AMERICAN SUMER 2018 FORRESTS

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SUMMER 2018

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offshoots

A Legacy and a Look Forward

THIS IS A MONTH OF LASTS FOR ME here at American Forests — my last board meeting, my last staff meeting and my last "Offshoots" column. In mid-July, my seven-and-a-half-year tenure as president and CEO of this great organi-

zation will come to a close. My leaving is bittersweet, but I am excited about the future of American Forests, which will continue doing vital work at this critical time for the planet — it is the right organization at the right time.

When I arrived here in late 2010, the organization was venerable, but a bit worse for the wear. I was certainly dazzled by the organization's legacy. Back in the day, American Forests helped launch the conservation movement in America, gave birth to the idea of the U.S. Forest Service and a national forest system, and helped create the Civilian Conservation Corps, to list just three of its many remarkable achievements. Conservation legends, such as Teddy Roosevelt, Gifford Pinchot and Aldo Leopold, helped shape the organization, along with tens of thousands of members. But by the end of the first decade of the new millennium, American Forests was struggling

to find its place.

I knew when I was hired that I was an unusual choice to be CEO. While I had a personal love of forests and believe strongly that climate change is the most pressing issue of our time, my prior career focused

on organizational strategy and communications. I knew little about the technical aspects of forests, had no contacts in the relevant government agencies, nor could I identify more than about 10 tree species by sight. But the board decided that what American Forests most needed was someone who knew how to lead change in a nonprofit and who could help the organization tell its story more effectively. These things I could do.

In reality, my biggest contributions to the organization may have been a willingness to dream big and try new stuff, and the ability to attract people who were smarter than me. Today, American Forests is a very different organization. Our membership has grown threefold, our social media audience has topped 250,000 (from under 2,000) and our financial resources continue to expand. We have a courageous and supportive board, an exceptionally gifted staff and a growing cadre of partners, donors and supporters who believe deeply in the work we are doing together.

But the most important ways that American Forests has changed — and will continue to change — relates to the work we do to care for our forests. Eight years ago, we mostly functioned as a foundation — raising money and selectively awarding it to government agencies and on-the-ground partners to plant trees in forests around the







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world. Our primary measure of success was the number of trees we had planted.

As our staff has become increasingly sophisticated, our approach to the work has changed and our impact has grown. Our American ReLeaf program still plants millions of trees each year, but these days, we are going deep on some of the most

important and threatened landscapes in America. Long-term impact is now our principal metric. We are building wide-ranging restoration partnerships, conducting science-based planning, advancing a policy agenda that supports these efforts, and increasingly viewing our projects as learning laboratories for our other projects and for the greater conservation community.

Our Community ReLeaf program, launched in 2013, has grown into a model outreach effort that balances the large-scale environmental benefits of expanding tree canopy in cities with the need to expand access to trees and greenspace in underserved neighborhoods. Like American ReLeaf, Community ReLeaf is grounded in local partnerships, science-based planning and a supporting public policy agenda.

"Forest conservation is one of the most valuable things we can do for the health of the planet. And while American Forests is doing great work now, I have no doubt that its impact will only increase." While these programs provide a foundation for the future, leadership and innovation are revealing the potential for American Forests' future impact. During the last year, our programs team has led an aggressive strategy for advancing the use of forests as a natural solution to climate change, positioning the organization at the forefront of these efforts nationally.

American Forests is thriving and the work has never been more needed. So why am I leaving? I have always believed that one of the greatest gifts a leader can give an organization is knowing when to move on. American Forests needs a different kind of leader today than it did when I was hired. Our challenges are different, and so a different set of skills and experiences are necessary to take this organization to its next level of success.

That said, I fully intend to stay engaged — as a cheerleader, advocate and donor. Forest conservation is one of the most valuable things we can do for the health of the planet. And while American Forests is doing great work now, I have no doubt that its impact will only increase.



Scott: Thank you for your leadership and inspiration. We have grown and thrived — a bit like the trees that have been planted during your time at American Forests. And like the trees, our strong roots will continue to support us through the many seasons ahead."

- The Staff at American Forests



INFORMATION TO AMUSE, ENLIGHTEN AND INSPIRE



PROJECT SHOWCASE

Partnering for Success in Houston

BY EMILY BARBER

THERE ARE A FEW PREREQUISITES necessary to truly understand the needs of a city, especially one growing as quickly as Houston.

Resources, relationships, technical expertise and a passion for urban forests are all factors that American Forests considers when selecting priority areas for our Community ReLeaf program. Luckily, we found each of these qualities in the Houston-Galveston Area Council (H-GAC), the Houston Parks and Recreation Department (HPARD) and Trees for Houston.

Since 2015, we've worked with these groups to make significant progress in reforesting the Houston metropolitan area. After extensive research and engaging with local stakeholders, we supported H-GAC in founding the Houston Area Urban Forests Project. Focusing on the core counties of Harris, Montgomery and Fort Bend, H-GAC has successfully gathered a list of shovel-ready, priority



Left: Thanks to the trees we planted in Burnett-Bayland Park, there will be more places for birds to roost, children to seek shade from the sun and families to come together and enjoy the ecological benefits of trees. Below: This year, American Forests and Trees for Houston, will plant trees in Buffalo Bayou Park, a beloved Houston landmark spanning 160 acres, which has suffered from hurricane damage.

projects essential in meeting the needs of Houston's urban forest.

But last August, Houston was ravaged by Hurricane Harvey. With \$125 billion in damages and one-third of the city underwater, 13 million people were affected by the natural disaster. Despite these losses, we've been able to work with our local partners to help the tree canopy recover. Thanks to HPARD, we've funded the planting of more than 500 trees, with more to come.

American Forests has also collaborated with Trees for Houston, a local powerhouse for urban forestry. This small team has accomplished great things: With an array of nurseries in the Houston area, they planted 21,143 trees in the 2016-2017 season. This year, some of these trees will go to Buffalo Bayou Park, a beloved, 160-acre Houston landmark that suffered severe hurricane damage and, as a result, left many areas of the park closed to the public for extended periods of time.

Our staff at American Forests, and those involved with our partners, know that trees bring people together. In November 2017, we held a tree planting at Burnett-Bayland Park with Bank of America and HPARD. Much of the city was still dealing with hurricane damage — silt buildups, flooding and



debris were the main issues. Together, we planted 200 trees and turned a wide-open park into a home for bald cypress, cedar elm and bur oak.

Houston City Council Member Mike Laster was one of the many people who showed up that day to plant trees. His opening remarks captivated the crowd as he reminded them that planting just one tree can have lasting effects, both for the environment and the community. Thanks to the trees we planted, there will be a place for birds to roost, children to seek shade from the sun, and families to come together and enjoy the ecological benefits of trees. With sprawling metropolitan areas surrounded by marshes along the coast and forests to the north, Houston is not a simple landscape. But the vision for a cleaner, greener city starts with one simple step: Planting more trees. Through continued collaboration with each of our partners in Houston, we're able to not only plant more trees, but also bring the community together and educate residents on the many benefits urban forests provide. *****

Emily Barber writes from Washington, D.C. and is American Forests' marketing manager.

PROJECT SHOWCASE

A Race for Survival: At the Starting Line

BY LEAH RAMBADT

AMERICAN FORESTS IS working with The Longleaf Alliance through the American ReLeaf program to restore the gopher tortoise population and longleaf pine ecosystem across the Southeastern U.S. In September

2017, the Gopher Tortoise Restoration Initiative released 15 gopher tortoises at South Carolina's Aiken Gopher Tortoise Heritage Preserve. An additional 60 juvenile tortoises, whose eggs were collected from the preserve in summer 2017, and hatched later that fall, will be released in June 2018.

"The gopher tortoise is a very rare species in South Carolina," says Robert Abernethy, president of The Longleaf Alliance. "With this project, we have the opportunity in just a few years to show that headstarting works and restore viable populations of gopher tortoises to several state and private lands."

The preserve is a target area because it's inhabited by the northernmost population of gopher tortoises in the country. The Initiative wants to ensure this population becomes genetically secure by increasing the number of adults currently estimated to be 160-180 adult tortoises — to 250 individuals.

The eggs were hatched in incubators at a constant humidity and temperature in the University of Georgia's Ecology Lab at the Savannah River site in Bacon, S.C.

The hatchlings were then raised at the Lab and the Riverbank Zoo, in a



converted greenhouse that is climatecontrolled to keep the tortoises active throughout the winter. They are fed a diet of zoo food and a collection of vegetables. By June 2018, these tortoises will be the same size as a three- to four-year-old tortoise raised in the wild, which ensures they are able to protect themselves from predators.

Their habitat, the longleaf pine ecosystem, also needs to be prepared. In the years before the release, longleaf pine forests are thinned with fire to allow low-ground vegetation, such as grasses and wildflowers, to grow, creating an open pine savannah.

