawa's claim to fame is the

Typical boreal forest lake with beaver lodge in Pukaskwa National Park

Above: Overlooking Orphan Lake in Lake Superior Provincial Park

giant goose statue at the entrance to the town (the name Wawa comes from the Ojibway word for goose), but there are also good restaurants and accommodations. The Visitor's Center is certainly worth a stop. The next attraction past Wawa is Lake Superior Provincial Park, and what an attraction it is! You could spend weeks here and not experience everything it has to offer. To start with, there are 11 hiking trails to choose from as well as two campgrounds. The Nokomis Trail overlooks allow you to see the boundary between the boreal and northern deciduous forest types, especially in the fall, since the boreal forest begins in earnest to the north of the river valley. There are miles of Lake Superior shoreline, several waterfalls and four picnic areas, not to mention some incredible ancient pictographs that can only be seen by taking a rather precarious route along a ledge at the edge of the lake.

Glacially scoured Ontario rock shoreline

BOB MARR

Reluctantly leaving the park, Sault Ste. Marie, Ontario, is the next stop on the tour. The Canadian Sault has many attractions worth seeing, including the Canadian Bushplane Heritage Centre. It is a fascinating museum to poke around in, even if you are not particularly interested in airplanes. It's actually a very large hangar filled with dozens of antique planes and a small theater where you can see an impressive film on aerial firefighting. Across the bridge on the U.S. side, the Soo Locks Boat Tours are a great way to see both the Canadian and American locks as well as hear about the history of the area. There is also a viewing area near the locks where you can watch the big boats make their way to and from Lake Superior.

Swinging into the Upper Peninsula (UP) of Michigan, there are many routes and many sights to choose from as you will be traveling through a patchwork of state and national forest land. Beyond Tahquamenon Falls State Park, with its hiking trails and falls, is Whitefish Point, which features not only the Shipwreck Museum, but also the Whitefish Point Bird Observatory, which advertises itself as the "pre-

mier migration hot-spot in Michigan." West of that is Pictured Rocks National Lakeshore with its fabulous rock formations and exciting hiking opportunities.

Traveling past Marquette, Mich., the UP's largest city (population 22,000), you will head towards the Keweenaw Peninsula, with its long history of mining, acres of wild land and miles of Lake Superior shoreline to explore. The Visitor's Center at the Keweenaw National Historical Park in Calumet, Mich., offers an extensive multimedia interpretive display about the area's history. Brockway Mountain Drive is another must-see, leading to the village of Copper Harbor with its restaurants and shops, as well as Fort Wilkins Historic State Park, where reenactors bring a 19th century army fort to life.

Rolling into Wisconsin, the Northern Great Lakes Visitor Center in Ashland, Wis., is a great place to learn more about the lake, after which a drive north to the Apostle Islands National Lakeshore is almost obligatory. Although the Apostle Islands are a premier kayaking destination, there is a cruise service that offers island shuttles and cruises among the islands. There is also a car ferry that goes to Madeline Island (and an ice road in the winter!). Continuing on through the forests and farmland of Wisconsin returns you to Duluth, Minn.

So, there you have it — 1,300 miles of northern hardwoods and boreal forest, waterfalls, Lake Superior shoreline, unbelievable geological formations, beautiful and tranquil parks, hundreds of miles of hiking trails, great views, wild country and wonderful people. This is a trip that should be on everyone's list!

Bob Marr writes from a hand-built log cabin in Michigan's wild and beautiful Keweenaw Peninsula.

JANET MARR

Rugged and rocky Lake Superior Shoreline, near Whitefish Point

BROOK WARD VIA FLICKR

The Cross

THE ANCIENT FOREST

Timbers
AT AMERICA'S CROSSROADS

BY JOHN GIFFORD

IMAGINE FOR A MOMENT IT IS AUTUMN 1832. Imagine, too, that your name is Washington Irving. You're one of America's most famous writers, and by virtue of this, and mere chance, you've been invited to join U.S. Indian Commissioner Henry Ellsworth and a party of mounted rangers on an expedition to the frontier lands of Indian Territory (present-day Oklahoma). Setting out on horseback from Fort Gibson, you head into the wild landscape of the southern Great Plains, crossing rolling hills, fording sandy rivers and picking your way through canebrakes and plum thickets. Your party hunts for food. At night, you sleep beneath starry skies so clear and bright that, weeks later, after you return to civilization's comforts and security, you'll find it difficult to sleep indoors.

