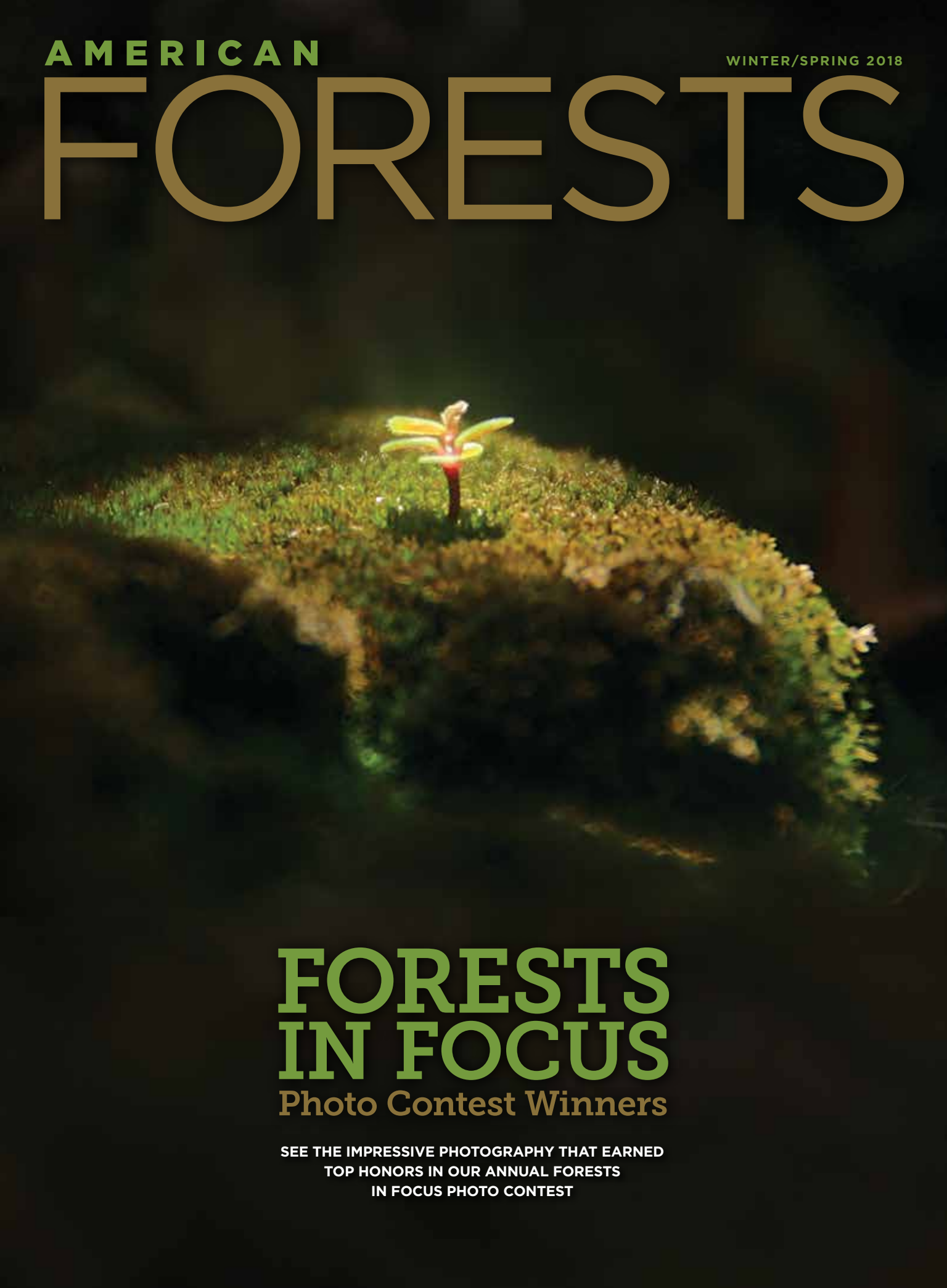


AMERICAN

WINTER/SPRING 2018

# FORESTS



## FORESTS IN FOCUS

Photo Contest Winners

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



# Data.



It's at the core of what we do for our clients and for the environment. We are committed to understanding and minimizing the impact that our operations have on the environment, while also striving to measurably reduce our carbon footprint through operational efficiencies and engaging our associates.

We are proud to partner with American Forests in conjunction with Texas Trees Foundation to sponsor the 2017 Dallas Urban Heat Island Management Study. This study identifies the extent to which the city of Dallas is warming due to urban development and the subsequent impact rising temperatures have on public health. Findings will help shift legislation and funding to make our communities cooler, greener and healthier.



AllianceData.

[alliancedata.com](http://alliancedata.com)





## Departments

### 2 Offshoots

A word from our President & CEO

### 4 Treelines

**PROJECT SHOWCASES:** Read about our work to restore areas of Miami devastated by Hurricane Irma and to replant Texas thornscrub habitat for the ocelot in the Lower Rio Grande Valley.

**FROM THE FIELD:** From Montana to New York City, follow what we've been up to in the field.

**PROFILES:** Learn about our partnership with Coca-Cola Foundation and how one of our supporters is using social media to protect our forests.

**CHAMPION TREE SHOWCASE:** The Great Basin bristlecone pine

**ACTION CENTER:** After a nearly record-breaking fire season, Congress can no longer ignore the need for a comprehensive fix to wildfire funding.

### 38 2017 Forests in Focus Photo Contest Winners

See the stunning photography that earned top honors in this year's Forests in Focus photo contest.

### 46 Earthkeepers

**Giants in Their Field and the Forest**

How the dynamic duo of Bob Leverett and Don Bertollette has impacted the way we measure the biggest trees in our forests.

### 48 Last Look

Read what our Facebook community had to say about our Forests in Focus People's Choice nominees.

**COVER PHOTO** by Joaquin Baldwin  
www.joaquinbaldwin.com

**CORRECTION FOR FALL 2017 ISSUE:**  
The photo on page 28 is of a western juniper.



## Features

### 14 Sequoia Primeval

*By Tyler Williams*

Follow along on an epic journey to find one of California's sequoia giants.

### 22 Living Proof

*By Doyle Irvin*

Learn how the Endangered Species Act has helped bring back the Kirtland's warbler and why the tiny songbird's fate rests in the hands of conservationists.

### 30 The Language of Trees

*By Michael Wojtech*

Discover the beauty of winter buds through the perspective — and camera lens — of author and photographer Rutherford Platt.

## We Need to Talk About Climate Change

GIVEN HOW POLITICALLY charged the concept of climate change is, I am occasionally asked why American Forests needs to talk about it. Questions include: “Can’t you just focus on things like clean air, water and wildlife habitat?” “Isn’t there still debate about the science of climate change?” “In any event, what does this have to do with America’s forests?”

First, climate change is settled science. While the issue of anthropogenic (human-caused) climate change is still the subject of considerable political debate, it is no longer a subject of any real argument within the scientific community. Indeed, there has been an overwhelming consensus among

scientists and the leading scientific organizations for years.

While some would like to promote the idea that there should be 100 percent agreement among all scientists in the world and 100 percent certainty on all areas of climate science before we can take action, nothing in science works that way. Science is about probability, not certainty.

Well, the global scientific community is as close to certain as we will ever get about a few things. Specifically, Earth’s climate is changing rapidly, and these changes are caused in significant part by human actions. Scientists are

near unanimous on one other point: Catastrophic results are likely to occur without significant human intervention.

In our country alone, all of the principal U.S. organizations governing the main branches of science have released comparable statements, some as far back as the 1990s. These include the American Geophysical Union (earth sci-

tists), the American Institute of Biological Sciences, the American Meteorological Society, the American Chemical Society, the American Institute of Physics and the American Physical Society.

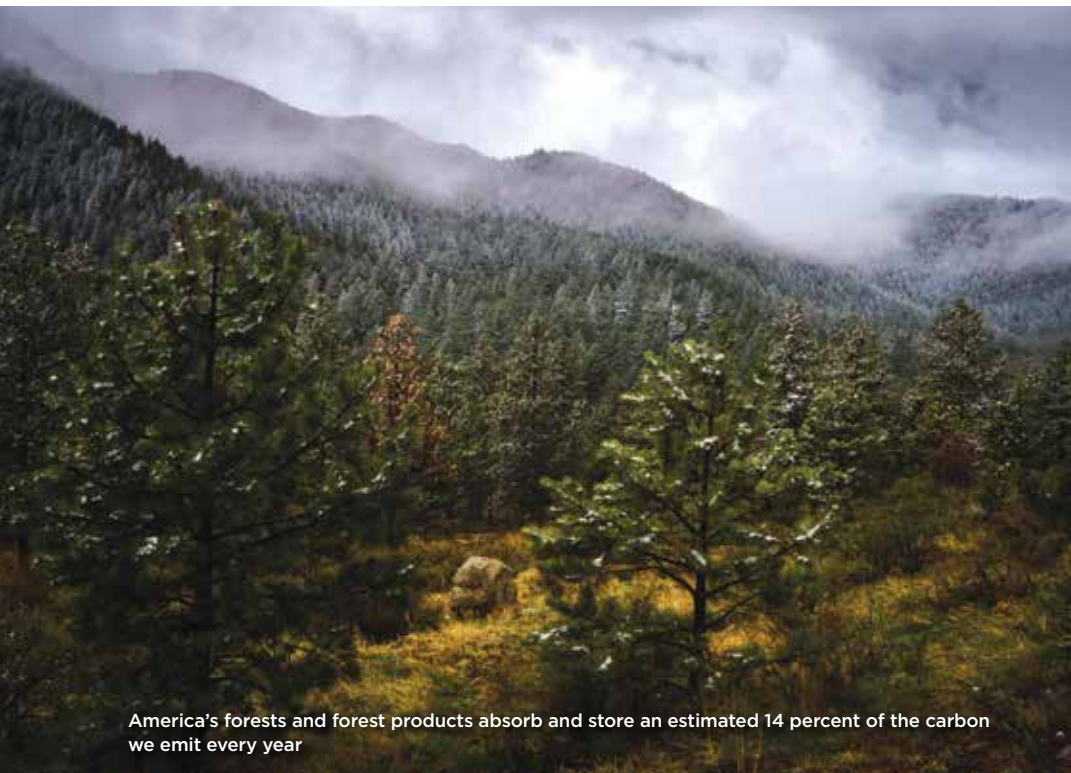
Second, climate change is killing our forests. And how can an organization whose mission is to advance the conservation of forests not take a position on the greatest threat they face?

I have witnessed the effects of climate change on our nation’s forests

firsthand. Just four months after I started at American Forests, I toured a forest that was turned into a vast, blackened landscape by what was then ranked (but no longer) as California’s most destructive wildfire.

But, this is not just a California problem. I have been to many forests consumed by mega-fires since then. Year after blistering-hot-year of “the warmest year on record” has led to perpetual drought conditions in the West, fueling a series of unprecedented wildfire seasons. (The three warmest years on record are 2016, 2015 and 2014 — in that order — with 2017 almost certain to join the list once the final numbers are recorded.)