At the release site, small, angled holes are dug to resemble burrows. The tortoises are placed at the mouth of the hole, where instinct takes over and they continue to dig. When they leave, their empty burrows provide habitats for other wildlife.

The Initiative has met its goals of collecting eggs, hatching and raising them in captivity. The long-range goals, restoring the gopher tortoise population and the longleaf ecosystem, are still a work in progress — one that American Forests is helping come to fruition.

"Funding from American Forests and the support and enthusiasm for the gopher tortoise and the forest it inhabits from the staff have, quite simply, made this project possible," Abernethy says, "and that continued support has allowed this project to grow, develop and expand."

This year, the Initiative will collect eggs from a second property and work on restoring the population there, with releases planned for 2019. They'll continue to expand to other properties, with suitable habitats and sandy soils, and establish more longleaf pine ecosystems. They hope to gather more eggs to hatch, raise and release in areas without gopher tortoises.

"Restoration of rare, threatened and endangered species ensures not just the survival of the species but our own survival," Abernethy says. "By managing and conserving forests and trees for gopher tortoises, we also conserve forests



that provide lumber for homes and pulp for paper, green space for recreation and clean air and clean water." *

Leah Rambadt was *American Forests*' spring editorial intern and is a graduate student in American University's M.F.A. in Creative Writing program. Top: Within two days, the hatchlings had emerged from their shells and started to move around. Center: An adult gopher tortoise at the mouth of its burrow. Bottom: By December 14, 2017, when this photo was taken, several clutches had hatched and were growing rapidly.

treelines

FROM THE FIELD

DETROIT

Eliza Kretzmann, Manager of Urban Forest Programs

I FIRST VISITED DETROIT four years ago and was fascinated with the city's juxtapositions: Colorful farm-to-table restaurants sprouting next to burned-out buildings, a beautiful river walkway with broken bricks like missing teeth, and grand neighborhoods slowly succumbing to nature.

Now, community gardens rise between canyons of brick, colorful public spaces overflow with people, and murals bloom across concrete. Yet, many neighborhoods remain in decline, with community leaders seeking innovative solutions.

With funding, volunteer and technical support from Bank of America and the U.S. Forest Service, American Forests has been building a robust local coalition that includes city agencies, local nonprofits, universities and businesses. This team has developed urban forestry priorities for citywide planning efforts to guide long-term reforestation efforts. We have planted trees and helped develop an inexpensive model for revitalizing vacant land through the Osborn Outdoor Education Center, which has been replicated elsewhere in the city.

Our current focus is on creating and supporting urban tree nurseries on underutilized land that can supply trees and create jobs in the city for years to come.

American Forests is providing much-needed capacity to a city busy reinventing itself. *****

To learn more about our work in Detroit, check out "The Green Factory" on page 14.





Your annual leadership gift of \$1000 or more helps American Forests plant keystone species — like the giant sequoia — and protect and restore native forest ecosystems.

Learn about the exclusive benefits for Sequoia Circle members at americanforests.org/sequoiacircle or by contacting **Emily Russell**, **Director of Major Gifts**, at **erussell@americanforests.org** or **202-370-4522**.

treelines



"The sawdust smells like bourbon!"

The logger replied, "No, bourbon tastes like oak!"

American Forests staff discuss white oak management with local Master Logger, Kelly Frizzell.

SALEM, MO.

Eric Sprague, Director of Forest Conservation

RECENTLY, AMERICAN FORESTS STAFF travelled to the Ozarks in Missouri to meet with our friends at Independent Stave Company (ISCO) to discuss our partnership to sustain

a critical benefit provided by forests: wood products. Specifically, high-quality white oak that is used to produce whiskey and wine barrels.

We observed how the

proportion of oak seedlings found on the forest floor has rapidly declined — a problem not only facing the hardwood forests of Missouri, but those across the entire eastern U.S. The forest composition has changed because of a variety of factors including, most importantly, a lack of natural and low-intensity wildfires. The next day, we ventured to a state-owned conservation area, where a master logger was taking down trees damaged by a tornado. We witnessed a white oak come down, and one of my colleagues said, "The sawdust smells like bourbon!" The logger replied, "No, bourbon tastes like oak!"

ISCO then hosted us for tours of their sawmill and cooperage, which were amazing sights to see. The company

values sustainability and uses every inch of the logs they take. The staff is passionate about what they do and the barrels they produce are top-notch.

The shortage of small oaks across the eastern U.S. portends a large reduction in high-quality oak in the future. Given that it takes decades for oaks to mature, American Forests, Independent Stave Company and other partners are restoring this important resource. *

treelines

PARTNER PROFILE

Thymes

"Frasier Fir's just-cut-fresh, forest scent instantly captures hearts and conjures joyous memories, especially around the holidays."

TREES ARE AN IMPORTANT

inspiration for Thymes, a bath, body and home fragrance company committed to artisan craftsmanship. Their mission is to deepen connections through fragrance and create scents that enrich daily life. And, they know that the enriching power of their largest collection, Frasier Fir, starts at its source: trees.

"Frasier Fir's just-cut-fresh, forest trees in our scent instantly captures hearts and conjures joyous memories, especially around the holidays," explains Amy Banks, brand director at Thymes. "The feelings that it evokes

have played a big part of it becoming a holiday tradition and staple in so many homes across America, and really, all over the world."

Two years ago, Thymes launched Frasier Fir's Northwoods and Statement collections, making a total of five collections featuring different looks, within this one beloved fragrance. In the spirit of giving back and helping to restore forests across America, Thymes partnered with American Forests to plant a tree for every product sold from the Northwoods and Statement collections through its Plant One Tree Program. Since this program launched, Thymes has planted more than 140,000 trees in Minnesota's Chippewa National Forest.

"We were excited to be able to plant trees in our very own backyard in

> northern Minnesota," says Maggie Sokoloski, assistant brand manager at Thymes.

The Plant One Tree program is designed to not only honor the Fraser fir tree through plantings and

supporting organizations like American Forests, but to also promote a feeling of goodwill for everyone involved, from Thymes employees to the customers.

"The program itself draws a heartfelt connection," Maggie says regarding the positive customer feedback to the program. "They can feel good about buying a candle that helps make a difference." *



especially around the holidays.



DONOR PROFILE

Lloyd and Patricia Fetterly

OVER THE PAST 15 YEARS, Lloyd and Patricia Fetterly have developed a conscious interest in and passion for the environment. Participating in outdoor activities in their native Pacific Northwest, the Fetterlys, who are residents of Tacoma, Wash., have become aware of troubling changes not only in their own environment but the environment in general.

They were compelled to help do something about it, so they turned to environmental conservation to understand and help combat these changes. Several years ago, Lloyd came across an issue of *American Forests* magazine. He and Patricia were impressed by American Forests' conservation programs and tree-planting approach, so they decided to extend their support.

"You pick up knowledge as you go along," Lloyd says, regarding conservation. "You don't need to be a professional to understand and learn what's going on."

Lloyd and Patricia are humble about their lack of a science background, and they appreciate how reading *American Forests* has informed them of various environmental issues. One story that highlighted American Forests' work in Houston led the Fetterlys to investigate reforestation methods being applied in their own backyard in Seattle.

In fact, reforestation is Lloyd and Patricia's primary conservation concern. They are aware that healthy forests are important to counteracting the carbon crisis — an outcome of both the coal industry and the heavy economic reliance on wood products in areas like the Pacific Coast. Forests are a natural defense against carbon emissions, as trees are able to lock carbon in from the environment. The Fetterlys have been committed members of American Forests' Sequoia Circle since 2014 and are also heavily involved with other local conservation organizations in Tacoma, Wash. For instance, Lloyd has planted hundreds of trees with different groups, and volunteering has become a passion of his.

One challenge Lloyd remarks on is getting people to make time to learn about conservation. He'd like to see younger people get more involved and hopes greater opportunities arise for young adults to participate in conservation efforts. As he suggests, it's important to be community-minded, especially when working toward protecting our forests.

Lloyd and Patricia know it may not be possible for everyone to dedicate time or energy to conservation efforts, but "supporting American Forests is the easiest thing you can do," they say. *****



ACTION CENTER

Urban and Community Forestry Funding

THANKS TO FOREST ADVOCATES, like you, the U.S. Forest Service's Urban and Community Forestry (U&CF) program received an increase of federal funding for the FY2018. However, once again the Trump Administration's budget proposed eliminating this important program. American Forests advocated for the creation of this program in 1990, but has been working for trees in our cities and towns for more than a century. We need your help informing Congress about the importance of urban forests, and this program specifically. Here's why:

▶ The 138 million acres of urban and community forest lands in the U.S. affect more than 80 percent of the nation's population. ► These forests are vital to creating and maintaining healthy, livable communities of all sizes by providing scientifically proven social, economic and environmental benefits to the people that live there.