An example of the Cross Timbers' unique, irregularly shaped tree structure

Cross Timbers landscapes are mosaics that include both forest and the surrounding prairies, which make up much of what people believe the landscape of Oklahoma to look like

Despite the roving bears and the marauding packs of wolves, what you most dread out on the plains are the dense forests of low-growing, rough-barked trees, which your expeditionary party can't quite avoid and which seem to flank you everywhere you go until, at last, confrontation inevitable; you have no choice but to meet them head on. These mysterious forests and their gnarled, clothes-catching, skin-scuffing, limbs, and the blankets of thick, prickly vines and underbrush, test you. They disorient you. And, they so torment you that weeks, months, even years later you'll recall them in the book you're destined to write, the future American classic, "A Tour on the Prairies:"

"I shall not easily forget the mortal toil, and the vexations of flesh and spirit, that we underwent occasionally, in our wanderings through the Cross Timber. It was like struggling through forests of cast iron," Irving writes.

Even at the time of Irving's visit to the southern plains in 1832, this seemingly impenetrable forest was known as the "Cross Timber," or, more appropriately, as the "Cross Timbers," for it's comprised not of a singular, continuous band of trees, but rather a mosaic of forests interspersed with prairies, stretching from southeast Kansas, through central and eastern Oklahoma and into central Texas. Post oaks and blackjack oaks dominate the Cross Timbers, growing so closely together that their canopies often encroach on one another. These rugged, drought-stressed oaks are accented in places with hickory, elm and hackberry trees, while tangles of vines, briars and shrubs clutter the understory, as Irving well knew.

The Cross Timbers appeared on most early maps of the region, not only as a curious point of reference, but also as a demarcation point separating the more established East from the wild western frontier.

Long before the Cross Timbers provided settlers with firewood and building materials, it acted as a natural, and often dreaded, barrier and a general obstruction to our nation's westward expansion.

"The Cross Timbers vary in width from five to thirty miles," wrote Santa Fe trader, Josiah Gregg, in his 1844 book, "Commerce of the Prairies," "and entirely cut off the communication betwixt the interior prairies and those of the great plains." [sic]

Perhaps not surprisingly, these dense forests once served as a distinguishing point of reference for Native Americans and, later, European

ALL IMAGES BY JOHN GIFFORD UNLESS OTHERWISE NOTED

explorers, traders and, eventually, settlers. In this sense they were little different than a prominent mountain range or one of the West's great rivers, as the Cross Timbers appeared on most early maps of the region, not only as a curious point of reference, but also as a demarcation point separating the more established East from the wild western frontier. Indeed, even today, the Cross Timbers represent a stark transition zone, marking the westernmost limit of the Eastern deciduous forests, and the eastern border of the Great Western Plains. These short, rugged forests of post oaks and blackjacks serve as a buffer between these two very different landscapes, and also as an ecotone in which species from both geographical areas — such as the eastern bluebird and the greater roadrunner, for example — coexist as they have for millennia.

PHYSICAL FEATURES

When considered as a singular geographical feature, the Cross Timbers are characterized by coarse, sandy soils supporting post oak (*Quercus stellata*) and blackjack oak (*Q. marilandica*) forests over a sandstone substrate. As Richard V. Francaviglia writes in "The Cast-Iron Forest," these post oaks and blackjacks are uniquely suited to the area's harsh environment, as their "well-developed, strong roots work down into the bedrock." This provides anchorage for the trees, as well as moisture, which seeps up from subterranean aquifers through crevices in the rocks, producing, as Francavigilia writes, "remarkably tenacious" trees that are able to endure the region's strong winds, ice storms, frequent hail and searing summer temperatures with "seeming impunity."

Left: Ancient trees like this post oak are found throughout much of the Cross Timbers; Right: An example of the Cross Timbers' unique, irregularly shaped tree architecture

Perhaps the best description of these trees is the one Francaviglia recounts from an Oklahoma rancher, who said, "Them old post oaks on the ridges are tough as nails."