Fires are just the beginning of climate-elevated



America’s forests and forest products absorb and store an estimated 14 percent of the carbon we emit every year





Urban trees save energy and reduce carbon emissions by lowering the energy needed to cool and heat our homes

CHARLES HOUDER

stresses on our forests — the rising tide of pests and disease is just as troubling. From Colorado to Canada, vast amounts of forestland have been decimated by mountain pine beetles, an insect that is natural to these landscapes, but whose numbers have been supercharged by warmer winters that are no longer capable of controlling their population. And, the hemlock woolly adelgid now threatens eastern forests as far north as Maine as warming temperatures aid its spread.

An increase in major weather events has also wreaked havoc on both forests and urban tree canopies, from Texas to New England.

American Forests is increasingly focused on climate change not only because of the problems it presents for our forests and community trees, but also because we believe forests and trees can be a major part of the solution. Currently, America's forests and forest products absorb and store an estimated 14 percent of the carbon we emit every year. That's a huge number, and it can get even bigger.

Urban trees also save energy and reduce carbon emissions by lowering the energy needed to cool and heat our homes. Those same trees also help control polluted stormwater runoff and help mitigate other impacts of climate change in cities.

*"There is no doubt that climate change is the most pressing environmental issue of our time, but using trees to capture carbon dioxide offers many other societal wins as well."*

Since our founding in 1875, American Forests has been an aggressively nonpartisan organization, advocating for policy and action based on sound science. Our board members span the political spectrum. We routinely work with members of both parties, and we welcome all into our ranks.

That is why we are stepping into climate change action as a collaborator, not merely a doomsayer. As part of this effort, American Forests has moved into a leadership role with the Forest-Climate Working Group. This premier national coalition engages all parts of the forest community, from private forest owners and forest products companies to scientists, academics, government agencies and conservation groups. With these partners, we are developing new strategies and innovations to help our forests capture carbon and withstand an onslaught of new threats.

There is no doubt that climate change is the most pressing environmental issue of our time, but using trees to capture carbon dioxide offers many other societal wins as well. And, ensuring these wins is not only critical for our mission, but essential for the planet. 🌱



AMERICAN FORESTS

#### EDITORIAL STAFF

**Publisher**  
Scott Steen

**Editorial Director**  
Lea Sloan

**Managing Editor**  
Ashlan Bonnell

**Contributing Editor**  
Christopher Horn

**Editorial Assistant**  
Dylan Stuntz

**Art Direction and Design**  
Brad Latham

*American Forests* (ISSN 0002-8541) is published quarterly by American Forests, 1220 L St. NW, Suite 750 Washington, DC 20005. Periodicals postage paid at Washington, D.C., and additional mailing offices. POSTMASTER: Send address changes to American Forests, 1220 L St. NW, Suite 750 Washington, DC 20005.

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

(202) 737-1944  
[www.americanforests.org](http://www.americanforests.org)

#### AMERICAN FORESTS BOARD OF DIRECTORS

Bruce Lisman, Chair  
*Private investor, Shelburne, VT*

Richard Kabat, Vice Chair  
*Kabat Company, Washington, DC*

Rod DeArment, Treasurer  
*Covington & Burling LLP, Washington, DC*

Ann Nichols, Immediate Past Chair  
*Chevy Chase, MD*

Scott Steen, President & CEO (ex officio)  
*American Forests, Washington, DC*

Zim Boulos  
*Office Environment Services, Jacksonville, FL*

Rob Bourdon  
*Linkin Park, Sherman Oaks, CA*

Jeff Elliott  
*Iridian Asset Management, Westport, CT*

Donna Dabney  
*The Conference Board, New York, NY*

William Hazelton  
*Chubb Group, New York City, NY*

Elisa Rapaport  
*Rapaport Family Charitable Trust, Rockville Centre, NY*

Jonathan Silver  
*Greenbanc Global, LLC, Washington, DC*

Robert Steinberg  
*Steinberg Family Foundation, Greenwich, CT*

Mary Wagner  
*U.S. Forest Service (Retired), Ogden, UT*





PROJECT SHOWCASE

## Getting Back on Track in Miami after Hurricane Irma

BY IAN LEAHY

A DEVASTATING HURRICANE is a strong reminder that Miami's trees are an ever-changing, living infrastructure growing in an ever-changing, living city.

But trees don't function like most infrastructure. A fallen streetlight can be replaced, even upgraded to make it better after a storm. A pothole can

be patched over. But a large tree that has taken decades to grow can only be replaced by a small tree just beginning its journey. Years of ever-increasing public health benefits, stormwater and air pollution removal services eliminated in one ferocious gust.

It is for this reason that American Forests' Community ReLeaf program implements a comprehensive and repetitive process for building long-term urban forestry capacity in cities.



Damage to Miami Beach following Hurricane Irma





Left: Sunrise before American Forests' October 2017 planting in Miami; below: Volunteers replanting in Miami after Hurricane Irma in October 2017

With a goal of planting 1 million trees and increasing Miami-Dade County's tree canopy from 19.9 percent to 30 percent, we have worked for several years with local partners to develop countywide tree canopy assessments, write a restoration master plan and create an interactive online Canopy Planner tool so city leaders can project different scenarios and track their progress. Throughout, we have turned data into action by strategically planting trees in areas of highest need, from school grounds in underserved neighborhoods and vacant lots to parks and a recreation trail.

Then, Hurricane Irma struck.

Irma was the most intense hurricane to make landfall on the U.S. mainland since Katrina. While Houston's Hurricane Harvey produced epic flooding, Irma's trademark was its winds, which left massive amounts of debris and a public attitude that quickly soured toward trees.

Yet, with all the social, economic and environmental benefits urban trees provide, research tells us the way to turn a city's urban forest from a liability into an asset in extreme weather is not to abandon the tree canopy, but rather enhance it with denser clusters, more native species and better maintenance. That requires a sophisticated public-private urban forestry program.

So, we are revisiting work we'd already checked off the list. Usually tree canopy data is good for five years, but we are working alongside the University of Florida and Miami-Dade County,



Irma was the most intense hurricane to make landfall on the U.S. mainland since Katrina. While Houston's Hurricane Harvey produced epic flooding, Irma's trademark was its winds, which left massive amounts of debris and a public attitude that quickly soured toward trees.

with generous support from Bank of America, to revise our 2016 tree canopy assessment so the data reflects Miami-Dade's post-hurricane reality.

We also renewed promotion of our Disaster ReLeaf Fund to increase tree planting in both Houston and Miami and are adapting our restoration focus. For example, we planted 60 trees with Bank of America and community volunteers last fall in Serena Lakes Park, not only replacing dozens lost to the hurricane, but also adding new trees to continue the march toward a 30 percent canopy goal. We will add additional plantings with

Coca-Cola Foundation, Bacardi and others this year.

Lastly, our messaging is shifting in the wake of the hurricane as we address concerns of a public that is skeptical of trees after seeing the damage they can wreak. Our goal is to help build broader support for a robust and equitable tree canopy that is increasingly critical in a city facing serious threats from increased temperatures and extreme weather 🌱

Ian Leahy writes from Washington, D.C., and is American Forests' director of urban forest programs.



#### PROJECT SHOWCASE

## Restoring Thornscrub Wildlife Habitat

BY DYLAN STUNTZ

THE LOWER RIO GRANDE VALLEY National Wildlife Refuge in southern Texas provides habitat for more than 40 percent of all North American butterfly species, 500 species of bird and 1,200 plant species, along with 18

federally listed threatened or endangered species. Looking for areas with biological diversity? The Lower Rio Grande Valley takes the cake.

American Forests has been assisting projects in this region for 20 years, supporting the planting of more than 2 million trees on 4,266 acres — almost two-thirds of all replantation in the area since 1997. This is no small undertaking, as the Lower Rio Grande Valley is an immensely complex and diverse ecosystem, with four different climate types dispersed throughout

ABOVE AND FACING PAGE: ALAN GROSS



the area, as well as 11 distinct biological communities.

American Forests' work in the region has focused on the restoration of Texas thornscrub, which is directly tied to the recovery of the ocelot. Recent droughts, on top of urban and agricultural development, have eliminated much of the ecosystem required to support a successful ocelot population in the U.S., which used to stretch as far north as Louisiana and Alabama, but can now only be found in the Lower Rio Grande Valley.

Restoration efforts are of major importance because they not only expand ocelot habitat, but also more than 95 percent of the native vegetation found in the landscape remains under threat.

For the 26th year, the community around the Lower Rio Grande has come together to try and restore some of the lost biodiversity. Last fall, through an event known as "Rio Reforestation," 350 local volunteers planted more than 10,200 native plants on 17 acres around La Sal del Rey, one of three naturally occurring salt lakes in South Texas. The annual event provides an opportunity for the public to contribute to revitalizing the landscape while learning about the diversity of life found throughout the refuge.

For Kimberly Wahl-Villarreal, plant ecologist for the South Texas Refuge Complex, the tree plantings provide both personal and professional satisfaction. Over the past decade, she has lived in an urban area where she no longer has the opportunity to enjoy the abundant wildlife she would see as a child.

"To see the wildlife benefiting from the sites that we have planted doesn't just bring me back to more youthful days," she says, "it also makes me realize that this opportunity is now provided to anyone who visits the refuge, walks the trails and takes the time to notice the wild creatures that inhabit these lands."

Creation of the wildlife refuge was spurred by a simple idea: The native vegetation and animals that inhabit the area are worthy of protection. People, like Wahl-Villarreal, are working to create a sustainable culture of conservation, so the incredible biodiversity found in places, like the Lower Rio Grande Valley, can be preserved for generations to come. American Forests remains committed to ensuring that it will be. 🌱

Dylan Stuntz was American Forests' fall 2017 communications intern and is a senior at American University, studying communications, law, economics and government.

Above: The Rio Grande River;  
right: Only around  
50 ocelots remain  
in the U.S.



## FROM THE FIELD

### NEW YORK CITY

## Emily Barber, Marketing Manager

I'VE ALWAYS BEEN DRAWN to cities — the busy streets, bright colors, endless restaurants and general chaos all fascinate me. But while I love city life and all the excitement that goes along with it, nature is my solace. The city energizes me, but nature calms me. The extrovert in me thrives in cities, but my introverted side is replenished by a walk in the woods. These two sides might seem contradictory, but they found the perfect middle ground when I traveled to New York City to help American Forests and LightStream host a pop-up forest in the middle of Times Square.

One night in October, a very hard-working events team built a forest over-

night, starting at 10 p.m. and working until dawn the next day. At 7 a.m., much to the delight of New Yorkers and tourists alike, a grove of real trees and shrubs stood in the plaza outside the “Good Morning America” studio. City birds flitted in and out of the leaves, relishing their makeshift homes for a day.

Inside the forest, participants found signs with forest facts and even met real-life forest animals. At the end of their journey was a photo booth, where visitors could have their pictures taken, receive a photo strip and sign up to have a tree planted in their name. The pictures appeared on a Times Square billboard, complete with a forest backdrop.

LightStream, an online lender, plants a tree for each loan they fund. The Forest of Dreams was a representation of each tree and its corresponding dream made possible through LightStream. The forest celebrated the 1,000 acres of trees planted through our

partnership and built momentum for LightStream's commitment to planting an additional 500 acres this year.