• The collective value and benefits of community trees is more than 10 billion dollars nationwide.

The U&CF program directly assists state governments, nonprofit organizations and partners that manage and serve our nation's forests. The program helps cities and towns across the nation prepare for storms and other disasters, contain threats from invasive pests and diseases, and improve tree infrastructure and forest cover. Properly managed community forests offer towns and municipalities a cost-effective way to maximize the economic, social and ecological benefits of their tree resources and avoid storm and disaster costs through preparedness and training.

In FY2017, U&CF reached more than 7,800 communities and more than 200 million Americans. U&CF is a high-impact program and a smart investment as federal support is often leveraged 2:1, or significantly more, by states and partner organizations. U&CF engages citizens in cities and towns, brings together diverse partners, public and private resources, and demonstrates that federal investment can have a huge and lasting impact on communities of all sizes.

Funding for this program must not be eliminated because the social, economic and environmental benefits to communities would be lost. Please help ensure FY 2019 levels are in line with the importance of this program by contacting your Congressional members. Let your voice be heard by visiting the American Forests Action Center at americanforests.org/TakeAction *

In March, Congress passed the fiscal year 2018 omnibus appropriations bill. Included in this bill was a comprehensive wildfire suppression funding solution that American Forests and many others have been working on for years. Thank you to our forest advocates who sent thousands of letters to their Congressional members over the years as it truly made a difference. Letting your elected officials know that you care about these issues is so important.

CHAMPION TREE SHOWCASE

Yellow Birch

SCIENTIFIC NAME: Betula alleghaniensis LOCATION: Wayne, Maine NOMINATED: 2017 NOMINATED BY: Cathy Cook HEIGHT: 95 feet CIRCUMFERENCE: 242 inches CROWN SPREAD: 80 feet TOTAL POINTS: 357

DID YOU KNOW?

The papery, shredded bark of a yellow birch is very flammable, and can be removed and used to start a fire, even in wet conditions.



PLANT A SEED FOR FUTURE GENERATIONS

AND INCLUDE AMERICAN FORESTS IN YOUR ESTATE PLANS.

Our Evergreen Society members are lifelong friends who, through their wills, trusts, retirement plans or life insurance, help American Forests **plant legacies, one tree at a time**.

Learn more about the Evergreen Society by visiting americanforests.org/EvergreenSociety or by contacting Jennifer Broome, Vice President of Philanthropy, at jbroome@americanforests.org or 202.370.4522.









Urban forestry is ready and able to help tackle unemployment in urban communities across the U.S.

BY CHRISTOPHER HORN

EVERY WORK DAY, Arron Nelson arrives at the office an hour early.

He gets the tools ready and prepares the trucks for his crews. He's been doing this daily routine for years now, yet it still excites him.

"Most people go to work for a check," Nelson says. "I go to work because I love my job. I wake up happy to go to work every morning."

The Detroit native first started working outside when he was six years old, mowing lawns and helping his father, who owned a landscaping company. After a series of life-changing events, Nelson eventually ended up working outside again, this time in a position he got while completing a job training program through a local nonprofit, The Greening of Detroit. It's a job he takes immense pride in.

"I'm blessed to bring home money to my family. It's tremendous. I'm blessed to be employed."

EXPANDING ACCESS

When job creation is referenced, whether on the nightly news or in a president's State of the Union, urban forestry is rarely discussed, if at all. Instead, industries like manufacturing, technology and healthcare come to mind.

Those fields are certainly hotbeds of job opportunity, but according to the U.S. Bureau of Labor Statistics, landscaping and groundskeeping jobs are projected to grow nearly 12 percent by 2026, which ranks 17th among all occupations. That statistic doesn't include the foresters and conservation workers segment, which is experiencing a slow decline, but could see the demand for a more technically skilled urban forestry workforce increase as the American urban population increases; UNICEF projects it to grow by 90 percent, to 365 million people, by 2050. A challenge for the entire field will be to ensure the newly created green jobs are accessible to everyone in the communities that a metro area's urban forest serves.

For Jad Daley, vice president of conservation programs at American Forests, the goal of equitably distributing tree canopy across a city should also include providing job opportunities for its most underserved residents.

One of the great challenges and opportunities

in doing urban greening in underserved communities across America is how to generate as many benefits for the people in these communities as possible, in the process of making these positive changes like planting more trees.

"If you look at what's the most pervasive driver of inequity in these communities," Daley says. "it's lack of economic opportunity."

Economic disenfranchisement doesn't just affect personal bank accounts. Unemployment and poverty take their toll on people's health, the treatment for which impacts healthcare costs. Studies show that as unemployment rates increase, so do crime rates, which puts a strain on law enforcement resources. To Daley, the solution seems pretty clear: Help find ways to not just plant trees in our cities, but also employ the people who live there to care for the trees.

"If you look at it in terms of what it means for people, but even what it means for the dollars and cents of a





prosperous city," he says, "it's a winner across the board if everyone has access to a good job that they like and that's sustainable."

DOUBLE DUTY

Unlike their wildland counterparts, urban forests aren't generally made up of naturally regenerating trees. Quite the opposite, like the built structures of a city, much of the urban forest is planned.

In many cases, cities operate within an urban forestry plan, which stipulates certain types of trees to plant in certain types of areas (e.g., the tree box between the sidewalk and the curb, or the median of a street). These areas are also sometimes prioritized by need; neighborhoods with lower tree canopy usually receive more trees.

Tree plantings in cities also differ from those in rural areas. Unlike the 8-inch seedlings planted in the Lower Rio Grande Valley or the Northern Rockies and Cascades, trees planted in urban areas need to be older and bigger. Industry standards suggest a caliper, or the trunk diameter of 2 to 3 inches, measured about four feet from the ground. Private tree nurseries provide much of this stock, but some cities are incorporating innovative alternatives into their urban forestry strategies.

In Detroit, a variety of organizations and agencies have realized a two-birds-one-stone effect of operating their own nurseries. Specifically, The A challenge for the entire field will be to ensure the newly created green jobs are accessible to everyone in the communities that a metro area's urban forest serves.

Greening of Detroit is tapping into its workforce development program to continue broadening the horizons of participants' career possibilities in the field, including nursery management, while producing nursery-grade stock for the organization's tree plantings.

"Workforce development is key, but you have to be committed to making sure that you're not only training and educating, but there's an end goal," says Devon Buskin, the director of workforce development at The Greening of Detroit and a bornand-raised Detroiter. "And that end goal is having a sustainable career, not just a job, which is lifechanging. When you're doing workforce development, you're really impacting people's lives."

The program was founded in 2010 and has been more successful year over year in placing graduates in full-time positions. Since 2017, the job placement rate is a staggering 93 percent. That result is quite the accomplishment, and a byproduct of the organization's ability to connect

The GREEN FACTORY O

Right: Participants in The Greening of Detroit's workforce development program follow a robust, eight-week curriculum that prepares them for a variety of urban forestry jobs, including landscape technician, line clearing and tree removal, urban agriculture and nursery technician. Below: Workforce Program Manager Hector Santiago, a program graduate himself. instructs the February 2018 cohort about proper the tangible benefits of trees with the communities they serve. Roughly half of The Greening's workforce program participants are returning citizens, or those coming back from incarceration — a demographic that faces immense hurdles to employment.

"When a person has that opportunity to get a second chance, they're hungry for success," Buskin says. "That's what our program offers the industry: It's enabling diversity by allowing folks of all backgrounds to come in. You're getting hungry graduates who want to be successful in this industry and they want to soar. We assist them with crossing the finish line, and making sure they have the skillset to take it to the next level."



Buskin recalls heading downtown for a meeting when he crossed paths with a guy who seemed a bit dejected. After asking how the man, named Mike, was doing, Buskin learned that he had just gotten out of prison after 20 years and was unemployed. Buskin told Mike to wait for him and after the two-and-a-half-hour meeting, returned to tell him he had an opportunity — not only did he want Mike to join the training program, but he wanted to give Mike a job, with a next-day start time of 9:00 a.m. When Buskin arrived at the office a little before then, Mike was already there, ready to get to work. Mike graduated the program and remained employed at The Greening for a couple years. His biggest desire was make his mom proud, and after getting his first promotion at The Greening at age 50, he did just that, and then some.

"Mike is self-sufficient. He has his own car, he has his own house, he's contributing to the economy. He feels good about himself," Buskin says. "We help a lot of Mikes."

Part of preparing the trainees requires careful curriculum planning, and that's where Hector Santiago comes in. Santiago, a graduate of one of the first cohorts in the training program, is working with other staff to develop a nursery-specific curriculum in hopes of bringing trainees into that line of urban forestry work.