They have to be in order to survive this extreme climate, where temperatures can plummet to near 0 degrees Fahrenheit in winter and regularly soar to 100 degrees Fahrenheit or more during summer. But survive, these drought-stressed, slow-growing trees certainly do. According to the University of Arkansas Tree Ring Laboratory, the Cross Timbers contain millions of 200- to 400-year-old post oaks, trees predating the birth of our nation and which had already lived for a century or more at the time of Washington Irving's visit to Indian Territory. Surprisingly, however, these trees conceal their age very well. Even a 200-year-old post oak might grow to be only 30 feet in height, and for this reason many residents of the region even fail to recognize their significance. After all, when we think of ancient forests, many envision giant sequoias or towering pines rather than dense growths of short, gnarled, rough-barked oaks.

Above: The Cross Timbers abound in acorns, which provide food for white-tailed deer, gray and fox squirrels and other wildlife

A LIVING NATURAL HISTORY MUSEUM

Not long after moving to Edmond, Okla., in 2006, my son, Jackson, and I were fascinated to discover an urban Cross Timbers forest in the city's E.C. Hafer Park, near our home. Jackson was still in elementary school then, and we visited the park often. He loved the swings and the rock climbing wall, while I enjoyed the walking trail skirting the park's perimeter and the abundant trees. The 121-acre park was commissioned in 1979, and appears to have been carved out of Cross Timbers forest, for there are scattered blackjack and post oaks throughout the property, as well as a large woodlot on the east side of the park. While some areas of Hafer Park have been cleared to make space for playground equipment, roadways and parking lots, this isolated forest appeared untouched. I wondered why. Was this space earmarked for some future development? Was the forest simply awaiting its day with the bulldozer? Or, was this dense stand of post oaks and blackjacks serving some purpose, beyond that of a home for the park's resident coyotes, raccoons and squirrels?

One day not long ago, Jackson and I decided to investigate this urban forest. Veering from the paved walking path, we followed one of the twisting dirt trails into the trees and moments later found ourselves ensconced in the Oklahoma Cross Timbers, suddenly separated from civilization and the development that surrounded the park on every side.