Each visitor had a unique reaction. Early in the day, commuter pedestrians slowed down to admire this strange sight. Some were hesitant to come in, but many entered with a coffee in hand and a smile on their face, commenting on how nice it was to have a change in scenery. Later on, tourists made the Forest of Dreams a stop in their sightseeing itineraries. We met visitors from all over the world — from nearby Connecticut all the way to West Africa. Like the rush-hour crowd, some were unsure why we put a forest in Times Square, but once they heard about the cause, they were delighted at the dedication that both American Forests and LightStream have to the environment. We were asked countless times if the forest was permanent or if we'd be taking it anywhere

else. I didn't want anyone to be disappointed that the forest wasn't permanent, but hopefully this small reminder of life outside the concrete jungle encouraged them to get back to nature.

I was excited to be in New York for my first trip with American Forests, but the real reward

was seeing how many people share our passion for protecting and restoring our forests. We shared forest facts with LightStream, which produced signs along the walkways in the Forest of Dreams. One stated that trees in NYC provide \$5.60 in benefits for every dollar spent on tree planting and care, including cleaning air and water, reducing energy costs and improving mental well-being. The Forest of Dreams was a great reminder that in order for cities to be the bustling, lively hubs that we expect, we first have to make sure that our forests are clean, healthy and flourishing. Without forests, we don't have cities either... and I'm not ready to move to Mars.

I didn't want anyone to be disappointed that the forest wasn't permanent, but hopefully this small reminder of life outside the concrete jungle encouraged them to get back to nature.



Left: The Forest of Dreams pop-up was right by the “Good Morning America” set in Times Square; right: Animals, like this barred owl, brought in by Your Connection To Nature and Tenafly Nature Center were some of the favorite forest attractions





Whitebark pine at Crater Lake

## MISSOULA, MONT.

### Eric Sprague, Director of Forest Conservation

SCENIC VISTAS at the end of trails, trout pools in fast-moving streams, song of the wood thrush, and the smell of pines all quickly come to mind when I think about the field of forest conservation. However, I mostly think about people. Family woodland owners, nonprofit staff, foresters, government employees and many others. Forests provide the inspiration, and then people go to work.

This past fall, 115 forest conservationists from the U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Parks Canada, Confederated Salish and Kootenai Tribe and several nonprofits came together because they have been inspired by the whitebark pine.

The whitebark pine is an iconic tree species that ranges across a huge swath of the West, including the Northern Rockies, Cascades and Sierra Nevada. Living up to 1,500 years, the pines are a favored food source of grizzly bears and Clark's nutcrackers, and the high-elevation communities they create are critical for storing snowpack and then slowly releasing a steady flow of water downstream as the snow thaws. However, the tree, and the benefits that

it provides, are threatened with extinction by an unprecedented set of threats: disease, pest outbreaks and severe wildfires, all of which are further fueled by climate change.

These threats make the whitebark pine restoration effort one of the most unique and challenging in the country — a key test for how we can help key forest ecosystems adapt to a changing climate.

The National Whitebark Pine Summit in Missoula, Mont., formally kicked off a year-long process for these conservationists to develop a restoration plan for the species. The plan will guide actions and resources to the most important places for saving the whitebark pine.

While more resources will be needed, the effort does have the right people paying attention. For more than 20 years, these dedicated people have solved immense technical challenges associated with developing disease-resistant seedlings, managing too little and too much fire and navigating bureaucratic challenges of coordinating restoration across state, federal, tribal agencies and private lands. This work often happens with little resources or is squeezed in between other duties and all for a tree and ecosystem that most Americans will never see.

These threats make the whitebark pine restoration effort one of the most unique and challenging in the country — a key test for how we can help key forest ecosystems adapt to a changing climate.

American Forests, Whitebark Pine Ecosystem Foundation and the U.S. Forest Service were excited to host these dedicated conservationists at the Summit and are ready to get to work with them to develop the National Whitebark Pine Restoration Plan.

On second thought, it may be that people provide the inspiration so that forests can do their work. 🌲



Eric Sprague speaking at the National Whitebark Pine Summit



PARTNER PROFILE

## The Coca-Cola Foundation

LIKE THE NATURAL ECOLOGY it supports, communities and businesses rely on healthy, sustainable watersheds for their survival. That is why The Coca-Cola Foundation, the philanthropic arm of The Coca-Cola Company, places a priority on watershed protection, conservation and safe water access.

The Coca-Cola Foundation supports community watershed projects where there is a demonstrated need and the opportunity to make a lasting impact. American Forests is a recent recipient of a grant from The Coca-



Cola Foundation that will do just that. With the help of The Coca-Cola Foundation, American Forests just kicked off three projects that will help reduce stormwater runoff, increase

carbon sequestration and enhance wildlife habitats in California, Florida and Texas.

Each project area will focus on unique ecosystems that play a major role in supporting the sustainability of the watershed. Projects completed in California will bring tree canopy back to the Sierra Nevada Mountains, an integral source of water for the area. In

Florida, where lack of water resources is not always seen as a

prominent issue, attention will be on restoring the longleaf pine population. This species is essential to maintaining the recharge level for groundwater.

Coca-Cola associates will also join local community volunteers to help plant trees in the Lower Rio Grande Valley (LRGV) next year. The tree plantings in the LRGV National Wildlife Refuge at the Sal del Rey site, along with urban “mini-refuge” projects in McAllen, Texas, will help reduce annual runoff in the LRGV and eliminate the need for irrigated water.

Altogether, the projects will replenish an estimated 961 million liters per year and produce aggregate carbon sequestration of 25,600 tons of carbon dioxide equivalent over 20 years. 🌱

**Volunteers planting at the 2017 Rio Reforestation event in the LRGV**



## DONOR PROFILE

# Rain Coille

FOR RAIN COILLE, deciding to fundraise for American Forests was simple, considering Rain's namesake.

"Coille is Gaelic for forest," Rain says. "It's a name I chose for myself, so my name is literally 'Rain Forest.'"

Rain is a disabled artist in Arlington, Va., who focuses on the natural world and environment through art.

"I feel that there's a disconnect from urban life and nature," Rain says. "So, I try to get people to think about nature as this living thing, instead of just something to look at."

After witnessing forest fires raging in California and Oregon, along with the series of hurricanes striking the Gulf Coast, Rain viewed the natural disasters as a call to action.

In response, Rain organized a Facebook birthday fundraiser, encour-

aging family and friends to donate to American Forests. The campaign was run through Facebook's fundraiser tool and ran for two weeks, raising \$150, exceeding the initial goal of \$100.

Facebook's fundraising tool has been around since 2016, and allows individuals to set up donation drives to a nonprofit of their choice. All you need to start one is a Facebook profile and a network of friends that care enough to help out. To start fundraising, you could visit American Forests' Facebook page and click the "Create Fundraiser" button at the top of the screen, and you'll be guided from there.

Rain's fundraiser happened to be running at a very opportunistic time.



Rain Coille

Thanks to a very special partnership, American Forests was offering to plant two trees for every dollar donated. This meant Rain was able to plant 300 trees with the help of friends and family.

"Someone said that it was selfless of me to ask for tree plantings," Rain says. "I really don't feel that it was because whenever we do anything to improve or protect the environment, it's one of the most important gifts we can give to ourselves." 🌱

One of Rain's forest-inspired watercolor paintings



ACTION CENTER

## Fire Funding Fix

THIS FIRE SEASON has only amplified the need for Congress to pass a comprehensive wildfire suppression funding fix, so that the U.S. Forest Service (USFS) and the Department of Interior (DOI) can not only bank on the funds needed to fight fires, but also implement forest restoration practices that help reduce the risks of these extreme fires.

Congress allocates funding to the USFS and DOI in each appropriations cycle through the “rolling 10-year average” model. The costs of each year’s fire suppression efforts are calculated, and the average of the last 10 is then allocated. Averages usually mean that some years will be above average and some years will be below; however, that



2017 Whittier Fire in California

GLENN BELTZ

### The 2017 fire season was one of the worst on record.

- 52,000 individual fires burning more than 8.82 million acres in the southern United States, California, Oregon, Montana and more.
- Approximately 2.3 million acres of national forests burned.
- Fires ravaged northern California, destroying neighborhoods and displacing people. In fact, 100,000 Californians were displaced and insurance claims are climbing past \$3.3 billion.

is no longer the case when it comes to the costs of fighting fires. The USFS and DOI have run short on fire-fighting funds 13 years since 2002. And, each year the 10-year average increases by hundreds of millions of dollars.

As federal budgets remain flat or decrease and the cost of suppression increases, the portion of money available to do the forest restoration, wildlife management, etc. decreases, including funding actions to help prevent fires and reduce the probability of intense fires — like hazardous fuels reduction. In 1995, fire management accounted for 16 percent of the U.S. Forest Service’s budget. Today, it

is more than half, and the agency predicts it will be two-thirds by 2021.

Not only do the rising costs of fire suppression eat up more and more of the Forest Service’s budget, when appropriated funds are not enough, the agency has to “borrow” funds from other program areas to cover the costs. In fiscal year 2017, the USFS spent more than \$2.4 billion in firefighting costs. It had to transfer nearly \$600 million from other accounts to cover the shortfall. Much of the Forest Service’s on-the-ground work is dictated by the seasons, meaning work that was ceased in the early spring because funds had to be transferred aren’t able to start up until late autumn. 🌿



KARI GREER, U.S. FOREST SERVICE

Hot Shot Crew in California



Firefighters in California working to control a wildfire

DARIA DEVATKINA

### There is a solution.

The Wildfire Disaster Funding Act (H.R. 2862 and S. 1842) is a comprehensive fix that addresses the rising costs of firefighting, minimizes the need for “borrowing” funds and allows access to emergency funding to pay for firefighting beyond the amount allocated.

To send a letter to your Congressional members in support of a comprehensive fire funding fix, visit [americanforests.org/TakeAction](https://americanforests.org/TakeAction)



## CHAMPION TREE SHOWCASE

## Great Basin Bristlecone Pine

**SCIENTIFIC NAME:**

*Pinus longaeva*

**LOCATION:** Cedar Breaks State Park, Utah

**NOMINATED:** 2015

**NOMINATED BY:**

Alan Washburn

**HEIGHT:** 32 feet

**CIRCUMFERENCE:** 252 inches

**CROWN SPREAD:** 32 feet

**TOTAL POINTS:** 292



The champion Great Basin bristlecone pine is on the Carmel River at an altitude of 3,170 feet

**DID YOU KNOW?**

A 5,067-year-old Great Basin bristlecone pine is the oldest-known living, non-clonal organism on Earth.

## PLANT A SEED FOR FUTURE GENERATIONS

AND INCLUDE **AMERICAN FORESTS** IN YOUR ESTATE PLANS



Learn more about the Evergreen Society by visiting [americanforests.org/EvergreenSociety](http://americanforests.org/EvergreenSociety) or by contacting Emily Russell, Director of Major Gifts, at (202) 370-4522.



AMERICAN FORESTS





# SEQUOIA PRIMEVAL

---

BY TYLER WILLIAMS

---





**I AWOKE TO THE UNMISTAKABLE SOUND** of a tree falling in the woods. First, there was the creak, increasing in tone, volume and tempo, building with urgency into an explosion of snaps, cracks and pops, then an impending heavy silence. I peered out of my sleeping bag cocoon right then, gaining full consciousness just in time to hear the dull booming thud of a big tree hitting the ground.

Sleeping at the base of a 200-foot-tall sequoia, it took some minutes for me to put to rest the fear of being crushed by a falling trunk, to accept the fact that I was in a rationally chosen location, to remember that I was a mere pixel among an entire canvas of forest. And, if a tree fell on me in my sleep, that's just the way it was.