"Once we have projects to work on and these great ideas start coming up," Santiago says, "we're able to develop a comprehensive training track."

As The Greening of Detroit and other local groups and agencies build out tree nursery operations, Santiago and his colleagues are mindful of creating a curriculum for a sector that has jobs, so they tap into their partner networks and monitor the area's nursery jobs market.

"As the industry builds up," he says, "we want our trainees to be considered for those jobs."

FROM RUIN TO REWARD

Trees can live for decades, centuries even, under the right conditions. Urban trees, however, face tremendous obstacles to long life.

Because of their proximity to ports, urban trees are some of the first and hardest hit by invasive pests and disease. Add to that an increased risk of drought conditions, limited growing space, exposure to deicing salts and dog urine, and vandalism by humans — any and all of these challenges can spell the demise of a city tree, ultimately leading to its removal.

The U.S. Forest Service found that removed or fallen trees in the country's urban areas annually produce the equivalent of 3.8 billion board feet, which is more than 25 percent greater than our entire national forest system's output.

While the wood from cities often requires niche markets, these wood resources still represent immense economic potential, from being sold to pay for a city's future tree planting efforts to creating employment opportunities for the community. More and more government agencies and nonprofits are getting in on the action, and it's paying off for their urban forests.

Baltimore's Camp Small is one of those endeavors.

In early 2016, the Forestry Division collaborated with the Baltimore Office of Sustainability to create the Camp Small Zero Waste Initiative at Camp Small, a 5-acre site in northern Baltimore that the city has used as a stump dump for decades. With the mission to sort and distribute a variety of wood products that were sourced from trees found on the city's public lands, the Zero Waste Initiative's primary focus is to distribute wood material, but the project also incorporates a job training element for local partners.

Camp Small's workforce development model is unique because instead of seeing the trainees

"You're getting hungry graduates who want to be successful in this industry and they want to soar. We assist them with crossing the finish line, and making sure they have the skillset to take it to the next level."

through the whole process — training to job placement — the Forestry Division is providing a pathway or entrance into the field through the specific lens of urban wood reuse.

"In many cases in workforce development, when it comes to urban forestry, you're thinking about individuals participating in field crews or being tree planters," says Bryant Smith, an urban forester with the City of Baltimore. "We sometimes don't present the larger picture of urban forestry, even though there are tons of job opportunities one can take in the field of urban forestry that don't require a shovel in your hand."

Camp Small is providing a doorway to other types of urban forestry work by partnering with the Parks & People Foundation, AmeriCorps and the Baltimore City government. And as the project's production grows, so do the opportunities to further expose people to this subsection of the field.

"When people come to Camp Small, they're always astonished at the volume of material we process," says Shaun Preston, who has been the Camp Small yard master for the past two years. "Baltimore is filled with trees, but many people





A local sawmill then processed the logs into boards that were used for interior design at the City's Cahill Recreation Center.



Staying true to its zero-waste mission, Camp Small turns old and decomposed wood material into organic compost.

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While Camp Small is stocking up on machinery and tools to process wood material on site, currently local sawmills are the primary buyers of whole logs that come into the yard.

Camp Small partnered with The Foundery, a local makerspace, to process a black cherry log to be used for benches at Baltimore City Hall. don't truly realize the volume until they see them being processed in our yard."

With the increase in volume comes the need for capacity. In Preston's opinion, equipment enhancements at Camp Small — a sawmill, kiln and log-splitter funded through American Forests' Community ReLeaf program — will also create wood processing work that further incorporates the workforce development programs of the city's job-training partners.

SETTING UP THE FUTURE

Urban forestry is particularly innovative, and while many people are figuring out how best to set the field up for success in the future, some groups have tapped into a resource that is inherently forward-thinking: our youth.

In San Francisco, Alex Javier is the education manager at Friends of the Urban Forest and manages the Green Teens program, which has provided roughly 800 teenagers employ"They will be the future of our organizations and our planet," Javier says. "They're the next generation of leaders who will hopefully pay us back by working with and for our organization and city in the long run."

ment opportunities since it began in 1996. The program not only helps participants hone their basic job skills, it provides a dynamic experience that prepares them for the green jobs market.

Green Teens participants generally come from some of the city's most underserved neighborhoods, something staff at Friends of the Urban Forest hope will diversify the voices and perspectives within the urban forestry field in the future.

"They will be the future of our organizations and our planet," Javier says. "They're the next





Alex Javier (in blue hoodie), the education manager at Friends of the Urban Forest, runs the Green Teens program, which has helped hundreds of San Francisco youth build job skills and gain exposure to environmental careers.

American Forests & Jobs

American Forests is making a deep commitment to addressing workforce development issues in low income, minority neighborhoods. This includes identifying and innovatively addressing barriers to career entry such as awareness, transportation and ethnic biases.

In our Community ReLeaf projects nationwide, we are developing new opportunities and innovative funding mechanisms to support jobs across the spectrum of urban forestry, from community engagement professionals in Washington, D.C., to urban woodworkers in Baltimore.

With support from Bank of America and the U.S. Forest Service, American Forests is helping develop tree nurseries in Detroit, helping revitalize formerly abandoned and vacant land and providing job training and employment opportunities while growing thousands of trees to plant throughout the city. generation of leaders who will hopefully pay us back by working with and for our organization and city in the long run."

Beyond providing opportunities for teenagers to physically and directly impact the environment in their community, Green Teens exposes high schoolers to environmental topics they could pursue if they choose to go to college. One past participant is currently getting his bachelor's in marine biology. Another, whose sister is currently in the program, is studying horticulture at a local community college.

"Maybe they didn't go into arboriculture, or the environmental field, or maybe it was just their first job," he says. "But how did your Green Teens experience shape what you're doing now? It's a crucial component of the program. Either way, the program gives kids a long-lasting connection with the landscape in their community."

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Back in Detroit, Arron Nelson wraps up another day of training and field work. While he keeps to his routine, change has happened and it's something he's embraced.



Earlier in 2018, Nelson followed in his father's footsteps and started his own business. He credits the job training program and employment opportunities at The Greening of Detroit for part of his career success.

"The Greening [of Detroit] has changed a lot of

people's lives," he says. "It changed mine tremenwdously. They really saved my life because I didn't know where I was headed."

The other part, most importantly, comes from within. Returning to the workforce following incarceration, Nelson may have not known where he was going, but there was something he was certain of: He wanted to make a new life for himself. He motivates his trainees with the same philosophy.

"I let the trainees know, "This could you be you one day; you all could be in my position," he tells them. "All you have to do is want it. You have to want it." \blacklozenge

Christopher Horn writes from Washington, D.C., and is the director of communications at American Forests.





Saving an endangered ecosystem in the Lower Rio Grande Valley

BY KRISTA SCHLYER







A WINTER FOG BLANKETS THE LOWER RIO GRANDE VALLEY, OBSCURING

all but the heights of the forest canopy where the outstretched arms of ebony, ash and hackberry reach through a cottony mist. From atop the hawk tower at Santa Ana National Wildlife Refuge in South Texas, no roads, no farm fields, no buildings are visible, only a deep lush forest loud with the dawn chorus of kiskadee, green jay and oriole that has rung out on this land for ages beyond count. Enveloped in this misty morning, one can imagine another time, not so long ago, when jaguars stalked this forest by night, jaguarundis hunted its deepest shadows by day, and ocelots poured their mercurial bodies through small gaps in the dense thornscrub on the heels of cottontail and dove.

But as the sun ascends, the fog dissipates revealing the reality that has over the past centuries displaced jaguar, ocelot, bird and butterfly, ebony and ash until almost none were left: roads, utility lines, bare fields, buildings and border barriers.

"We're down to less than 5 percent of the native Tamaulipan thornscrub habitat and less than 3 percent of riparian forests," says Robert Jess, who directs the South Texas Refuge Complex for the U.S. Fish and Wildlife Service.

Most of the habitat originally fell to farming. In 1880, there were 2,000 acres of cultivated land in Hidalgo County; by 1924, that figure had grown to more than 125,000 acres. By 1943, the year the Santa Ana refuge was established, it had become an island of remnant habitat in a sea of cropland. Once-common species, like plain chachalaca and hooded orioles, had almost disappeared. Ocelots and jaguarundis were endangered, and the last jaguar in Texas was killed in 1948.

But in 1979, a seed of an idea was planted in the form of the Lower Rio Grande Valley National Wildlife Refuge, explains former refuge complex manager Ken Merritt. More than a refuge, the project was a grand endeavor to restore and stitch together disjointed pieces of natural land into a whole cloth of habitat that could save an expansive community of imperiled species.

"The refuge aimed to preserve the habitat," says Merritt, "but also to create a travel corridor for a variety of species, especially the ocelot."