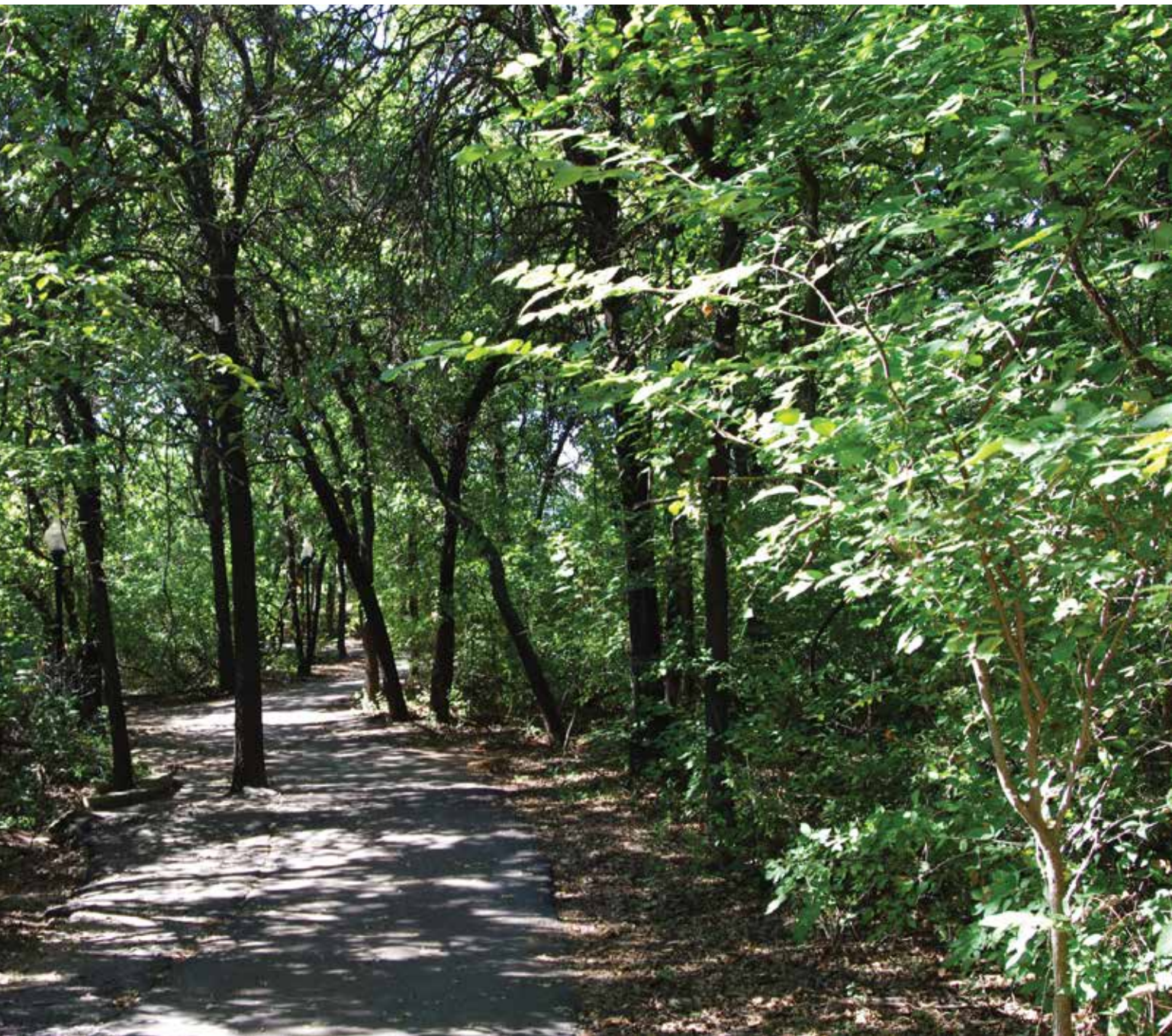
We could hear children's voices in the distance, and the roar of traffic out on the street. But, we couldn't see anything beyond the trees that surrounded us. In some places they grew in such dense concentrations that their limbs covered the canopy, shading the understory, while in other places it

was open to the sunshine. Soon, our trail crisscrossed another path, and a short distance later twisted into yet another. Blue jays and cardinals fluttered through the branches and brambles. Somewhere nearby, a woodpecker hammered a tree. We spotted bobcat tracks and the knobby-tire pattern of a mountain bike. Then, the trail diverged into two separate paths.

Sometime later, I realized I could no longer hear the children playing in the distance. The breeze had picked up, rattling the leaves and tree limbs, and buffering the sounds of traffic out on the street. I realized we were lost.

"How can we get lost in our own city park?" I wondered. But, as I began to reflect on the situation, I felt strangely liberated. After all, in our modern, technologically dependent culture, getting lost is something that's getting harder and harder to do.

As I began to reflect on the situation, I felt strangely liberated. After all, in our modern, technologically dependent culture, getting lost is something that's getting harder and harder to do.



The paved walking trail through the Cross Timbers forest at E.C. Hafer Park in Edmond, Okla.

E.C. Hafer Park, and the Cross Timbers, are home to many types of wildlife

And, thankfully, my son had left his cell phone in the car, which meant I could embrace our predicament and use it as an opportunity to show Jackson how to find his way out of the woods — at least *these* woods.

We positioned ourselves so that the sun was over our right shoulders and headed east, toward the side of the forest from which we'd entered. As we threaded our way along the narrow, twisting trails, through the monotonous and disorienting Cross Timbers landscape, I told Jackson to scan the treetops for a landmark we could use to find our way out. With the fading sun, growing shade and the often-crowded forest canopy, this wasn't easy.

Eventually, we spotted an electric tower, and not long thereafter we emerged from the trees. It was then that I realized the value of this urban forest. Though it was undeveloped and unimproved save for the primitive trails, it constituted as much an attraction as the playground or rock-climbing wall. It was, in every sense, a feature of the park.

But, was this intentional or incidental?