Williams at  
the foot of  
the giant



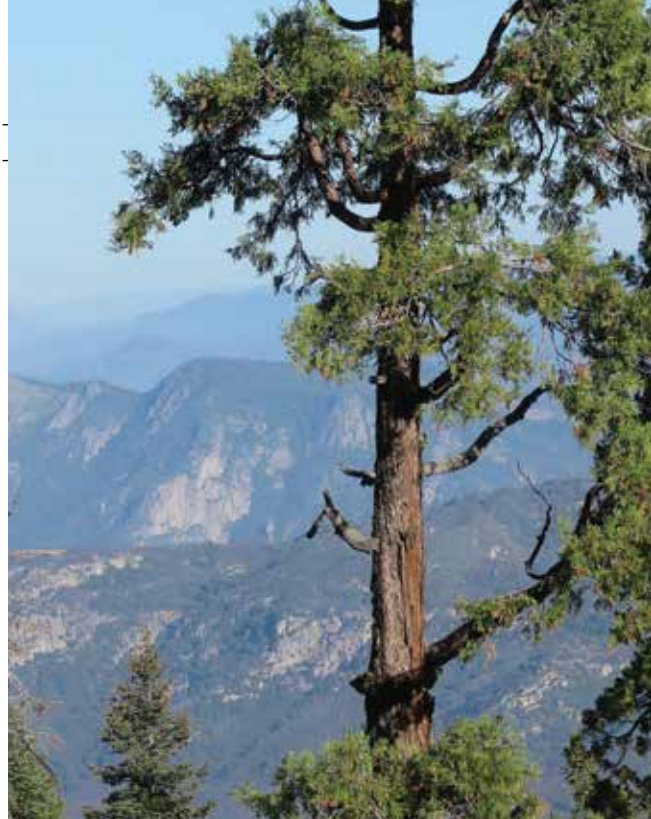
# SEQUOIA PRIMEVAL

The view above helped calm my anxieties. A giant at my side soared in majestic half-moon light, while slender piercing red firs arranged like spokes on a wheel, all pointing to an open circle of night sky dazzled with stars.

I'd come here, to the Eden Creek Grove, because it was just the kind of place where a tree might fall in the woods with no one to hear it. The grove piqued my interest in Dwight Willard's "A Guide to the Sequoia Groves of California," when he mentioned things like "extensive stands of old growth...one of the least visited forest 'Edens' in the Sierra." At the end of his grove synopsis he warns, "the National Park Service does not encourage grove exploration by the average visitor."

That was the final tease. I was going.

**Below, Williams camping near the water; right, A stunning view along Williams' hike**







EDEN CREEK is one of 67 recognized sequoia groves in the world. This might sound like an especially finite number, and in some respects, it is. *Sequoiadendron giganteum* only exists within the Sierra Nevada mountain range, and the vast majority of groves — 59 of them — are located in a 70-mile belt directly south of the Kings River Canyon. Globally speaking, this is a small area. Within that belt, however, there are innumerable ridges, canyons, gullies, bowls, slopes and peaks, with sequoia trees lurking throughout. In sequoia country, the term “grove” is a little misleading.

Scientist Philip Rundel produced the first official grove list in 1972, with a grand total of 75 groves. It was a good start, but when logging of non-sequoia conifers began taking place within some groves during the 1980s, further documentation was needed. That’s where citizen scientist Dwight Willard sprang to action.

An attorney during the week, Willard undertook his own exploration and documentation of all 75 sequoia groves, and after years of back roads, bushwhacks and big tree discoveries, Willard produced a list of 67 groves, not 75. The different totals did not reflect fewer groves of trees necessarily, just a more consistent criteria for defining a grove. Rundel’s original list included some historical grove names that gave multiple titles to single groves. Willard applied a slightly more objective analysis. Still, both sequoia explorers are quick to point out that their lists are hardly definitive.



“The vast majority of groves — 59 of them — are located in a 70-mile belt directly south of the Kings River Canyon.”

“The concept of the grove has little biological reality,” says Rundel; “any list,” says Willard, “is partially subjective.”

Indeed, sequoia “groves” are broadly defined, often containing multiple clusters of sequoia trees that might be separated by cliffs, creeks, canyons and a whole lot of non-sequoias. If sequoia groves were defined in smaller units, like what most of us would call a “grove,” — five, 10 or 20 trees — Willard’s list of 67 would grow exponentially, probably totaling several hundred-something groves. That’s a lot of big trees.

The species’ continued existence owes mostly to the rugged terrain in which they grow. Unlike the

Top, Williams’ campsite; bottom right, Peaks of the Sierra near the Eden Creek Grove







coast redwoods, the sequoias were too difficult to log, extricate from the mountains and still turn a profit once they were made into finished lumber. Some timber speculators still tried, and roughly 30 percent of the giant trees fell at the hands of man. But just as the logging of sequoias gained momentum in the late-1800s, the sequoia preservation movement also got traction. John Muir played a significant role in that effort, and he undertook the first holistic survey of the sequoias in the autumn of 1875.

Over the course of two months, Muir traveled southward through the Sierra, attempting to traverse the 6,500-foot elevation contour most favorable to sequoias. Traveling uncharacteristically with a pack mule, he left Yosemite in late August, crossed Kings Canyon by mid-September and arrived in today's Sequoia National Park and the Giant Forest — a title he coined — by early October. Even by Muir standards the route was impressive: "I led and dragged and shoved my patient, much-enduring mule through miles and miles of gardens and brush, fording innumerable streams, crossing savage rock slopes and taluses, scrambling and sliding through gulches and gorges..."

The most "savage" portion of his trek came within the East Fork of the Kaweah Canyon, home of Eden Creek. "Way making here seemed to become more difficult," he writes, "making only two or three miles a day."



IT'S DOUBTFUL that Muir passed directly through the Eden Creek Grove. The natural route would've led him across the East Fork farther upstream. Still, his "two or three miles a day" gave me pause, and in planning the trip, I labored over several different possible approaches to the grove. There was a 6,000-foot vertical up-and-over from the South Fork Canyon, or a 20-mile walk on old logging roads followed by an off-trail descent. Dwight Willard suggested using a 14-mile trail before going cross-country through open conifer forest. Or, I could punch straight toward the trees from the Mineral King Road, directly up Eden Creek, less than five miles.

I've spent my life canyoneering and whitewater kayaking. I'm comfortable in gorges. And, I'm impatient. Shortest sounded best.

Skirting waterfalls and tracing bear trails, my direct route was working fine by mid-afternoon of day two, and I was happy with my choice. As I hopped upon a silver log to avoid a tangle of spiny currant, I gloated to myself: "I'll be in the big trees within the hour."



"Before my pack even stopped my tumble down the slope, I was already thinking, 'I wonder if I just broke my leg?'"

Facing page, Sequoias towering over Williams; above, Williams treating his sprained ankle

I didn't even know I was falling until I heard the crack of my chin make impact with the log. Launching into mid-air over the steep slope, I instinctively tried to get my feet under me, but this only produced my next discernible sensation, that of my left ankle rolling unnaturally beyond its bounds, as if the joint were made of a malleable rubber. Before my pack even stopped my tumble down the slope, I was already thinking, "I wonder if I just broke my leg?"

I felt my chin for blood. There was none. Next, I moved my ankle. It seemed intact. I sat there for a few seconds pondering my isolation, and thought about returning toward the road. But, it would be dark before I got very far. The nearest flat spots for camping were still above me, and I was full of adrenaline. I ate some ibuprofen and started taping my ankle.

Hobbling along with dead fir branches as hiking poles, I spotted sequoia crowns furtively peering out of the canopy to the west. Gimping ankle or not, they drew me in, and as afternoon faded to evening, I dropped my pack beneath a large tree growing out of a soft pile of detritus. Soft was good, because my air-filled sleeping pad had gone flat on night one. Tonight, I'd be luxuriating on a bed of foliage, à la Muir.

# SEQUOIA PRIMEVAL

Raking my bed site with fingers, I removed all cones and sharp sticks, crumbling the mat of decomposed needles — sequoia, white fir and sugar pine — into an unconsolidated mix before letting it fall back down as a spongy, perfectly tolerable smooth soft place to rest my wracked body.



I'D BEEN ASLEEP for a few hours before being roused by the falling tree. Between that and my wipe-out, at dawn I was in a low-grade fight-or-flight mentality. I packed up and started moving. Where was I going? I wasn't sure, perhaps toward the trail a few miles east and on toward the road. It didn't really matter, I simply had to keep moving, to escape. But something stopped me in my tracks.

The first rays of sunlight brushed across the burned weathered crown of an old sequoia, and another tree sat on a ridge, posed for the spotlight as illuminating beams crawled down its auburn trunk. I was compelled to pause and watch the show. Sitting there in the majesty of the showy giants, it occurred to me that I should slow my incessant pace, chill out, just stop. My ankle, although working well enough to travel, was sore. A dunk in icy cold spring water and some rest was the best medicine for it. And really, where else would I rather be, than right here among the healing calm of magical trees?

Below, Williams admiring a giant sequoia; right, A black bear scales an incense-cedar above the Kaweah River



The biggest trees in the world can hide without ever moving, in broad daylight.

The east fork of Eden Creek offered the perfect spot. Fallen red fir trunks criss-crossed the creek above me, forming natural bridges over a copse of dogwood and fern. Living *Abies magnifica* soared over the scene with moss encrusted trunks of lime green. Back-lit insects danced and tumbled between the trees, and the creek gurgled quietly.







Sweeps of sun penetrated to different places along the creek at different times, sending me crawling from one spot to the next to catch the warm rays while I soaked my foot.

Occasionally, the labors of nearby bears could be heard by the crunch of rolling logs. Black bears were plentiful in the grove. Just minutes before my fall, a large *Ursus americanus* the size of a small grizzly sauntered through the woods 50 feet away, unaware of my presence. Later, a small blackie came rambling along on the same trail I was using, putting us on a collision course. I stopped and said “hello.” It made a hasty retreat running across and then down the hillside, covering a tenth of a mile in under 10 seconds. I was envious.

As afternoon wore on and the sun dipped behind the tall trees, I wrapped my ankle and laced my high-top shoes tightly. Ascending with slow, careful steps, I crept to the upper limit of the Eden Creek sequoias, about 7,500 feet. Just across the canyon of the Kaweah on a south-facing ridge are the highest elevation sequoias, at 8,800 feet, while the lowest wild sequoia lives in the next canyon south, a flood distributed outlier at 2,700 feet. Clearly, this is the heart of their range.

But, the heart of the Eden Creek Grove, the biggest trees, I felt, had eluded me. That impression changed when I rounded a broad ridge into a basin I thought I’d passed before, but this time a massive sequoia presented itself with a notable burl, something I’d have surely noticed had I passed it earlier.

Had I been here before? My confusion spoke to the disorienting effect big trees can have. The trees themselves create topography in these woods, warping one’s sense of actual ground contours. Aerial photos, too, don’t penetrate a canopy of 250 feet, so topographic maps, like grove boundaries, are to be taken as generalities. When



some familiar weathered incense-cedars came into view, I again knew where I was. Somehow, I’d missed the burl tree on my first pass. The biggest trees in the world can hide without ever moving, in broad daylight.