In this way the refuge could serve as connective tissue between isolated tracts of land owned by private citizens, nonprofit organizations and Of the more than 320 North American migrating bird species, some **80%** can be found resting and refueling within the Valley. governments along the last 275 miles of the Rio Grande River. Two keystone refuges would anchor the corridor project: the Laguna Atascosa — a critical stronghold for endangered ocelots on the Gulf Coast — and Santa Ana, some 60 miles west on the Rio Grande, which protects the largest remaining riparian thorn forest in the United States.

This ambitious endeavor has included an investment of millions of dollars and many thousands of volunteer hours — the blood, sweat and tears of a community that simply would not let this landscape die. They knew there was no place else like it in the world.

THE MOST BIOLOGICALLY DIVERSE HABITAT IN THE U.S.

The richness of this river delta derives from its geographic location. The Rio Grande lies within a natural borderlands, where the boundaries of four significant climate zones overlap. The north, south, east and west of North America's natural world meet here, blending tropical species, like ocelots and green jays, with their more temperate counterparts like bobcats and white-throated sparrows. Likewise, precipitation zones that define the eastern and western portions of North America overlap here, so cactus grow as comfortably as Spanish moss. Many unique species are adapted to these four extremes and coexist here at the edge of their respective ranges.

The Valley attracts scores of migrating species, especially birds and butterflies, as they attempt to make their grueling seasonal journeys. The Gulf of Mexico and Chihuahuan Desert flank the Valley to the east and west, effectively creating a migratory

Pages 24 and 25: A beautiful, scenic bridge found on the Santa Ana National Wildlife Refuge.

Facing page, clockwise from top: An Ibis flock glides above the water at Santa Ana NWR, South Texas. The Lower Rio Grande Valley is the most biologically diverse habitat in the U.S. More than half of North America's butterfly species — some 330, including these queen butterflies — can be seen floating about South Texas.



funnel for birds trying to avoid the dangers of flight over the Gulf or the desert. Of the more than 320 North American migrating bird species, some 80 percent can be found resting and refueling within the Valley. More than half of North America's butterfly species — some 330 — can also be seen floating about South Texas.

"Many bird species means many seed distributors," explains refuge restoration ecologist Kim Wahl. "Many butterfly species and bee species mean many pollinators. It all works together to create an incredibly diverse place."

South Texas claims 1,200 documented plant species, organized into 38 unique plant societies — from the rich wetlands and lowland river forests shaded by black willow, Texas ebony and Mexican ash, to thick brushlands, grasslands and coastal dunes. These plant communities have for millennia sustained a complex wildlife community, including indigo snakes, Texas tortoises, aplomado falcons and malachite butterflies.

THE ODDS STACKED AGAINST THE VALLEY

In the 1970s, Valley residents witnessed these ecological riches disappearing, and many began working with the U.S. Fish and Wildlife Service to save what remained and restore what they could. By 1988, the Lower Rio Grande Valley refuge had grown to 50 tracts with a total of 24,258 acres. Much of this was former cropland, bare and depleted of essential soil nutrients.

A significant challenge arose, as Wahl explains: "How do we go from an open field to something we can call habitat?"

The initial plantings in the 1980s and 1990s consisted of broadcasting seeds for fast-growing plants like Texas ebony, huisache and tepeguaje. The success rate was low due to dry, bare soils, but much was learned in the process.

The extreme heat, drought and winds of a South Texas summer would have been buffered by a sheltering forest in a natural setting, but on farmland, tender seedlings are at the mercy of the elements. It became clear that given the damage the land had endured, plants needed a head start. Especially when the ecological integrity of the land had been so deeply wounded.

More care for individual plants was essential, but this would require more time and more financial resources in an era when budgets for

BY MAY 2016:

The refuge has grown to 147 tracts, totaling nearly 100,000 acres

A tourism economy has risen to bring the Valley more than \$300 million annually

Events and attractions bring more than 165,000 tourists annually, supporting more than 6,600 i0bs

The economic boost offers a significant elevation to quality of life for a region where

nearly 40% of people live below the poverty line. national wildlife refuges are consistently declining. Budget shortfalls meant optimal planting methods could only be used as key resources were available, Wahl explains.

In 1997, American Forests joined the effort in South Texas to help provide those key resources and keep restoration on track. Since then, the organization has provided more than \$1 million to support the planting of more than 2 million seedlings.

THE DAWNING OF A NEW HORIZON

The partnership model has made great strides for restoring thornscrub habitat. Since 1995, more than 3 million seedlings have been planted on refuge land and the quality of restored habitat has increased.

"American Forests covers the cost of many of the plants, so we are able to spend more money on *how* we plant," Wahl says. "We can go from just putting plants in the ground to creating habitat."

With more thoughtful planting methodologies, seedling survival and diversity has increased, resulting in more natural plant communities in a shorter period of time. It's been a community effort. Private nurseries grow three-quarters of the seedlings, assisting the refuge and also fueling a microeconomy around restoration. And, every October for 20 years, the refuge has held the Rio Reforestation event, enlisting thousands of volunteers to plant seedlings and learn about the value of returning native habitat to the landscape.

The benefits of restoration are expansive, well beyond the direct economic impacts.

"Forest restoration is also a great investment for people," notes Eric Sprague, director of forest conservation at American Forests. "You get water benefits for a drought-prone area and climate benefits that come from trees."

It would be difficult to overestimate the value of this work for the future of wild species. At least 24 globally imperiled plant species are native to the Valley. They include ashy dogweed, South Texas ambrosia, star cactus and Walker's manioc. Many of these were widespread in the Valley historically, but now their global range is restricted to a few small patches in South Texas. Some 85 species of animals are threatened with extinction or already lost, like the Smyth's tiger beetle and Eskimo curlew. Once-common hooded and Audubon's orioles have disappeared from large portions of the Valley, and Altamira orioles have been in

Clockwise from top: Native habitat in the Lower Rio Grande Valley includes picturesque wetlands. The gorgeous green jay is just one of the many birds tourists come to see in the Lower Rio Grande Valley. Damselflies' habitat must consist of wetlands, like in the Lower Rio Grande Valley.



WILDLANDS FOR WILDLIFE PRIORITY ECOSYSTEMS



LOWER RIO GRANDE VALLEY





Texas Thornscrub Ecosystem

Ocelot

The Lower Rio Grande Valley is a Wildlands for Wildlife focal region.



Since 1997, American Forests has supported the planting of **2 million trees, or two-thirds of the thornscrub plantings**, in the Lower Rio Grande Valley National Wildlife Refuge.



In 2018, American Forests helped establish the **Thornscrub Conservation Partnership**, a collaborative project that aims to facilitate the work of thornscrub advocates to be more efficient and strategic.



To ensure restoration occurs in the most important places, American Forests is developing a **Thornscrub restoration plan** with the new partnership this year.



To help better connect Valley residents to their local habitats, American Forests is working with partners to develop **"mini-refuges" at local schools**, including the Marcia Garza Elementary School in Alamo, Texas. decline for decades along with elf owls, red-billed pigeons and varied buntings.

Ocelots are now critically endangered, plagued by habitat loss and fragmentation that isolates their populations. Only about 50 ocelots are left in the wild in the United States, and without significant effort, this small cat is likely to be extinct in the country within 50 years. These cats need the densest thorn forest, a habitat type that now comprises less than 1 percent of the Valley. With every new fragmentation they are forced into smaller and smaller islands of habitat, where a shallow gene pool and limited prey threaten their future. But travel in search of survival can be treacherous. In 2015, five ocelots — about 10 percent of the known population — were killed on roads.

THE PROBLEM WITH BUILDING BARRIERS

Historically, the U.S. population of ocelots was linked to those in Mexico. When they needed to find new territory or mates, they could swim across the Rio Grande. But, as the border between these two nations hardens, animals of all ilk are being blocked from essential migrations.

In 2017, President Donald J. Trump announced plans to expand construction of a border wall in the Valley. Proposed wall construction, and other border enforcement activities, compound upon a host of ongoing threats to restoration of Valley ecosystems, making the ultimate success of the conservation effort far from certain.

"Most, if not all, of the native forests and subtropical brushlands in the expansive 2.7 million acres of the Lower Rio Grande Valley are threatened by ongoing human activities," according to a 2015 U.S. Geological Survey report.

Invasive species, like bufflegrass, giant reed and salt cedar, crowd out native species and thwart restoration of native plant communities. Climate change is increasing the frequency of extreme drought and flooding, and causing sea level to rise while eroding coastal habitats. Dams on the Rio Grande have taken a toll on the health of the river landscape by depriving forests of essential nutrients and water. Conversely, levees have caused the delta to be inundated for extended periods of time, killing mature trees. Added to these threats are ongoing development pressures, such as Space X, proposed liquefied natural gas facilities and a rapidly expanding wind energy industry.