I was delighted to learn, a few days later, that the City of Edmond has no plans to raze or otherwise develop this forest. This meant that, like Jackson and me, others have the opportunity to lose themselves in the trees for a little while, which may be one of the greatest benefits of our urban forests.

A FOREST IN TRANSITION

Though large tracts of the original Cross Timbers remain intact today, much of the area abounds in second-growth oak forests, reflecting the millions of trees that were cleared during European settlement of the southern plains in the 19th century.

In the early decades of the 20th century, the boll weevil, falling cotton prices and the Great Depression proved to be insurmountable challenges for many area settlers, and, as a result, hundreds of farms were abandoned, allowing for the eventual regeneration of the native post oak and blackjack forests. Only now, as urban areas like Oklahoma City, Okla., Tulsa, Okla., and Fort Worth, Texas, were growing up around these forests, so too was society's desire to suppress the naturally occurring wildfires which had shaped this land over millennia.

Imagine: forests that have survived hundreds of years of Oklahoma summers, ice storms and tornadoes, trees that once shaded and tormented Washington Irving.

Today, a century of fire deprivation is evident in the proliferation of the eastern red cedar (*Juniperus virginiana*), which has invaded the southern plains while, ironically, significantly increasing the fire hazard both to human dwellings and native trees. Deprived of the very fire that helped maintain the forest's vigor for thousands of years, some areas of the Cross Timbers are being inundated by other invasive species, such as Chinese privet, a shrub which forms a dense understory, severely limiting or preventing new growth of sunlight-dependent oaks while allowing for the proliferation of shade-tolerant species. It's not hard to imagine that with continued neglect, the Cross Timbers may look very different in 50 or 100 years.

To help educate the public about these and other issues, the Ancient Cross Timbers Consortium for Research, Conservation and Education has established several research natural areas (RNAs) — a cooperative network of ancient Cross Timbers sites, primarily in Oklahoma and Texas. Using these sites, the consortium teaches landowners how to restore the ecological integrity of compromised Cross Timbers landscapes, while offering best practices for preserving those precious, pre-settlement tracts of undisturbed forest, which are threatened by suburban and exurban development, oil and gas activity and, increasingly, apathy.

"People continue to remove native forest that's never been cut before, examples of pre-settlement vegetation that are extremely rare around the world," said Dr. David Stahle of the Department of Geosciences at the University of Arkansas. "This is people not understanding what they have."

What we have with the Cross Timbers, according to Dr. Stahle, is something truly special.

"Eastern Oklahoma has some of the most extensive examples of unlogged forests in the eastern United States," Dr. Stahle said. "These trees have a beautiful sculpted architecture reflecting centuries of life in Oklahoma's hills."

Imagine: forests that have survived hundreds of years of Oklahoma summers, ice storms and tornadoes, trees that once shaded and tormented Washington Irving.

The Cross Timbers are certainly worth preserving.

John Gifford is a writer from Oklahoma.

THRIOL VIA FLICKR

The author's son, Jackson, on a hike in the Oklahoma Cross Timbers

GRAND PRIZE WINNER

"An Ancient Bristlecone Pine"

PHOTOGRAPHER: Garret Suhrie (CA)

LOCATION: Methuselah Grove, Inyo National Forest, Calif.

ABOUT THE PHOTO:

Bristlecone pines are some of the oldest living beings on the planet, some of them living for more than 5,000 years, and this one is an elder of its species. Growing seemingly out of the rock in the Methuselah Grove in Inyo National Forest, this ancient giant has survived for eons in a place where it seems nothing should grow. Lit by flashlights and with a backdrop of the universe, this incredible photo speaks about the intricacies of time and survival.

We knew this photo was something special from the first moment we saw it. From then on, even as we were getting excited about other submissions, it just seemed impossible not to come back to this stunning bristlecone. When Garret took this photo on his third trip to the Methuselah Grove, he must have been feeling the same sense of awe as we were.

ABOUT THE PHOTOGRAPHER:

Garret Suhrie has been a photographer for 15 years. He was educated as a painter, but as soon as he learned about long exposure and that he could paint

An Ancient Bristlecone Pine

FORESTS IN FOCUS PHOTO CONTEST 2016

Winners

with light, he never picked up a brush again. He's been exploring the world by moonlight ever since. His focus has been nocturnal landscapes and travel images, as it allows such limitless potential for showing the world in a strange and different light. You can view more of Garret's work at garretsuhrie.com.