I sat with the burl giant until twilight forced me to search for camp. A perfect hollow revealed itself beside a fork of Eden Creek, with two elder sequoias looming stoically from the hillside above. Surrounding my bed were younger, more slender trees that soared perfectly to 200 feet. Awaking among these titans was soothing and thrilling all at once. I reflected on being roused by the crash of the falling tree, far different than the purple calm dawn this morning. In either case, coming to consciousness beneath the big trees felt transcendent, reminding me of my infinitesimal place in the universe, illustrating my insignificant stature among the awesome, stupefying, enduring giants. 🌲

**Top, View of the mountains from Williams’ hike; bottom right, Williams’ evening campfire**

Tyler Williams is the author of “Big Tree Hikes of the Coast: A Guide to the Giants.” To learn more, visit his website [www.funhogpress.com](http://www.funhogpress.com).



# LIVING





# PROOF

The success of the  
Kirtland's warbler  
proves the Endangered  
Species Act can be  
exceptionally effective

BY DOYLE IRVIN



ANDREW CANNIZZARO

Facing page, The original recovery goal for the warbler was 1,000 singing males, which they passed in 2001, and have more than doubled since; this page, Male Kirtland's warbler



## WILDLANDS FOR WILDLIFE PRIORITY ECOSYSTEMS



### NORTHERN GREAT LAKES



**Jack Pine  
Forest  
Ecosystem**



**Kirtland's  
Warbler**

The Northern Great Lakes is a Wildlands for Wildlife focal region.



American Forests has partnered to **plant more than 3.5 million jack pine trees** in Kirtland's warbler habitat since 1991.



American Forests has developed a 5-year partnership with the Michigan DNR to **restore 5 million more trees by 2021.**



American Forests is partnering with the Kirtland's Warbler Alliance to **support the conservation of the warbler and jack pine habitat** post-ESA delisting.

### IT BEGINS WITH PASSION.

This became abundantly clear as I talked with conservationists in Michigan, who are excited about the potential delisting of the Kirtland's warbler under the Endangered Species Act (ESA). The tiny songbird can be viewed as one of the greatest successes of the ESA — proof that policy really works.

"Everyone is positive," Jerry Rucker told me when I asked him if there were concerns about the potential delisting, which is still in the works as the details get hammered out. Rucker leads the Kirtland's Warbler Alliance, a non-governmental organization (NGO) based in the heart of the warbler's territory.

"The recovery team — comprised of agencies, researchers, university folks and other interested volunteers — has worked for more than 40 years to get here," Rucker said, "to ensure the viability of the species."

This detail about the diversity of those involved is especially poignant — frequently the conversations surrounding endangered species omit just how many man-hours and contributions from various backgrounds that conservation work requires. It's a lot of work, but the reality of its impact is undeniable.

"The bird went from 200-something in 1974 to almost 4,000 today," Rucker said. "From a social standpoint, I think the future is pretty bright."

Rucker was counting both males and females — typically the census just marks the singing males — but the numbers quite clearly point to the overwhelming success of the conservation movement since Kirtland's warblers first became a priority in the 1960s. Already on people's radars when the landmark ESA became law in 1973, the original recovery goal for the warbler was 1,000 singing males. They passed that goal in 2001, and they have more than doubled since.

### HOW DID WE GET HERE?

Due to habitat loss and other factors, the species is now entirely conservation-reliant. This means that they require consistent upkeep and, barring a major reworking of how humans impact the environment, it also means that they will only survive for as long as the passion to sustain them continues. This was not the case 200 years ago — so how did we get here?





"In the early days of Michigan state formation, just like in a lot of states, the emphasis was really on getting the land settled," Keith Kintigh said. Kintigh is a forest conservationist and certification specialist for the Michigan Department of Natural Resources (DNR), and he's regarded as something of a guru when it comes to the Kirtland's warbler.

"Settlement was attempted in these fire-prone forests, with really dry ground," Kintigh continued, referring to the jack pine forests that Kirtland's warblers call home. "A lot of the land was opened up for agriculture, but then much of the land was abandoned because you couldn't make a living on it. It was too sandy, too droughty and too prone to burns."

Not all of the land was abandoned, though, and enough people stayed in Michigan's Upper



Top: Lush vegetation grows beneath jack pine snags just months after the 2010 Meridian Fire; bottom: Due to habitat loss and other factors, the Kirtland's warbler is now entirely conservation-reliant





Above left: Kirtland's warblers face threats from nest predation by cowbirds; bottom right: Jack pine cones open and release their seeds under high temperatures

Peninsula that fire-management policies were put in place to protect human lives and property. These policies interrupted the natural regeneration of warbler habitat and, in tandem with an influx of parasitic cowbirds, caused the decline of the songbird's population.

Fortunately, the land that was abandoned returned to the state's land management agencies — the same agencies that led many conservation campaigns. This timeline of events contributed to what you could call a “perfect storm” when it comes to endangered species conservation: You had a calamity on your hands, with a species on the brink of extinction, but you also had the right people in the right place at the right time ready to do exactly what was needed to bring them back. They ended up with a fairly novel solution: integrating private, for-profit companies into the conservation work.

“Endangered species management is so often in conflict with economic interests — just look at the situation in the San Joaquin Valley between agriculture and endangered species,” Kintigh said. “So, it's unique to have this story where you can provide economic benefits at the same time that you're saving an endangered species. The two are done in concert.”

## THE COMPLICATIONS

The warblers face three major problems caused by human impact, and the folks in Michigan have



ANNETTE DUBOIS



figured out solutions for two of them so far. The first problem is that warblers only nest in stands of jack pine trees that are less than 20 years old, and they prefer those stands to exceed 80 acres. They are, you could say, particular. This means that the warblers need a constant supply of new, young trees. Normally, that would only happen through wildfire.

“Not understanding the role of fire in our forests is probably one of the biggest blunders natural resources science has made in the last hundred years,” Eric Sprague said.

As director of conservation programs at American Forests, Sprague is intimately involved in solving problems faced by struggling forests, but initially it seems backwards — not enough fire? Really?

The truth is that the jack pine ecosystem has adapted to wildfire. The tree's cones open and release their seeds under high temperatures. Because fire will clear out other trees, the newly re-

ABOVE LEFT: ALVARO REGULY; BOTTOM: BRETT WHALEY





The beautiful blue-grey songbird is a highly sought after attraction for birders

leased jack pine will have ample space and good soils to regenerate and set the stage for the next jack pine dominated forest. Without fire or management that can mimic it, other trees will establish and discourage the Kirtland's warbler from nesting.

The problem is that we are not adapted to wildfire. When people live near nesting sites, fires become far too risky, as the tragedy of the 1980 Mack Lake Fire made quite clear. It was thought that bringing back controlled ("prescribed") fires could help the warbler, but one got out of control. By the end, 25,000 acres had burned, 44 homes were destroyed and a fire technician had perished.

"I hope that warbler enjoys his nest," Joe Walker reported to *American Forests* magazine at the time. "My nest is burned."

Prescribed fires — and natural wildfires — from then on were put out as quickly as possible, even in conservation areas, preventing the natural creation of Kirtland's habitat in the lands set out for them.

The second problem facing these warblers is nest predation by cowbirds. Cowbirds lay their eggs in songbird nests and sometimes push the other eggs out. Their eggs hatch first and their hatchlings monopolize the food, meaning the other chicks die. Of course, they don't only target Kirtland's warblers — they predate on more than 200 other species as well.

"I don't want to make it seem like cowbirds are the enemy," Sprague says. "Because they're not; they're cool birds. They're just exploiting our changes to the landscape."

What he means by this is that cowbirds, who evolved to follow now-non-existent bison herds across the plains, move into land cleared for agriculture in previously forested areas. These new habitats are filled with local songbirds that have yet to develop defense mechanisms. Simply put, the Kirtland's warbler and its Michigan compatriots don't know that they need to push cowbird eggs out of their nests.

The third problem that our warblers face is that they winter in The Bahamas — a little out of reach for the Michigan DNR. With climate change, rising seas and increasing hurricane intensity, the health of habitats in The Bahamas is questionable. For some birds, this wouldn't be a problem: They'd just fly somewhere else. But Kirtland's warblers exhibit what is called "fidelity," meaning that they instinctively return to the same spots every year.

#### PROFITABLE PARTNERS

Integrating private companies into the conservation effort has helped mitigate the first two problems. Four decades ago, warbler enthusiasts figured out that harvesting and replanting jack pine mimics the natural recycling of forest stands

"Not understanding the role of fire in our forests is probably one of the biggest blunders natural resources science has made in the last hundred years."





Kirtland's warblers only nest in stands of jack pine trees that are less than 20 years old, and they prefer those stands to exceed 80 acres

**“We’ve relied on the structure that the ESA provides for a long time, so on the one hand it makes you a little nervous to walk away from that.”**

that happens with wildfire, and it mimics it closely enough that the ecosystem is able to thrive.

“It’s not a perfect system, by any means,” Kintigh said. “But there are a lot of things about the harvest that do replicate the service provided by wildfire, and we put a lot of effort into paying attention to that.”

He mentioned that many of the other plant species that thrive in jack pine ecosystems (and there are a lot of them) are fire-adapted to changing light conditions — when the canopy burns down, the

amount of sunlight changes — and that their harvesting practices provide the same kind of variation. This is the kind of attention to detail that makes the process more than just timber harvesting.

“It’s a very closely monitored process,” Kintigh said. “The private sector goes through a competitive bidding process, then we have administrators who

make sure that the harvests are done in an ecologically appropriate, sensitive manner.”

While poor harvesting practices can lead to forest health challenges, carefully managed harvests can be one of our best conservation strategies. The most severe environmental impact

from deforestation comes from removing trees and not reintroducing them. By rapidly replanting the managed zones, the areas are constantly either forested or reforesting, and aren’t left fallow. As they grow, they are still removing carbon from the atmosphere, filtering water and providing habitat just like we want trees to do. The big upside is that the timber sale provides the state with enough profit to cover the replanting and some of the cowbird control mechanisms. Dan Kennedy, the endangered species coordinator for the Michigan DNR, spoke with me about the funding for the conservation program.

“The timber industry has been a huge part of this,” he said, “and I think that the collaboration between the state agencies, NGOs and private industries could be modelled across the country for successful endangered species conservation.”

That being said, the potential problem with success — delisting — is that access to federal and state funds for conservation becomes trickier. Prior to this, it was the combination of timber sales and state funds that made it all feasible. And, according to Kintigh, jack pine isn’t the most valuable tree.

“Though it’s a positive margin,” he said, “it’s a really thin margin.”

I asked everyone I spoke to if they were worried about the future of the birds if one of its historic support structures gets taken away. The DNR has signed an agreement to continue to support the conservation of the bird, but is also taking steps to



hand over some of the management to an NGO like Rucker's Kirtland's Warbler Alliance.

"We know our agencies are committed to the conservation of the warbler," Rucker said. "But we all know that politics are politics. So, we partner with the timber industry, and we are also creating an independent endowment to rely on in the case of some financial emergency, so you know that the conservation will continue to take place."

This passion to solve for all exigencies is prompting Kirtland's enthusiasts to explore new methods. They're considering upping the proportion of red pine in the stands, as red pine is a much more valuable tree for timber. They're also looking at changing the way in which they harvest the trees, to better promote natural regeneration and, thus, cut down on replanting costs. Scientists are studying the recent downturn in cowbird populations and advising conservation managers as to whether they can spend less on the costly programs.