But the greatest of all these threats is likely to be the ever-expanding human population and



Clockwise from top: The border wall on the Lower Rio Grande Valley refuge. An armadillo blends into its habitat in the Lower Rio Grande Valley. A red-banded pixie butterfly soars through The Valley.

resulting urbanization. Since 1940, population in the Valley has increased by more than 1 million people, making it one of the fastest-growing regions in the nation. If current trends continue, the population will double by 2050 to more than 3 million people. More people means more roads, more vehicles, more pressure to urbanize forest and grassland.

"If you could sum all the threats up in one word," Jess says, "it would be fragmentation."

Endangered species are already reeling from a highly fragmented landscape. Their survival requires an expansion of habitat, and development pressures are making that increasingly difficult.

"When you deal with endangered species, there is a sense of urgency," Sprague says. "You want to see results fast."

But restoration takes time – and there's the rub.

"It's now a race between expanding development and protecting the habitat and migration corridors that connect important blocks of thornscrub," Sprague says. "We're trying to make these connections while we still have a chance." "Most, if not all, of the native forests and subtropical brushlands in the expansive 2.7 million acres of the Lower Rio Grande Valley are threatened by ongoing human activities."

Back on the hawk tower in Santa Ana, the rising light shines upon spider webs that glisten in the forest canopy. The departing fog has revealed the hard reality of this nearly vanished ecosystem, but something else has become equally apparent: The dawn chorus continues, hawks fly past, kiskadees pluck ripe orange hackberries, chachalacas rustle clumsily on branches far too thin for their chicken-like forms and a beautiful red-banded pixie butterfly stops to rest on a nearby leaf. Their presence here is evidence of an ardent effort carried out over the past four decades to save this endangered landscape. Each is a piece of the naturally lush fabric of the Lower Rio Grande Valley, and a poignant reminder of the preciousness of what's at stake here. This habitat may have diminished to near nothing, but to those that remain, it is *everything*.

Krista Schlyer has been documenting the ecosystems of the U.S.-Mexico borderlands since 2007. Learn more about her work at kristaschlyer.com.

BEFORE AMERICA WAS

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Searching for Louisiana's oldest southern live oaks

BY WILLIAM GUION



Pages 32 and 33: Based on its location, and the intersection of four fence lines near the oak, the La Belle Colline Oak was probably used as a boundary marker years ago to designate where one property line ended and another began. **THERE'S AN ODD MYSTIQUE** that surrounds southern live oaks. They are iconic for their strength, endurance and longevity, and in many ways, they mirror the best qualities of the pioneering individuals and families who endured natural forces to survive and thrive in the South. However, a large part of the oaks' mystique is due to their great age. A single member of the species can live a half-dozen human generations or more. Their looming centenarian presence in a community can make them an integral part of the history and spirit of that place. The old oaks are local landmarks. By the sight of a familiar oak, you know where you are and how far you



have to go to reach your destination. They are old friends, living shelters, ecosystems and shady spots where neighbors might enjoy a glass of sweet tea and pass the hottest hours of a blazing summer's day.



WHERE TO FIND THE SIX CHAMPION LIVE OAKS:

1. Seven Sisters Oak, 2. Randall Oak, 3. Edna Szymoniak Oak, 4. Lorenzo Dow Oak, 5. La Belle Colline Oak, 6. The Seven Brothers Oak; For exact locations of each oak, visit the online article at **americanforests.org/magazine**.

I've photographed and documented oaks in my home state of Louisiana since 1985. What began as a simple photographic exercise to create a series of images has grown into a personal journey and a life's work. Over time, I've slowly been drawn deeper into this mystique and the legends and stories associated with the oaks.

In 2015, after 30 years of pointing a camera lens at oaks, and with a growing sense that the state was fast losing its oldest trees each year to urban development and storms, I focused my efforts on documenting the very oldest live oaks still to be found, trees with a girth of 30 feet or more. Thirty years and 30 feet in circumference had a lyrical quality to it. It felt like a good theme on which to build something larger, something that might raise public awareness of how few of these old trees still remain.

Why is an oak with a 30-foot circumference significant? According to several Louisiana arborists I consulted, oaks of this size are probably between 300 and 500 years of age (add another 100 years or more for oaks with a girth greater than 35 feet). That means these live oaks were probably growing before Europeans arrived on the continent (the earliest Spanish colony was established in 1565 in St. Augustine, Fla.; Jamestown, Va., began in 1607). And a few of the oldest of these oaks were possibly growing before the name "America" was first used in print in



The Seven Sisters Oak is the current president of the Live Oak Society and the National Champion Live Oak in American Forests' National Register of Champion Trees.

1507, as a designation for this continent — in other words, Before America was America.

It's impressive that these trees have managed to survive 300 years of settlement, urban development and even logging during the era of wooden shipbuilding. Having nearly exhausted the European continent of oak wood for their fleets, the British, French and Spanish rulers coveted the broad expanse of live oak forests in the Louisiana territory. As early as 1709, shipwrights recognized that the near impenetrable wood of the live oak was perfect for the timbers (long beams) and knees (angular joints in the hulls) of ships.

In 1934, Dr. Edwin Lewis Stephens, the first president of the Southwestern Louisiana Institute (now University of Louisiana at Lafayette), published an article in the Louisiana Conservation Review titled, "I Saw in Louisiana a Live Oak Growing." The piece drew its name from a poem by Walt Whitman, and like Whitman's poem, Stephens praised the singular beauty of this distinctly Southern species of oak. From his background as a science teacher, Stephens observed, measured, photographed and collected data on the oaks, taking special interest in the oldest and largest of the species. He saw the live oak as an important cultural, historic, ecological and artistic resource for Louisiana, and even argued that the tree species should have been called "Quercus Louisiana" instead of Quercus virginiana for the sheer number of live oaks in the state.

In his article, Stephens proposed an organization that might preserve and protect the oldest living members of the live oak species, those trees "...whose age is not less than a hundred years..." The association he proposed became the Live Oak Society, a group whose members are all trees, except for one human chairperson who is both record keeper and advocate for the oaks.

Using the Live Oak Society's early registry as a starting point, I searched land records, interviewed local arborists, garden clubs, senior citizens, master-gardener groups and even local sheriff's departments. Slowly I assembled a list that includes almost 20 trees that fall into the 30-foot girth size. The following is a sampling of six of those oaks.

The Seven Sisters Oak

(ALMOST 40 FEET IN CIRCUMFERENCE) In the quiet historic community of Lewisburg, La., now a neighborhood of Mandeville, on the north shore of Lake Pontchartrain lives the Seven Sisters Oak. This massive tree is the current president of the Live Oak Society and the National Champion Live Oak in American Forests' National Register of Champion Trees. It measures approximately 57 feet high, with a limb spread of more than 153 feet. Its age has been estimated at somewhere between 500 and 1,000 years old.

For years, the eligibility of the Seven Sisters Oak as a Live Oak Society member was disputed because it was believed to be several separate trees growing together. In 1976, after inspection by federal foresters, the tree was said to have a single root system and was inducted into the Live Oak Society, and it became president due to its extraordinary size and age.

A single member of the species can live a half-dozen human generations or more.



The Randall Oak

(35 FEET 8 INCHES IN CIRCUMFERENCE)

Traveling Louisiana state highway 1 north toward New Roads, not far from the west bank of False River, one can view one of the most beautiful live oaks in the state — the Randall Oak. Located in the front yard of David and Madeline Breidenbach's home, this massive specimen of Quercus virginiana has a circumference of 35 feet, 8 inches, a height of 68 feet and a crown spread of more than 156 feet. It is stunning in its size and scale, as well as its graceful flourishing shape. The tree predates written history for the New Roads area and is estimated to be between 400 and 600 years old.

This oak was already a notable presence on the landscape in 1861, when its current namesake, James Ryder Randall, penned one of the Civil War's most famous anti-Union songs, titled "Maryland, My Maryland," while working as a professor of literature at Poydras College, which used to be located near the oak. The oak's role in local history is noted on a stone monument placed next to the tree by the Pointe Coupee Book Club.



The iconic mushroom shape of the Randall Oak is seen in live oaks that mature without competition from neighboring trees for sunlight and water.



Edna Szymoniak Oak

(35 FEET 6 INCHES IN CIRCUMFERENCE)

This beautiful old oak grows at the entrance to the Louisiana State University (LSU) AgCenter's Hammond Research Center. Like the Seven Sisters Oak, this tree is a remnant of the live oak and pine forests that once covered much of the north shore of Lake Pontchartrain. It is a perfect example of a healthy elder oak that prospers under the watchful care of the AgCenter's knowledgeable staff.