WHY WE LOVED IT:

"This scene of a time-worn bristlecone tree trunk against a starry night is a powerful image. It captures the eye of the viewer and refuses to let go. Gnarled branches reach for the sky as though seeking immortality. The picture speaks. It says 'I was once a living tree, and now I am part of the everlasting universe.' The photographer skillfully lit the tree and allowed the stars to light themselves. It is a magnificent composition and most deserving of the Grand Prize."

Lou Mazzatenta, Former National Geographic Photographer

WINNER: FOREST LANDSCAPES

"What Lies Beneath"

PHOTOGRAPHER: Bob Ross (UT)

LOCATION: Redwood National Park, Calif.

ABOUT THIS PHOTO:

Breathing in the long, silent breath of the forest around us, time is suspended. Senses sharpen: the smell of leaf mold

What Lies Beneath

beneath our feet, the rough feel of the bark of a tree trunk, the infinitesimal unfurling of a fern's frond promises new life next to the colorful death of another. And in the midst, the spider works steadily on, heedlessly framing the light for our pleasure, strand by strand.

ABOUT THE PHOTOGRAPHER:
Bob Ross is a nature and landscape photographer, based out of Salt Lake City.

WHY WE LOVED IT:
"This photo has so many interesting elements that all coalesce into a beautiful and fascinating composition. At first glance, you're pulled in by the spider web, but then you begin to notice the deep violet rays of light at the top guiding the eye down toward the web. The bright green ferns at the bottom become three dimensional against the dark shadows of the huge tree and bushes in the background. There is so much variety in this photo — it's a feast for the eyes."

Brad Latham, Latham Creative, Designer, American Forests *magazine*

WINNER: BIG, BEAUTIFUL TREES

"For the Love of Trees"

PHOTOGRAPHER: Amanda Joy Mason (MD)

LOCATION: Kings Canyon National Park, Calif.

ABOUT THIS PHOTO:
Amanda captured this image while traveling on a two-month solo road trip across the country and back. The photograph was taken at Kings Canyon National Park, and the view is from inside of a fallen sequoia, looking up at the sky. The hand-masked, HDR image, composed of 4-5 exposures, allows you to see detail inside of the dark, hollow tree as well as in the surrounding trees, still standing tall. The resemblance of a heart framing these magnificent giants truly embodies Amanda's love for the outdoors.

ABOUT THE PHOTOGRAPHER:
Amanda's photography encompasses a wide range of genres, but her passion remains in photographing nature, landscapes and advocating for environmental conservation. Amanda looks forward to continuing her career in visual communications, telling stories of people and places, and sharing her passion for the environment with others. To see more of Amanda's work visit amandajoyphotographics.com.

Above It

WHY WE LOVED IT:
"I fell in 'love' with this picture as soon as I saw it. How wonderful to use a heart-shaped opening in a decaying tree, a tree that through that decay bestows life to a forest, as a framing device to show a vibrant tree. This one picture shows the circle of life of a forest."

Chuck Fazio, American Forests' Artist-in-Residence

WINNER: FOREST RECREATION

"Above It"

PHOTOGRAPHER: Adam Roades (NC)

LOCATION: Craggy Pinnacle, Blue Ridge Mountains, N.C.

ABOUT THIS PHOTO:
When the clouds and sun play on the face of the Blue Ridge Mountains, the rays cutting through the distinctive blue haze, the connection feels visceral and spiritual. To find a moment alone at the top of Craggy Pinnacle, with its 360-degree views and the solitary thread of the Blue Ridge Parkway winding through the forests and peaks below, is a privileged experience.

ABOUT THE PHOTOGRAPHER:
Adam moved to North Carolina from Ohio to take a job with Kids in Parks, a program designed by the Blue Ridge

For The Love of Trees

Roosevelt Congress in the Mist

Parkway Foundation to get kids outdoors and excited about nature. He has nurtured his own relationship with nature, traveling across the country to see our amazing natural wonders and sharing them on his YouTube channel, Roades on the Road. Photography is not his profession, but it is his tool to try and share beauty and wonder he finds in the world.