Long story short, they're addressing hurdles that get in the way of protecting this treasured songbird. Delisting might mean funding gets a little more complex, but to them it's just a mark of success.

"We've relied on the structure that the ESA provides for a long time," Kintigh said, "so on the one hand it makes you a little nervous to walk away from that. But, in the end, the success of this program has been built on the coordination and the passion of the people involved, and I know those things will endure past the delisting of the warbler."

At American Forests, we deeply understand that passion: The Kirtland's warbler was our very first conservation project in 1990. We've contributed to its success by planting more than 3.5 million jack pines and are thrilled with how well the species has bounced back from the brink. 🌲

Doyle Irvin is a freelance writer and editor who is passionate about protecting the environment and investing in the future of our planet.



Above: In 2009, the Smithsonian's National Zoo launched a series of customized conservation stamps which included the Kirtland's warbler; below: The Kirtland's warbler was American Forests' very first conservation project.









# THE LANGUAGE OF *Trees*

## On a Walk with Rutherford Platt

BY MICHAEL WOJTECH

### IN THE WINTER OF 1929, RUTHERFORD PLATT WENT FOR A WALK

in the Brooklyn Botanic Garden with noted botanist, Dr. Arthur Graves. As his mentor began pointing out the buds along the leafless tree branches, Platt was astonished — he had always supposed that buds appeared in spring, just before they bloomed. When he studied the buds more closely, he discovered that the buds “were not standardized ovals, covered with overlapping scales. They were as varied as jewelry, in all sorts of exquisite shapes and bright colors. Some were covered with fur, some with glue, others were varnished.”

Clockwise from top left: Soft, pubescent leaves of black birch (*Betula lenta*) emerging from a bud; The soft, silvery hairs of newly bloomed catkins (flowers) of a willow (*Salix* sp.), often referred to as a “pussy willow,” trap heat from the sun, which aids the development of reproductive structures; The small, vibrant female flower of a hazelnut (*Corylus* sp.); A flower bud opening on spicebush (*Lindera benzoin*), a woody shrub



On that winter day, 35-year-old Platt was a latent bud himself. Platt was an experienced editor and writer who often sought to bring his readers practical inspiration. He had worked for *The World's Work* magazine, which celebrated the American way of life; he authored "The Book of Opportunities, What 3000 American Occupations Have to Offer" and "You Can't Fail: A Quick, Sure Way to Find the Best Job For Every Man and Woman."

Platt evoked the personal discovery of trees as a way to foster public opinion against expansive deforestation, to stretch the mind and spirit and counterbalance the growing focus on speed and progress.

In the mid-1930s, Platt co-founded a New York-based advertising agency and promoted the offerings of a wide range of clients. But with the economic depression and world events, the lives of Americans grew more ominous, and Platt looked increasingly to the natural world for a source of inspiration. Over time, with no formal academic training in botany, he established himself as a respected natural history writer and photographer. His book, "This Green World," was awarded the 1945 John Burroughs Medal Award as the "foremost literary work" in the field of natural science, the first time in its 24-year history that the award was presented to a non-professional naturalist. Platt inspired readers with his photographs, specializing in close-up views of buds, flowers and other botanical details that required advanced equipment along with great skill and patience. His words and images were widely published in *National Geographic*, *Scientific American* and other venues. He served as botanist on two arctic voyages with the explorer Admiral Donald B. MacMillan and was a consultant to Walt Disney on a series of nature films. All this flowed from one serendipitous walk in the park.



**Above right:** Rutherford Platt on location in 1940 with a cart full of photography equipment

In "Pilgrim at Tinker Creek," author Annie Dillard describes Platt's book, "The Great American Forest," as "[O]ne of the most interesting books ever written." After following her recommendation, I fully agreed and was soon equally captivated by Platt's other books and articles. It was more than just his mastery of facts, and the way he made them easy to follow, that drew me in. Take the way he describes the movement of water through a tree in "This Green World." Many scientists explain this process according to the "tension-cohesion theory" or the "compensating pressure theory," but Platt refers to "the world's greatest water works" and likens the tree to an upside-down river system. Ground water, the source of this river, is collected by root hairs, then flows through roots of increasing size and ascends up through the trunk to the branches. The leafy canopy is the mouth of this river where water empties not into a lake or ocean, but by evaporating



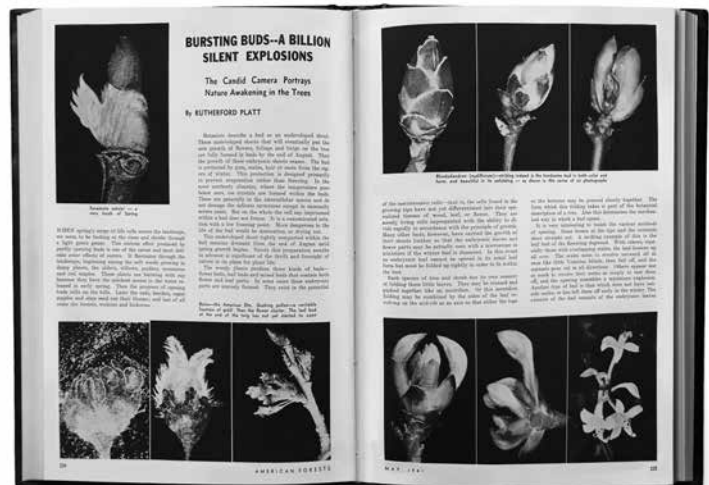
into the atmosphere. One reviewer remarked about Platt, "How is it possible to describe a tree's vascular system in a way that is not only understandable but thrilling as well? His curiosity is infectious, and he forces us not just to notice common plants but to study and glory in them."



TODAY, Rutherford Platt's work seems like a well-kept secret, yet it belongs on shelves alongside the classic volumes of other Burroughs Medal awardees such as Rachel Carson, Aldo Leopold, Barry Lopez and John McPhee — some formidable company. I set out to introduce him and his "Green World" to a new generation.

After reading Platt's 1941 article in *American Forests* magazine, "Bursting Buds — A Billion Silent Explosions," I imagined taking a series of late winter and spring walks with him. Platt would point out tree buds and explain that they began growing late the previous spring or summer, when energy produced by photosynthesis was at its peak. Each bud had been completely formed before the trees dropped their leaves in autumn and, depending on the species, might harbor flowers, leaves or both. A look inside these buds would reveal fully formed, miniature components that already showed characteristic species traits — perhaps the deep red petals of red maple flowers or the lobed leaves of an oak.

Flowers and leaves grow folded and packed inside buds according to patterns so intricate



and specific that they warrant their own set of botanical terms. Individual beech leaves, for example, grow in a plicate pattern — folded into parallel pleats like a fan. Multiple leaves, flowers or a combination of the two are packed together to allow the greatest volume in the smallest space, a process referred to as vernalization, which reminds me of a hiker trying to fit weeks' worth of gear into a backpack. One theory holds that the specific leaf shape of each tree species has evolved, at least in part, to facilitate efficient folding and packing patterns within the bud.

Over time, Platt and I would watch the buds swell until they seemed ready to burst open, like

**Above: Platt's article published in *American Forests* in 1941; Below: There's much to observe and learn about trees in every season, as shown by this sugar maple in autumn, winter and summer**





As Platt came to realize, no single view of a tree is a simple snapshot in time. Buds, flowers, leaves and the other components of trees develop and grow along a continuum that blurs seasonal and annual boundaries.

racehorses at a starting gate. Buds, however, don't just bloom in response to a vagrant, unseasonably warm day or early season rain. They break dormancy only after exposure to cold temperatures for a cumulative, but not necessarily continuous, period of time, followed by adequate day length and an accumulation of warm weather. The specific criteria, which help

keep buds from opening until after the danger of killing cold and frost has passed, are different for each species and vary according to genetic lineage and each bud's location on the tree. Timing also depends on the bud type. Flower buds on red maples bloom before the leaves — which could impede the flow of wind-born pollen between flowers — and

bring a wash of red to the spring canopy. Oak flowers appear with the leaves, while the flowers of basswood do not show until after the leaves mature, when more pollinators are available.

As spring matures, tree buds open like slow motion jack-in-the-boxes. Stems elongate. Miniature leaves or flowers unfold. In his *American Forests* article, Platt revels in watching "spring's surge of life roll across the landscape," and his accompanying photographs grandly demonstrate the progression of individual buds. For many tree species, including American beech and white ash, an entire year's new leaves and new

stems often originate from this single flourish, a process called determinate growth. Buds for the next year, at first smaller than the head of a pin, soon follow. Other species, such as paper birch, have indeterminate growth patterns, where new stems and leaves continue to grow until later in the growing season, when the following year's buds form.

With either pattern, buds for the next growing season appear before the leaves fall in autumn. In spring the number and vigor of flowers and leaves that grow, and the length of the shoots produced, are influenced by current circumstances, such as temperature and moisture levels, as well as by conditions from the previous year when the buds first developed. The terminal bud on the tip of an oak twig might contain a few or a dozen leaves; the stem could elongate less than an inch, 6 inches or more than a foot. As Platt came to realize, no single view of a tree is a simple snapshot in time. Buds, flowers, leaves and the other components of trees develop and grow along a continuum that blurs seasonal and annual boundaries.

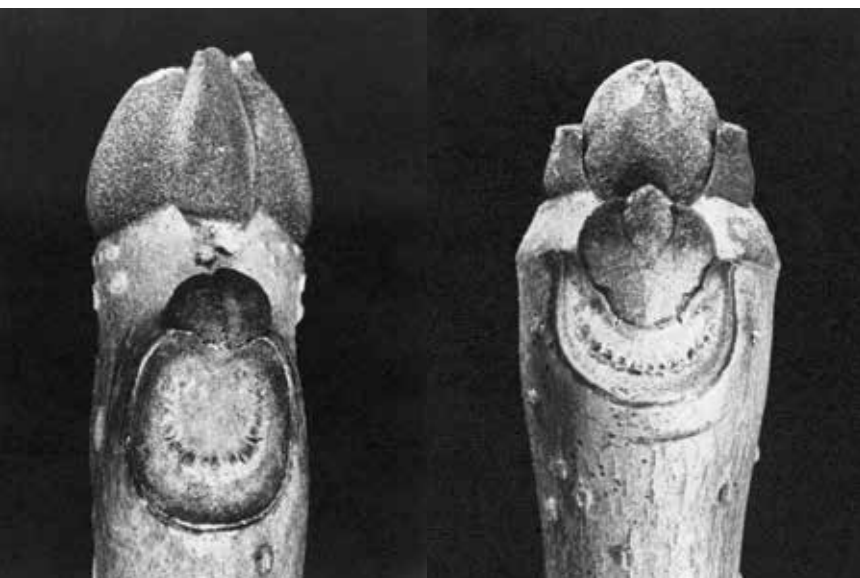


AS A CHILD, Platt knew the trees of his home landscape in Columbus, Ohio — the rough-barked trunk that frayed his sweater as he climbed; the heart-shaped leaves of the "home run tree" that stood behind center field; the hollowed trunk he could hide within. To him, these trees were functional objects, like the furniture in his home. Only as an adult could he connect the textures and colors of their bark, the structure of their branches and other details with their names: American elm, linden (basswood), black willow.