The old tree was already several hundred years of age in 1922, when the LSU AgCenter station was

established as the Fruit and Truck Experiment Station to provide ongoing research for strawberry and truck-crop farmers in the area. The tree was registered with the Live Oak Society by the AgCenter and named after Edna Szymoniak, the wife of Bill Szymoniak, the site's first superintendent.

Lorenzo Dow Oak

(35 FEET 5 INCHES IN CIRCUMFERENCE)

On the grounds of one of the oldest Masonic Lodges in Louisiana, in the small rural community of Grangeville, one can find the Lorenzo Dow Oak. The squat, The Lorenzo Dow Oak, above, was registered tree #261 with the Live Oak Society (LOS). This was probably sometime after 1963, when the LOS became active again after a dormant period of about 16-17 years.



The Edna Szymoniak Oak is a beautiful example of a well cared for oak, as it receives the protection and care of the LSU AgCenter's knowledgeable staff.



The La Belle Colline Oak's name in French means "the lovely hill." sprawling old tree is named after Lorenzo Dow, an eccentric itinerant American preacher who lived between 1777 and 1834.

Dow journeyed widely across the U.S. preaching and is known to have traveled through the South between 1803 and 1804. Though he lived like a pauper, traveling mostly on foot with only the clothes on his back and a box of Bibles, he was a successful author. His autobiography was at one time the second-mostread book, next to the Bible. He reportedly spoke to

...the group of trees was named for the seven Lastrapes brothers who left home to fight in the Civil War after the trees were gathered, but before the trees could be planted... more people than any other preacher of his time, and many children and places were named after him.

Because of his passionate and inflammatory sermons, Dow was often unwelcome in churches and was known to preach in town halls, farmers' barns, open fields and possibly even under the branches of this old oak.

La Belle Colline Oak

(34 FEET 6 INCHES IN CIRCUMFERENCE)

I first saw La Belle Colline Oak (in French, the name means "the lovely hill") at sunrise in late September 2015. This low-spreading oak overlooks a lush, grassy pasture that slopes toward a distant line of trees where cows were grazing. True to its name, it offered a beautiful view from beneath its limbs of what I suppose could be considered a hill in South Louisiana.

Based on its location and the intersection of four fence lines near the oak, it was likely a boundary

marker or "corner tree" that designated where one property line ended and another began. Colonialera surveyors commonly used old oaks as a perma-





nent spot from which to count linear arpents, or feet in various directions, to map a piece of property (the French arpent is about 190 linear feet).

This oak was named and registered with the Live Oak Society by Camille Durand "Mamille" Johnson-Foret. The land where the tree resides has been in the Johnson family for several generations.

The Seven Brothers Oak (TWO MAIN SECTIONS: 32 FEET 3 INCHES

AND 28 FEET 11 INCHES IN CIRCUMFERENCE)

The Seven Brothers Oak, or Lastrapes Oak, located in Washington, La., is one of the original 43-inductee oaks of the Live Oak Society. The Lastrapes family has owned the property on which the tree grows for at least five generations.

There is more than one story about this particular tree (or group of trees). The Lastrapes family version states that the group of trees was named for the seven Lastrapes brothers who left home to fight in the Civil War after the trees were gathered, but before the trees could be planted around the Lastrapes homestead.

In another variation of the story, described in Ethelyn Orso's Louisiana Live Oak Lore, the birth of Jean Henri Lastrapes' seventh son prompted him to request that seven oaks be planted around his home. The workers arrived late in the day with the seedlings and temporarily put them in one container (or hole). The business of the days that followed in the cotton fields distracted the workers from ever completing the planting task — and, thus, the trees grew together, sharing the close proximity of their original planting site. \blacklozenge

William Guion is a writer and photographer from Louisiana, currently working on a longterm project documenting the historic oaks of Louisiana and the South. You can read more stories of these, and other elder live oaks of Louisiana, on his "100 Oaks Project" blog at https://100oaks.wordpress.com.

The Seven Brothers Oak is also known as the "Lastrapes" oak and can be found on the Live Oak Society's Top 100 list.



Of Owls and Salam

BY BETSY L. HOWELL

ONE IS A BIRD OF PREY that lives in the old-growth, coniferous forests of western North America; the other is a terrestrial amphibian restricted to a single mountain range in New Mexico. One can fly great distances across the landscape in search of food, mates and better living conditions; the other stays mostly underground and may not travel more than a few feet in its lifetime. For all their differences, both the California spotted owl (*Strix occidentalis occidentalis*) and the Jemez Mountains salamander (*Plethodon neomexicanus*) are experiencing similar alterations to their respective habitats. One of these significant change agents is wildfire.



anders

Large wildfires in the western United States have dominated most summer news cycles. Each season, records are broken for largest fires, most erratic fire behavior and total economic costs. The effects on human communities are varied, depending on where people live and how they make a living. The same is true for wildlife species residing in forests affected by fires. As today's land managers and biologists deal with the consequences of a century of fire suppression, a changing climate and insect outbreaks, the question is, will species adapt?



Gavin Jones, a Ph.D. candidate and researcher at the University of Wisconsin at Madison, has been examining the effects of disturbance on California spotted owls. More than three years ago, an opportunity from a human-caused fire presented itself to look at how wildfires, particularly high-severity, stand-replacing fires, might affect the owls.

"The 2014 King Fire in the Sierra Nevada gave us a natural experiment," Jones says. "This fire burned through parts of the Eldorado demography study area where we had 20 years of data on spotted owls."

Birds individually marked with leg bands and GPS backpacks had been helping researchers understand their movements, breeding success and habitat use, and the fire, a 97,000-acre blaze that included a mix of high- and low-severity impacts across the landscape, allowed Jones and his colleagues to see how the birds responded. The owls' behavior, they found, very much depended on what the fire did to the forest.

"When more than half of a spotted owl's territory burned at high severity, we observed those sites becoming unoccupied," Jones explains. "But in other parts of the fire area, where territories were less Left: Land still showing effects from the Las Conchas Fire three years later. Top right: Members of a BAER (Burned Area Emergency Response) team evaluate a severely burned area of the Apple Fire in western Oregon in 2002. Bottom right: Large wildfires in the western United States affect some landscapes severely and have dominated most summer news cycles.



Facing page, clockwise from top left: A juvenile spotted owl in a burnt-out snag in a nearby territory on the Eldorado Demography Study Area. A female California spotted owl in a nearby territory on the Eldorado Demography Study Area, near the King Fire. California spotted owl in its nest.

extensively affected by severe fire, the owls remained. The same held true for places of low- and moderate-severity fire impacts. We observed several instances of post-fire breeding dispersal by birds from the most severelyburned stands, which is a relatively rare behavior in the species. However, we also witnessed owls using severely burned areas, but generally only when the patches of affected forest were smaller." Ray Davis, with the U.S.

Forest Service in Corvallis, Ore., agrees about the size of areas owls will use after a fire. Davis, who is the monitoring lead for older forests and northern spotted owls (*S. o. caurina*), the subspecies of spotted owl that lives north of the California birds, says: "Small patches of severely burned forest in territories that have adequate nesting and roosting forest cover may actually be beneficial in terms of improving conditions for prey populations."

Research by Jeremy Rockweit, Alan Franklin and Peter Carlson, published in *Ecology* in 2017, looked at long-term demographic data of northern spotted owls and effects from fires. Their work showed reduced survival of adult owls and increased recruitment of other spotted owls in territories that experienced moderate- to high-severity fire. Unfortunately, the immigrants also appeared to experience lower survival in these areas, which may effectively be functioning as population sinks, or areas where death rates exceed birth and immigration rates.

In the Eldorado study area, some birds disappeared after the fire, so their fates are not known. One owl, recovered by Jones' colleagues, died directly from the fire, possibly from smoke inhalation. Even having tremendous mobility compared to other wildlife species does not insulate individuals from the potentially fatal impacts of fast-moving, unpredictable fires. Still, an owl's ability to fly provides options not available to other species, including many amphibians.



The Jemez Mountains salamander is a terrestrial, lungless salamander that breathes through its skin. It requires moisture to breathe, but does not need standing or moving bodies of water to complete its life cycle. This salamander emerges from its life underground during the monsoon season to breed and forage. It then returns to its subterranean world to lay eggs that hatch into smaller versions of itself, rather than larval forms that later develop into adults. Because Jemez Mountains salamanders live mostly beneath the forest floor, they are difficult to find. Samantha Cordova did her graduate work at the University of New Mexico on the state's endemic salamanders, including the Jemez Mountains salamander, and acknowledges the challenges.