WHY WE LOVED IT:

"Through artful composition of light, color and depth, we are transported by this photo. The angle from which it is taken, the time and nature of the day and layers of distance convey a feeling that is dramatic yet peaceful, accessible yet magical. The photographer has given us a seat at the top of this overlook that we can escape to in a virtual moment, become one of those hikers and let our spirits commune with nature."

Lea Sloan, Vice President of Communications, American Forests

WINNER: FOREST WILDLIFE

"Roosevelt Congress in the Mist"

PHOTOGRAPHER: Max Forster (CA)

LOCATION: Prairie Creek Redwoods State Park, Calif.

ABOUT THIS PHOTO:

The photo was taken last winter in Prairie Creek Redwoods State Park. Max had been photographing a great gray owl earlier in the afternoon and was in the process of packing up his gear when he noticed fog creeping into the prairie and two young bull elk foraging toward the center. He quickly set up his tripod, cranked up the ISO on his camera and snapped a few photos before the light completely faded. These are two of three young bulls that can be found hanging out together in the park that Max has affectionately dubbed the Three Amigos. Just 100 years ago, the Roosevelt elk population in California had dropped as low as 15. Thankfully, protection of Prairie Creek has helped these majestic creatures rebound to more than 1,000 in the state.

ABOUT THE PHOTOGRAPHER:

Max moved to Humboldt County, Calif., in 2015, and spends his free time photographing and exploring the coastal redwood parks. Unfortunately, due to the internet, individual trees are becoming celebrities, with enthusiasts missing the forest for the trees. While the draw of particular champion trees is undeniable, there are large swaths of old-growth redwood that have yet to be explored and new discoveries are popping up every week. You could end up missing several trees that are equally impressive on your hunt for a single one. Max encourages everyone to find their own special place in the forest. You never know what you might find.

WHY WE LOVED IT:

"A beautiful picture that stood out to the judges immediately. We loved the light. It is a very moody picture that evokes a wonderful sense of place, in addition to that sweet composition of the elk in the frame. A few judges wished they had shot this picture."

Johnathan Newton, Staff Photographer, Washington Post

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Pioneer in American Forests' Boardroom

BY LEA SLOAN

IN 1973, HESTER TURNER broke a nearly century-old glass ceiling when she became the first woman board member of American Forests, then known as the American Forestry Association (AFA). And, in January 1980, she became the first woman chairman of the Board of Directors. She celebrated another monumental milestone on January 31, 2017, when this still-spirited, vivacious and articulate leader was feted upon the occasion of her 100th birthday.

In 1980, *American Forests* magazine ran the following introduction to Hester as the new board chair (excerpted) in Vol. 86, No. 2:

"Dr. Hester L. Turner, former National Executive Director of the Camp Fire Girls, has been elected president of The American Forestry Association. Turner, a member of the AFA Board of Directors since 1973 and a Vice President of the organization for the past two years, was chosen to lead our 80,000 citizen-member association by its Directors, meeting in Charleston, South Carolina.

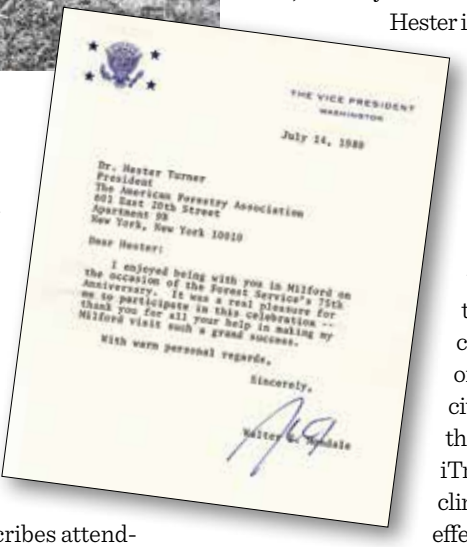
A member of the Oregon and Arizona bar associations, Dr. Turner holds four degrees, a B.S. from Our Lady of the Lake College in her native San Antonio, Texas, an M.A. from Southwest Texas State College ; a J.D. from the University of Arizona and an Ed.D. from Oregon State University.