Reflecting back, Platt contrasted his childhood intimacy with trees with their beauty and drama, which seemed to awaken in him on that winter day in 1929. He wondered how he could have missed noticing buds for all those years, and why people, in general, seemed so indifferent to winter trees. "[T]hey receive no more attention than black dead sticks," Platt wrote.

Instead of blunt, cone-shaped buds covered by a single scale on sycamore trees, Platt saw "brown, conical hats, stocky, with a suggestion of a fold at the top, like the turned-over peak of a nightcap." The tapered, twisting buds of serviceberries appeared fluid, like a candle flame. He attributed the partial appearance of the yellowish, inner scales of black birch buds to their inability to contain themselves — their tendency to "push out and loosen up a bit, even in winter."

Platt's close-up images show the winter buds and the differently shaped leaf scars on a white ash twig and a green ash twig







Mature catkins (flowers) of a willow (*Salix* sp.)  
with yellow pollen on the anthers





The spring flowers and leaves of this apple tree bloomed from separate buds; some other species have flowers and leaves within the same buds



Like those black birch buds, Platt seemed to have his own restless energy. In trees he found and conveyed to others not just the satisfying knowledge of their form and function, but a sense of joyous entertainment. He asks readers to listen with their imaginations to “the wrenching of bark as it forms its patterns; the whirl of a studded pollen grain through the air; the report of a bursting seed ... the muffled sounds in roots expanding with the power of dynamite.”

While Platt’s descriptions of trees sometimes lean toward poetic, he cautioned about getting too carried away with enthusiasm. On the jacket of “American Trees: A Book of Discovery,” Platt declares that his book resists sentimentality and offers practical descriptions of trees — their suitability as firewood, for construction and other uses. Yet on the first page, Platt imagines that every tree has a sign that declares, “Something Marvelous Is Going On Here!” Without official degrees or academic standing, I wonder if Platt was concerned that his awe and enthusiasm would keep him from being taken seriously as a scientist. Those fears, if they existed, proved unfounded; in 1960, Platt’s peers elected him as a Fellow of The American Association for the Advancement of Science.



RUTHERFORD PLATT understood that our human connection to trees transcends their utility or the ecosystem services they provide, such as releasing oxygen, storing CO<sub>2</sub> and harboring a host of other organisms. He saw trees as an antidote to troubled times. During World War II, his book “This Green World,” along with a series of excerpts of the text and photographs published in *LIFE* magazine, provided a much-needed diversion from the war coverage that dominated news sources at the time.

In “American Trees,” published after the war, Platt counseled that trees provide “reassurance about life itself in a violent world.” In a 1968 revision of the book, reacting to the post-war boom, he refers to the “confused, overcrowded world,” where trees have been cleared seemingly everywhere for housing, shopping centers and “concrete carpets” for “his Supreme Majesty the Car.” Platt evoked the personal discovery of trees as a way to foster public opinion against expansive deforestation, to stretch the mind and spirit and counterbalance the growing focus on speed and progress.

Platt had a gift for making connections. He found buds in the midst of winter, in the heart of New York City. He was a businessman turned

naturalist — respected by his scientific peers, yet mostly self-taught; a man in love with the country that dwelled in the city; an adult that renewed and expanded his childhood perception of trees. He brought us the facts about trees in a lyrical voice that still resonates within us.

Perhaps most significant is the timelessness of Platt’s words and images. He helps us recognize what is already present, often right before our eyes — what he referred to as “the showmanship of nature.” He invites us on a path of discovery and connection that flows like the natural rhythms of trees, throughout the seasons and the years. 🌿

With Rutherford Platt as a kindred spirit, Michael Wojtech writes about, teaches, photographs and illustrates trees. He is the author of “Bark: A Field Guide to Trees of the Northeast” and science writer for “Drawing Trees and Leaves.” Learn more at [www.knowyourtrees.com](http://www.knowyourtrees.com).

**American elm**  
(*Ulmus americana*);  
In his youth,  
Platt knew this  
species by its  
rough bark







FORESTS  
IN  
FOCUS  
PHOTO CONTEST 2017

# WINNERS

## 1 GRAND PRIZE WINNER

### "Sprout of Life"

**PHOTOGRAPHER:** Joaquin Baldwin (CA)

**LOCATION:** Huntington Library Botanical Gardens, Calif.

**PHOTOGRAPHER'S PERSPECTIVE:**

"Forests come in all sizes. This impossibly tiny sprout was growing inside the trunk of a small and ancient bonsai tree at the Huntington Gardens of California, bathed in a sharp ray of sunlight. It has secret ambitions of growing up to be hundreds of feet tall."

**ABOUT THE PHOTOGRAPHER:**

Joaquin Baldwin is a CG layout supervisor, photographer and animator, known for his award-winning independent animated shorts and his work at the Walt Disney Animation Studios, where he has been on staff since 2010. His films have earned him more than 100 awards in festivals such as Cannes, Student Academy Awards, Cinequest, USA Film Festival and Cinanima. When not at the studio, he enjoys taking photo road trips, focusing mostly on landscapes and wildlife. Joaquin has a bachelor's degree in animation from CCAD, and a master's in animation from UCLA. He has been a layout artist and layout supervisor in films such as "Zootopia," "Moana," "Big Hero 6,"



"Frozen," "Feast" and "Wreck-It Ralph." You can see Joaquin's work, including his photography portfolio, 3D printed design work and animated shorts, at [www.joaquinbaldwin.com](http://www.joaquinbaldwin.com).

#### WHY WE LOVED IT:

"We as the judging panel took to this image instantly with ooh's and aah's and deep calming breaths (exactly what we love about being in the woods). We named it the grand prize winner because, beyond the excellent camera work, it captures the feeling of hope that so resonates with what American Forests stands for. May all who see this image remember that the power of every great forest began with no more than a small seed and some sunshine. Thank you to all who participated! See you in the forest!"



— *Lynsey Dyer, Professional Big Mountain Skier and Eddie Bauer Guide*

## 2 WINNER: FOREST LANDSCAPES

### "After the Fire"

**PHOTOGRAPHER:** Paul Glasser (OR)

**LOCATION:** Mt. Hood Wilderness, Mt. Hood National Forest, Ore.

#### PHOTOGRAPHER'S PERSPECTIVE:

"In August 2011, lightning started the Dollar Fire on the north slopes of Mt. Hood, in Oregon's Mt. Hood Wilderness. More than 6,000 acres burned before rains stopped the fire in late September. This photo was taken in late spring of 2014, almost three years later. Avalanche Lily is the first flower to emerge here each spring in the burned over area."

#### ABOUT THE PHOTOGRAPHER:

Paul Glasser is a largely self-taught artist and photographer residing in Sherwood, Ore. A lifelong lover of

1



2





3

the outdoors, he has spent a lifetime hiking and climbing across the American west. A fan of both alpine and desert environments, he is constantly searching for a “painting already there, waiting to be seen.”

#### WHY WE LOVED IT:

“This picture is EVERYTHING! I love how it captures the rebirth of a tree and does it so compellingly. The exposure highlight on the green new growth literally shines a light on the circle-of-life of a forest. Simply an exceptional image.”



— *Chuck Fazio, American Forests’ Artist-in-Residence*

### 3 WINNER: BIG, BEAUTIFUL TREES

## “Shades of Winter”

**PHOTOGRAPHER:** Anita Storino (VA)

**LOCATION:** Richmond, Va.

#### PHOTOGRAPHER’S PERSPECTIVE:

“Bare trees can be beautiful, so sculptural. I was taken by the beauty of this tree and enjoyed doing some special editing on it.”

#### ABOUT THE PHOTOGRAPHER:

Anita Storino came to photography through her love of nature. After retiring, she had time to observe flora



and fauna in her yard and began taking pictures with her point & shoot to share with friends on social media. Her interest in improving her knowledge and skills led her to join a local photo club and invest in a better camera and editing software. Today, she is a member of three clubs and frequently exhibits at local galleries in juried shows. Anita has her first solo show, entitled "Wish Granted," scheduled for the fall of 2018 at Art Works in Richmond, Va. Part of her vision is to unearth what the subject "wants to be," using editing software to grant the subject's wish. "Shades of Winter" is representative of that effort and will be part of the show. You can see more of her work at Instagram: @anita\_storino.

#### WHY WE LOVED IT:

"The depth and coloring of this photo make it hard to look away. It has a mysterious aura that leaves us wondering about this tree's history and location. Winter photos can be hard to capture without creating a white blanket, but this photographer



surpassed the challenges to create a beautiful image.

— Emily Barber, Marketing Manager,  
American Forests

## 4 WINNER: FOREST RECREATION

### "Youth and Nature"

**PHOTOGRAPHER:** Richie Glidden (WA)

**LOCATION:** Tucquala Lake, Okanogan-Wenatchee National Forest, Wash.

#### PHOTOGRAPHER'S PERSPECTIVE:

"Taken on Nikon D90 at Tucquala Lake in Washington State. In the foreground, my younger brother is standing and composing an image on his cell phone, and in the background a young deer walks through the stream near my campsite."

#### ABOUT THE PHOTOGRAPHER:

Richard Glidden, also known as Richie, is a young, amateur photographer from Bellevue, Wash. As a high school student, he is still gaining wisdom and knowledge of the digital arts. Growing up where a 15-minute drive east or west will land him in a forest or city has allowed his interest and passion of photography to grow. He hopes that in the years to come he will be an active member of the photography community.





**WHY WE LOVED IT:**

"The photograph of the young man and the young deer in the water provided a wonderful balance of nature and technology. It was a very nice moment with fine composition to include lots of detail to make the photograph work so well. It demonstrates good timing with nice exposure and composition, making you look at it over and over.



The judges were instantly impressed with the photograph."

— Jonathan Newton, Staff Photographer,  
Washington Post

**5 WINNER: FOREST CLOSE-UPS**

## "Sunshine Makes My Soul Shine"

**PHOTOGRAPHER:** Naomi Fortino (IL)

**LOCATION:** Swallow Cliff Woods, Palos Park, Ill.

**PHOTOGRAPHER'S PERSPECTIVE:**

"In June 2017, driving for my morning run on a hazy sunrise to see the sun break through creating the rays of light through the trees. What a sight!"





## ABOUT THE PHOTOGRAPHER:

Naomi Fortino is an amateur photographer from the Chicago suburbs. Being surrounded by forests while growing up, she has always had a passion for nature and wildlife. Her fondness of the forest and trees has always been close to her heart, and being able to capture and share her love through her photos has become her life's path — "No matter where you are, there is nature and beauty!" For more of her work, check out her Facebook page at <https://m.facebook.com/photosbynaomi140/>.

## WHY WE LOVED IT:

"This photo feels almost magical, as is suggested by the title. The sun shining through the trees has a calming effect. The photographer knew there was a special moment here

and captured it in exactly the right way."



— Emily Barber, Marketing Manager, American Forests

## 6 WINNER: FOREST WILDLIFE

# "Thanks Mom"

**PHOTOGRAPHER:** Gary Wittstock (FL)

**LOCATION:** Titusville, Fla.

## PHOTOGRAPHER'S PERSPECTIVE:

"A red-shouldered hawk feeds a frog to its chick. In one day, I got shots of this frog meal, and also a skink, an anole and a green snake. With the Canon 7Dii/100-400ii camera's 1.6X sensor crop, my effective focal length for this shot was 640mm, so I was able to setup far enough away to not disturb their nest."