"We do presence-absence surveys," Cordova says, "but an absence during surveys could indicate suboptimal conditions rather than true absence. With this survey method, it is difficult to say if Jemez

Bottom right: This Jemez Mountains salamander was first marked in the '90s and then found again in 2013. Top right: Larch Mountain salamanders occur in steep, forested talus slopes and lava tube entrances along a 36-mile stretch of the Columbia River Gorge, as well as an approximately 120-mile area of the Cascade Range north of the gorge.







answers on fire impacts to terrestrial salamanders. The 49,000-acre fire burned through 15 documented locations of the Larch Mountain salamander (Plethodon larselli), a species closely related to the Jemez Mountains salamander with a similar narrow range. Larch Mountain salamanders occur in steep, forested talus slopes and lava tube entrances along a 36-mile stretch of the Columbia River Gorge, as well as an approximately 120-mile area of the Cascade Range north of the gorge. Dede Olson, a

Top: View of the Las Conchas Fire from the town of Cochiti Lake in June 2011. Bottom: High severity fires at lower elevations can convert ponderosa pine and pinyon juniper forests to grass and shrub ecosystems. Mountains salamanders are absent, how many there are, and how they have responded to a wildfire."

The range of the Jemez Mountains salamander includes approximately 375 square miles of high-elevation habitats on the rim and resurgent domes of the Valles Caldera in the Jemez Mountains. Several large fires, including the 2000 Cerro Grande Fire, the 2012 Las Conchas Fire, the 2016 Thompson Ridge Fire, and the Cajete Fire in 2017, have burned through the salamander's habitat.

"We do find Jemez Mountains salamanders in mosaic burns like the Thompson Ridge Fire," Cordova says, "but I have not spent enough time searching in severely burned areas of the Las Conchas Fire because the sporadic monsoon season dictates when and where to survey. Salamanders have lived in the Jemez Mountains for millions of years, and based on fire ecology work by Ellis Margolis, we assume they persisted through frequent, low-intensity fires. So, the question of how they respond to high-intensity fires still remains."

Back in the Pacific Northwest, the 2017 Eagle Creek Fire in the Columbia River Gorge between Washington and Oregon may help provide some research ecologist with the U.S. Forest Service Pacific Northwest Research Station in Corvallis, Ore., says the Eagle Creek Fire, like the California King Fire in 2014, presents a research opportunity.

"Minimally, we hope to go back to known sites and look for occupancy," Olson says. "If enough sites were in and out of fire-affected areas in comparable habitat conditions, we may be able to do an experimental design of burned and unburned sites to look at effects on abundance without pre-treatment data. If a good design is not possible and if some affected sites had information from earlier surveys work, we can try to conduct abundance assessments for comparison on a per-site basis."

While recent western wildfire events potentially provide circumstances to assess the effects of fire on different wildlife species, as well as opportunities to develop survey methods to understand those effects, the costs may outweigh the benefits. Only time will tell if animals such as spotted owls and lungless salamanders can adapt fast enough to survive in the habitats that remain.

Betsy L. Howell is a writer living on Washington's Olympic Peninsula.

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Moving Forward: Reimagining Greenspace

BY LEAH RAMBADT

FAI FOEN IS ALWAYS ON THE MOVE.

As I spoke with her on the phone, I could hear the sound of city bustle in the background. She brings this energy to her passion for the environment and landscape architecture, a passion she's cultivated over decades.

Fai, a first-generation Chinese-American, spent her childhood on Detroit's Westside. Her parents were smallbusiness owners who were raised in rural China. So while they spent most days working inside a hot kitchen, they valued the land and spending time outdoors. As a result, Fai missed out on the traditional Michigan experience of spending times "up North" in the woods or on the lake. That said, her parents instilled their appreciation of nature and the outdoors by taking the family to fish or barbecue at the local state park and Metroparks on weekends. But it wasn't until she went to college that her love for the environment began to fully develop into a career path.

"You can be exposed to the natural environment as a first step," she says, "but having a mentor or having a community who enjoys outdoor experience makes all the difference to seeing a career path for one's self."

Once you realize that path, she adds, you have to take initiative and pursue it; work hard, and be curious and ready to reach out to a lot of people.

But the most important thing Fai learned over the course of building her career is how to take action.

After graduating with a design degree, focusing on human-centered design, she joined the U.S. Peace Corps. While serving in West Africa, where everyday life reflects a connection to the land, she observed how a "pépinière," or plant nursery, provided economic, environ-



American Forests' manager of urban forest programs, Eliza Kretzmann, and Fai Foen, interim green infrastructure director for The Greening of Detroit, inspect seedlings planted on a tract of the recently revived Meyers Nursery in Detroit's Rouge Park.

mental and social benefits to a community. Engaging in this deeper relationship between people and the environment inspired her to pursue a career in landscape architecture.

Fai has always been attracted to cities. She likes urban areas because of the diverse people, experiences, activities and opportunities available. Her main interest, though, lies in opportunities for planning and implementing greenspaces.

Urban greenspaces take on a different character than suburban ones. While they can be planned parks, like the Frederick Olmsted-designed Belle Isle in Detroit, they can also be a vacant residential lot, a recently demolished commercial building, or even scrappy easements. In urban areas, where the stress of life is higher and access to maintained park space is limited, every piece of green is that much more valuable. And in a place where the preferred solution for existing greenspace is mowing or landscaping, creative opportunities, like stormwater management or pollinator habitat, are being missed. A creative landscape architect who works with the community needs to be flexible, knowledgeable of plants and maintenance, and imaginative when designing for these sites, especially when there isn't enough space to plant a tree.

While Fai appreciates forests for their aesthetic and environmental benefits, for her, it's important to match those benefits with people and their expectations of how green space should look and function.

"Nothing will be acceptable if people can't accept it," Fai says regarding environmental projects in urban areas. She believes that many people who live in cities don't have an immediate connection to the land and need to access to information in order to be educated on potential projects. On top of being more informed, a community's opinion needs to be heard.

To Fai, landscape architecture is about learning how everything works



"It's a passion for me. I love working with others to create a project, and I love this city."

together in a system. It's about understanding physical site conditions, site use and circulation; communicating with residents, understanding their goals, sharing how site conditions affect the design, and working with the community to plant the best infrastructure possible. And that's what led to her position as The Greening of Detroit's interim green infrastructure director, which lets her do just that.

The Greening of Detroit is a nonprofit, volunteer organization that works to revitalize the city's landscape through education, community tree planting, workforce development and establishing ecological landscapes. Fai learned about the organization during graduate school and, since then, has returned to work in various positions.

She enjoys connecting with people genuinely interested in and concerned about the environment and supporting residents who are working to improve their neighborhoods. Fai considers herself to be a bridge that connects environmental projects to communities, but it can be challenging to work in different neighborhoods. Each one is unique, and sometimes the requests the organization receives can't be fulfilled due to limits in capacity and resources.

One of her current projects is the Meyers Nursery in Detroit's Rouge Park. The project's goals are to plan and implement increased tree production, continue workforce training through The Greening's workforce development program for landscape maintenance and tree trimming, and improve community outreach to increase volunteer participation in tree plantings and other nursery activities.

However, the big challenge is working through the costs and implementation of the site installation. The Greening's ongoing partnerships with the City of Detroit, community groups and other nonprofit organizations are an important part to tackling these challenges.

In the future, Fai hopes to connect more with individual communities across the city. She wants to help The Greening of Detroit continue its work of sharing environmental education and connecting people to opportunities through community tree plantings, workforce training and nature programs. She plans to work with reforestation partners to strategically plant more trees to build up Detroit's tree canopy.

For greenspaces, she envisions designing and educating around lowmaintenance landscapes that incorporate native plants. Building on traditional and contemporary aesthetics, while reflecting the need to understand the whole urban forest, from plants to shrubs to trees. In this, Fai hopes to help more people make informed decisions on how to manage land with the resources available to them and support communities in their interest to revitalize greenspace in their neighborhoods.

"It's a passion for me," she says. "I love working with others to create a project, and I love this city."

Fai's interests, and her desire to serve the community she came from and connect with residents, are what keep her moving forward and pushing for change in Detroit's greenspaces. And once you meet her, you find yourself wanting to do the same, right beside her. *****

Leah Rambadt was *American Forests*' spring editorial intern and is a graduate student in American University's M.F.A. in Creative Writing program.



BRIAN KELLEY



ABOUT THE PHOTOGRAPHER

Brian Kelley moved to New York City in 2006 and received his BFA in photography from the School of Visual Arts. Kelley employs a mixedmedia approach exhaustive research, slow and meditative composition, and the repurposing of photographic mediums — to reveal the artifacts of our predecessors. Kelley set off in May on what he figures may be a 10-year odyssey to photograph every one of American Forests' Champion Trees – more than 700 of them in large format. Kelley was born in Horseheads, N.Y., and currently lives in Brooklyn.

The National Co-Champion coast redwood is found in Jedediah Smith Redwoods State Park and measures 307 feet tall, 895 inches in circumference and has an 85-foot crown spread, earning it 1,223 total points.

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