She has been the recipient of the U.S. Department of Defense Medal of Distinguished Public Services and the University of Arizona's 1978 Distinguished Citizen Award. She is the mother of four grown children, including twin girls, and presently resides in New York City.

Those are the impressive but impersonal details about our new President. There is much more substance to Hester Turner. Meet her for the first time and you're certain to be greeted with a genuine smile. Speak to her and you get the definite impression that what you're saying is important to her — that you're really being listened to. Listen to her and you can't help but be aware of the qualities of enthusiasm, positiveness and common sense."

Hester's own editorial in the same issue affirms that assessment.

Turner in Iceland



THE VICE PRESIDENT
WASHINGTON

July 14, 1980

Dr. Hester Turner
President
The American Forestry Association
601 East 20th Street
Apartment 9B
New York, New York 10010

Dear Hester:

I enjoyed being with you in Milford on the occasion of the Forest Service's 75th Anniversary. It was a real pleasure for me to participate in this celebration -- thank you for all your help in making my Milford visit such a grand success.

With warm personal regards,

Sincerely,

Walter F. Mondale

Above: Turner planting a tree at the 75th Anniversary celebration of the U.S. Forest Service in 1980; right: A letter to Turner from Walter Mondale, the 42nd Vice President of the United States

She wrote, "Major human achievements over the centuries have been accomplished by people who believe the impossible was merely difficult."

Hester continues to exemplify that observation. Raised in Texas, she grew up in a landscape that she describes as being nearly impossible for trees as well. A pecan, fig, loquat and cypress grew in their yard by the river and offered welcome shade from the relentless sun and heat. It made her concerned for trees and appreciative of their gifts.

Later living in Portland, Ore., she raised her children to appreciate trees, learning their names and recognizing their characteristics, including the feel of their bark. One of her sons later held a job manning a forest fire lookout station, and one of her daughters married a forester.

As Dean of Students at Lewis & Clark College, Hester came to the attention of the college president, who recommended her for a newly open position on the board at the AFA. The organization was specifically looking for a woman board member in this era, with the country — and the world — beginning to emerge from a dark age for women to finally start to recognize their value in leadership positions.

The pathway into her board position required a pioneering spirit. Hester describes attending her first board meeting in Washington, D.C. under executive director Bill Towell. At that juncture, AFA was headquartered in a mansion on 18th Street with an impressive ballroom and grand spiral staircase that were not well suited to accommodating their offices, nor those of the other businesses to whom they rented space downstairs. As lunch hour neared, wives of the Board members passed by the door to the meeting room and Towell motioned to Hester to take her leave. She looked at him, not understanding. Towell said, "Dr. Turner, you're now excused to go to lunch (with the ladies)."

"But, what are the rest of you doing?" Hester asked.

"We stay here. We have business to conduct," was the reply.

"Well, I'm a member of the board," said Hester. "I'll stay."

And so she did.

In Hester's time on the board, American Forests went through many transitions in addition to the name change. The organization began hosting world-learning and knowledge-dissemination trips, inviting members along to listen to lectures and, with guides, explore private forests and woodlands, places that are inaccessible to the public. Two dozen people would come along on the two-week trips, such as those to Finland, Sweden, Norway and Denmark.

Hester is most proud of the CityGreen program that was developed at American Forests during her tenure, an early technology used to measure tree canopy and calculate its effects on heat and cooling cities, a precursor to the development of iTree. She feels that climate change and its effects on people, cities and forests is one of the very most urgent issues of our time.

That said, it is with regret that Hester says that she doesn't believe that public understanding has advanced very much since her days on the board, regarding the critical importance of trees and forests to maintaining the health of our environment. There is so much work left to do for those of us who follow in her footsteps, as well as to believe that what we face is merely difficult.

Lea Sloan writes from Washington, D.C. and is American Forests' vice president of communications.

ALL PHOTOS COURTESY OF HESTER TURNER

last look

GARRET SUHRIE

More amazing photography from the Grand Prize Winner of our 2017 Forests in Focus photo contest, Garret Suhrie.

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