## ABOUT THE PHOTOGRAPHER:

In 2014, Gary moved from Chicago to Florida, where he enjoys scuba diving and photographing



many bird species that live nearby or migrate there on Florida's Space Coast. While he isn't a professional photographer, Gary uses craft additively to share nature like his father before him. He loves shooting the water features he builds as part of his business, and frogs, dragonflies, lilies and waterfalls are his everyday subjects. He patented the Ecosystem Pond concept in 1996, for creating natural habitats where nature populates the pond and keeps it clean. For more of his photography, check out his Flickr page at <https://www.flickr.com/photos/122713793@N07>.

## WHY WE LOVED IT:

"John Jay Audubon would have envied this shot. The photographer allows us a view of exceptional intimacy into a universal moment, a mother feeding her baby — in this case a red-shouldered hawk with a specially caught

frog. The lighting and focus are superb — artistic and exquisite."



— Lea Sloan, Vice President of Communications, American Forests



## 7 WINNER: ASPIRING PHOTOGRAPHERS

### "The Phantom Ship"

**PHOTOGRAPHER:** Adam Chen (WA)

**LOCATION:** Crater Lake National Park, Ore.

**PHOTOGRAPHER'S PERSPECTIVE:**

"The Phantom Ship is the name of this small island in Crater Lake National Park. To reach it, one must take a boat, which only operate a few months of the year. Usually, it is not so foggy in the park, and because the caldera edge right behind the island is the same value, I was lucky that the fog conditions created a sharp definition of the island's unusual shape and that the wind conditions were perfectly still enough to get an almost mirror-like reflection."

**ABOUT THE PHOTOGRAPHER:**

Adam is a high school senior from Kirkland, Wash. He loves photography, painting in oils and

is especially inspired by the past and how images can be used to document and teach history. He takes photos using cameras as old and simple as a 1928 Kodak Brownie and as modern as a Nikon D500, using them all to capture the magnificence of nature, wildlife and architecture alike.

**WHY WE LOVED IT:**

"I like this photo very much. The photographer, though young, knows how to crop his picture in the camera view finder. The island with its numerous pinnacles forms an interesting shape and is captured with calm water as a mirror that reflects it. The photographer spotted a fascinating geological form and photographed it at the right moment."



— Lou Mazzatenta, *Former National Geographic Photographer and Photo Editor*





*Eddie Bauer* EST. 1920



Eddie Bauer Athletes Lynsey Dyer, and Cory Richards, and Eddie Bauer Guide Jake Norton

# ONE TREE MATTERS. ONE TREE MAKES A DIFFERENCE.

Our founder, Eddie Bauer, spent his entire life encouraging and helping people to get outdoors, educating them on the importance of preserving the natural wonders around them. We continue his legacy of conservation. We're proud to be a long-standing partner with American Forests in its mission to protect and restore ecosystems around the world. Over our 20-year collaboration, Eddie Bauer has helped American Forests plant more than 7 million trees.

**#onetree**



Learn more about  
The One Tree Initiative  
and how you can donate at  
[eddiebauer.com/onetree](http://eddiebauer.com/onetree)



## Giants in Their Field and the Forest

BY LEA SLOAN

BOB LEVERETT AND DON Bertollette share long histories of working in and with forests and together have brought their knowledge, thirst for scientific rigor and collegial connections to American Forests' venerable National Champion Tree Program. They are a dynamic duo whose humor wins friends as their expertise influences tree-measurers.

Invited five years ago to help develop protocols and standards for measuring the giants, they leaped in and didn't stop until they had helped reinforce the

**"Size and age do not correlate well scientifically," Don says, "but they are good indicators for what resilience a forest ecosystem is capable of maintaining."**

credibility of the national register by creating the American Forests Tree-Measuring Guidelines Handbook, an 86-page manual that set new heights (and lengths) for a program now close to celebrating its 80th year.

Though Bob and Don both have a passion for big trees, their paths to their shared work came via different routes through the proverbial woods.

Bob's history with American Forests dates back to 1993, when the organization co-sponsored the first-ever eastern old-growth conference. He spearheaded the

event, which ultimately led to the Ancient Eastern Forest Conference Series.

Educated at Georgia Tech, Bob spent more than a decade in the U.S. Air Force as an engineer, although he smiles and says, "I'm one of those folks whose formal education doesn't match my longtime love of forests and trees."

Growing up in the southern Appalachians, Bob regularly explored what was known then as "virgin forest." His early exposure in those superlative woodlands followed by a move to New England led to discoveries of old-growth remnants in the Massachusetts Berkshires that set him on a bold, new course. Pursuing his interest in pre-European settlement woodlands, Bob co-founded the Friends of Mohawk Trail State Forest in 1993, and the Eastern Native Tree Society (now the Native Tree Society) in 1996.

Bob also played a prominent role in launching the system of public reserves in Massachusetts that protects late-successional forests that are on the path to becoming old growth. He is the current chair of the Massachusetts Department of Conservation's Forest Reserve Scientific Advisory Committee.

"Wherever my profession took me," Bob says, "I sought woodland haunts for spiritual rejuvenation, scientific curiosity and opportunities to search for and commune with big trees."

He attributes his old-growth avocation and, in particular, interest in big trees, as leading to his volunteer association with American Forests in the 1990s and, ultimately, to helping put the National Register of Champion Trees on a more scientific footing.

"To my engineering mind," Bob says, "tree measuring required more discipline and methodology than was commonly being applied."

Don, on the other hand, has a master's degree in forestry from the University of Massachusetts, Amherst. He and Bob met in 1991, when Don was working on





his thesis — identifying remotely sensed ‘signatures’ of old-growth forests from satellite imagery.

“I was seeking anyone who had knowledge of Massachusetts’ old-growth forest stands,” Don says. “My grad committee chair referred me to Bob, and between us we refined eastern old-growth forest characteristics and became more adept in identifying additional old-growth forest.”

Don’s forestry career spanned nearly 40 years, first with the Bureau of Land Management in the forests of eastern Oregon; then with the U.S. Forest Service and the National Park Service in forests from Kentucky to Alaska before retiring from Grand Canyon National Park as restoration forester.

Over this time, his work ranged from tree felling — timber sale marking and coppice silviculture — to growing — timber stand improvement and tree planting. Fighting fires was also part of his job, as well as lighting them for controlled burns.

At Grand Canyon, Don created the GIS maps that delineated where and when fire could be prescribed for re-establishing the natural fire regime that had resulted in the open park-like stands of ponderosa pine that Grand Canyon was famous for. He participated in research that detailed the fire-adapted nature of the forests of the North Kaibab Plateau and the manner in which wildfire hazards could be reduced.

“From the beginning, and through it all,” Don says, “I had an appreciation for what our nation’s forests were capable of, particularly those with minimal disturbance, either natural or man-made.”

Don explains that Bob’s fluency in theoretical mathematics and engineering meshed well with his years of traipsing through the forests of the West and Southeast.

“Where Bob’s geometric and trigonometric fluency has led to incredible leaps and bounds in measurement accuracy,



COURTESY OF DON BERTOLETTE

Don Bertollette

it has been my years as a ‘dirt forester’ that has literally grounded his theoretical formulas,” Don says.

### THE NATIONAL CADRE

For the Champion Tree program, what constitutes “big” is a combination of a tree’s girth, height and crown, or canopy, spread. The challenge is making sure it is accurate. To tackle that issue, these two colleagues combined their rich experience and deep-rooted networks to take the solution to the next level.

Don came up with the idea for the National Cadre of Tree Measurers. Drawing from their mutual circle of colleagues in the field, the duo has put together a group from a wide array of professions, some foresters and arborists, others with varied backgrounds, but with a shared fascination with what dimensions tree species are capable of attaining, and mastering the ability to measure them accurately.

Adding to the efforts of state big tree coordinators already in place, the National Cadre certifies tree measurements submitted by the public in nominating champions. The National Champion Tree Program can now be considered a more robust and academically sound source of big tree data.

Both Bob and Don feel that with less than 5 percent of the old-growth pre-settlement forests remaining, we have much to learn from what’s left.

“Size and age do not correlate well scientifically,” Don says, “but they are good indicators for what resilience a forest ecosystem is capable of maintaining.”

Through forests thick and thin — the synergy between Bob and Don inspires them both to continue incessantly on their mission and to draw others in, for the good of science and the trees. 🌱

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

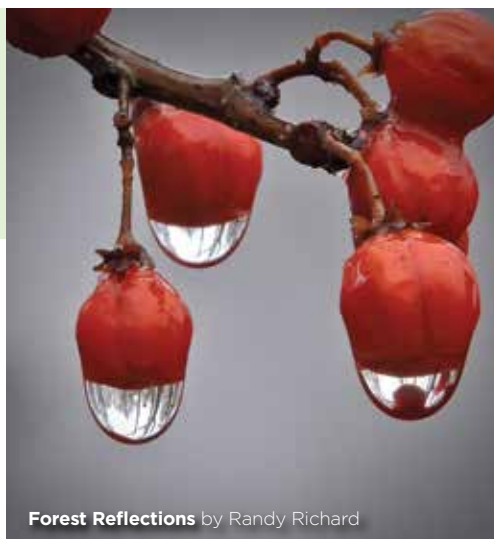


# last look

Read what our Facebook and Instagram followers had to say about this year's Forests in Focus People's Choice nominees:

**"Wow!!! Absolutely STUNNING...I'm in Awe!!!  
♥♥♥♥♥"**

— ROBYN V. ON "FOREST REFLECTIONS"



Forest Reflections by Randy Richard

**"Love this photo, looks almost unreal. Love the muted colors and the stratification of the rocks. As I stare at this photo, I can hear the sound of the falls. Peaceful, I want to be there."**

— JOYCE W. ON "BUTTERMILK FALLS"

**"Beautiful with the colors of the water against the rocks with the leaves, fabulous photo. This would be a beautiful puzzle to do."**

— DENISE M. ON "BUTTERMILK FALLS"



Roots by Tommie Guesman

PEOPLE'S  
CHOICE  
WINNER

**"It shows me something I realized in a botany class, life wants to live."**

— CAROLYN D. ON "ROOTS"



Buttermilk Falls by Sarah Wagner



Curious Cub by Peggy Yaeger

**"Little Bear is so expressive! Human emotion even."**

— MARY H. ON "CURIOUS CUB"

**"Peek a Boo!"**

— FRANCES F. ON "CURIOUS CUB"



**1** LOW-INTEREST  
**LOAN**

+

**1**   
**TREE**

=

**1,500**  
**ACRES**  
**(AND COUNTING)**

 **LIGHTSTREAM®**  
A DIVISION OF SUNTRUST BANK

  
AMERICAN FORESTS

LightStream is the nation's premier online consumer lender, providing financing for practically any purpose, at low rates and no fees. And, we donate a tree to American Forests for every loan we fund!





# AMOUR VERT

*Effortlessly Sustainable*

With every purchase of an Amour Vert t-shirt, we plant a tree in partnership with American Forests®. We've already planted more than 150,000.

#plantatreeAV

---

Give us a try and take 15% off  
your first purchase:

ENTER CODE: AMERICANFORESTS